

	<p style="text-align: center;">Dr. N.G.P. ARTS AND SCIENCE COLLEGE (An Autonomous Institution, Affiliated to Bharathiar University, Coimbatore) Approved by Government of Tamil Nadu and Accredited by NAAC with 'A' Grade (2nd Cycle) Dr. N.G.P. – Kalapatti Road, Coimbatore-641048, Tamil Nadu, India Web: www.drngpasc.ac.in Email: info@drngpasc.ac.in Phone: +91-422-2369100</p>	<p style="text-align: center;">NAAC 3rd Cycle</p> <hr/> <p style="text-align: center;">Criterion VI Metric 6.5.1</p>
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6.5.1 Undergraduate Research- DBT Star Scheme

The following are the list of supporting documents for DBT Star Scheme activities during 2018-2019, 2019-20 and 2020-21

S. No	Details
1	Progression Report
2	Newsletter (Star Bulletin & Science Bulletin)
3	National Symposium on Graduate Research(NSGR)



(Signature)
 (Prof. Dr. V. Rajendran)
 Principal

Prof. Dr. V. RAJENDRAN
 M.Sc. in Phil. & Tech. (Bio-Technology), P.H.D. (Food & Nutrition)
 Principal
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1. Progression Report

Department of Biotechnology

Proforma for submission of progress reports for evaluation to Star status by colleges supported under Star College Scheme

- Name of the College: Dr. N.G.P. Arts and Science College
- Name of the Coordinator, designation, Address, Phone nos.:
Dr. S. S. Sudha
Professor
Department of Microbiology
Dr. N.G.P. Arts and Science College
Coimbatore - 641 048
Mobile: 9245282174
dsudha@drngpasc.ac.in
- Assessment duration: 01.04.2018 to 31.03.2021
Duration in years: 3
- Details of Departments Supported

Sl. No.	Name of Department	Courses (B.Sc./M.Sc./PG Diploma, certificate etc.) offered	Regular Faculty members	
			With Ph.D.	Without Ph.D.
1.	Biochemistry	B.Sc./M.Sc./M.Phil./Ph.D./Diploma /Certificate	10	—
2.	Biotechnology	B.Sc./M.Sc./M.Phil./Ph.D./Diploma /Certificate	09	—
3.	Microbiology	B.Sc./M.Sc./M.Phil./Ph.D./Certificate	09	02
4.	Food Science & Nutrition	B.Sc./M.Sc./M.Phil./Ph.D./Diploma /Certificate	04	03

- Number & Date of Advisory Committee meeting:
 - 5th & 18.02.2021 (Virtual Meeting with DBT- New Delhi officials)
 - 4th & 16.03.2020 (Internal Advisory Meeting)
 - 3rd & 30.07.2019 (Internal Advisory Meeting)
 - 2nd & 15.04.2019 (Internal Advisory Meeting)
 - 1st & 26.04.2018 (Internal Advisory Meeting)

- Qualitative improvements due to DBT support

1. Capacity Building (Infrastructure and Training)

- The faculty members, technical staff and students from Star College Departments received training from reputed institutions like Agharkar Research Institute (ARI), National Facility on Marine Cyanobacteria (NFMCI), National Fungal Collection Facility of India (NFCFI), Central Food Technological Research Institute (CFTRI), National Research Centre for Banana (NRCB) and Tamil Nadu Agricultural University (TNAU) on fungal and mushroom



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cultivation, tissue culture (animal and plant), bioinformatics, pasta and ice cream making, etc. As a result, students utilize instruments (Nanophotometer, Stereo Microscope, Phase contrast Microscope, Type II biosafety cabinet, Electrophoresis, UV-Visible Spectroscopy, pasta and Ice cream making machine) with confidence and clarity during their course practicals and experiments, and also for their minor projects.

- The infrastructure facilities developed under the DBT support facilitated the conduct of practicals in individual mode instead of group demonstration (New Experiments -61, New Practicals- 49, New Demo-1, Demo to Group -11).

II. Inter-and Multi-disciplinary Knowledge Exchange and Training

- Star College Departments students demonstrated the procedures of Natural Colorants extraction from Plants & Vegetables and its applications in Food Industry to Catering Science & Hotel Management (CS & HM) students. They in turn used Natural Colorants during the cuisine preparation (eg: Jelly and Halwa)
- Microbiology students demonstrated the procedures of microbial culture techniques (streaking and inoculation) to the Biochemistry students
- Microbiology students demonstrated the procedures of morphological identification of microbes and microbes role in food fermentation to Catering Science & Hotel Management students
- Department of Chemistry offered lecture cum training on “Water and Waste Water Analysis” to Star College Departments students
- Department of Computer Science offered lecture cum training on “Biostatistics and Problem Solving using Excel” to the students of Star College Departments
- Star College Departments students offered training on “Mushroom Cultivation” to Commerce students
- Department of Information Technology offered training on “Death of Piracy and Video Editing” to Star College Departments students. They in turn used this video making skill to prepare videos for course practicals, experiments and competitions (eg. II B.Sc Janani and Jeeverathanam won 3rd Prize in Short film (Organic Farming) organized by PSGR Krishnammal College of For Women

III. Students Skill Development (Soft and Life Skills), Higher Studies and Community Outreach



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- Intra and Inter department, Inter-collegiate, knowledge exchange as well as workshops and hands on training programmes organized by the Star College Departments facilitated students to show excellence in micro-video preparation, quality checking, various recipes preparation besides self-development in accounting skills (Awards & Prizes received by students from other colleges 45)
- Students from Star College Departments received training under Indian Science Academies Summer Fellowship Scheme(5), received financial support from Tamil Nadu State Council for Science and Technology (TNSCST) under students project scheme (6) and co-authored book entitled “Fundamentals of Phytochemical Analysis”(eg: Monoclonal Antibodies, Research insights of life Science Students ISBN - 978-81-947154-5-0)
- Students from Star College Departments secured PG admissions abroad (15), in Central Universities, state universities (University of Hyderabad, University of Bangalore, Madras University, Madurai Kamaraj University, The Gandhigram Rural Institute, Bharathiar University and Vellore Institute of Technology and nationally renowned colleges (Ramaiah University, Loyola Academy Degree and PG College) (516)
- Students from Star College Departments created awareness on health and hygiene , sustainable environmental and impact of microbes on agriculture practices and healthy food habit to pregnant and lactating women in neighboring communities
- Contests created awareness on science and its significances to students and peer discussion instills interpersonal and leadership skills. Outreach, community oriented programmes inculcate the moral and ethical values among students, and overall star college scheme made a big transformation in science education (77)

IV. Star College Cluster and National Symposium on Graduate Research (NSGR)

- Our principal, Prof. Dr. V. Rajendran came up with an excellent idea of hosting annually a national event to provide a platform and opportunity for graduate students in science and technology disciplines from DBT-Star colleges and others to share their innovative ideas, proposals, findings, process and products. Dr.N.G.P. ASC organized a first of its kind program in India annually under DBT Star College Scheme. This National Symposium on Graduate Research instilled the traits of innovation, idea conception, nurturing, devising, developing and demonstration among graduate students of science and technology stream
- **DBT-Star Colleges Cluster** (First of its kind in India)



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- This is a unique national platform for institutions running Department of Biotechnology supported “Star College Scheme”. This colleges cluster, annually organizes the “National Symposium on Graduate Research (NSGR)” where science stream students from across the nation are given a competitive platform to exhibit and enrich their research, innovation, start-up and entrepreneurial interests
- NSGR-2019 & NSGR-2020 (completed) and NSGR-2021 (is planned in May 2021)
- Three best prototypes/ models/ plans/ ideas are selected and given medals and appreciation certificate

V. Research, Innovation, IP Generation and Entrepreneurship

- Students of Star College Departments completed several minor projects involving isolation, identification, characterization, separation and preservation of pigments and preparation and quality checking of healthy nutritious food (246).
- Students of Star College Departments received product development training in Composting, Spawn production, Mushroom cultivation, Azolla cultivation, Bio-fertilizer production, Spirulina cultivation, Organic Soap/ Candles. This training intended to facilitate student startups and entrepreneurship (72)
- Students and staff members of Food Science and Nutrition received five (5) copyrights for their food formulation
- Student Entrepreneurs (Department of Food Science and Nutrition)
 - Paul Clinton (2018 batch) (Viji's Masala)
 - Lara Annie (2018 batch) (Zane Food Products)

7. Any Novel aspect introduced or planning to introduce during the Scheme duration

I. Popularization of Science and Familiarization of Scientific tools:

- Infrastructural and intellectual resources available under the DBT-Star College Scheme have been utilized to offer hands on workshops to teachers (25 beneficiaries) and students (1200) from neighboring colleges and popularize science and scientific tools among school children (1st year; 10 schools and 900 beneficiaries & 2nd year; 30 schools and 3000 beneficiaries). Science popularization programme was organized in association with Balagurusamy Educational Trust, Coimbatore and Dr. Kalam Educational Trust for Tribal, Chennai).



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II. Lab on Project (LoP):

- To promote the undergraduate research among students, the LoP is introduced beyond their regular class hours. LoP is introduced as group project consisting of not more than five members. It consist of four stages namely Literature collection, Identification of Research area, Execution of research and Reporting/ Publication of research reports/ product developments. These four stages spread over from IIIrd to Vth semester (40).

III. Consortium of Colleges:

- To associate academic activities (innovative courses, organizing seminar, conferences, symposia), promote student and faculty exchange and develop collaborative research programmes, an MoU was signed between Vellalar College for Women, Erode; Gobi Arts and Science College, Gobichettipalayam and Sri Ramakrishna College of Arts and Science, Coimbatore. Faculty Development Program(2/ 700 Beneficiaries); Student exchange (250 Students); staff exchange (8); Board of Studies Members(25) and collaborative research proposals submitted (4).

IV. Industry Institution Partnership Cell (IIPC):

- IIPC is promoting the interaction between Industry and Institution to bring out appreciable changes in curriculum, training, internships, research projects, consultancy, placement and entrepreneurship. IIPC operates at two levels;
- IIPC Conclave:** It is an annual event where opportunity is provided to interested/selected students to closely interact with eminent Industrialists.
- Industry Connect:** There are totally six industry connect platforms, one each for every programme discipline. This event is organized fortnightly to promote deeper interaction with industry representatives

8. Lessons learnt/ difficulties faced/ suggestions if any, in implementation of the programme and utilization of DBT grant. (Max 3 points within 300 words).

- Due to pandemic, hands on training programmes could not be executed as in 1st and 2nd year of DBT Star College Scheme. In a short span of time student's stepped into the campus and occupied with regular practical's. In spite the situation we could organize 13 hands on experiments.



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II. Digital teaching techniques learnt through ICT Academy implemented effectively during pandemic to engage students in a better manner. More webinars organized virtually.

III. Initially during the first year we couldn't cope up with the expectation of DBT. Since we are new to this scheme. Mentorship and motivations received from PSG, PSGR Krishnammal College we are able to face the difficulties and over come it.

9. Key performance Indicators

Sl. No.	Indicator	Pre-support										During/ After Support										Remarks
1.	No. of students admitted	Total = 250										Total = 728										
		SC	ST	OBC	G	SC	ST	OBC	G	Total	SC	ST	OBC	G	SC	ST	OBC	G	Total			
Biochemistry	2017-18	-	-	11	1	1	1	32	12	58											Improved	
	2018-19	-	-	-	-	-	-	-	-	-	1	0	10	1	4	0	42	1	59			
	2019-20	-	-	-	-	-	-	-	-	-	2	0	22	2	2	0	28	1	57			
	2020-21	-	-	-	-	-	-	-	-	-	3	0	20	3	1	0	25	8	60			
Biotechnology	2017-18	-	-	24	-	2	-	37	2	65											Improved	
	2018-19	-	-	-	-	-	-	-	-	-	2	0	11	0	5	0	43	2	63			
	2019-20	-	-	-	-	-	-	-	-	-	0	0	17	1	2	0	40	1	61			
	2020-21	-	-	-	-	-	-	-	-	-	1	0	23	0	3	0	36	3	66			
Microbiology	2017-18	-	-	11	1	3	-	44	4	63											Improved	
	2018-19	-	-	-	-	-	-	-	-	-	1	0	14	1	1	0	40	1	58			
	2019-20	-	-	-	-	-	-	-	-	-	0	0	13	5	3	0	38	3	62			
	2020-21	-	-	-	-	-	-	-	-	-	0	3	9	2	1	2	46	0	63			
Food Science & Nutrition	2017-18	-	-	8	2	2	-	49	3	64											Improved	
	2018-19	-	-	-	-	-	-	-	-	-	0	0	7	4	2	1	40	10	64			
	2019-20	-	-	-	-	-	-	-	-	-	0	0	7	1	3	0	43	6	60			
	2020-21	-	-	-	-	-	-	-	-	-	1	0	13	0	5	0	35	1	55			
2.	No. of students passing out (%) Students admitted/passing out (pass %)		94%								98%											
3.	Drop-out rates		5%								0.8%											
4.	No. of students opting for M.Sc.		140								516											
5.	Average marks		70%								75%											
6.	No. of hands-on experiments being conducted		8/sem/dept								77- Annexed											
7.	No. of new experiments introduced		2/sem/dept								61- Annexed (New practicals-49, New Demo-1, Demo to group-11)											
8.	Publications (Scopus indexed)/ patents, if any.		4/year/dept								64 - Annexed											
9.	Training received by faculty		8/year/dept								232- Annexed											

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10.	Exhibitions/ seminars/ training courses conducted	5/year/dept	110- Annexed
11.	Books/ journals subscribed from grants	Books available in Common library	15- Annexed
12.	Outreach activities (Popular lectures)	2/sem/dept	77- Annexed
13.	Colleges mentored to apply for DBT Star College grants	-	4 (Gobi Arts College, Gobichettipalayam, RVS CAS, Nehru CAS, & Krishna CAS, Coimbatore)
14.	Invited lectures	3/sem/dept	76- Annexed

•Proofs (for Point 6-14 under S.No. 9 not more than 5 pages, 1.5 line spacing 12 times roman font size) to be provided duly attested by Principal and Coordinator.

10. Self evaluation

Department	*Objective (as stated in proposal)	% achieved	Reasons for underachievement / If achieved, state in quantitative metrics
Biochemistry	1,2,3&5	100	Volumes of scientific manuals will be increased , Bioinformatics facility will be established
	4	80	
Biotechnology	1,2,3&5	100	Bioinformatics portal and research journals were underachievement as two years basic requirements were met and now students also got a knowledge in pursuing reserach and an idea on bioinformatics from lectures and second year syllabus, so as per need in third year, with the financial support of DBT, journal facility and bioinformatics portal availability will be ensured to be given.
	4	75	
Microbiology	1,2,3&5	100	Need to purchase paid Bioinformatics software (First 2 years spent the amount only for basic requirements) Planned to subscribe Journals in forthcoming year.
	4	75	
Food Science and Nutrition	1,2,3&5	100	Increase volumes and copies of scientific journals, Bioinformatics facility will also be established
	4	70	

*For quantitative analysis you may fix five objective (max) each having 2 marks and accordingly can calculate the matrix

Objectives stated in proposal

1. To procure adequate consumables, chemical, reagents and immunological diagnostic kits for hands on experiments individually. To provide in-house training to students. To make the students accessible to all advanced instruments and make them skillful. To support students to have compulsory summer internship training and Industrial visits.
2. To ensure that faculty will have access to advanced laboratories for enriching their experimental skills and scientific knowledge. Faculty to be expertise in basic proteomic, genomic and diagnostic protocols. Faculty to be familiar with advanced instrumentation like



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PCR. To invite scientists from renowned National research institutes, Universities and leading institutions, to make the faculty realize the application and utility of basic techniques.

3. To promote inter-departmental and inter-college sharing of knowledge and expertise through synergic activities on a equipped platform of advanced infrastructure. To equip the undergraduate laboratory beyond the curriculum
4. To strengthen the library facility by increasing volumes and copies of scientific manuals. To increase the quality research journals for students to be updated with recent advancements. To create Bio-informatics facility with access to paid research portals for improving the research aptitude and for identifying the arenas in scientific research. To premier class rooms with ITC and follow advanced teaching pedagogies.
5. To bring changes in curriculum based on the facility obtained through star college status and produce competent graduates.

11. 2 new dimensions that shall be added If accorded Star status (within 200 words).

During DBT support under the Star College Scheme strengthening phase (2018-2021), the efforts were focused on capacity building (infrastructure and human resource), knowledge enrichment and exchange (inter and multi-disciplinary and inter-college), skill training and development (soft and life skills), and research, innovation, IPR and Entrepreneurship (NSGR) at introductory to intermediate level. Additionally, novel aspects such as lab on projects (LoP), popularization of science and familiarization of scientific tools, Consortium of Colleges (CoC) and industry institution partnership cell (IIPC) were also introduced. Having established salient academic characters and novel aspects, both would be combined to generate two new dimensions (Collaborative Research and Bio-entrepreneurship) under the Star status.

1. Collaborative Research: The CoC and IIPC formats are bi- (institution-industry) and tri-lateral (institution-industry-institution) collaboration platforms which are intended to innovate. Under this format, socially important and industry centric bioscience problems (environment and humanity) will be identified and explored. These proposed platforms expected to encourage students to take up research as a career with an objective to serve the humanity.

2. Bio-entrepreneurship: Our students predominantly are from semi-urban and rural areas, and awareness on entrepreneurship is minimal. Therefore, we propose to provide knowledge sharing and training on various stages of entrepreneurship; problem identification (socially

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important), ideation, startups, incubation, product development and marketing. Thereby, the culture of bio-entrepreneurship could be instilled among our students and make our nation world's bio-economic hub.


(Dr. S. S. Sudha)
Program Coordinator

Dr. S. S. SUDHA
Programme Coordinator
DET STAR College Scheme
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Proof for Serial number 6-14 under serial no. 9

9 (6) No. of hands-on experiments being conducted -77

S. No.	Academic Year	Date	Hands on Experiments
Biochemistry			
1.	2018-19	18.09.2018 - 19.09.2018	Phytochemical analysis
2.		14.02.2019	R-Programming for Biologists
3.		23.02.2019	Quantification of alkali and alkaline earth metals in Biological samples by flame photometry
4.	2019-20	22.06.2019	Student Knowledge Sharing Programme on "Genomics"
5.		23.07.2019	Student Knowledge Sharing Programme on "Analysis of Nano particles in UV-Visible Spectrophotometer"
6.		24.08.2019	Plant Tissue Culture
7.		25.08.2019	Electrophoresis
8.		26.04.2020	Chromatography
9.		27.04.2020	Spectroscopic Techniques
10.		28.08.2020	Animal Tissue Culture
11.		14.12.2019	Basic Microbial Culture Techniques in Quality Control Management
12.		20.08.2019 - 21.08.2019	Water and Waste Water Analysis offered in association with the department of Chemistry
13.		27.08.2019	Biostatistics and problem Solving Through Excel offered in association with the department of Computer Science
14.		07.12.2019	Extraction of Natural Dyes from plants & vegetables and its application in Food preparation associated with Catering Science & Hotel Management
15.	2020-21	03.02.2021	PCR
16.		05.02.2021	Quantification of Phytochemicals
17.		05.02.2021	Mushroom Spawn Culture
18.		06.02.2021	Invitro free Radical Scavenging Activity
19.		22.03.2021	Immuno techniques
Biotechnology			
20.		10.01.2019	Workshop on Nanophotometric Techniques (interdepartmental) - Students of MB, BC, FS&N(100Nos)



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21.	2018-19	01.02.2019	Hands on training in operation of Bottle top Dispenser for dispensing acids and corrosive reagents by Mr. V. Manikandan, Sr. Sale Executive Microlit, Lucknow - Lab assistants from Science Departments (10 Nos)
22.		07.02.2019	Hands on training in Microtomy (interdepartmental) by Dr. A. Balamurugan, Manager, Field and Research Trails, T-Stanes, Coimbatore - Students of Biotechnology and CLT (150 Nos)
23.		13.02.2019	Workshop on PCR and Nanophotometer (intradepartmental) - Students of Biotechnology (150 Nos)
24.		19.02.2019	Hands on training in Protein & Nucleic Acid Quantification with Nanophotometer (intercollegiate) - Students of various colleges in and around Coimbatore (80Nos)
25.		21.02.2019	Workshop on Operations and Applications of UV-Visible Spectrophotometer (intercollegiate) - Students of various colleges in and around Coimbatore (50Nos)
26.		30.03.2019	Hands on Training in Animal Tissue Culture Techniques (interdepartmental) by Dr. G. Suja, Assistant Professor, C.M.S. College of Science and Commerce, Coimbatore - Teaching staff (10), Research Scholars (5) and Non teaching staff (2) from Bioscience Departments
27.	2019-20	12.07.2019	Google Classroom
28.		28.06.2019	Workshop on Intracacies in handling Plant Tissue Culture (intradepartmental)
29.		01.07.2019	Hands on training Quantification of DNA from Herbal leaves and Animal tissue using Nanophotometer (Inter departmental)
30.		5.07.2019	Hands on Training on UV- Visible Spectrophotometer using Nanoparticles (Intradepartmental)
31.		8.7.2019	Hands on training in Tools for Biologists in Bioinformatics (Intradepartmental)
32.		15.07.2019	Workshop on Operations in MS Office (Intradepartmental)
33.		16.07.2019	Workshop on Death of Piracy and Video editing tools associated with Information Technology department
34.		30.08.2019 to 06.09.2019	Hands on training on Protein Purification Techniques (Interdepartmental)
35.		05.08.2019	Hands on Training on Operations in MS Excel (Intradepartmental)
36.		03.10.2019	Workshop on Spawn production and Mushroom cultivation (Intradepartmental)
37.		22.11.2019	Workshop on Quantification of Serum proteins using Colorimeter and Nanophotometer (Intradepartmental)
38.		01.02.2020	Workshop on Scientific Writing (Intercollegiate)
39.		03.02.2020	Workshop on Mushroom Cultivation (Intercollegiate)
40.	2020-21	19.02.2021	Hands on training - Stereomicroscopic Techniques
41.		22.02.2021	Hands on training - Phytochemical Extraction from Medicinal Plants using nanophotometer



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42.		05.03.2021	Hands on training – Quantification of Phytochemical Extraction from Medicinal Plants using nanophotometer
43.		06.03.2021	Hands on training - Stereomicroscopic Techniques
Microbiology			
44.	2018-19	11.09.2018	Safety Measures and Awareness and Training on Symbols for Bioscience and Chemistry lab Assistants
45.		08.01.2019 & 09.01.2019	Workshop on "Identification of Fungi & Algae and Hands on training in Fold scope" for Inter Departmental (Bioscience)
46.		06.02.2019 – 07.02.2019	Workshop on "Identification of Fungi & Algae and Hands on training in Foldscope (WIFATF-19) for Inter college students
47.		11.02.2019 - 15.02.2019	Hands on Training in Stereo and Inverted microscope for Students of Department of Microbiology
48.		13.02.2019	Workshop on Microbes and their role in baking with Catering Science Department (Knowledge Exchange programme)
49.	2019-20	24.06.2019- 28.06.2019	Hands on Training on Stereo, Inverted Microscope & UV Spectrometry – for 1 Year Bioscience Students
50.		17.08.2019	Culture Preservation techniques
51.		01.02.2020	Chromatography techniques
52.		08.02.2020	Immunotechniques
53.		17.08.2019	Hands on Training on Stereo, Inverted Microscope - Biotech. Students
54.		13.08.2019 - 14.08.2019	Streaking and inoculation of Microbes – Biochemistry Students
55.		18.02.2020 - 19.02.2020	Enumeration of Microbes from food sample – Food Science & Nutrition
56.		06.01.2020	Basic techniques in isolation if microbes and biochemical tests – Sri RajrRajeswari Matric. school, Kangeyam
57.		12.07.2019	Foldscope training to school students – Kalapatti Govt. School
58.		12.03.2020	Morphological Study & role microbes in fermentation associated with Catering Science & Hotel Management.
59.		16.07.2019	Insights on Plant tissue culture techniques" and "Certifications required for startup of Food Business in India
60.	2020-21	09/01/2021	Workshop on Bioinformatics
61.		04/02/2021	Virtual Workshop on Proteomics
62.		26/02/2021	Workshop/ Hands on Trainign - Instrumentation techniques in Microbiology for UG Students



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63.		27/02/21	Mushroom Cultivation Training -Intradepartmental
64.		06/03/21	Mushroom Cultivation Training -Interdepartmental
Food Science and Nutrition			
65.	2018-19	27.06.2018	Hands on training on processing of ready to eat foods
66.		09.07.2018 – 13.07.2018	Hands on workshop on fruit and vegetable preservation
67.		11.02.2019	Workshop on use of ice cream machine and extruder to all other under graduate students
68.	2019-20	24.07.19	In house training on baked products
69.		13.09.2019	Workshop on personal hygiene was given to school students
70.		22.08.2019	Training on Formulation of Healthy Nutritious Snack for School Going Children
71.		03.03.2020	Workshop on value added products on spices for lab technicians
72.		01.02.2020	Hands on training on ice cream and pasta making
73.		18.02.2020 - 19.02.2020	Knowledge Exchange Programme on ice cream & pasta making
74.	2020-21	02.02.2021- 05.02.2021	Formulation of Value added products
75.		15.03.2021 - 18.03.2021	Analysis of nutrients in food sample
76.		19.02.2021- 20.02.2021	DBT: Food Expo
All 4 participating department			
77.		17.07.2019	Bee Keeping

9 (7) No. of new experiments Introduced -61 (New practicals- 49, New Demo-1, Demo to group-11)

S. No.	Name of the Experiments
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Biochemistry	
1.	Preparation of Buffer solution and pH Determination
2.	Staining and visualization of mitochondria by janus green stain
3.	Mitosis in onion root tip (microscope)
4.	Meiosis in grasshopper testis squash.
5.	Cell Types- Microbial, Animal and Plant morphometric measurements.
6.	Study of Cell Viability or cell death by MTT assay
7.	Fractionation of cellular components.
8.	Ultraviolet absorption spectrum of DNA & RNA
9.	Estimation of Hemoglobin
10.	Isolation of chromosomal DNA from E.coli.
11.	Extraction of total nucleic acids from plant tissue.
12.	Isolation of total RNA from yeast cells.
13.	Amplification of a DNA fragment by PCR.
14.	Transformation of E. coli cells with plasmid DNA.
15.	Restriction digestion (RFLP).
16.	southern and western blotting.
17.	Comet assay.
18.	Estimation of electrolytes (Na, K, Ca)
Biotechnology	
19.	Preparation of Herbaria – Five families (1 Plant from each family) with Authentication
20.	Field visits to nearby Zoo, Forest, Nursery, and Culture collection centre – Herbaria/Botanical Garden
21.	Preparation of Insect Box and Calculation of Species richness by line and plot analysis
22.	Observation of fungi under stereomicroscope
23.	Demonstration – PCR Amplification of 16SrDNA
24.	Preparation and quantification of Immunoglobulin
25.	Spectral analysis of silver nanoparticles
26.	Estimation of DNA/proteins from different sources using nanophotometer
27.	Determination of protein content in serum



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28.	Quantification and purity analysis of Plasmid DNA
Microbiology	
29.	Separation of proteins by SDS – PAGE
30.	Isolation and identification of microbes from spoiled foods
31.	Isolation and Identification of Clinical pathogens
32.	Separation of DNA by Agarose electrophoresis
33.	Isolation of Antibiotic producing microorganisms from soil- Crowded plate technique, Secondary screening
34.	Determination of optimum temperature and pH for soil bacteria
35.	Antibiotic sensitivity test (Kirby Bauer Method) & MIC
36.	Slide culture Technique
37.	Preservation of bacterial cultures – Mineral oil overlay method
38.	Fungal staining – Lacto phenol Cotton Blue Mount & Fungal Cell observation by Stereo Microscope
39.	Isolation and Identification of algae from water sample by Inverted microscope
40.	ELISA Technique - Demonstration
41.	Separation of bioactive compounds from microbes and plants (Demo to group)
42.	Isolation and observation morphological characterization of fungi from soil and food samples (Stereomicroscope)
43.	Immunotechnique - Dot Elisa - (Demo to group)
44.	Separation of nucleic acid- (Demo to group)
45.	Separation of Protein – (Demo to Group)
Food Science and Nutrition	
46.	Estimation of PH content in fruits



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47.	Estimation of calcium and iron by using UV Visible Spectro Photometer
48.	Formulation of vegetable powder fortified extruded products
49.	Production of natural flavored ice cream
50.	Extraction of natural pigments from Vegetables
51.	Formulation of value added Toffee
52.	Development of value added foods from cereals and pulses
53.	Development of value added foods from vegetables and fruits
54.	Determination Methylene Blue Reduction Test
55.	Detection of adulteration in milk by using Lactometer
56.	Estimation of pectin content in food
57.	Identification of starch content in food
58.	Food product development practical-extruded products by using Pasta machine, Ice cream machine small, muffin maker and waffle maker
59.	Menu Plan For Twin Pregnancy
60.	Low cost weaning food for under nourished children
61.	Formulation of health drink for geriatric condition to free from insomnia

9 (8) Publications (Scopus Indexed) /patents, If any. UGC Indexed Journals - 64

S. No.	Department	Publication
1.	BC	Dr.Gowri.S.2018. Growth and Characterization of Struvite Crystalsby Alpinia Calcarata Stem Extract. International Journal for Research in Applied Science & Engineering Technology. vol. 6. No.6.pp 1087-1093 June 2018,ISSN NO: 2321-9653
2.		Dr.N.Kannikaparameswari.2018.Qualitative investigation of Phytochemical compounds present in the Traditional Wound



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	healer <i>Hemigraphis Colorata</i> by GC-MS analysis. International Journal of Creative Research Thoughts. Vol.6 No.1, January 2018, ISSN 2320-2882
3.	Dr.N.Kannikarameswari 2018.Papain Loaded Solid Lipid nanoparticles for Colorectal Cancer Therapy.Current Cancer Therapy Reviews.Vol.14 No.1, pp.75-87, January 2018, ISSN: 1875-6301 (Indexed in SCOPUS).
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5.	Dr.N.Kannikarameswari.2018. Immunostimulatory Potential of Papain Encapsulated Solid Lipid Nanoparticles.Journal of Applied Pharmaceutical Science.Vol.8 No.7, pp.37-42, July 2018, ISSN 2231-3354 (Indexed in SCOPUS).
6.	Dr.N.Kannikarameswari.2019.Anticancer activity of Herbal formulation of <i>Simarouba glauca</i> and <i>Annona muricata</i> on MCF-7 cell lines.International Journal of Scientific Research.Jan 19, 2277-8179.
7.	Dr. C. Venkatesan.2019.In vitro antiarthritic activity of methanolic extract of stem of <i>Calotropis gigantea</i> International Journal of Current Advanced Research.Jan-19, 2319-6475.
8.	Dr. K. Rajathi.2019.In vitro Antidiabetic and antioxidant activities of the methanolic extract of <i>Alpinia purpurata</i> stem International Journal of Recent Scientific Research Jan 19, 0976-3031.
9.	Gowri. S.2019.Screening of Larvicidal Activity of Combined Medicinal Extracts Against Dengue Vector (<i>Aedes Aegypti</i>), Int J Recent Sci Res.Vol.10 No.5, pp. 32188-32191. May 2019,ISSN: 0976-3031(Indexed in google scholar)
10.	Kannikarameswari N.2019.Toxicity Studies of a developed Nephroprotective Polyherbal Formulation in Experimental Rat.Asian Journal of Pharmaceutical and Clinical Research, Vol.12 No.6, 2019, ISSN: 0974-2441(Indexed in Scopus)
11.	Dr.Pradeepa.D.2019.Antimicrobial and antioxidant activity of the methanolic extract of <i>Alpinia purpurata</i> rhizomes.Journal of Pharmacognosy and Phytochemistry.Vol. 8, issue. 2, 1373-1377, February 2019, ISSN: 2278-4136 and 2349-8234, (Indexed in Google Scholar)
12.	M.Arisha Taj Dr.Ashish Wadhvani Dr.S.Gowri. 2020. In-vitro Antiviral Activity of BanLec against Herpes Simplex Viruses type 1 and 2. Bangladesh Journal Of Pharmacology. 15(1):11-18.
13.	Dr.N. Kannikarameswari. 2019. Toxicity Studies of a Developed Nephroprotective Polyherbal Formulation in Experimental Rats. Asian Journal of Pharmaceutical and Clinical Research. 12(6):166-169.
14.	Dr.N. Kannikarameswari. 2019. Invitro Anti-oxidant and Anti-Inflammatory Property of Ethanol Extract of <i>Tridax Procumbens</i> Leaves. World Journal of Pharmaceutical Research. 8(7):1137-1147
15.	Dr.DHANA RANGESH KUMAR V. 2019. Assessment of Antioxidant, Antibacterial Activity and Phytoactive Compounds of Aqueous Extracts of Avocado Fruit. International Journal of Peptide Research and Therapeutics. 19(4).
16.	Dr.K.Rajathi .2020.A study on antibacterial and antitumor activity of <i>Sechium edule</i> (Chayote) fruit extracts against HGC 27 cell line.International Journal of all Research Education and Scientific Methods.ISSN: 2455-6211 Volume 8 (7) July 2020.
17.	Dr.T.Indhumathi., 2020.Worldwide Threatening to Mankind-SARS CoV-2 and it's Attributes.Journal of Pharmaceutical Sciences and Research (JPSR).Vol. 12(7), 2020, 941-947. ISSN: 0975-1459.



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18.		Dr.K.Rajathi.2020.The World Invisible Murderer: Review on Covid-19.International Journal for Science and Advanced Research in Technology.Vol 6(5),May 2020 ISSN 2395-1052.
19.		Dr.T.Indhumathi., 2020.Application of arthrospira platensis (spirulina) as bio-fertilizer for sustainable agriculture.International Journal of Applied and Advanced Scientific Research (IJASR).ISSN (Online): 2456 - 3080, Volume 5, Issue 2, 2020.
20.		Dr.N.Kannikarameswari.2020.Free radical scavenging activity of developed herbal formulation.Drug invention today.ISSN: 0975-7619, vol 14, Issue 2,2020.
21.		Dr.K.Rajathi.2020.Effect of Fucoidin mediated Zinc oxide nanoparticles on the TRAIL induced apoptosis in prostate cancer pc-3 cell line Journal of emerging technologies and Innovative research, vol 8, Issue 4, April 2021, 391-398.
22.		Dr.V.Dhanarajeshkumar.2021.Immensely impacted epidemic and pandemic viral outbreaks in India: A review article International Journal of Scientific development and research .2455-2631, vol 6, Issue 2,February 2021 253-256.
23.		Dr.K.Rajathi.2021.Mechanisms of Inhibitory effect of biosynthesised silver nanoparticles on TNF-alpha induced NF-kB nuclear translocation in prostate cancer cells.International journal of pharmaceutical sciences and Nanotechnology.vol 14, Issue 2, April 2021.
24.	BT	Vishnu Balamurugan and G. Shankar, "Production of cellulase from sorghum substrate by filamentous fungi isolated from sorghum fields of Coimbatore north sub-district," International Journal of Research in Engineering, Science & Management, vol. 1, no. 8, Aug. 2018.
25.		Vishnu Balamurugan and Gopishankar Thirumoorthy, "Production of Cellulase by Filamentous Fungi with Sorghum as Substrates" International Journal of Research in Engineering, Science and Management Volume-1, Issue-8, August 2018.
26.		Vishnu Balamurugan, "invitro comparison of controlled and targeted drug delivery using niosomes and liposomes" International Journal of Advance Research and Innovative Ideas in Education August 2018, 4(4):1078-1085.
27.		Jagadesh R, "Synthesis, Stability, Anti-Microbial, Anti-Oxidant Property of Pronusdulcis Gum", International Journal of Innovative Research and Advanced Studies, Volume 5 Issue 11, November 2018.
28.		Kadhirmathiyen V, "Synthesis And Checking The Stability, Biosensing Ability, Anti-Oxidant Power And Anti-Microbial Property of Silver Nanoparticles (Green Synthesis)", International Journal of Inovative Research and Advanced Studies, Volume 5 Issue 12, December 2018.
29.		Vishnu Balamurugan, Sheerin Fatima.M.A, Sreenithi Velurajan, "A guide to phytochemical analysis" International Journal of Advance Research and Innovative Ideas in Education January Volume-4 Issue-1 2019.
30.		Vishnu Balamurugan Sreenithi Velurajan Subramani Comparison of Silver, Copper and Iron Nano particles from Leaf Extract of Azadirachta indica and its Anti-microbial, Bio sensing activity and toxicity International Journal of Innovative Research in Science, Engineering and Technology Vol. 8, Issue 5, May 2019
31.		Vishnu Balamurugan, Sreenithi Velurajan phytochemical comparison of alcoholic extracts of Curcuma longa International Journal of Advance Research and Innovative Ideas in Education Volume 5(Issue 3):419-428.
32.		Vishnu Balamurugan , Sreenithi Velurajan, Arun Palanisamy Phytochemical analysis of Alpinia officinarum and to test its



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	Anti -oxidant, Anti-microbial, Anti-inflammatory and Anti -arthritic activity International Journal Of Advance Research And Innovative Ideas In Education 5(4):1125-1140.
33.	Vishnu Balamurugan , Sreenithi Velurajan, Arun Palanisamy Phytochemical analysis of <i>Alpinia officinarum</i> and to test its Anti -oxidant, Anti-microbial, Anti-inflammatory and Anti -arthritic activity International Journal Of Advance Research And Innovative Ideas In Education 5(4):1125-1140.
34.	Vishnu Balamurugan Fundamentals of Phytochemical Analysis Publisher: Kindle direct publishing ISBN: 9781073044368
35.	Sandhiya . S, Sabarinath .K, Ishwarya .R, Logeshwaran .V, Kousalya.N, Arun P. Review on <i>Hemigraphis colorata</i> and its Properties. International Journal of Engineering Applied Sciences and Technology, 2019, Vol. 4, Issue 7: 336-338. ISSN No. 2455-2143.
36.	Sabarinath.K, Sandhiya.S, Ishwarya.R, Logeshwaran.V, Kousalya.N, Arun P. A Review of <i>Tridax procumbens</i> and its Activity. International Journal of Engineering Applied Sciences and Technology, 2019, Vol. 4, Issue 8: 192-194. ISSN No. 2455-2143
37.	Kousalya.N, Ishwarya.R, Logeshwaran.V, Sabarinath.K, Sandhiya.S, Arun.P. A Review about Bioactive Compounds of Fenugreek (<i>Trigonella foenum-graceum</i>). International Journal of Engineering Applied Sciences and Technology, 2019. Vol. 4, Issue 7: 332-335. ISSN No. 2455-2143.
38.	Sandhiya . S, Sabarinath .K, Ishwarya .R, Logeshwaran .V, Kousalya.N, Arun P. Review on <i>Hemigraphis colorata</i> and its Properties. International Journal of Engineering Applied Sciences and Technology, 2019, Vol. 4, Issue 7: 336-338. ISSN No. 2455-2143.
39.	Sabarinath.K, Sandhiya.S, Ishwarya.R, Logeshwaran.V, Kousalya.N, Arun P. A Review of <i>Tridax procumbens</i> and its Activity. International Journal of Engineering Applied Sciences and Technology, 2019, Vol. 4, Issue 8: 192-194. ISSN No. 2455-2143
40.	Kousalya.N, Ishwarya.R, Logeshwaran.V, Sabarinath.K, Sandhiya.S, Arun.P. A Review about Bioactive Compounds of Fenugreek (<i>Trigonella foenum-graceum</i>). International Journal of Engineering Applied Sciences and Technology, 2019. Vol. 4, Issue 7: 332-335. ISSN No. 2455-2143.
41.	Ishwarya.R, Kousalya.N, Logeshwaran.V, Sabarinath.K, Sandhiya.S ,Arun.P. A Review on <i>Vitex negundo</i> Linn. International Journal of Engineering Applied Sciences and Technology, 2019. Vol. 4, Issue 8:195-198. ISSN No. 2455-2143.
42.	S.Dhanyaa S.Abinaya Deeshna K.P.Athira P.Arun. 2020. Therapeutic, Medicinal uses and food Applications of <i>Aloe barbadensis miller</i> . International Journal of Research in Engineering, Science and Management. 3(5): 283-285.
43.	Deeshna K.P.Athira S.Dhanyaa S.Abinaya P.Arun. 2020. Microbial Remediation of Spilled Petroleum. International Journal of Research in Engineering, Science and Management. 3(4): 630-632.
44.	K.P.Athira Deeshna S.Abinaya S.Dhanyaa P.Arun. 2020. Advance in Bio-printing Technology and Its Application-Review. SIRJ-MBT. 7(2): 1-18.
45.	G.S.Gayathiri R.D. Precilla Jennifer P.Arun. 2020. Bioprospecting Marine Microorganisms for the Production of Antibiotics and Its Future Perspectives. European Journal of Pharmaceutical and Medical Research. 7(6): 281-284.



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46.		Gopi Shankar Thirumoorthy, Oviyashri Balasubramaniam, Punitha Kumaresan, Poongothai Muthusamy & Karthik Subramani, <i>Tetraselmis indica</i> Mediated Green Synthesis of Zinc Oxide (ZnO) Nanoparticles and Evaluating Its Antibacterial, Antioxidant, and Hemolytic Activity, <i>BioNanoScience</i>, volume 11, pages172-181(2021).
47.		Ragul Gurusamy, Ramya Suresh, Gopal Balasubramanian, Aswathi Saravanaraj, Sruthilaya Sudhamohan and Karthik Subramani "ANTICOAGULANT ACTIVITY OF TRIDAX PROCUMBENS", IJRAR- International Journal of Research and Analytical Reviews (IJRAR), E-ISSN 2348-1269, P-ISSN 2349-5138, Volume 7, Issue 2, Page no pp.346-356, June 2020.
48.		BOOK: Vishnu Balamurugan Fundamentals of Phytochemical Analysis Publisher: Kindle direct publishing ISBN: 9781073044368
49.		BOOK CHAPTER Dr. Poongothai. M, Ms. Ranjani Devi. M, Dr. Jagannathan S, Ms. Muneeswari. K, Ms. Thenmozhi. R, Mrs. Pushpanjali S (Ed), Handbook of Biotechnology, 1 st edition, AIB Saliha Publications, Tamil Nadu, India, 2020.
50.	MB	B.Sindhuja J.Rengaramanujam S. S. Sudha J.Devakumar. 2019. In vitro Antibacterial and Cytotoxicity Evaluation of Aloe vera Associated Endophytic Fungi. International Journal of Pharmacy and Biological Sciences. 9(3):750-757.
51.		A.M. Ramachandran, Kiruthika Balasubramani, S.Nivetha R.Piruthika. 2019. Dye Degrading Microbial Isolates From Textile Soil - A Monograph. International Journal of Pharmacy and Biological Sciences. 9(3):599-604.
52.		S.Senthil Prabhu J.Renga Ramanujam S.S.Sudha. 2019. Antibacterial Activity of Silver Nanoparticles Synthesized by Using Lichens <i>Heterodermia boryi</i> and <i>Parmotrema stuppeum</i> . International Journal of Pharmacy and Biological Sciences. 9(2):1397-1402.
53.		C. Sasikala, D. Geetharamani, Evetha. 2020 Extraction of Pigment from Pomegranate (<i>Punica granatum</i>) Flower Used for Various Applications International Journal of Scientific Development and Research E ISSN No.2230-7605 Vol 10 Issue 1
54.		C. Sasikala, D. Geetharamani, Mynumathi Maragatham 2020. Designing Media from Domestic Waste to Enhance Growth of <i>Chlorococcum humicola</i> and Its Application on Mosquito Control. ISSN No. 2455-2631 Date 2020/5, Vol 5 Issue 5
55.		C. Sasikala, D. Geetharamani, Swathi 2020. Invitro screening of Anticandidal activity of microalgae <i>Dispora cuneiformis</i> ISSN No. 2455-2631, Volume 5 Issue 6, 2020.
56.		C. Sasikala, D. Geetharamani, M Mynumathi 2020. Bioremediation of dairy effluent and mass production of algal biofertilizer. ISSN No. 2455-2631 Date 2020/6, Vol 5 Issue 6.
57.		S. Karthik Sundaram 2020. Bioremediation of Preprocessed Plastic Wastes Through Microbial Consortium. Journal of Advanced Scientific Research ISSN: 0976-9595: 11(4), 106-113
58.		S. S. Sudha, Devakumar Joseph, Maduri Nagarajan, Sindhuja Baskaran 2020. Synthesis and Characterization of Silver Nanoparticle from <i>Couroupita Guianensis</i> Leaf Extract and its Effect on Clinical Pathogens. Asian Journal of Pharmaceutical and Clinical Research- ISSN- 0974-2441 Vol 13, Issue 10, Aug 2020
59.		Mahenthiran R, Sudharsan K, Somambiga Ravi, Archana S. Nair, Vishnu Priyanka K, Poovendiran P.2020. Preparation and characterization of antigens against isolated <i>Shigella spp</i> from infected stool samples. World Journal of Pharmaceutical Research (WJPR) Manuscript no:WJPR/20029/10/2021



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60.	R. Mahenthiran, Sornambiga Ravi, Sri Alamelu.K.V. 2020. Generation, Purification and Characterization of Chicken Egg Yolk Antibodies (IgY) against Lipase Enzyme. International journal of research and analytical reviews(IJRAR)Manuscript no: IJRAR_231899. March 2021, Volume 8, Issue 1 (E-ISSN 2348-1269, P- ISSN 2349-5138).
61.	Mahenthiran R, Sri Alamelu K.V,Sornambiga Ravi.2020. To evaluate the anti-microbial efficiency ofChlorohexidine, nisin, chitosan, and IgY antibodies againstenterococcus faecalis, and candida albicans. World Journal of Pharmaceutical Research (WJPR) Manuscript no:WJPR/20237/10/2021. Volume 10, Issue 4, 1972-1986. (ISSN 2277- 7105)
62.	R. Mahenthiran, Sornambiga Ravi, Sri Alamelu. K. V.2020. Production of oral IgY Antibody-A novel immunotherapy against <i>Clostridium difficile</i> . International Journal of Trend in Scientific Research and Development (IJTSRD)Manuscript no: IJTSRD39892. Volume 5 Issue 3, March-April 2021(e-ISSN: 2456 – 6470)
63.	R. Mahenthiran, Sornambiga Ravi, Sri Alamelu. K. V.2020. Generation and characterization of chicken egg yolk antibodies against common pathogens like canine parvovirus, canine coronavirus and salmonella. International Journal of Creative Research Thoughts (IJCRT) Manuscript no:IJCRT_205018. Volume 9, Issue 3 March 2021(ISSN: 2320-2882).
64.	Mahenthiran R, Sri Alamelu K.V.,Sornambiga Ravi.2020. Generation and Characterization of Chicken Egg Yolk Antibodies (IgY) against <i>Helicobacter pylori</i> and Testing its Potential by In Vitro Method for Therapeutic Use. Pensee International Journal (PIJ) Volume 51, issue 4 2021(ISSN: 0031-4773)

9 (9) Training received by faculty -232

S. No.	Academic Year	Faculty Name	Date	Title	Name & address of the Institute
Biochemistry					
1.	2018-19	Dr.S.Gowri	28.09.2018 - 29.09.2018	Two days workshop on “Computational methods in Drug Discovery”	Department of Pharmacology, JSS College of Pharmacy, Ooty.
2.		Dr.D.Pradeepa	07.01.2019 - 11.01. 2019	Workshop on “In Silico Molecular Modeling and Drug designing”	Bioinformatics Centre and ARIS Cell, Madras Veterinary College, Chennai
3.		Dr.V.DhanaRangeshKumar	06.02.2019 - 08.02. 2019	UGC & DBT Sponsored National Seminar cum Workshop on “Genomics and Proteomics-2019”	Bioinformatics Infrastructure Facility & Dept. of Biotechnology, Alagappa University, Karaikudi
4.		Dr. N.Kannikaparameswari	12.02.2019- 13.02.2019	Hands on Training on “Cell Culture Techniques”	The South Indian Textile Research Association, Coimbatore
5.		Dr. T. Indhumathi & Dr. K. Rajathi	15.02.2019 - 16.02. 2019	National Workshop on “Western Blotting Technique”	Dept. of Biochemistry, PSG College of Arts and Science, Coimbatore



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6.	Dr. C. Venkatesan	15.02.2019-17.02.2019	Hands on Training on "Stem Cell Culture and Flow Cytometry"	Stellixir Biotech Pvt. Ltd., Bangalore
7.	Dr.V.Usha	06.03.2019	Three days workshop on Enablers of E-Teaching and E-Learning	Department of Business Administration, School of commerce, Avinashilingam Institute for Homescience and Higher Education for Women, Coimbatore.
8.	Dr.V.Dhana Rangesh Kumar	06.09.2019	One day Training Program on Dairy Products	Kodai Dairy Products(P) Ltd, Kodaikanal
9.	Dr.S.Balasubramanian	09.09.2019	Workshop on Funding Opportunities for Innovation and Entrepreneurship Development	IIC UnoM, TOCIC,DSIR, Government of India, RMK Engineering College, Tamilnadu
10.	Dr. S. Gowri	21.09.2019	Workshop on Rural Immersion – Community Engagement	Mahatma Gandhi National Council of Rural Education in association with NSS unit Dr.N.G.P Arts and Science College
11.	Dr. V.Usha	21.09.2019	Workshop on Rural Immersion – Community Engagement	Mahatma Gandhi National Council of Rural Education in association with NSS unit Dr.N.G.P Arts and Science College
12.	Dr.N.Kannikaparameswari	21.09.2019	Workshop on Rural Immersion – Community Engagement	Mahatma Gandhi National Council of Rural Education in association with NSS unit Dr.N.G.P Arts and Science College
13.	Dr.T.Indhumathi	21.09.2019	Workshop on Rural Immersion – Community Engagement	Mahatma Gandhi National Council of Rural Education in association with NSS unit Dr.N.G.P Arts and Science College
14.	Dr.K.Rajathi	21.09.2019	Workshop on Rural Immersion – Community Engagement	Mahatma Gandhi National Council of Rural Education in association with NSS unit Dr.N.G.P Arts and Science College
15.	Dr.D.Pradeepa	21.09.2019	Workshop on Rural Immersion –	Mahatma Gandhi National Council of



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			Community Engagement	Rural Education in association with NSS unit Dr.N.G.P Arts and Science College
16.	Dr.C.Venkatesan	01.10.2019	Workshop on Techniques on Oyster Mushroom Production	Department of Plant Pathology,TNAU
17.	Dr. Dhana Rangesh Kumar V	29.11.2019 to 30.11.2019	Two days state level workshop on Research Methodology and Data Analysis	Department of Biochemistry, Sree narayana Guru College, Coimbatore - 105
18.	Dr.S.Gowri	28.01.2020 to 29.01.2020	A two day state level workshop on Intellectual Property Rights(IPR)	IPR cell & IQAC PSG College of Arts and Science
19.	Dr.N.Kannikaparameswari	14.02.2020	Workshop on Chemical Analysis in FTIR & AAS	Department of Chemistry, Kongunadu Arts and Science College
20.	Dr.D.Pradeepa	14.02.2020	Workshop on Chemical Analysis in FTIR & AAS	Department of Chemistry, Kongunadu Arts and Science College
21.	Dr.S.Kathiravan	14.02.2020 to 15.02.2020	BIRAC Sensitization Workshop on Grant Writing,Intellectual Property and Technology Management in Life Sciences	BITS Pilani K K Birla Goa Campus
22.	Dr.T.Indhumathi	18.02.2020 to 19.02.2020	Workshop on Applied Bioinformatics- Techniques,Tools and Tasks	Department of Marine Biotechnology School of Marine Sciences Bharathidasan University Tiruchirapalli
23.	Dr.K.Rajathi	18.02.2020 to 19.02.2020	Workshop on Applied Bioinformatics- Techniques,Tools and Tasks	Department of Marine Biotechnology School of Marine Sciences Bharathidasan University Tiruchirapalli
24.	Dr.S.Gowri	June- August 2020	CSIR Summer Research Training Programme (online)	CSIR-North East Institute of Science and Technology, Jorhat.
25.	Dr.K.Rajathi	June- August 2020	CSIR Summer Research Training Programme (online)	CSIR –Indian Institute of Toxicology Research, Lucknow
26.	Dr.T.Indhumathi Dr.K.Rajathi	01.06.2020	International Webinar on Functional Nanomaterials in Biomedical Field	St.Pious X Degree &PG College for Women, Hyderabad



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27.	Dr.K.Rajathi	02.06.2020-04.06.2020	International Webinar Conference on Facts and Perspectives of Integrative Biology	Sri Ramakrishna College of Arts and Science (Autonomous), Coimbatore
28.	Dr.K.Rajathi	04.06.2020-05.06.2020	International Webinar Series FDP "Contemporary and Advanced Research in Life Science"	Department of Microbiology, Karpagam Academy of Higher Education, Coimbatore
29.	Dr.T.Indhumathi	05.06.2020	Online Quiz on "Time for Nature 2020"	Vivekananda Arts and Science College for Women, Salem.
30.	Dr.S.Gowri	13.06.2020	National Webinar on Biologically active mudflats	Chennai science colloquium
31.	Dr.S.Gowri	24.06.2020	National Webinar on Start up inventing post covid: what would the last man standing do?	Crescent innovation and incubation council
32.	Dr.S.Gowri	15.06.2020-19.06.2020	FDP on Active learning and advanced scientific computing methods	Department of Physics, Loyola college
33.	Dr.S.Gowri	26.06.2020-27.06.2020	Online city camp on essentials of scientific Entrepreneurship	Venture centre, Pune in Collaboration with PSG-STEP
34.	Dr.K.Rajathi	26.06.2020-02.07.2020	A Seven-Day International Workshop on Reinforcement of Quality Education	Internal Quality Assurance Cell (IQAC) of Vellalar College for Women (Autonomous), Erode
35.	Dr.S.Kathiravan	27.06.2020	International Webinar on Bundle of Tools for online teaching	Sri Ramakrishna Mission Vidhyalaya College of education
36.	Dr.K.Rajathi	03.07.2020	Webinar on Molecular Diagnostics Of Infectious Diseases – An Introduction	Department of Zoology, Michael Job College Of Arts And Science For Women
37.	Dr.K.Rajathi	12.07.2020-19.07.2020	Online Awareness Pledge on Covid -19	KPR Institute of Engineering and Technology
38.	Dr.K.Rajathi	18.07.2020	Webinar Session X- Fragile Chromosome In Human	Department of Zoology, Michael Job College Of Arts And Science For Women
39.	Dr.K.Rajathi	29.07.2020	International Webinar Therapeutic	Department of Zoology, Chikkaiah

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			applications of Plant Based Inorganic nanoparticles: Current status and Future Perspectives	Naicker College, Erode
40.	Dr.K.Rajathi	03.08.2020-08.08.2020	One Week International FDP on Leadership Strategies Post Covid-19 Environment	Department of Management Studies, Tagore Engineering College, Chennai
41.	Dr.S.Gowri Dr.S.Balasubramanian DR.V.Usha Dr.N.Kannikaparameswari Dr.T.Indhumathi Dr.K.Rajathi Dr. D. Pradeepa Dr.S.Kathiravan Dr.V.Dhana Rangesh Kumar	10.08.2020 to 15.08.2020	Certificate course on "Digital Teaching Techniques"	ICT Academy
42.	Dr.V.Dhana Rangesh Kumar	16.08.2020	Workshop on Cancer Prediction using Machine Learning	Wisecorner Laboratories Pvt Ltd & Crescent Innovation & Incubation Council(CHIC),Chennai
43.	Dr.V.Dhana Rangesh Kumar	24.08.2020	FDP on Steps To Organize Manuscript For Publication In Peer-Reviewed Journals	Department of Physics, Vellalar College for Women (Autonomous), Erode-12
44.	Dr.T.Indhumathi	01.09.2020 to 07.09.2020	Seven Days International Virtual Faculty Development Programme on "Smart Technologies for Drug Design, Energy and Environment(IFSED)-2020	Department of Science and Humanities(Chemistry), Kumaraguru College of Technology, Coimbatore.
45.	Dr.K.Rajathi	04.09.2020-05.09.2020	Two days FDP on Updates and Upgrades in Education and Research	PG and Research Department of Biochemistry, Sacred Heart College, Vellore
46.	Dr. V. Usha	24.09.2020	Online workshop on Rural Entrepreneurship Development (RED) Action Plan	Mahatma Gandhi National Council of Rural Education, Hyderabad.
47.	Dr.T.Indhumathi	02.10.2020 &	Science Academies Sponsored Two Days	Department of Zoology, PSGR



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		03.10.2020	Virtual Workshop on “Life science Technologies for Promotion of Scientific Research and Development”	Krishnammal College for Women, Coimbatore
48.	Dr.K.Rajathi	12.10.2020-16.10.2020	One Week short Term Course on Advanced Energy Materials	Dr. B. R. Ambedkar National Institute of Technology, Jalandhar
49.	Dr.N.Kannikaparameswari	06.07.2020-12.07.2020	One Week online FDP Being a Super Teacher	Bannari Amman Institute of Technology
50.	Dr.S.Balasubramanian	05.09.2020	Special Webinar “Future of Higher Education Under the New National Education Policy -2020	ASFASM and PWC.
51.	Dr.S.Balasubramanian	15.10.2020	Webinar on Response of the DBTs Autonomous Institutes to Covid-19(Part-III)	India Alliance
52.	Dr.S.Balasubramanian	10.09.2020	Webinar on Response of the DBTs Autonomous Institutes to Covid-19(Part-II)	India Alliance
53.	Dr.S.Balasubramanian	04.09.2020	Webinar on A Platform for First Generation Entrepreneurs	Crescent Innovation and Incubation Cell
54.	Dr.S.Balasubramanian	22.07.2020	Webinar on “Entrepreneurship and IPR”	Department of Electronics & Communication Engineering and Entrepreneurship Development Cell, Mahendra Institute of Technology
55.	Dr.S.Balasubramanian	27.07.2020-31.07.2020	Online FDP on Industry 4.0 Technologies for Non-Computing Disciplines	Department of Computer Science, Bharathiar University, Coimbatore-46.
56.	Dr.S.Balasubramanian	03.08.2020	Webinar Series on Innovation to Startup	IIC, Kumaraguru College of Technology
57.	Dr.S.Balasubramanian	04.08.2020	Webinar Series on Innovation to Startup session titled “IPR and Patent Filing”	IIC, Kumaraguru College of Technology
58.	Dr.S.Balasubramanian	13.06.2020	Leadership Talk with Shri R Subrahmanyam, IAS (Secretary Ministry of Social Justice & Empowerment)	MHRD's Innovation Cell



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59.	Dr.S.Balasubramanian	11.08.2020	Webinar Opportunities In Cognitive Neuro-Medicine: A Cell To Society Continuum	Mizoram University
60.	Dr.S.Balasubramanian	13.08.2020	International Webinar on 'Mahatma Gandhi's Conception of the Power of Non-violence in the Light of Patanjali's Yoga-sutra,	Mizoram University
61.	Dr.S.Balasubramanian	14.07.2020	Online webinar on "Challenges and Opportunities in Startup and Innovation" organized	Department of Electrical and Electronics Engineering of Mahendra Institute of Technology
62.	Dr.S.Balasubramanian	03.10.2020	Panel Discussion on Autonomy	Mastersoft ERP Solutions Pvt Ltd
63.	Dr.S.Balasubramanian	16.08.2020	Virtual workshop of "Cancer Prediction using Machine Learning"	Wisecorner Laboratories Pvt Ltd& Crescent Innovation & Incubation Council (CIIC),Chennai
64.	Dr.N.Kannikaparameshwari, Dr.T.Indhumathi, Dr.K.Rajathi and Dr.D.Pradeeepa	March 24 & 25, 2021.	the webinar entitled "DISEASE DIAGNOSIS AND THERAPEUTICS"	Department of Microbial Biotechnology, Bharathiar University, Coimbatore
65.	Dr.K.Rajathi	01.02.2021 - 05.02.2021	FDP on "Artificial Intelligence"	AICTE Training and Learning(ATAL) Academy
66.	Dr.K.Rajathi	14.12.2020- 18.12.2020	FDP on "Synthetic Biology"	AICTE Training and Learning(ATAL) Academy
Biotechnology				
67.	Dr. M. Poongothai	28.09.2018 & 29.09.2018	Two day Workshop on "Computational Methods in Drug Discovery"	JSS college of Pharmacy, Ooty
68.	Mr. Arun. P	06.03.2019 to 08.03.2019	UGC Sponsored 3 days workshop on "Enablers of E- Teaching and E- Learning (EEE)"	Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore
69.	Mrs. S. Dhanalakshmi & Mrs. A. Muthukumari (Lab	05.4.2019	One day Training Programme on Mushroom cultivation Techniques	Mushroom Research & Training Centre, Department of Plant



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		Technicians)			Pathology, Tamil Nadu Agricultural University, Coimbatore
70.	2019-20	Dr. K. Arungandhi	01.10. 2019	National Workshop on Production Technology on Mushrooms - Antimicrobial Biomolecules for Plant Health	Department of Plant Pathology,TNAU, Coimbatore
71.		Dr. M. Poongothai	01.10. 2019	National Workshop on Production Technology on Mushrooms - Antimicrobial Biomolecules for Plant Health	Department of Plant Pathology,TNAU, Coimbatore
72.		Dr. Arun. P	28.01.2020 to 29.01.2020	State Level Technical Workshop on Intellectual Property Rights	PSG College of Arts and Science, Coimbatore
73.		Dr. M.N. Kathiravan	28.01.2020 to 29.01.2020	State Level Technical Workshop on Intellectual Property Rights	PSG College of Arts and Science, Coimbatore
74.	2020-21	Dr. P. Chidambararajan	13.04.2020 – 20.04.2020	FDP Programme on Quality Initiatives in Higher Education	Dr. N.G.P. Arts and Science College, Coimbatore Sri Ramakrishna College of Arts and Science, Coimbatore Gobi Arts & Science College, Gobichettipalayam Vellalar College for Women, Erode (Cluster of colleges program)
75.			22.06.2020	Stress Management and Yoga in Health Care	Center of Value Education, N.S.S and Department of Biochemistry, Dr. N.G.P Arts and Science College, Coimbatore
76.			13.07.2020 – 13.08.2020	Four week International Faculty Development Online Certificate Course on "Medical Bacteriology" (Phase II)	Department of Microbiology, Sacred Heart College (Autonomous), Tirupattur,
77.			14.12.2020 – 18.12.2020	One week International E- Workshop on Bioinformatics	Department of Biotechnology Delhi Technological University, Delhi- 110042
78.			03.02.2021 –	UGC STRIDE Sponsored Seven - Day	Department of Food Science and



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		11.02.2021	Online Training Programme on Environmental Sustainability and Research Ethics	Nutrition, School of Home Science, Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore
79.		31.03.2020 – 04.04.2020	5 day international workshop on "Emotional Management" through What'sapp	ANOBITHI Unit of The Indian Institute of Mother and Child Welfare 15, Biren Roy Road (West) Kolkata – 8, West Bengal, India
80.		13.04.2020 – 20.04.2020	FDP Programme on Quality Initiatives in Higher Education	Dr. N.G.P. Arts and Science College, Coimbatore Sri Ramakrishna College of Arts and Science, Coimbatore Gobi Arts & Science College, Gobichettipalayam Vellalar College for Women, Erode (Cluster of colleges program)
81.	Dr. Arun. P	20.04.2020 – 06.05.2020	FDP on "Managing Online Classes and Co-creating MOOCS" (sponsored by MHRD, Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching)	Teaching Learning Centre, Ramanujan College, University of Delhi
82.		11.05.2020 – 16.05.2020	National level online FDP on Innovation to Academicians (sponsored by NSTEDB, DST)	New Generation Innovation and Entrepreneurship Development Centre, Ramachandra College of Engineering, Eluru
83.		15.05.2020 – 11.06.2020	Four weeks certificate course on Bionanotechnology	Center for Faculty Development (CFD) of AIB, Chennai, Tamil Nadu
84.		25.05.2020 – 26.05.2020	FDP on 'Enhancement of Knowledge and Skills through Scientific Lectures'	PSGR Krishnammal College for Women, Peelamedu, Coimbatore – 641004.
85.		08.06.2020 – 13.06.2020	Webinar cum FDP series on Current Progress and Future Prospects of Biotechnology	Chaitanya Bharathi Institute of Technology, Hyderabad, Telangana - 500075



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18.06.2020	The Workshop FDP Webinar on Experience the cutting edge Elsevier Tools to Pivot your Research	Department of Biotechnology, Karunya Institute of Technology and Sciences in collaboration with Elsevier
26.06.2020 – 27.06.2020	Online City Camp on Essentials of Scientific Entrepreneurship	PSG – STEP, Coimbatore and Venture Center, Pune
12.10.2020 - 17.10.2020	FDP on “Become the Role Model”	Hindusthan College of Arts & Science, Avinashi Road, Coimbatore-641028.
14.10.2020 – 23.10.2020	Ten Days Online Certificate Course on “Data Analysis for Life Sciences using R Programming”	Guru Nanak Centre for Research (GNCR), Guru Nanak College (Autonomous), Guru Nanak Salai, Velachery, Chennai
19.10.2020 – 21.10.2020	“GUJCOST Sponsored e-Workshop on Structural Elucidation of Organic Compounds by Spectroscopic Techniques”	Ramanbhai Patel College of Pharmacy, Constituent Institute of Charotar University of Science and Technology (CHARUSAT), Changa
02.11.2020 – 06.11.2020	FDP on “Contemporary Advances in Bio-nanotechnology”	National Institute of Technology, Andhra Pradesh
10.12.2020 – 30.12.2020	FDP on “Educational Management and Leadership for Sustainable Environment”	Centre for Academic Leadership and Education Management (CALEM), Department of Education, Panjab University, Chandigarh under the Aegis of PMMMNMTT, Ministry of Education, Govt. of India. in collaboration with Department of Gandhian and Peace Studies, Institute of Educational Technology and Vocational Education, Department of Political Science & University Institute of Applied Management Sciences,



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				Panjab University, Chandigarh.
93.		07.01.2021 – 15.01.2021	Seven days online workshop on Revised NAAC Norms and Procedures	IRAC, St. Joseph's College, Bengaluru
94.		18.01.2021 – 23.01.2021	AICTE sponsored one week short term training programme on Practical approaches for Next Generation Sequencing Technologies and Data analysis towards health care	K.S.R College of Technology, Tiruchengode
95.		20.01.2021 - 04.02.2021	Virtual FDP on Entrepreneurship	Bharathidasan College of Arts and Science, Ellispettai, Erode-638116.
96.	Dr. M.N. Kathiravan	08.05.2020	Online FDP on Examinations in wake of COVID-19	Department of Commerce - Shift II, Patrician College, Chennai in Association with DigitalEdu IT Solution
97.		11.05.2020	FDP on Tally with GST	Rathinam College of Arts and Science, Eachanari, Coimbatore
98.		11.05.2020 – 13.05.2020	FDP on "Improving Your Research Visibility – Research Impact and Metrics"	Velalar College Of Engineering And Technology, Thindal, Erode – 638 012
99.		20.05.2020	Online FDP on 'Uncovering Piazza for Effective Teaching'	Sri Amaraavathi College of Arts and Science, Karur
100.		20.05.2020	FDP Digital Learning Series on the theme "Connected World- a Reality with IOT"	Sri Ramakrishna College of Arts & Science for Women
101.		21.05.2020	Online Introductory course on "Open Source Tools for Instructional Scaffolding"	Department of Computer Science, Sree Sankara Vidyapeetom College, Valayanchirangara, Perumbavoor, Kerala
102.		21.05.2020	Faculty Development Program Digital Learning Series on the theme "Fractals In Image Processing"	Sri Ramakrishna College of Arts & Science for Women



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103.		30.05.2020	Online Faculty Focus Program on Experiential learning using virtual labs	UNITIEUP
104.		29-05-2020 – 02-06-2020	Five Days Hands on Workshop on “Patent Searching, Drafting And Filing” (Online Mode)	Panimalar Institute of Technology, Poonamallee, Chennai- 600123
105.	Dr. M. Poongothai	11.04.2020	Completed the module on How to conduct evidence-based research	Researcher Academy in collaboration with Elsevier
106.		28.04.2020 – 22.05.2020	IIC Online Sessions to promote Innovation, IPR, Entrepreneurship, and Start-ups among HEIs	Institution's Innovation Council (IIC) of MHRD's Innovation Cell, New Delhi
107.		Short term course (8 weeks) 01.09.2020 – 01.11.2020	Nanotechnology in Agriculture	NPTEL - AICTE
108.		15.05.2020 – 11.06.2020	Four weeks certificate course on Bionanotechnology	Center for Faculty Development (CFD) of AIB, Chennai, Tamil Nadu
109.		05.05.2020 – 11.05.2020	Online Course for aspirants of CSIR-NET in Life Sciences	PG and Research Department of Zoology, Jamal Mohammed College, Trichy
110.	Dr. S.S. Saranya	21.12.2020 – 26.12.2020	Short term training programme on "Practicals approaches for Next Generation Sequencing Technologies and Data Analysis towards Health care"	Department of Biotechnology, K.S.Rangamsam college of Technology
Microbiology				
111.	2018-19 Mr.S.Senthil Prabhu Asst. Professor, Dept. of Microbiology	21.05.2018 - 28.05.2018	Taxonomy, Biodiversity, Ex Situ Conservation and Applications of Fungi	National Fungal Culture Collection of India (NFCCL) at Agharkar Research Institute (ARI), Pune
112.	Dr. N. Vidhya & Mrs. C. Sasikala	05.10.2018 – 06.10.2018	National Level workshop on 'Prospects and Challenges in Algal studies'	Department of Botany, Catholicate College, Pathanamthitta, Kerala



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113.	Dr.J. Deva Kumar	25.05.2019 - 01.06.2019	Isolation and identification of Bioactive compounds from natural resources	Agharkar Research Institute, Pune
114.	Dr. N. Vidhya	22.06.2019	Molecular Diagnostics for pathogenic bacteria	Bannari Amman Institute of Tech. - Erode
115.	C.Sasikala	22.06.2019	Molecular Diagnostics for pathogenic bacteria	Bannari Amman Institute of Tech. - Erode
116.	A.D. Priyadarshini	22.06.2019	Molecular Diagnostics for pathogenic bacteria	Bannari Amman Institute of Tech. - Erode
117.	Mr. S. Senthil Prabhu	12 & 13.09.2019	Identification, Bioprospecting and conservation of Lichens	Dept. of Botany, Bharathiar University
118.	Dr. J.Rengaramanujam	05.12. 2020	University Distinguished Lecture on "Art of Science in the Time of Virus and Beyond:The Brave New World"	SRM University, Chennai
119.		10.12.2020 – 30.12.2020	FDP on Educational Management and leadership for Sustainable Environment"	CALEM, Panjab University, Chandigarh
120.		15.09.2020	Cancer Prediction using Machine Learning	Wisecorner Laboratories Pvt Ltd
121.	Dr.S.S.Sudha	18.12.2020 – 20.12.2020	International e-Conference on Cyanobacterial and algal Biotechnology	National Repository for microalgae & cyanobacteria – Fresh water(NRMC-F)
122.		10.11.2020	Industry Collaboration and outcome based Education for Grooming Graduates	MCET
123.		15.12.2020 - 16.12.2020	National Level Virtual FDP on NEP implementation for internal Quality Assurance in HEI	PSGR Krishnammal College for Women
124.	Dr. N. Vidhya	17/02/2021 - 20/02/21	HPLC MASS technology	Karunya University, Coimbatore
125.	Dr. A. M. Ramachandran	17/02/2021 - 20/02/21	HPLC MASS technology	Karunya University, Coimbatore
126.		4.5.2020 - 10.5.2020	One Week FDP Programme on SPOKENN TUTORIAL FREE OPEN SOURCE SOFTWARE (FOSS)	Dr. NGPASC & IIT, Mumbai



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127.		11.5.2020	Scope of Biotechnology in Food Industries	ARUNAI ENGINEERING COLLEGE,TIRUVANNAMALAI
128.		5.5.2020 - 11.5.2020	7 days Online course for Aspirants of CSIR-NET in life science	JAMAL MOHAMED COLLEGE,TIRUCHY
129.		25.8.2020	Workshop on "Foldscope Microscope - Sample Preparation and Digital Documentation"	Sathyabama Institute of Science and Technology, Chennai
130.	Dr.S.Senthil Prabhu	26.02.2021 - 12.03.2021	2 Weeks comprehensive online Patent Information Course	organized by Turnip Innovations
131.		17/02/2021 - 20/02/21	HPLC MASS technology	Karunya University, Coimbatore
132.		03.03.2021 - 04.03.2021	E- workshop on High-End Characterization of Microalgae : Overcoming the Technological Barriers"	By TERI Center
133.		27/01/2021 - 08/02/2021	UGC Stride Sponsored nine day online Training Program on Excellence in Research	Avinashilingam Institute for Home science and Higher Education for Women, Coimbatore,
134.		07.12.2020 - 12.12.2020.	AICTE sponsored One Week Short Term training Programme on "Biotechnology and its application in Tribal areas"	Ballarpur Institute of Technology
135.		15th -18th July 2020.	Four days online Training course on "Mass Spectrophotometry and Proteomics"	Amazing Biotech Ltd., Chennai
136.		06.07.2020- 08.07.2020	online Training course on "Real Time PCR based Gene Expression and Pathogen detection"	Amazing Biotech Ltd., Chennai
137.		21.06.2020 - 25.06.2020	online Training Course on " Gel based Proteomics	Amazing Biotech Ltd., Chennai
138.		18.05.2020 – 19.05.2020	Workshop on "Biomedical Application in Translational Research (BATR-2020)	Alagappa University
139.		15.05.2020	LaTex Training sponsored by Spoken	Sree Narayana Guru College,



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			Tutorial IIT Bombay	Coimbatore
140.		10.12.2020 - 30.12.2020	21 days FDP Program on "Educational Management and Leadership for Sustainable Environment" (Online mode), Under Aegis of PMMMNMTT, Govt. of India	CLEM, Department Education, Panjab University
141.	Prof. C. Sasikala	17/02/2021 - 20/02/21	HPLC MASS technology	Karunya University, Coimbatore
142.		Feb-Apr 2020	Cell culture Technologies	NPTEL
143.		17/02/2021 - 20/02/21	HPLC MASS technology	Karunya University, Coimbatore
144.		9.4.2020 - 11.4.2020	FDP on DHRONA - The Art of Teaching and Learning for NXT Gen	DG Vaishnav College, Chennai
145.	Dr. S. Karthik Sundaram	13.4.2020 - 16.4.2020	An Effective Research Paper Writing Skill	Dr. Bhavesh Vanparia, DHRD, VNSGU
146.		4.5.2020	How to Diagnose Novel Corona Virus (Covid-19)	Crescent Education
147.		4.5.2020 - 8.5.2020	FDP on R programming	Dr. NGPASC & IIT, Mumbai
148.		17/02/2021 - 20/02/21	HPLC MASS technology	Karunya University, Coimbatore
149.	Dr. J. Devakaumar	15.09.2020	Cancer Prediction using Machine Learning	Wisecorner Laboratories Pvt Ltd
150.		Feb-Apr 2020	Cell culture Technologies	NPTEL Online Certification
151.	Dr. R. Mahenthiran	17/02/2021 - 20/02/21	HPLC MASS technology	Karunya University, Coimbatore
152.		Feb-Apr 2020	Cell culture Technologies	NPTEL Online Certification
			Food Science and Nutrition	
153.	2018-19 Mrs.B.Premagowri Assistant Professor	08.01.2019-09.01.2019	Training on Amla processing	Tamil Nadu Agricultural University, Coimbatore



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154.	Dr.M.Sivasakthi, Assistant Professor	29.01.2019 - 30.01.,2019	Novel bakery training	Tamil Nadu Agricultural University, Coimbatore
155.	laboratory assistant	21.01.2019 - 23.01.2019	Value added novel millet products training programme	Ramasamy Chinnammal Trust Coimbatore
156.	Dr.S.Umamaheswari, Assistant professor.	30.01.2019 - 31.01. 2019	"International workshop on personalised nutrition	PSG College of Arts and science, Coimbatore
157.	Dr.D.Sridevi , Head &Dr.S.Umamaheswari Assistant professor	19.02.2019 - 20.02.2019	Value added products from tomato and noni fruit	Tamil Nadu Agricultural University, Coimbatore
158.	Dr.D.Sridevi , Head ,Dr.B.Premagowri, Dr.S.Umamaheswari&Dr.M.Sivasakthi,Assistant professor	21.02.2019 – 22.02.2019	Food Analysis Training Programme	Alpha labs, Coimbatore
159.	Ms.R.Shivani & Ms.P.Ashwini	06.09.2019	One day Training Program on Dairy Products	Kodai Dairy Products(P) Ltd, Kodaikanal
160.	Ms.P.Kaneeshwari	11.02.2020 - 12.02.2020	Value added products from Moringa and mushroom	TNAU, Coimbatore
161.	Ms.P.Ashwini	11.02.2020 - 12.02.2020	Value added products from Moringa and mushroom	TNAU, Coimbatore
162.	Ms.C.Abinaya	18 .02.2020 - 19.02.2020	Training program on Preparation of Spice powders and pickles	TNAU, Coimbatore
163.	Ms.R.Shivani	18 .02.2020 - 19.02.2020	Training program on Preparation of Spice powders and pickles	TNAU, Coimbatore
164.	Dr. D.Sridevi	23.04.2020 – 28.04.2020	Online national faculty development program for engendering the next generation educators	Nehru arts and science college, Coimbatore
165.		11.05.2020- 13.05.2020	Three day online faculty development program on 'improving your research visibility- research impact and metrics'	Vellalar college of engineering and technology, Erode
166.		09.04.2020	COVID-19 Pandemic General Awareness Quiz	Department of RISE (Research, Innovations, Sponsored Projects & Entrepreneurship),



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		Chandigarh Group of Colleges, Landran, Mohali
167.	16.05.2020 – 22.05.2020	Online Seven Days International Faculty Development Programme on "Impact of COVID 19 on Higher Education Institution's Challenges & Responses"
168.	06.05.2020-12.05.2020	Webinar workshop on How can I become a career counselor
169.	25.09.2020 - 29.09.2020	Online FDP on "Leadership & Excellence"
170.	07.09.2020 – 11.09.2020	Online FDP on "ROAD - Response Effectiveness, Organising Self, Attitudinal Shift, Decision Making"
171.	31.07.2020	'Special Lecture on Increasing Role of Women Entrepreneurship in Higher Educational Institutions and Impending Factors - A National and Global Perspective'
172.	07.09.2020	Invited Guest lecture on First 1000 days
173.	03.09.2020 – 04.09.2020	"Online Nutrition Quiz 2020"
174.	14.07.2020	National Webinar on "Diet, Epigenetics and Cognitive Performance"

Dr.S.Daniel Robert



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09.07.2020	International Webinar on "Metabolomics :A novel research tool to examine mechanism underlying diet disease association"	Department of Food Service Management and Dietetics, Avinashi lingam Institute for Home Science and Higher Education for Women, Coimbatore
25.06.2020	National: Webinar on Theme: "Healthy Diet Tools" Time to think about What we Eat	Ms. Shiny Sunderan Consultant Sports & Preventive Nutritionist, Chennai, India
25.06.2020	International Webinar on "Priming Our Immune System For Vital Health"	Department of Food Service Management and Dietetics, Avinashi lingam Institute for Home Science and Higher Education for Women, Coimbatore
26.06.2020	World Drug Abuse Day-26-JUN-2020 E-quiz on 'Better Knowledge for Better Care'	Department of Biochemistry, Dr.N.G.P. Arts and Science College (Autonomous), Coimbatore
27.06.2020	International Webinar Entitled Covid-19 & Food And Nutrition Security: Scenario In South And South East Asia	Department of Food Science and Nutrition, Nutrition Association and Nutrition Society of India, Coimbatore chapter
09.04.2020	COVID-19 Pandemic General Awareness Quiz	Department of RISE (Research, Innovations, Sponsored Projects & Entrepreneurship), Chandigarh Group of Colleges, Landran, Mohali
13.04.2020 – 20.04.2020	One Week FDP Programme on Quality Initiatives In Higher Education	Dr.N.G.P. Arts and Science College (Autonomous), Coimbatore, Vellalar college for women, Erode, Sri Ramakrishna College of Arts and Science, Coimbatore, Gobi Arts and Science College, Gobichettipalayam



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183.		28.04.2020 – 22.05.2020	IIC Online Sessions	Institution's Innovation Council (IIC) of MHRD's Innovation Cell, New Delhi
184.		05.09.2020	Inspiring Professor Award	Advanced Materials and Applications, Madras Journal Series, Tiruvallur
185.		06.11.2020	Invited Guest Lecture on 'Significance of Nutrition in Maintaining Health and Preventing Diseases' Webinar Series-2020	Health Care Committee Dr.N.G.P. Arts and Science College (Autonomous), Coimbatore
186.		28.04.2020 – 22.05.2020	IIC Online Sessions	Institution's Innovation Council (IIC) of MHRD's Innovation Cell, New Delhi
187.		25.06.2020	International Webinar on Priming our immune system for vital health	Department of Food Service Management and Dietetics, Avinashi lingam Institute for Home Science and Higher Education for Women, Coimbatore
188.	Dr. S.Uma Maheswari	27.04.2020- 28.04.2020	International webinar 2020 on food safety policies and regulations	College of community science and national agricultural higher education project, Assam agricultural university, Assam
189.		10.04.2020	COVID-19 Pandemic General Awareness Quiz	Department of RISE (Research, Innovations, Sponsored Projects & Entrepreneurship), Chandigarh Group of Colleges, Landran, Mohali
190.		21.11.2020	Invited Guest lecture on Perspectives of Food Chemistry	NPR Arts and Science College, Natham, Dindugal
191.		02.11.2020 – 07.11.2020	One week FDP on Exploring academic and investigative dimensions in food	North East Academy of Science and Technology, Mizoram University,



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			research	Mizoram
192.		04.11.2020	Invited Guest Lecture on 'Physical Wellbeing and Hygienic Practice for Womanhood' Webinar Series-2020	Health Care Committee Dr.N.G.P. Arts and Science College (Autonomous), Coimbatore
193.	Ms.R.Shivani	16.12.2020	Investor awareness program	SEBI initiated campaign
194.				
195.		23.06.2020	Webinar on nutrition communication in the complex food and media environment	Nutrition society of India, (Mumbai chapter)
196.		17.04.2020	Online faculty development program on 'UGC-NET Exam – tips and tricks'	Kamalam college of arts and science, Udumalpet
197.		27.04.2020-28.04.2020	International webinar 2020 on food safety policies and regulations	College of community science and national agricultural higher education project, Assam agricultural university, Assam
198.		12.06.2020-18.06.2020	Webinar series on 'Assessment of Nutritional status'	Nutrition society of India, (Mumbai chapter)
199.		20.05.2020	Webinar on ' use of online resources in teaching- learning process'	UKA Tarsadia University, Gujarat
200.		04.06.2020	Webinar on bivariate analysis using SPSS	NIFT-TEA College of Knitwear Fashion, Tirupur
201.		30.05.2020	Public speaking: effective delivery of talks	Uka tarsadia university, gujarat
202.		04.05.2020	Webinar on 'How to diagnose novel corona virus?'	Immugenix biosciences
203.		02.05.2020	India first leadership talk webinar	MHRS's Innovation cell
204.		09.04.2020	COVID-19 Pandemic General Awareness Quiz	Department of RISE (Research, Innovations, Sponsored Projects & Entrepreneurship), Chandigarh Group of Colleges, Landran, Mohali



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205.	Ms.P.Kanneshwari	03.09.2020-04.09.2020	"Online Nutrition Quiz 2020"	Department of Foods and Nutrition, College of Home Science, GBPUAT, Pantnagar
206.				
207.		28.04.2020-22.05.2020	IIC Online Sessions	Institution's Innovation Council (IIC) of MHRD's Innovation Cell, New Delhi
208.		27.04.2020-28.04.2020	International Webinar 2020 on "Food Safety Policies and Regulation"	College of Community Science and National Agricultural Higher Education Project (NAHEP), Assam Agricultural University, Assam
209.		10.06.2020	Webinar on "Is it possible to manage PCOS Nutritionally?"	Edunation online
210.		07.08.2020	National Webinar on "Battling Depression in Elderly during Covid-19"	Regional Centre in Geriatric Care, Gandhian Studies Centre & Department of History, PSGR Krishnammal College for Women, Coimbatore
211.		03.07.2020-05.07.2020	National Webinar Series On Immuno - Nutrition, Wellness Management & Livelihood Change	AICRP on Women in Agriculture, Assam Agricultural University, Jorhat In association with ICAR- CIWA, Bhubaneswar
212.		11.05.2020-16.05.2020	Six Day Virtual International Faculty Development Program In The Theme Of "Impact Of Education - Post Covid 19"	Sri Ramakrishna College of Arts and Science, Coimbatore
213.		21.07.2020	International Webinar on ' Public Health Epidemiology – Strategies for Health and Nutrition'	Community Science College, Madurai
214.		18.08.2020 – 22.08.2020	Five days online short term program on Intellectual Property Rights	Department of ICE, IPR Cell and Centre for Continuing Education (CCE),



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		Dr B R Ambedkar National Institute of Technology, Jalandhar, Punjab.
215.	09.04.2020	COVID-19 Pandemic General Awareness Quiz Department of RISE (Research, Innovations, Sponsored Projects & Entrepreneurship), Chandigarh Group of Colleges, Landran, Mohali
216.	06.05.2020	Webinar on "An Introduction on SIX SIGMA" Dhrona Quality Academy
217.	13.07.2020	E-Quiz on skills for a resilient youth BSDU Skill Carnival, School of Entrepreneurship Skills
218.	14.07.2020	Online webinar on "Challenges and Opportunities in Startup and Innovation" Department of Electrical and Electronics, Engineering of Mahendra Institute of Technology
219.	07.08.2020	National Webinar on "Battling Depression in Elderly during Covid-19" Regional Centre in Geriatric Care, Gandhian Studies Centre & Department of History, PSGR Krishnammal College for Women, Coimbatore
220.	05.08.2020	Webinar series on 'Innovation to start up' IIC, Kumaraguru College of Technology, Coimbatore
221.	01.07.2020	Webinar on "Understanding Metabolic Disorders in Pediatric Population" Edunation online
222.	09.11.2020	Invited Guest Lecture on 'Role of Nutrition in Improving the Performance Level of the Sports Person' Webinar Series-2020 Health Care Committee Dr.N.G.P. Arts and Science College (Autonomous), Coimbatore
223.	11/04/2020	FDP on DHRONA-The art of Teaching Learning for the Next Gen Dwaraka Doss Goverdhan Dos Vaishnav College, Chennai
224.	27/05/2020	Lockdown Stress buster-Retain Your Brain Dr.S.N.S Rajalakshmi College, Coimbatore

Ms. C.Abinaya



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225.		14/05/2020	Food Nutrition and Hygiene-keys to protective health	Stella Maris College, Chennai	
226.		01/06/2020 to 03/06/2020	Webinar on critical care and Nutrition	IDA Chapter Chennai	
227.		03/06/2020	Flexible Teaching Learning Assessment and curriculum provisions in the midst of pandemic	Dr.S.N.S Rajalakshmi College, Coimbatore	
228.		06/06/2020	Holistic Approach Towards COVID 19	Sheth PT Makila College of Arts and Home Science College, Surat Gujarat	
229.		10.06.2020	Webinar on “Is it possible to manage PCOS Nutritionally??”	Edunation online	
230.		11/06/2020	Revitalizing MSME in Post COVID19 crisis and Business Sustainability	Avinashi lingam Institute for Home Science and Higher Education for Women, Coimbatore	
All Four Departments					
231.	2020-21	All Faculties	3.08.2020 – 8.8.2020 & 10.08.2020-15.08.2020	One week online course on DIGITAL TEACHING TECHNIQUES	ICT ACADEMY Dr. N.G.P. ASC
232.		All Faculties	13 th April to 20 th April, 2020	One week FDP program on “Quality Initiatives in Higher Education” organised by Consortium of Colleges	Dr. N.G.P. Arts and Science College, Coimbatore

9 (10) Exhibitions/seminars /training courses conducted -110

S. No.	Academic Year	Date	Exhibitions/seminars /Conferences/training courses/ Competitions (Intra, Inter and Inter collegiate) conducted	Resource person/ Activity	Beneficiaries
Biochemistry					



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1.	2018-19	18.09.2018 - 19.09.2018	Phytochemical analysis	Dr. N. Kannikaparameswari & Dr. D. Pradeepa	27 (BC, BT, MB & ND)
2.		14.02.2019	R-Programming for Biologists	Kaavya.G, Meena.C (III B.Sc., Biochemistry), Suganya N, Sneha S (II B.Sc., Biochemistry), Pukazhendhi S, & Hariprasath K (I B.Sc., Biochemistry)	40 (BC, BT, MB & ND)
3.		23.02.2019	Quantification of alkali and alkaline earth metals in Biological samples by flame photometry	Faculty of Biochemistry, Mr. Rajesh & Mr. Vishnu, Project Assistant, Dept. of Biochemistry	Bioscience, Basic and Applied Science Students
4.		25.02.2019	"International conference on prospects of Nutraceuticals and Natural medicine" jointly organized with N&D department	Prof.Dr. Basavaraj Madhusudhan Department of Studies in Biochemistry and Food Technology, Davangere University, Shivangotri. Prof.Dr. Elangovan Vellaichamy University of Madras, Chennai. Mr. Roshan Delabandara Secretary, Nutrition Society of Srilanka.	Students of Biosciences
5.		23.05.2019 - 28.05.2019	Summer Internship Programme (SIP-2019)	Internal Faculty members provide Hands-on training in various techniques for other college UG students	12
6.		20.06.2019	Colloquium on "Savor of Research" – Intra departmental	Presentation by Summer Interns	230
7.		22.06.2019	Student Knowledge Sharing Programme - Intradepartmental Workshop	Ms.Madhumitha.C & Ms.Sangamithra.B II B.Sc.Biochemistry shared their knowledge on "Genomics" to other students.	57
8.		24.06.2019 - 28.06.2019	Interdepartmental Workshop on "Plant and Animal Tissue Culture, Electrophoresis, Chromatography and Spectroscopic Techniques"	Internal Faculty members provide Hands-on training to UG and PG bioscience students	100
9.		18.07.2019	Interdepartmental Competition	Short film making on "Biodiversity in and around Dr.N.G.P Campus"	250



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10.	2019-20	23.07.2019	Student Knowledge Sharing Programme - Intradepartmental Workshop	Ms.Manjubhashini & Ms.Sharulatha, III B.Sc Biochemistry[shared their knowledge on "Analysis of Nano particles in UV Visible Spectrophotometer" to other students]	50
11.		26.07.2019	Intradepartmental Competition on "Micro Videos in Life Science Experiments"	Students prepared Micro Videos in Life Science Experiments	250
12.		13.08.2019 - 14.08.2019	Intradepartmental Workshop on "Microbial Plating Techniques"	Hands-on training to students	20
13.		20.08.2019 – 21.08.2019	Interdepartmental Workshop with Chemistry department on "Water and Waste Water Analysis" for students	Dr. Raman Sivakumar Ph.D., IDH (USA), Coop(canada) Chief Scientist, MAK India Ltd, Coimbatore	60
14.		27.08.2019	Intradepartmental Workshop with Computer science Faculty on "Biostatistics & Solving Through Excel" for students	Mrs. M. Savithri, Assistant Professor (SG), Dept. of Computer Science, Dr. NGP ASC	60
15.		07.12.2019	Interdepartmental workshop with Catering Science and Hotel Management	Extraction of Natural Dyes from plants & vegetables and its application in Food preparation	40
16.		14.12.2019	Alumini Interaction Programme & Hands on Training on "Basic Microbial Culture Techniques in Quality Control Management"	Mr. Prakasam V (Alumini), Quality Control Executive, Care Now Medical Pvt Ltd, Coimbatore	40
17.		14.12.2019	National energy conservation Day - Interdepartmental competition	Paper & poster presentation, Glass Painting, Nail art	100
18.		20.01.2020	Functional FDP & Hands on Training on "ICT Enabled Teaching" for Bioscience Lab Assistants	Dr. R. Rajesh Kanna, Professor & Head 2. Dr. Anjith Raja, Assistant Professor, Dept. of Information Technology, Dr. NGP ASC, Coimbatore	12
19.		01.02.2020	Exhibition on "AYUR-FOOD FESTIVAL" with Department of Catering Science and Hotel Management	Students prepared food using herbs and traditional ingredients and displays its benefits.	230



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20.		04.02.2020	Intercollegiate Competition - World cancer Day	Dr. R. Madhu Sairam, Radiation Oncologist, KMCH, Coimbatore	57
21.	2020-21	05.06.2020	Intercollegiate Competition WORLD ENVIRONMENT DAY 2020	Virtual Competitions	25
22.		24.07.2020	Intradepartmental Video Making Competition on "Sustainable Development Goals"		20
23.		07.11.2020	National cancer Day Interdepartmental Competition		20
24.		11.02.2021	Intradepartmental Competition " International Day of Women's and Girls in Science Feb 2021	Offline Competitions	10
25.		26.02.2021	Science Ideation 2021 Intradepartmental Competition		25
26.		26.02.2021	Biotocathon 2021 Interdepartmental Competition		40
		Biotechnology			
27.	2018-19	31.08.2018	Skill Development Programme on Plant Tissue Culture(intradepartmental)	Mr.R.Ramesh Kumar DST Project Fellow, Department of Biotechnology, Alagappa University, Karaikudi.	Students of Biotechnology (50 Nos)
28.		10.01.2019	Workshop on Nanophotometric Techniques (interdepartmental)	Dr. M.Poongothai, Assistant Professor, Dept. of Biotechnology, Dr.NGPASC	Students of Microbiology, Biochemistry, Nutrition & Dietetics (100Nos)
29.		01.02.2019	Hands on training in operation of Bottle top Dispenser for dispensing acids and corrosive reagents	Mr. V. Manikandan,Sr. Sale Executive Microlit, Lucknow	Lab assistants from Science Departments (10 Nos)
30.		07.02.2019	Hands on training in Microtomy (interdepartmental)	Dr. A. Balamurugan, Manager, Field and Research Trails, T-Stanes, Coimbatore	Students of Biotechnology and CLT (150 Nos)
31.		13.02.2019	Workshop on PCR and Nanophotometer (intradepartmental)	Mrs.M. Sahnugavadi and Dr. M.Poongothai, Assistant Professors, Dept. of Biotechnology, DrNGPASC	Students of Biotechnology (150 Nos)



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32.	19.02.2019	Hands on training in Protein & Nucleic Acid Quantification with Nanophotometer (intercollegiate)	Dr. M.Poongothai, Assistant Professor, Dept. of Biotechnology, DrNGPASC	Students of various colleges in and around Coimbatore (80Nos)
33.	21.02.2019	Workshop on Operations and Applications of UV-Visible Spectrophotometer (intercollegiate)	Dr. Radha Palaniswamy, Assistant Professor, Dept. of Biotechnology, Dr.NGPASC	Students of various colleges in and around Coimbatore (50Nos)
34.	30.03.2019	Hands on Training in Animal Tissue Culture Techniques (interdepartmental)	Dr. G. Suja, Assistant Professor, C.M.S. College of Science and Commerce, Coimbatore	Teaching staff (10), Research Scholars (5) and Non teaching staff (2) from Bioscience Departments
35.	28/02/2019	National Seminar on Biodiversity and Its Prospecting (NSBP-19) Jointly organized With Microbiology Department	Dr. S. Krishnakumar, Senior Technical Officer, Ministry of Defense, DRDO, Chennai Dr.S.Sanjeeva Nayaka Principal Scientist CSIR- NBRI, Lucknow Dr.M. Palanisamy Scientist D BSI, SRC, Coimbatore	230
36.	03.09.2018	National Conference on "Recent innovation in nanomedicine and targeted drug delivery" organized by Department of Basic and applied sciences, St.AloysiusCollege (autonomous), Mangaluru under DBT –Star Scheme sponsorship St.AloysiusCollege (autonomous), Mangaluru	8students and 2 faculty members	
37.	21.06.2019	Training and Emergency care -CPR	Ekam, Foundation & 108 ambulance	10 Lab tech. and 350 stud.
38.	2019-20 26.06.2019	Observance of International Day against Drug abuse and illicit trafficking with Youth Red Cross (interdepartment	Dr. S. Karthik, Assistant Professor, Department of Biotechnology, Dr.N.G.P. Arts and Science College,	62



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		contest)	Coimbatore	
39.	28.06.2019	Workshop on Intricacies in handling Plant tissue culture (intradepartmental)	Dr. K. Kalimuthu, Assistant Professor, Department of Botany, Government Arts and Science College, Coimbatore	107
40.	01.07.2019	Interdepartment hands on training workshop-Quantification of DNA from Herbal leaves and Animal tissue using Nanophotometer	Dr. M. Shanmugavadivu and Dr. M. Poongothai, Assistant Professors, Department of Biotechnology, Dr. N.G.P. Arts and Science College, Coimbatore	47
41.	05.07.2019	Hands on training on UV Visible Spectrophotometer using Nanoparticles (interdepartmental)	Mr. S. Karthik, Assistant Professor, Department of Biotechnology, Dr. N.G.P. Arts and Science College, Coimbatore	40
42.	08.07.2019	Hands on training on Tools for Biologists in Bioinformatics (interdepartmental)	Dr. Radha Palaniswamy, Assistant Professor, Department of Biotechnology, Dr. N.G.P. Arts and Science College, Coimbatore	30
43.	12.07.2019	Knowledge sharing on Google Classroom (with teaching staff)	Dr. Arun. P, Assistant Professor, Department of Biotechnology, Dr. N.G.P. Arts and Science College, Coimbatore	9
44.	13.07.2019	In house lecture workshop on Computer aided drug designing (intradepartmental)	Dr. M. Poongothai, Assistant Professor, Department of Biotechnology, Dr. N.G.P. Arts and Science College, Coimbatore	107
45.	15.07.2019	Hands on training on Operations in MS Office (intradepartmental)	Mr. Rajakrishnan, Assistant Professor, Department of Commerce, Dr. N.G.P. Arts and Science College, Coimbatore	65
46.	16.07.2019	Knowledge exchange program on insights of Plant Tissue Culture with Department of Microbiology	Dr. M. Shanmuga vadivu and Dr. M. Poongothai, Assistant Professor, Department of Biotechnology, Dr. N.G.P. Arts and Science College, Coimbatore	33



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47.	18.07.2019	Knowledge exchange program on Mushroom cultivation and entrepreneurship opportunities with B.Com CA	Mushroom Production Team, Department of Biotechnology, Dr. N.G.P. Arts and Science College, Coimbatore	60
48.	22.07.2019	Medicinal plants exhibition	Exhibited by UG and PG students of Biotechnology	visited by 980 students
49.	14.08.2019	Bioquiz (interdepartment)	Dr. Arun. P, Assistant Professor, Department of Biotechnology, Dr.N.G.P. Arts and Science College, Coimbatore	46
50.	19.08.2019	Workshop on Death of Piracy and Video Editing tools (intradepartmental)	Dr. Rajeshkanna, Head, Department of IT, Dr.N.G.P. Arts and Science College, Coimbatore	65
51.	26.08.2019	Knowledge exchange program on Mushroom cultivation and entrepreneurship opportunities with B.Com BPS	Mushroom Production Team, Department of Biotechnology, Dr.N.G.P. Arts and Science College, Coimbatore	42
52.	05.09.2019	Workshop on Operations in MS Excel (intradepartmental)	Dr. Dinesh kumar, Assistant Professor, Department of Commerce, Dr.N.G.P. Arts and Science College, Coimbatore	65
53.	24.09.2019	Observance of Rose Day for the welfare of Cancer Patients - interdepartmental contest	Dr. S. Karthik, Assistant Professor, Department of Biotechnology, Dr.N.G.P. Arts and Science College, Coimbatore	61
54.	28.09.2019	Hands on training on Protein Purification Techniques	Dr. M. Poongothai, Assistant Professor, Department of Biotechnology, Dr.N.G.P. Arts and Science College, Coimbatore	12
55.	22.11.2019	Science Pop Up - Basic Microscopic Techniques and Qualitative Analysis of Biomolecules	All Department Staff trained School students	82
56.	11.12.2019	Hands on training on Mushroom Cultivation for School students	Mushroom production Team, Department of Biotechnology,	10



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			Dr.N.G.P. Arts and Science College, Coimbatore	
57.	12.12.2019 - 13.12.2019	Hands on training on Spawn Production and Mushroom Cultivation (intradepartmental)	Mushroom production Team, Department of Biotechnology, Dr.N.G.P. Arts and Science College, Coimbatore	214
58.	28.01.2020	Bio idea 2020 (intercollegiate innovative idea contest)	Dr. S. Karthik, Assistant Professor, Department of Biotechnology, Dr.N.G.P. Arts and Science College, Coimbatore	40
59.	01.02.2020	Lecture workshop on Scientific Writing (intercollegiate)	Dr. Radha Palaniswamy, Assistant Professor; Dr.M.N.Kathiravan, Associate Professor and Ms.K.Priyadharshini, Assistant Professor, Department Biotechnology, Dr.N.G.P. Arts and Science College, Coimbatore	80
60.	03.02.2020	Hands on training on Cost Effective Mushroom Cultivation	Mushroom Production Team, Department of Biotechnology, Dr.N.G.P. Arts and Science College, Coimbatore	80
61.	08.02.2020	Skill enhancement programme for the Lifescience students (intradepartment)	Dr. S. Karthik, Assistant Professor, Department of Biotechnology, Dr.N.G.P. Arts and Science College, Coimbatore	60
62.	27.02.2021	Bioidea'21	Innovative Idea Contest (Inter department)	54
63.	12.02.2021	International Day of Women's Health	Fire less cooking competition	46
64.	16.02.2021	International Childhood Cancer Day	PPT presentation	23
65.	10.03.2021	Bioquiz	Science Day Celebration	50



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		Microbiology			
66.	2018-19	11.09.2018	Safety Measures and Awareness and Training on Symbols for Bioscience and Chemistry lab Assistants	Mr. E.Kumaran & Dr A.M. Ramachandran	10
67.		08.01.2019 - 09.01.2019	Workshop on "Identification of Fungi & Algae and Hands on training in Fold scope" for Inter Departmental (Bioscience)	Staff Members of Microbiology	44
68.		08.01.2019	Biophotography Competition	Inter Departmental Students	105
69.		06.02.2019- 07.02.2019	Workshop on "Identification of Fungi & Algae and Hands on training in Foldscope (WIFATF-19) for Inter college students	Staff Members of Microbiology and Student Volunteers	53
70.		11.02.2019 – 15.02.2019	Hands on Training in Stereo and Inverted microscope for Students of Department of Microbiology	Staff members and Student Volunteers	230
71.		13.02.2019	Workshop on Microbes and their role in baking with Catering Science Department (Knowledge Exchange programme)	Students of Catering Science and III UG Microbiology Students	92
72.	2019-20	21.06.2019	Training and Emergency care -CPR	Ekam, Foundation & 108 ambulance	10 Lab tech. & 350 stud.
73.		27.07.2019	Competitions on Bioconservation day	posterInter and Intra departmental	60 Students
74.		13.08.2019	Competitions on Organ Donation Day	Slogan writing, Short film, Drama & Mime	60 Students
75.		02.12.201	Competitions (Intra Dept.) on National Pollution day	Seminar, poster and slogan	60 Students
76.		21.12.2019	Competition (Inter & Intra Departmental)	Pteri Art, Science Quiz, Mime, Biological Photography, Bio Art	120 Students
77.		05.02.2020 - 06.02.2020	National Seminar on Computing platforms for Bigdata analytics with IT	.Dr. P. Chella Durai, Dr. N. Jeyakumar, Dr. Sanjeev Kumar Singh	600 Students



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		Department, SERB Sponsore		
78.	28.02.2020	National Science Day competitions for School students Competitions	Quiz, Oratorical and essay writing at M.M. Murugappa chettiar school, Tripur	50 Students
79.	06.03.2020 - 07.03.2020	National Conference on Futuristic Approaches in Transformation of Bioscience Research (FATBR-2020) with Bioscience Departemnts	Dr. Sanjay K. Singh, Prof. Dr. Joseph Selvin, Prof. Dr. T.J. Pandian	30 Students
80.	08/01/2021	Competition Oral- presentation on Title: Recent Developments in Microbiology	Paper Presentation	50
81.	09/01/2021	Workshop on Bioinformatics	Dr. R. Sathish Kumar, Assistant Professor, Dept. of Biotechnology, Kongunadu Arts and Science College, Coimbatore	80
82.	04/02/2021	Virtual Workshop on "Proteomics and Mass Spectrometry: Basics and Applications"	Dr. B. Balasubramaniam BSR Fellow Department of Biotechnology Alagappa University Karaikudi	100
83.	26/02/2021	Workshop - Instrumentation techniques in Microbiology for UG Students	Faculties	120
84.	27/02/2021	Mushroom Cultivation Training –Intra departmental	Student Trainers	30
85.	06/03/2021	Mushroom Cultivation Training –Inter departmental	Student Trainers	30
Food Science and Nutrition				
86.	27.06.2018	Hands on training on processing of ready to eat foods	Mr.Ravikumar, Consultant of NRA Foods, Coimbatore	180 Students
87.	09.07.2018 – 13.07.2018	Hands on workshop on fruit and vegetable preservation	Mr.GANESAN .K & Mr.MANOJ JEBAKUMARA, demonstration officer, Ministry of women and child	63 Students



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			development, Food & Nutrition Board, Government of India.	
88.	04.09.2018	Soft skill training program and workshop for slow learners	Mr.Sukumar and Mr.Ravikumar, memory and motivator, Agnus Academy, Coimbatore.	50 students
89.	16.10.2018	World food day-2018: FOOD EXPO-2018	Department students	300 students
90.	25.02.2019	International conference on prospects of Nutraceuticals and natural medicine	Prof.Dr.Basavaraj Madhusudhan, Davangre University, Karnataka Prof.Dr.Elangovan vellaichamy, University of Madras, Chennai Prof.Mr.RoshanDelabandara, Registered Nutritionist and Joint secretary, Nutrition society of Srilanka	350 Students
91.	7.03.2019	DBT PROJECT-FOOD EXPO 2019	-	63 students
92.	17.06.2019 - 21.06.2019	Hands on Workshop on Fruit and Vegetable Preservation, in collaboration with Ministry of Women and Child Development	Mr.Jeba kumar & Mr. Manoj kumar, Food & Nutrition board, Madurai	60 students
93.	31.07.2019	WORLD BREAST FEEDING WEEK CELEBRATION - Intra departmental competition for PG Students	Poster presentation & slogan writing	250 female students
94.	06.08.2019	WORLD BREAST FEEDING WEEK CELEBRATION - Food Expo for the community	Food exhibition competition	100 members
95.	07.08.2019	WORLD BREAST FEEDING WEEK CELEBRATION -Intra departmental competition for students	Cooking competition, puppet show, article presentation	253 students
96.	08.08.2019	WORLD BREAST FEEDING WEEK CELEBRATION - Inter departmental competition for students	Poster presentation, micro-videos, slogan writing, photography	500 students



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97.	04.09.2019	Competition on National Nutrition Month Celebration (intra department)	Food exhibition competition	300 students
98.	16.10.2019	Competition on World Food day celebration	Rangoli competition	100 students
99.	01.02.2020	Hands on Training on Ice cream and Pasta making (inter collegiate)	I Msc Food & Nutrition students	50 students
100	18.2.2020 - 19.02.2020	Two days workshop on enumeration of bacteria, mould & yeast from food sample and preparation of ice cream & pasta making	Knowledge exchange programme (intra collegiate)	100 students
101	28.02.2020	National Science Day competitions for School students Competitions	Quiz, Oratorical and essay writing at government school, Tripur	50 students
102	7.11.2020	National Cancer Awareness day inter departmental competition	inter departmental competition	31 students
103	2020-21 04.08.2020	Competition for DBT students	Competition	30 students
104	07.08.2020	World Breast Feeding week celebration: Intra Collegiate Competition	Intra Collegiate Competition	30 students
All 4 Participating Department				
105	15.02.2019 - 16.02.2019	National Workshop on Intellectual Property Rights (WIPR-19)	Workshop	350
106	26.02.2019 - 27.02.2019	National Symposium on Research Graduate - 2019	Symposium	980
107	2018-19 28.2.2019	National Science Day Celebration at Schools at District of Tirupur (Kanakam Palayam, Pandi Nagar And Ponvila Colony Govt. Primary Schools) Conducted Competitions like Drawing, Picture Identification, Storytelling, Quiz etc., to School Students	Popularization of Science	703(10 Schools)
108	2019-20 21.02.2020 - 22.02.2020	National Symposium on Research Graduate - 2020	Symposium	1000



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109		26-02-2020 - 28-02-2020	National Science Day	Science day celebration	3000(30 Schools at Tirupur District)
110	2020-21		National Symposium on Research Graduate - 2020	Planned and First Circular sent.	

9 (11) Books/journals subscribed from grants

S.No	Department	Name of the Book / Journal	Areas of Importance	Student Beneficiaries	No. of Units	Outcome
1	MB	Microbiological Examination methods of food and Water by De Silva	Food & Water Microbiology	255	1	Skilled on Food & Water Quality Analysis
2		Molecular Biology A practical manual by Sharma	Biotechnology	255	1	Skilled on Molecular Techniques
3		Phytochemicals a Practical Approach by Dayal	Phytomedicine	255	1	Skilled on Phytochemistry
4		Microbiology manual by Cappuccino	General Microbiology	255	1	Skilled on Basic techniques of Microbiology
5		Manual of Phycology	Algae	255	1	Knowledge on Algae
6	BC	Bioethics and Biosafety in Biotechnology By SREEKRISHNA	Safety measures	241	1	Knowledge on safety and ethics
7		Intellectual Property Rights By GANGULY	IPR	241	1	Basic knowledge on IPR
8		Gene Cloning and DNA Analysis	Genetics	241	1	Strategies on gene cloning
9		Handbook of Organic Farming	Organic farming	241	1	Principles and practices on Organic farming
10	N&D	Food chemistry-chopra		250	1	Knowledge on Food Chemistry
11		Food chemistry-Meyer		250	1	Knowledge on Food Chemistry
12		Nutraceutical Functional Foods		250	1	Knowledge on Nutraceuticals



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		2 vol set-Chavan				
13		Functional Foods and Nutraceuticals-Singh		250	1	Knowledge on Nutraceuticals
14		Advanced Nutrition-Berdanier		250	1	Knowledge on Nutrition
15	BT	Molecular Cloning – a Laboratory Manual	Biotechnology	240	1	Skilled on cloning techniques

9 (12) Outreach activities (Popular lectures) - 77

S.No	Academic Year	Date	Type of Activity	Focus area	Beneficiaries
Biochemistry					
1.	2018-19	20.7.2018	An Awareness Programme on “Drug Abuse and Illicit Trafficking” for Public of Periya Thadagam Village.	Social issue	150
2.		11.09.2018	An Awareness Programme on “Child sex abuse” at Panchayat Union primary school, Thadagam Village	Social issue	50
3.		12.02.2019	Health camp for Public of Kaikolampalayam Village	Health	50
4.		28.02.2019	National Science Day Celebration 2019 at Government primary School, Avinashi	Educational institution	83
5.		28.02.2019	National Science Day Celebration 2019 at Pongupalayam Government Primary School, Thirupur.	Educational institution	53
6.		21.06.2019	Pamphlets issue to College students	Health Benefits of Yoga (NATIONAL YOGA DAY)	100College students
7.		19.07.2019	Awareness Camp for General Public	Leptospirosis	50General Publics
8.		20.07.2019	Health camp for Housekeeping ladies	Blood Glucose and Hb Analysis	70House keeping ladies



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9.	2019-20	28.07.2019	Awareness program for General Public	Hepatitis (World Hepatitis Day 2019)	50 General Publics
10.		13.08.2019	Awareness program for college students	Organ donation	100 College students
11.		26.02.2020	Competitions for school students	National Science Day (Theme: Women in Science)	20 school students
12.		12.03.2020	Awareness program for General Public	Survey study	50 General Publics
13.	2020-21	28.03.2021	Extension activity on "Non degradable Plastic Collection	Environment Pollution	50
Biotechnology					
14.	2018-19	08.09.2018	"Drug Abuse and Addiction Awareness" at Chinna Thadagam.	Social issue	General Public, Chinna Thadagam
15.		25.09.2018	Awareness Programme on "Prevention of Breast and Cervical Cancer"	Public health	House Keeping Ladies of Dr. N.G.P Arts and Science College
16.		25.09.2018	Outreach Programme on "Cancer Prevention"	Public health	B. Ed., Students Dr.N.G.P.College of Education
17.		11.02.2019	Awareness on drug abuse	Social issue	General Public, Veeriyampalayam
18.		11.02.2019	Awareness on drug abuse	Social issue	General Public, Karuppurayampalam
19.		11.02.2019	Awareness on drug abuse	Social issue	General Public, Kaikolampalayam
20.		28.02.2019	Microscopic Observation of Plant Cells	Educational institution	School Students, Govt. Middle School, Perumanallur.
21.	2019-20	07.09.2019	Awareness Program at Periyathadagam village	Water Management - The need of the hour	70 General Public
22.		01.02.2020	Awareness Program at Appanaikanpatti Village	Organic Farming - A Step to Sustainable Agriculture	100 General Public
23.		17.03.2020	Awareness Program for Non-teaching staff at Dr. N.G.P. ASC	Awareness on COVID 19 and distribution of hand sanitizers prepared by	30 Non-teaching staff



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				Department of Biotechnology	
Microbiology					
24.	2018-19	21.7.18	Awareness on Self Medication through Door to Door campaign at Periya Thadagam Village, Coimbatore	Health	100
25.		21.7.18	Awareness on Immunization against Lethal Diseases Periya Thadagam Village, Coimbatore	Health	100
26.		29.7.18	Liver Safety Awareness Programme (World Hepatitis day) for Dr.N.G.P. Arts and Science College Students	Health	300
27.		15.10.2018	"Celebration of World Hand Wash day – Hand Wash practice" for Dr.N.G.P. Arts and Science College Students	Health & Hygiene	65
28.		30.1.2019	Awareness on Zoonotic diseases and Personal Hygiene at Periya Thadagam Village	Personal Hygiene	300
29.		08.2.2019	Awareness on Water Borne and Zoonotic Diseases at Veeriyam Palayam, Karupparayan Palayam and Kaikolam palayam Villages	Water Borne and Zoonotic Diseases	600
30.		23.7.2018	Awareness on Personal Hygiene by UG Students to School children	Personal Hygiene	50
31.		12.8.2018	Survey on Pathogens & Diseases among General Public by UG Students to General Public	General Public health	150
32.	2019-20	25.07.2019	Awareness Program at Veeriyampalayam and Kalapatti	Food safety and personal hygiene to road side food vendors	100 General Public
33.		16.08.2019	Awareness Program with YRC for College students	Leprosy	100 Students
34.		04.01.2020	Awareness Program at Periya thadagam village	Diphtheria & DBT Vaccination -	100 General Public
35.		15.02.2020	Awareness Program or Lab Assistants	Oral Health: A Glimpse	30 Lab Assistants



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				of our Overall Health - Dr.S.K.Lakshmi Priya, Dentist, Hopes, Coimbatore.	
36.		17.02.2020	Awareness Program for College Students	COVID-19 (corona Virus)	500 Students
37.	2020-21	04.02.2021	Awareness Programme On "Leprosy is a Curable Disease" (On observation of Leprosy Day- 30 th January)	Rural General Public health awareness at Veeriyampalayam village	200
38.		23/03/2021	Covid vaccine Awareness (On observation of World Vaccine day 17 th March)-	College faculties & Students	250
Food Science and Nutrition					
39.	2018-19	31.7.2018	Cooking Contest-Snacky Feast for Expectant and Lactating Mothers.	Lactating Mothers.	200 students
40.		12.9.2018	Fruits and Vegetable Preservation-Hands on Training Programme for SHG.	Fruits and Vegetable Preservation	SHG Women.
41.		01.8.2018	Awareness Campaign at Village, Urban Health Centre, Peelamedu.	Awareness	Pregnant And Lactating Women.
42.		03.8.2018	Friday Assembly-'Slogan Oath', Issuing Pamphlets.	Nutrition education	Students of Dr.N.G.P Arts and Science College
43.		02.8.2018	In – House on the Importance of Nutrition Among Expectant and Lactating Women, Poster Competition-Breast Feeding Foundation of Life	Poster Competition	All Undergraduate and Post Graduate Food Science and Nutrition Students.
44.		06.8.2018	Skit (5 Min)	Importance Of Breastfeeding	All Undergraduate Food Science and Nutrition Students.
45.		12.09.2018	Hands on Training Programme for SHG.	Product Development	SHG Women.
46.		28.09.2018	Creating Awareness About Nutrition for School Children Among Icds Workers.	Awareness	All Undergraduate and Post Graduate Food Science and Nutrition Students.
47.		28.09.2018	Food Expo in Collaboration with ICDS, Guest Lecture and Slogan Competition.	Food Expo	All Undergraduate and Post Graduate Food Science and Nutrition Students.



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48.	10.12.2018	Nutrition and Health Education for Transport Employees.	Health Education	Transport Employees of DR.N.G.P. Educational Institutions.
49.	11.02.2019	Awareness on Importance of Iron and Folic Acid Rich Foods Among Pregnant and Lactating Mothers at Kovil palayam, Coimbatore.	Awareness	Pregnant and Lactating Mothers.
50.	12.02.2019	Nutrition Education about Hypertension, Diabetes, Normal Haemoglobin Levels and BMI at Kaikolapalayam, Coimbatore in Collaboration With Biochemistry Department and NSS of Dr.N.G.P.Arts and Science College.	Nutrition Education	Rural Pregnant and Lactating Women, Elder Adults and Children.
51.	12.02.2019	Formulation of Low Cost Iron and Protein Enriched Enriched Snacks for Pre-School Children at Vilankurichi, Coimbatore.	Pre-School Children	Pre-School Children,
52.	12.02.2019 - 13.02.2019	Awareness on Nutritional Deficiencies Through Puppet Show.	Awareness	Undergraduate Food Science and Nutrition Students.
53.	13.02.2019	Create Awareness and Disseminate The Need for Iron Rich Nutritious Foods Among Women at Poombukar Nagar, Saravanampatti, Coimbatore.	Awareness	Rural Women and Adolescent Girls.
54.	13.02.2019	Importance Of Iron Rich Foods & Anemia Free World Through Puppet Show.	Puppet Show	Undergraduate Food Science and Nutrition Students.
55.	14.02.2019	Demonstration of Nutritious Recipes Among Anganwadi Workers at Kovilpalayam, Coimbatore.	Nutritious Recipes	Anganwadi Workers.
56.	28.02.2019	National Science Day Celebration-Extension Activity at Schools Kanakampalayam and Vaavipalayam.	Competitions	Govt School Children.
57.	04.03.2019	Impact of Nutrition Education on Iron Among Adolescent Girls.	Nutrition Education	Undergraduate DBT Students.
58.	2019-20 26.7.2019	Oath taking- empower parents- enable breast feeding now and for the future	WORLD BREAST FEEDING WEEK CELEBRATION	7000 members



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59.	31.7.2019	Nutrition education at primary health centre, Peelamedu, Coimbatore	Education to post natal mothers	50 post natal mothers
60.	01.08.2019	Nutrition education at Urumandampalayam, Coimbatore	Education to pregnant and lactating mothers	50 post natal and pre natal mothers
61.	02.08.2019	Nutrition education at Kaikonampalayam, Coimbatore	Education to pregnant and lactating mothers	50 post natal and pre natal mothers
62.	03.08.2019-04.08.2019	Awareness on social media	Importance of breast feeding	1000 general public
63.	05.08.2019	Nutrition education at GH, coimbatore	Education to pregnant, lactating mothers & their family members	300 general public
64.	06.08.2019	Rally with NSS students from Women's Polytechnic College to VOC Park, Coimbatore	Awareness about the importance of breast feeding	275 students
65.	07.08.2019	Nutrition education through puppet show at KMCH, Coimbatore	Importance of breast feeding	100 general public
66.	08.02.2020	Survey - nutrition assessment	Anthropometrical data collection for transgender community	50 member
67.	10.02.2020	pamphlet issued and Awareness program at The N. G. P school, Kalapatti, Coimbatore	Deworming	200 students
68.	02.08.2020	Special lecture on Importance of diet for Pregnancy& Lactation during COVID-19 and creating awareness on Importance of breast feeding through social media (Face book)	Pregnancy& Lactation during COVID-19	50 students and 120 general public
69.	03.08.2020	Creating awareness on Importance of Breast Milk for adult female students	Importance of Breast Milk	80 students and 60 general public
70.	04.08.2020	Lecture on Physical and Mental Health during antenatal& postnatal care and competition for DBT students	Physical and Mental Health	100 students and 60 general public
71.	05.08.2020	Nutritional Support of Prenatal Women-A boon for Lactating mother through webinar	Nutritional Support of Prenatal Women	60 students and 60 general public



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72	07.08.2020	Lecture on Herbs & Species for Supporting Breastfeeding during COVID-19 & competition for intra collegiate	Herbs & Species	50 students, 30 faculties and 80 general public
73	29.10.2020	Guest lecture on premenstrual and menstrual syndrome among adolescent girls for computer female students	premenstrual and menstrual syndrome	60 students and 60 general public
74	31.10.2021	Alumni interaction: Scope of Entrepreneurship Development in Digital Marketing Related to Food Science	Entrepreneurship Development	150 Students
75	06.03.2021	Awareness campaign on Food Wastage to general public	Food Wastage	50 general public
All Participating department				
76	17.07.2019	Students Visit to Nilgiri Biosphere National Park	Apiray Training	15
77	07.12.2019	Students Visit to Senapathy Kangeyam Cattle Research Foundation (SKCRF)	Water Conservation	1000

9 (13) Colleges mentored to apply for DBT Star College grants

- We have given guidance to apply DBT Star College scheme under strengthening components to RVS College of Arts and Science, Sri Krishna College of Arts and Science, Nehru Arts and Science College.
- Faculty Members from RVS College of Arts and Science and Nehru Arts and Science College, they came for 5th Task Force Meeting organized by Pondichery University during 18th – 20th April, 2019 to observe the meeting. After that they applied and received grant from DBT.

9 (14) Invited lectures - 76

S.No	Academic Year	Date	Name & Designation of the guest faculty	Topic	Beneficiaries
Biochemistry					
1.	2018-19	12 th Sep, 2018	Prof. M. N. Ponnusamy, Department of Crystallography and Biophysics, University of	"Biomolecules – Tools for social relevance"	All life science students (860 Nos) and



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			Madras, Guindy Campus, Chennai		Faculties
2.	11 th Feb, 2019	Dr. Gurusamy Hariharasudhan Assistant Professor Cancer Mutation Research Center (CMRC) Department of Cellular and Molecular Medicine Chosun University, Gwangju- 501759 South Korea	"DNA Damage Repair Response"		All Biochemistry students and Faculties (240 Nos)
3.	20 th Feb, 2019	Mr. S. Sivakumar, Head-Textile Chemistry Division, The South Indian Textile Research Association, Coimbatore	"Good Laboratory Practices and Lab Management"		Faculty of Bioscience, Basic and Applied Science Lab Assistants
4.	28.06.2019	Dr.Murugesw Eswaran, Research Scientist I, Nutritional Improvement of crops, International Centre for Genetic Engineering and Biotechnology, Newdelhi	Machine Learning on Biotechnology: Pooling Perspectives		230 students
5.	12.07.2019	Prof.Senthikumar.N, Department of, Aizawl Biotechnology, School of Ilfe Sciences, Mizoram university	Personalized Genomic Medicine		230 students
6.	2019-20 16.09.2019	Prof.Dr.V.Nethaji, Chief Scientist, Department of inorganic and Physical Chemistry, IISC, Bangalore	Biotechnology of DNA Cleaning for Photodynamic Therapy		400 students
7.	17.12.2019	Dr.Satheesh Babu Natarajan, Associate Professor and Head, Department of Pharmaceutics, Faculty of Pharmacy, 2 Lincoln University College, Malaysia.	Recent Advancements in Liposomal Drug Delivery System		230 students
8.	01.02.2020	Dr. P. Siddhuraju, Professor and Head, Department of Environmental Science, Bharathiar University, Coimbatore.	Laboratory Waste Management		230 students and 12 Lab assistants
9.	22.06.2020	Mr.M.R.Janakiraman Cognitive Psychologist & Family Counsellor, Family Chemistry Foundation of India, Chennai	Stress Management		240
10.	2020-21 22.06.2020	Mr.K.Shanmugasundaram SKY Yoga Professor World Community Service Center, Aliyar	Yoga in Healthcare		240
11.	10.07.2020	Dr.Ramesh Kumar Krishnan	Regulation of NF-kB Signalling		



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		Post Doctoral Research Scientist Excellence Cluster Cardio-Pulmonary Institute Justus Liebig University Giessen, University of Giessen and Marburg Lung Centre, Germany	Cascade in Breast Cancer	248
12.	03.08.2020	Dr.Mariammal Pappu HOD Paediatric Nursing KMCH College of Nursing Coimbatore	Mom's Milk is Baby's Rights	100
13.	29.10.2020	Mr.H.Aravind Ph.D Scholar Tata Institute of Fundamental Research Hyderabad	A Path for Higher Education	100
14.	20.11.2020	Mrs.Deepa.S, Clinical Scientist, Classification Team, CENTOGENE AG, Rostock, Germany	Medical Diagnosis of rare genetic disorders :transforming analytical information into actionable results'	240
		Biotechnology		
15.	21.1.2019	Prof. Dr. Ramesh Subbiah Post Doctoral Research Fellow Georgia Institute of Technology USA	Material Science and Design Principles of Growth factors delivery system for tissue regeneration	Students of Biotechnology (250 Nos)
16.	22.2.2019	Dr. S. Jaganathan Assistant Research Officer Pasteur Institute of India Coonoor, Nilgiris	Trends in Microbial Vaccine Production	Students of Biotechnology (250 Nos)
17.	21.1.2019	Prof. Dr. Ramesh Subbiah Post Doctoral Research Fellow Georgia Institute of Technology USA	Material Science and Design Principles of Growth factors delivery system for tissue regeneration	Students of Biotechnology (250 Nos)
18.	22.2.2019	Dr. S. Jaganathan Assistant Research Officer	Trends in Microbial Vaccine Production	Students of Biotechnology (250 Nos)



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		Pasteur Institute of India Coonoor, Nilgiris		Nos)
19.	22.06.2019	Dr. M. Rajkumar, Professor, Department of Environmental Sciences, Bharathiar University, Coimbatore	Microbe mediated mitigation of multiple environmental stress in plants	107 students
20.	22.06.2019	Dr. S.S. Sudha, Programme Co ordinator, DBT STAR College Scheme, Dr. N.G.P. Arts and Science College, Coimbatore	In house Lecture on Benefits of DBT STAR College Scheme	107 students
21.	27.06.2019	Dr. Geetha .N, Assistant Professor, Department of Studies in Biotechnology, University of Mysore, Mysore	Nanobiotechnology – Prospects and Applications	171 students
22.	05.08.2019	Dr. Natarajan Velmurugan, Scientist – CSIR-NEIST & DST INSPIRE, Branch Laboratory, Itanagar, Arunachal Pradesh	Development of Biotechnological Processing with microalgae and plant using flow cytometry and next generation sequencing approaches	113 students
23.	12.09.2019	Dr. S. Sathyamoorthy, Senior Researcher and Consultant, Insilicogen, Inc. Yongion, Gyeonggi-do, South Korea	Uses of Bioinformatics Tools	71 students
24.	08.01.2020	Alumini Interaction Via Skype by Mr. Vignesh Balamurugan- Center for Cancer Research and Cell Biology, Queens University Belfast, United Kingdom	Opportunities for Biotechnology students in United kingdom	56 students
25.	09.01.2020	Mrs. N. Mangaleshwari Manjari Assistant Professor in Psychology & Student Counsellor, KMCRET, Coimbatore	Promotion of Mental Health and Suicide Prevention	250 students
26.	01.02.2020	Dr. V. Bharath Kumar, Assistant Professor, Department of Faculty of Applied Sciences, Ton Duc Thang University, Vietnam	Biomarkers	200 students
27.	05.02.2020	Shanmughapriya Santhanam, PhD, Assistant Professor	Mitochondrial Calcium, the signal integrator for cellular	250 students



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		Heart and Vascular Institute, Department of Medicine Department of Cellular and Molecular Physiology Pennsylvania State University College of Medicine, Hershey - 17033	metabolism	
28.	13.03.2020	P.M.Ayyasamy, Assistant Professor, Department of Microbiology, Periyar University, Salem – 636 011	Microbes and Microbial Products for Sustainable Environment and Agriculture	150 students
29.	13.03.2020	Dr. Subashchandra Chinnathambi AcSIR Assistant Professor and Senior Scientist Neurobiology Group, Biochemical Sciences Division National Chemical Laboratory (CSIR - NCL) Pune - 411 008, Maharashtra	Who is the Master Mind	150 students
30.	01.12.2020	EM Shankar PhD FRSB (Lond) FRCPath (Lond) Professor Infection Biology, Department of Life Sciences, Central University of Tamil Nadu, Thiruvavur 610 005.	Mechanistic Aspects of Microbial Pathogenicity Host – Virus Interactions	70
31.	24.02.2021	Dr. K. Brindha Narayanan Associate Professor Department of Animal Biotechnology Madras Veterinary College, Chennai - 600 007	Stem cells in Veterinary and Biomedicine	65
32.	15.04.2021	Dr.Kundlik B. Gadhave	The Dark side of Alzheimer's disease and intrinsic disorder in amyloid cascade signalling	65
Microbiology				
33.	16.8.2018	Dr. N. Thajuddin, Professor and Head, Department of Microbiology, Bharathidasan University, Trichirapalli	Micro Algal Biotechnology	900
34.	1.2.2019	Blood: The Testament of Life from development to disease	Dr. Kanthesh, Course coordinator, Molecular Biology, Faculty of Life Sciences, JSS AHMER, Mysuru	230
35.	16.2.2019	Nanotechnology and its Bioapplication	Dr. Yuvraj Haldorai, Ramalingaswami Faculty	230



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			Fellow, Dept. of Nanoscience, Bharathiar University, Coimbatore	
36.	27.07.2019	Dr. B. Anand Kumar, Scientist, IGCAR	Biofilms and its control with molecular biology and bioinformatics tools	280 students
37.	04.09.2019	Dr. Anand Anbarasu, Prof. VIT	Emergence of antibiotic resistance and scope of bioinformatics approaches to understand the mechanism of resistance”	280 students
38.	05.09.2019	Dr. M. Arun, Prof. Bharathiar University	Plant cell culture system and its applications	280 students
39.	18.12.2019	Dr.Kaushik Rajaram, Asst.Prof. Central University, Thiruvurur	In Vitro Display Techniques	280 students
40.	25.01.2020	Alumni Lecture Dr.N.Vijayakanth - ICAR National Research Centre for Banana	Protein Based Diagnostics and its Application in Plant Virus Diagnosis - delivered by	280 students
41.	15.02.2020	Dr.S.K.Lakshmi Priya, Dentist, Hopes, Coimbatore.	Teeny Folks: Friends or Foes ?	280 students
42.	24.02.2020	Dr. G. Durairaj, Director, Cell Creep Biotech, Bengaluru	Current Trends in Immunotherapy	280 students
43.	03.03.2020	Alumni Lecture Mr. Kavin kumar,Orchid Pharma	Environmental monitoring in Pharma industry	280 students
44.	06.03.2020	Endowment Lecture by T.J. Pandian, Former INSA fellow, MKU, Madurai	Indian Microbiology: A Zoologist View	500 students
45.	09.09.20	Dr. R. Arivukkarasu, Associate Professor, Department of Pharmacognosy, KMCH College of pharmacy, Coimbatore	“Curative Approaches in Indigenous Plants”	100
46.	03.11.20	Ms. R. Dharshana, Microbiologist, Spices Board, Quality Evaluation Laboratory, Kochi	"Getting Geared Up".	120
47.	20.02.21	Ms. Mahalakshmi, Associate Microbiologist, Amway India Enterprises Pvt Ltd, Madurai	“Scope for Microbiologist in Industries”	100



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48.	27.02.21	Ms. Josheba Philip, Medical Summarizer, Aosta Software Technologies, Coimbatore	Opportunities for Biologist in Information Technology"	80
49.	22.03.21	Dr. C. Saravanan, HACCP Coordinator Royal food products, canada	Bioface: HACCP procedures & protocols in food Industry with Specific reference to Microbiology:	100
50.	23.03.2021	Dr. P. Karthikeyan, Associate professor, School of management Studies, Kongu Engineering college	Knowledge Exchange Program with Commerce CA on Financial Education Program	60
Food Science and Nutrition				
51.	07.8.2018	Dr.Lakshmi,M.B.B.S., Clinical Diabetes UK,USA,GH, Coimbatore.	Benefits of Breast Milk and its Nutritive Value	226 students
52.	5.9.2018	Mr.Madhumohan and Mr.Vikraman Kalidass, Executive Nutritionist,Nestle.	Health Care Nutrition in Today's Hospital Set-Up	226 students
53.	2.8.2018	Ms.Rekha and Ms.Jency, Dietitian, GKNM Hospitals.	In – House on the Importance of Nutrition Among Expectant and Lactating Women,Poster Competition-Breast Feeding Foundation of Life.	350 students
54.	28.9.2018	Mrs.Fathima Roshan ICDS CDPO Officer& Mrs.Kavitha, Dietitian, PSG Hospitals,Coimbatore.	Lecture on-Creating Awareness About Nutrition for School Children Among ICDS Workers.	257 students + 30 (ICDS employees)
55.	05.07.2019	Suganthan S Nair, FPCA Lead instructor, Preventive control for human food, Coimbatore	Quality Assurance in Food as per FSSAI& Awareness on FSSAI Licensing and Initiatives	250 students
56.	30.07.2019	Gurdeep Kaur shetty, Dietician, AIIMS, Delhi	Newer tool for dietary assessment and planning	250 students
57.	01.08.2019	Dr. Meenakshi Priya, nova fertility centre, Coimbatore	Prevalence of PCOD symptoms in women, nutritional problem and complications during prenatal, postnatal	400 student



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58.	03.09.2019	Fathima Rosan, CDPO, S S kulam block, Coimbatore	RDA Requirements of School Going Children and their growth and development	250 students
59.	04.09.2019	Ms. Almos sajeeth, Fitness consultant, Coimbatore	Workshop on Physical Fitness Activity	60 students
60.	13.09.2019	M.Vijayalakshmi, S. Jothimani, ICDS, Coimbatore	Personal Hygiene and hand washing practices	200 students
61.	05.12.2019	Alumni lecture Ms. Adhira Devi.A, Dietician, Government Hospital, Kerala	Guest Lecture on Malnutrition among Children	50 students
62.	18.12.2019	Dr.Saraswathy Eswaran, CEO, Ramaswamy Chinnammal Trust.	Career Opportunities on Bio Industrial Sectors	100 students
63.	07.03.2020	Endowment Lecture by Dr. S. Haripriya, Associate Professor, Department of Food Science & Technology, Pondicherry University	Cereal Grains-Functional ingredient for Good Health and Nutrition	350 students
64.	01.08.2020	Dr.Deepana.S.N MD(OG) DNB (OG), Consultant Gynecologist and Entrepreneur, Nalan gastro centre and one care medical centre, Coimbatore. Dr.Dharini KrishnanD.M.Sc.,RD, Consultant Dietitian, Chennai	Lecture on Nutrition for the Next Generation and competition for Food science and nutrition	100 students
65.	06.08.2020	Deeptha Sukumar, PhD, Associate Professor Drexel University, College of Nursing and Health Professions, Philadelphia	International webinar on Revitalize with nutrition for lactating mothers	100 students
66.	29.09.2020	Roshan delabandra, Registered nutritionist, grand post award manager, child fund, srilanka	Guest lecture on Malnutrition is a prevailing burden. Lets break the chain	150 students
67.	31.10.2020	Rekha Krishnan, Dietician, Avitis Institute of Medical Science, Palakad	Alumni interaction: The New Era of RDA 2020 Discussion	150 students
68.	2020-21 31.10.2020	Mursheed,NRC Sholayur Government Family Health Centre	Alumni interaction: : Nutrition Issues of Concern in the Community	150 students
69.	31.10.2020	Varun . P. O, QHSE Officer/Hygienist , Waleed Catering and Services Co.Llc, Sultanate of Oman	Alumni interaction: Outline view of Food Industry Opportunities in Abroad	150 students



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70.	03.11.2020	Dr. Jagmeetmadan, national president, Indian dietetic association	Webinar on nutrition priorities in COVID-19	150 students
71.	03.11.2020	Shalini Somasundaram, Chief Dietitian & HOD, Columbia Asia Hospital, Pune	Alumni interaction: Dietitian—Understanding the Scope of Practice	100 students
72.	08.11.2020	Gilbert Zass. R, R & D Officer, Innovative foods Ltd, Kerala	Alumni interaction: An Overview of Food Processing Industry	100 students
73.	12.11.2020	Daphnee. D.K, Chief clinical dietitian & head-department of dietetics, Apollo hospitals, main, chennai	Webinar on enteral & parental feeding: basics & beyond	100 students
All Four Departments				
74.	04.9.2018	Dr.S.Senthil Kumaran AIIMS, New Delhi	NMR and MRI in clinical applications	900
75.	06.08.2019	Mr.Karthikeya Siva Seenapathy, Seenapathy Kankeyam Cattle Research Foundation	Water Conservation Awareness Campaign on Neerenri Amajyathu Ulagu	1000
76.	02.02.2021	Dr.Harikrishnan Research Associate M.S.Swaminathan Research Foundation, Chennai	An Overview of CRISPR Technology in Association with Hinduthan College of Arts and Science	350

Highlights/ Achievements of department during the academic year of 2019-20 (Both faculty and Students)

Biochemistry

2018-19



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ACHIEVEMENTS OF STAFFS AND STUDENTS

- **Dr.K.Rajathi**, Associate professor, Department of Biochemistry & **Ms. Muthubharathi**, M.Sc Biochemistry, Department of Biochemistry has got fund Rs 7500/- for their project entitled "Effect of Fucoian mediated zinc oxide nano particles and the cytotoxic inhibition of trial induced apoptosis in prostate cancer PC3 cells" from TNSCST on February 2019 **under student project scheme.**
- **Dr.N.Kannikaparameswari**, Associate professor, Department of Biochemistry has cleared SET Exam on July 2018.
- **Ms.Kanimozhi.P**, II M.Sc Biochemistry has got Best Outgoing Student award by Dr.Kalam Educational Trust for Tribal, Chennai on 28th Feb 2019 during National Science Day Celebration.
- **Ms.J.Aswatha**, UG Biochemistry has got admission offer for **M.Sc Drug Chemistry** from Newcastle University, UK. She got 100% British Council Indian Scholarship. She also got offers from other universities such as Northumbria University, University of Leicester, Bangor University, Sheffield Hallam University and Aston University, UK.
- **Mr.T.Aadithyan**, B.Sc Biochemistry has got admission offer from five universities such as Nottingham Trent University, Sheffield Hallam University, Aston University, Leeds Beckett University and University of Strathelgde, Scotland.

2019-20

- III B.Sc. BC Students won First Place in Mime Show Conducted by Department of Biotechnology, Hindustan Arts and Science College, Coimbatore on 28.02.2020.
- II B.Sc. Janani and Jeevarathanam Got 3rd Prize in Short film (Organic Farming) Making Competition conducted by PSGR Krishnammal College of For Women on 29.01.2020.
- II B.Sc. Students Got Prizes in the competitions such as Collage Competition, Elocution in English and Tamil conducted by Regional Science Centre on 20.02.2020 as National Science Day Celebration.
- Ms.Jeevarathanam, of II B.Sc Won First Prize in Photography Competition Conducted by Avinashilingam Institutue of Home Science for Women on 03.03.2020.
- Ms.Keerthana of II B.Sc Won Third Prize in Poster Presentation Competition Conducted by Avinashilingam Institutue of Home Science for Women on 03.03.2020.
- Ms. S.D GavyaBharathi of III B.Sc. BC has got admission for M.Sc. Immunology&Inflammatory Disease and M.Sc. Molecular Biology & Biotechnology in University of Glasgow, Scotland and Queen's University,Belfast,Ireland respectively.
- Department of Biochemistry received Best Research Oriented department award at Dr.N.G.P ASC for this Academic year.
- Dr.N.Kannikaparameswari received Best Faculty Award at Dr.N.G.P ASC for this Academic year.
- Dr.C.Venkatesan received Best Mentor Award at Dr.N.G.P ASC for this Academic year.



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	Staff				
1	Dr. Dhana Ranges Kumar V	Resource Person	NSS Association with Youth Red Cross Organizes webinar on Jan Andolan Campaign on Covid-19,	28.10.2020	Google meet : mwh-yuge-mzu Karpagam Academy of Higher Education

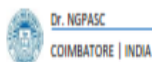
S. No.	Name of the Faculty	Name of the Internship/Fellowship	Duration	Venue
1	Dr.S.Gowri	CSIR Summer Research Training Programme (online)	June- August 2020	CSIR-North East Institute of Science and Technology, Jorhat.
2	Dr.K.Rajathi	CSIR Summer Research Training Programme (online)	June- August 2020	CSIR –Indian Institute of Toxicology Research, Lucknow

- P.Deepika , M.Kaviya , K.Hariprasath , III B.Sc Bc students were got seed money for their mini project entitled “Synthesis and characterization of Composite Bioplastic from Calcium Carbonate Nanoparticles and Its Application in Food Industry” from our college management.
- M.Isvarya Bincy.T.Mathew and B.Nithish Kumar III B.Sc Bc students were got seed money for their mini project entitled “Synthesis and characterization of starch based bioplastic from Elephant Foot yam and Its application in medical industry” from our college management during this academic year.
- C.Meena , K.Priya Shivani and Acsah Grace Mathew were got seed money for their mini project entitled “Organic Insecticides prepared using Common Active Ingredients to Control Insect Pests” from our college management during this academic year.
- Mr.Leneey green II M.sc BC 2020 out gone batch student has been selected for “Best Student project-2020” by Dr.Kalam Educational trust for tribal

Biotechnology

2018-19

- The practical skills of the faculty enhanced by attending workshop and trainings in reputed institutes.



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- The acquired skills transferred to students of participating departments and to neighboring college students.
- Field trips, guest lectures, workshops, hands-on training, visits to National Laboratories, National and International Seminars for both faculty and students helped them to acquire skills and knowledge
- It provided a platform to undergraduate students to acquire multidisciplinary research experience
- Through outreach activity the interpersonal and values are imparted to students

2019-20

- Best Department Award for the academic year 2019-2020 at Dr. N.G.P. ASC.
- Dr. P. Chidambararajan and Miss M. Lavanya has been sanctioned with Rs.10000/- for the project entitled Milk casein as an alternate source for plastic.
- Dr. Radha Palaniswamy has cleared UGC-NET.
- Dr. Radha Palaniswamy is the recipient of Best Faculty and Best Mentor Award for the academic year 2019-2020 at Dr. N.G.P.ASC.
- Dr. S. Karthik is awarded for Research Excellence by INSC.
- Dr. S. Karthik has received Sri Nalla Gounder Research & Innovation Award for Best Thesis and Sri Nalla Gounder Research & Innovation Award for Best Work Paper.
- Dr. M. Poongothai with Dr.S.Gowri and Dr.D.Pradeepa of Biochemistry has applied for research grant on the project entitled "Design and development of multipurpose sanitizer wipes for covid-19" in SERB.
- Dr. P. Chidambararajan and Dr. M. N. Kathiravan has applied for research grant.
- Logeshwaran, II PG has been selected by Periyar University Business Incubation confederation, Salem for his innovative idea on Bioplastic production.
- 5 Faculty members, 18 UG and 7 PG students received online course certificate from IIC -MIC in the areas of innovation, IPR, Entrepreneurship and startups from 28th April 2020 to 22nd May 2020.
- Mushroom production of 3.0 kg at lab and sales resulted in income generation of Rs. 150.

2020-21

- Mushroom production and technology transfer (including Catering Science and FSN)
- Mushroom production in research aspects (successful in producing Mushrooms on different substrates)
- Collaboration with Basic Science for the promotion of research
- Lab Technicians were trained on first aid, mushroom production.....



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- Increase in Student Publications because of research promotion
- Upgradation of entrepreneurial skill set of students
- Sanitiser preparation and distribution in pandemic period
- Innovative idea presentation of students in Bioidea

Microbiology

2018-19

Student Awards			
Name of the Student	Batch	Date	Achievment
Ms. Praveena	M.Sc (2018-20)	2019-20	received fund from TNSCST under the student project scheme
Ms. S. Divya and Ms. N. Mayurika	B Sc 2018-19	2018-19	completed Eight week Science Academies Summer Research Fellowship Programme offered by Indian Academy of Science (INSAC)
Ms. N. Mayurika and Ms. M. Nivethitha	B Sc 2018-20	2018-20	1st prize in poster presentation at JSS University, Mysuru.
Ms. M. Mynumathi	M Sc 2018-21	14.02.2019.	received Kavisemmal award in Tamilnadu Ponvizha Competitions and The Young Scientist award from Tamilan TV Channel
Ms. M. Kavipriya	M Sc 2018-22	2018-19	selected for Indian Academy of Sciences Summer Student Fellowship 2019

2019-20

- Nivedha A. II UG got selected for Indian Academy of Science Summer Research Fellowship.
- Dr.Karthiksundaram and his PG student received Rs.10,000 grant for Research project from TNSCST.
- Dr. S.S. Sudha received Outstanding Faculty Award from Indian Association of Applied Microbiologists society.
- Dr. J. Rengaramanujam received Best head of the Department on Achievers day celebration at Dr NGPASC.
- Dr. R. Mahendran received Best Mentor & Best Teacher Award Achievers day celebration at Dr NGPASC.
- Dr.S.S.Sudha received Best Research Guide from Sri Nalla Gounder Research and Innovation Awards.



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- Dr.S.S.Sudha received Best Researcher Award from Sri Nalla Gounder Research and Innovation Awards.
- Dr. A. M. Ramachandran received Best Fund Mobilizer Award from Sri Nalla Gounder Research and Innovation Awards.
- Dr. Karthik Sundaram has completed NPTEL course.
- Ms. Sahstika I UG., received II prize for poster presentation at Sri Ramakrishna College of Arts and Science for Women
- Microbiology given consultancy to Krishnammal College for Women students (Antimicrobial activity).

2020-21

Beneficiary (Individual / Institution)	Name of the Award	Awarding Agency
J. Devakumar	Anand Rao Memorial Award	Indian Association of Applied Microbiologists
Dr. A. M. Ramachandran	Best Fund Mobilizer	Dr. NGPASC NALLA GOUNDER RESEARCH & INNOVATION
Dr. R. Mahenthiran	Best Mentor and Best Teacher	Dr. N.G.P Arts and Science College
Dr.S.S.Sudha	Fellowship Award	Indian Association of Applied Microbiologist
Dr.S.S.Sudha	Outstanding Teacher Award	Indian Association of Applied Microbiologist
Dr.S.S.Sudha	Best Research Guide -	Dr.N.G.P.ASC NALLA GOUNDER RESEARCH & INNOVATIVE AWARDS
Dr.S.S.Sudha	Best Professor - Research Contribution	Dr.N.G.P.ASC NALLA GOUNDER RESEARCH & INNOVATIVE AWARDS
Dr.S.S.Sudha	Appreciation under project category	Bharathiar University-National Science Day Celebration

Completed NPTEL Courses : 6

1. Dr. J. Rengaramanujam
2. Dr. A.M. Ramachandran
3. Prof. C. Sasikala
4. Dr. S. Karthik Sundaram
5. Dr. J.Devakumar
6. Dr. R. Mahenthiran

TNSCST Students Project: I (Dr. S. Karthik Sundaram)

Students Highlights/ Achievements:

- 10 III B.Sc., Students Participated in HPLCMASS Technology Workshop organized by karunya University on 17/02/2021 to 20/02/21.



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- 45 III B.Sc., Students Participated in workshop in High End Characterization of Microalgae on 3 to March 4, 2021 by TERI Center.
- 6 III B.Sc., Students Participated in IPR and Patenting seminar organized by Rathinam College of Arts and Science, Coimbatore on 23.02.2021.
- 15 III B.Sc., Students Participated in Nutragenomics seminar organized V.H.N.Senthikumara Nadar College, Virudhunagar on 23&24.02.2021
- 4 II B.Sc. Students participated in Lecture on popularization of sciences at PSGR Krishnammal college on 01-02-2020.
- 11 UG Students attended Mushroom Cultivation Training at TNAU (Tamilnadu Agriculture University) on march 2021.
- Totally 412 short term courses completed in coursera by I B.Sc., Students.
- Dr.S.S.Sudha has given invited talk for the faculty members of the mentee colleges under UGC PRAMARESH Scheme. On 23rd November, 05th December, 05th December 2020 on the topic OBE an overview.

Food Science and Nutrition

2018-19

- Trainings, workshops, seminars, conferences and invited lectures were attended by the students and the faculty members. Minor projects and newer practicals related to food science, Nutrition dietetics were included based on the advancement of the respective courses.

2019-20

- FS & Nutrition department has received Award by Breast Feeding Promotion Network of India, 2019.
- Dr. S.Uma Maheswari, Assistant Professor received cash prize of ₹1000/- from ICMR- NIRT for Recipe contest for Tuberculosis- High protein.
- Dr. S.Daniel Robert, Professor, received Best Senior Faculty Award from Novel Research Academy.
- Ms.R.Shivani, cleared National Eligibility Test on June, 2019.
- Parvathy M of III – B.Sc. (FSN) received the Merit cum Means Scholarship (₹20,000) for UG students of Food Science & Nutrition by PFNDAL.
- Parvathy M of III – B.Sc. (FSN) won 2nd prize in solo singing at CIT, Coimbatore.
- Arthi.C of II – B.Sc. (FSN) Won 1st prize in Kuralum Naanum at PSGR Krishnammal, Coimbatore.
- Arthi.C of II – B.Sc. (FSN) Won 1st prize in variety entertainment at KPRCAS, Coimbatore.
- Surya.S and Madhumita.R of II – B.Sc.,(FSN) Won 3rd prize on Quiz Competition at Dept. of Biochemistry, Dr. N.G.P. Arts and Science College, Coimbatore.



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- Claren Cecily and Anusha Varghese of I – B.Sc. (FSN) received 1st prize in face painting contest conducted by Women's Forum.
- Lara annie (2016-2018 batch student) started a small scale industry at home.
- Dencili Verginiya L and Claren Cecily Cof I – B.Sc. (FSN) Won 1st prize in Poster presentation at Department of Microbiology, Dr. N.G.P. Arts and Science College, Coimbatore.

2020-21

Students Achievements

- Manjula V Vishvanathan (2020 batch) of III – B.Sc.,(FSN) received the Merit cum Means Scholarship(₹20,000) by Protein Foods & Nutrition Development Association Of India.
- Paul Clinton (2018 batch) has become an entrepreneur (Viji's Masala)
- Lara Annie (2018 batch) has become an entrepreneur (Zane Food Products)
- Gautam Palanisamy (2018 batch) have become a CEO in Business Incubation Confederation, Periyar University, Salem
- Gilbert Zass (2018 batch) is working as a R & D Officer, Innovative foods Ltd, Kerala
- Uthaya ragavi (2019 batch) has started a Youtube channel on Diet Planning and Value Added Product Formulation
- Parvathy M of (2019 batch) received the Merit cum Means Scholarship(₹20,000) by PFNDI
- Sagar (2018 batch) has got scholarship for post graduation in Loughborough University, England, United Kingdom.
- Gomathy S (2018 batch) have been selected for the Posts of Assistant Director & Child Development Project Officer in TNPSC.

Staff Achievements

- Dr. S.Daniel Robert, Professor, received Inspiring Professor Award from Advanced Materials and Applications, Madras Journal Series, Tiruvallur
- Ms.P. Kanneshwari Assistant Professor & Rohini.S (PG Student) received copyright for their Study on Development and Organoleptic Evaluation of Omega 3 Enriched Ice Cream
- Dr.D.Sridevi, Head & Associate Professor & Ruba.S (PG Student) received copyright for their Study on Formulation and Standardization of Spriggy Papad
- Ms.R.Shivani, Assistant Professor & Sruthy.V (PG Student) received copyright for their Study on Development of Tempe Incorporated with Soybean, Barley, Kidney Bean and Analysis of its Nutritive Value
- Ms.C.Abinaya, Assistant Professor & Vidhya (PG Student) received copyright for their Study on Development and Evaluation



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of Iron Rich Cookies by using Drumstick and Agathi Leaves

- Dr.D.Sridevi Associate professor and Head received education Excellence Award from SKILL INDIA AWARD-2021 in Tamilnadu State Private College Association, Chennai
- Department of Food Science and Nutrition received **BEST CELEBRITY AWARD** from BREAST FEEDING PROMOTION NETWORK OF INDIA – 2019



(Dr.S.S.Sudha)

Coordinator

Dr. S.S. SUDHA
Programme Coordinator
DBT STAR College Scheme
Dr. N.G.P. Arts and Science College
Kalapatti, Coimbatore - 641 048

Date:16.04.2021




(Prof. Dr. V. Rajendran)
Professor & Principal

Prof. Dr. V. RAJENDRAN
B.Sc., B.Ed., M.Phil., M.A., Ph.D., (Food Science)
Principal
Dr. N.G.P. Arts and Science College
Dr. N.G.P. Kalapatti Road
Coimbatore-641 048.



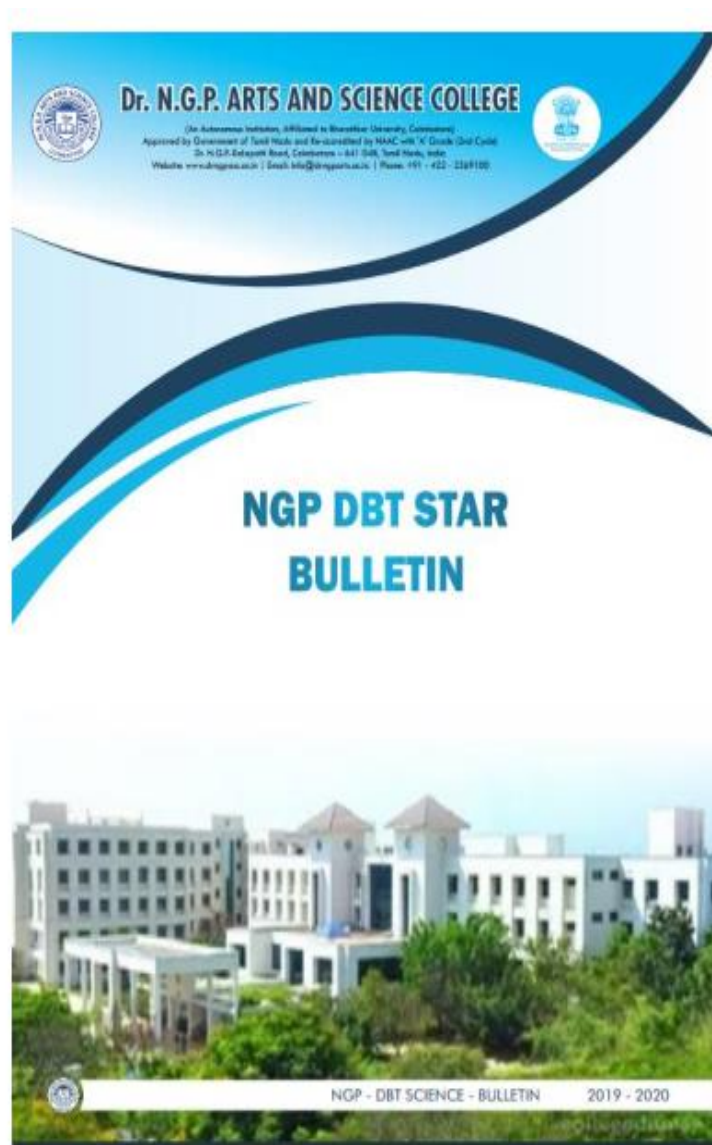
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2. Newsletter (Star Bulletin & Science Bulletin)





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Dr. S. Karthik Sundaram

Dr. R. Mahenthiran

Dr. J. Devakumar

Prof. A. D. Priyadharshni

Prof. S. Indhu

NUTRITION & DIETETICS

Dr. S. Daniel Robert

Dr. S. Uma Maheswari

Dr. M. Sivasakthi

Prof. P. Kanneswari

Prof. C. Abinalya

Prof. R. Poornima

Prof. S. Bhavani



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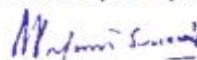
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Messages



Science knows no country, because knowledge belongs to humanity, and is the torch which illuminates the world. Life is moving in the way of science and technology. We will always have to march ahead with these developments. Some things will drop out of the public eye and will go away, but there will always be science, engineering, and technology. Science is fun. Science is curiosity. We all have natural curiosity. Science is a process of investigating. It's posing questions and coming up with a method. It is delving in. I feel elated to note that the Faculty of Bio Sciences, Dr.N.G.P. Arts and Science, Coimbatore is bringing out the annual newsletter consolidating the activities under the DBT-Star Scheme. The support from DBT has strengthened the physical infrastructure in laboratories, library, teaching aids, and promoted networking with neighboring institutes. Hands-on training and projects of day to day relevance have enhanced interest in students to pursue science courses at Undergraduate and Postgraduate level. Dr.N.G.P. Arts and Science takes pride in organizing such Scientific programmes which will create a unique platform to analyze the present and future objectives and to update technological advancements in Science and Technology.


Dr. Nalla G Palaniswami
Chairman
Kovai Medical Center and Hospital (KMCH)



We are thankful to the Government of India, New Delhi for sanctioning the prestigious DBT-star college scheme of Department of Biotechnology. Under the scheme currently four departments are supported: Biotechnology, Biochemistry, Microbiology and Food & Nutrition. The scheme has helped immensely in improving the infrastructural facilities in these departments. Various students- centric activities are being conducted for over all departments of students, including DBT-Star series, hands on training, workshops, industrial & academic visits, research projects and competition as well as faculty trainings. We are living in a society where we depend on continuous improvement in technology, good understanding of a science to take care of the environment and safe guard from various pollution. We all know that over future generation will be suffering if we don't take care of our environment. We all have to work hand in hand to improve the environment with the help of science and technology.


Dr. Thavamani D Palaniswami
Secretary
Dr. NGP Educational Institutions



I am very delighted to note that the DBT Newsletter is being brought by the participating departments under DBT-Star scheme. The Newsletter brings out the various activities organized under DBT-Star scheme at our College. The support from Department of Biotechnology, Government of India has strengthened the laboratory infrastructure, library, and other technology enabled learning resources of the participating departments. The programmes organized by the departments paved way to promote networking with neighboring institutions. I am happy to know that various activities were conducted to create a unique platform to students for updating their skill and knowledge in recent technological advancements in Science and Technology. I wish the Principal, Deans, DBT-Star college overall Programme Coordinator and the Department Coordinators, Staff, and Students of our College a great success in all their future endeavors.


Dr. O. T. Buvaneswaran
Chief Executive Officer
KMCRET



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It is my pleasure to extend heartfelt greetings to the readers of the first issue of the biannual Newsletter of the DBT-Star departments of our College. Department of Biotechnology (DBT), Government of India recognized the excellent Research and Development activities of the various departments of our College and sanctioned DBT-Star scheme to the Biochemistry, Biotechnology, Microbiology and Food and Nutrition Programmes. The main objective of the scheme is to motivate UG research and provide platform for innovative learning of Graduate students. Under this scheme, the participating departments of our College strive to disseminate their expertise and knowledge to the other participating Colleges and to the Community. Dr.N.G.P. Arts and Science College has organized a National Symposium on Under Graduate Research an annual conference, the first of its kind in India by forming DBT-Star Scheme Cluster of Colleges to explore the inherent talent and Innovative Research among the Graduate students in India. On behalf of the Management and on my own behalf, I congratulate Dr. S. S. Sudha, DBT-Star scheme Coordinator of our College and Prof. S. Senthil Prabhu, Coordinator of DBT-Star scheme, Dept of Microbiology, Dr. M. Poongothai, Coordinator of DBT-Star scheme, Dept of Biotechnology, Dr. T. Indhumathi, Coordinator of DBT-Star scheme, Dept of Biochemistry, and Dr. S. Uma Maheswari, Coordinator of DBT-Star scheme, Dept of Food and Nutrition in addition to Dr. S. Balasubramanian, Dean-Research and Development for their sincere and arduous efforts to organize various programmes to kindle the unquenchable fire of curiosity and inquiry in students and the general public. We congratulate the DBT-Star Departments for bringing out this Newsletter to reach the Community.

Prof. Dr. V. Rajendran

Principal
Dr.N.G.P. Arts and Science College



I feel delighted in penning a message to an annual newsletter being brought out by the Faculty of Biosciences to mark the successful completion of the first year of DBT-Star college scheme and eventual display of comprehensive activities undertaken by them. Star College Scheme is an initiative of Department of Biotechnology (DBT), one of the premier national scientific establishment functioning under the aegis of Department of Science and Technology (DST), Government of India. The scheme objective is to provide support to institutions offering undergraduate programmes to strengthen and improve teaching and learning outcomes in science disciplines. It is important to note that all participating departments of Dr.N.G.P. Arts and Science College, with the support from DBT have strengthened the physical infrastructure in laboratories, library, teaching aids and promoted networking with neighboring institutes. In equal measure, they have organized various activities to improve upon the skills of teachers, technical staff, and most importantly to elevate student interest in learning. Having the cardinal features of DBT-Star college scheme instituted in the first year, the participating departments should sight on organizing scientific programmes which will create a unique platform for achieving excellence in teaching and learning, and stimulate original thinking among students. I heartily congratulate the departments and wish them all success in the forth coming years.

Dr.S.Balasubramanian

Dean - Research and Development
Dr.N.G.P. Arts and Science College



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I sincerely acknowledge the Department of Biotechnology (DBT), Government of India, New Delhi for considering Dr. N. G. P. Arts and Science College under DBT-Star college scheme. Microbiology, Biotechnology, Biochemistry and Food Science and Nutrition are the four participating departments under this scheme. The department heads, department programme coordinators, each & every staff member of the department joined hands under the guidance of our team leader Prof. Dr. V. Rajendren, Principal and Dr. S. Balasubramanian, Dean R&D have completed the second year of DBT Star Scheme successfully. The participating departments organized 5 conference/ Seminars, 55 workshops and hands on training, 35 Guest Lectures, 27 intra, inter and intercollegiate Competitions, 37 outreach activities. They also participated in 17 Industrial Visits, 5 Summer training, 57 hands-on training and workshops, 48 conferences/ seminars, 188 internships for both faculties and students. 109 mini and interdisciplinary projects were effectively done by students of participating departments.

I, sincerely thank the mentors Dr. R. Rajendren and Dr. N. Ezhili for their support and suggestions. My heartfelt thanks to Dean R&D, HoDs, Department coordinators and all members of faculty for their effective execution of all the above activities. Finally, I owe my profound thanks to our management for their persistent and consistent support for smooth implementation

Dr. S. S. Sudha
DBT-Star College Scheme Coordinator
Dr.N.G.P. Arts and Science College



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About The Institute

Kovai Medical Center Research and Educational Trust (KMCRET) is a non-profitable voluntary organization established in 1990. The goal of the trust is to render quality and character building education and providing research facilities to the youth of India and abroad. The trust extends its educational service through 6 institutions. Dr. N.G.P. Arts and Science College (Dr NGPASC) is an organization of KMCRET trust which was established in the year 1997 under the leadership of Dr. Nalla G. Palaniswami, as its Chairman and Dr. Thavamani D. Palaniswami as its Managing Trustee and Secretary. The Institution has begun with four Undergraduate programmes namely B.Sc. Biochemistry, B.Sc. Computer Science, B.Com. and B.B.M. with a student strength of 78 and with Faculty members of 9. This co-educational self-financing College was started in a rural area in Kalapatti, Coimbatore District with a motto on Nurture, Grow and Prosper, is affiliated to Bharathiar University, Coimbatore. The College has been recognized under 2(f) and 12(B) by UGC, New Delhi. The University Grants Commission, New Delhi has conferred autonomous status from the Academic year 2015-16. This facilitates the institution a freedom of designing the curricular and co-curricular activities to mould the students and meet global standards. The college was re-Accredited by NAAC with "A" Grade with the CGPA of 3.17 on March 17, 2016. The National Institutional Ranking Framework (NIRF) of MHRD has ranked our college at 44th, 91st and 67th positions in the years 2017, 2018 and 2019 respectively.

At present, 7068 students are pursuing their graduate, Postgraduate and research programmes at Dr NGPASC. The institution has 310 faculty members and 75 administrative and technical staff. The teacher student ratio is 1: 20. The institution offers 31 UG courses, 16 PG courses and 12 research programmes (M. Phil./Ph.D.) In order to promote research activities among Staff and Students, the Management has initiated the in-house funding (Seed money, Student Start-up projects, research incentives/ honorarium, travel grant support etc.). To promote inter disciplinary and quality research; the research advisory/steering committee guides the Faculty in drafting/finalizing their research proposals for funding. The Institution has been granted a sum of Rs. 3.53/- Crore for projects, schemes, seminars, conferences and workshops from various funding agencies like UGC, DRDO, ICMR, ICSSR, CSIR, DST, DBT and TNSCST. The Alumni Association conducts the alumni meet in India and abroad through chapters frequently in order to enrich the connectivity of Alumni. The Institution recognizes the meritorious Alumni with awards on 26th January every year. The NSS has 3 units which extends its service to the community. Outreach activities are carried out in areas such as village adoption, Awareness camps on health issues, Cashless transaction, Digital India etc. under Swachh Bharat initiatives. The deep involvement of students in different club activities.

DBT-STAR COLLEGE SCHEME

The Department of Biotechnology (DBT), Government of India, New Delhi, has launched Star College Scheme with an aim to strengthen life science and biotechnology education and training at undergraduate level. The purpose is to improve critical thinking and provide 'hands on' experimental work in the cutting edge-technologies needed for modern biological studies at undergraduate level in life sciences and as a result of such experiences, more students will take up life science as a career.

Under this scheme various programmes is being organized to strengthen academics and research for achieving excellence in teaching and training and to enhance the quality of learning.

This also helps to enhance the teaching process and to stimulate original thinking through 'hands-on' exposure to experimental work and participation in summer schools. The scheme envisages intensification of interdisciplinary approach among the science departments and also with nearby institutions for small research projects, expert lectures, visits and training programmes and outreach activities.



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Main Objectives Star College

- Strengthening the academic and physical infrastructure for achieving excellence in teaching and training. Enhancing the quality of learning and teaching process to stimulate original thinking through 'hands-on' exposure to experimental work and participation in summer schools.
- Increasing capabilities of core instrumentation resources by procuring new equipment and upgrading of existing facilities
- Network promotion and strengthening ties with neighbouring institutions and other laboratories.
- Providing access and exposure to students to research laboratories and industries in the country.
- Help to devise Standard Operating Procedures (SOP's) /kits for Practical; and to provide better library facility to students and teachers.
- Organizing specialized training programmes for faculty improvement for optimizing technical capabilities. Field trips, guest lectures, workshops, hands-on training, visits to National Laboratories, National and International Seminars for both faculty and students.
- Instilling research acumen in UG students and seed the aspiration in young minds to pursue advanced learning (post graduate and doctoral programmes)

ENVISAGED IMPACT OF STAR COLLEGE SCHEME

Demonstration to Experimentation, Group to Individual, and Realization of research at undergraduate level. Increase in wet lab standard and Hands on approach, Interdepartmental interface, and need based syllabi

EXPECTED OUTCOME

Sustenance of Student Strength, Increase in Employability, Basic Research Interest and Faculty instructional ability. Upgraded syllabi beyond consumables constraint, Professional view on Science courses.



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DBT Star Departments

DBT under the star college scheme sanctioned an amount of Rs. 82.00 lakhs for three years to the following bioscience departments

- **Biochemistry**
- **Biotechnology**
- **Microbiology**
- **Nutrition and Dietetics**

DEPARTMENT OF BIOCHEMISTRY

Biochemistry is a discipline that offers a challenging environment, and in return nurtures the candidate's future. The curriculum is framed in such a way that will allow students to develop knowledge and gain expertise to meet demands of voluminous opportunities at various capacities in Diagnostic and Research Laboratories in a Clinical setup and in Pharmaceutical Companies. The Department of Biochemistry is a vibrant and ambitious division of the college with qualified academic staff, research scholars and students. The Department is a very successful unit of the college which is firmly committed to excellence both in research and teaching. The department adopts an integrated approach embracing the view that tomorrow's breakthrough are likely to occur at the interface of traditional biological sub-divisions. A degree in Biochemistry is the first step towards a wide variety of careers options in pharmaceutical and food industries, in hospital services, and in many biological and medical research divisions.

DEPARTMENT OF BIOTECHNOLOGY

The Department was established in the year 2002 with the goal of rendering innovative education to the learning aspirers. Biotechnology being a fast growing arena of research and innovation, our department offers UG, PG, M.Phil. and Ph.D. programs. Department is a good platform for the budding bio-technologists with excellent infrastructure and instrumentation facilities.

DEPARTMENT OF MICROBIOLOGY

The department of Microbiology was established in the year 2003 with the postgraduate programme and in 2004 with the undergraduate course. The research programme comprises M.Phil. and Ph.D. which was started in the year 2005 and 2007 respectively. The department has a strong link with the Kovai Medical Center and Hospital and other institutions of the rust where there are a number of ongoing research projects. The department is armed with well qualified, dedicated and experienced faculty members. The department is committed towards the healthy academic (curriculum and co-curriculum) growth of the students as well as fostering the teaching and research activities of the faculty. The Department engages in various Projects supported by DBT, ICMR, UGC, DST, DRDO, CSIR and TNSCST.

DEPARTMENT OF NUTRITION & DIETETICS

The Department of Nutrition and Dietetics was started in the year 2003 offering the course B.Sc. in Food Science and Nutrition with well-equipped laboratories. Post Graduate course in Food and Nutrition was started in the year 2004. The department also extends the activities of research by offering Master of Philosophy in Food and Nutrition from the year 2005 and Doctorate of Philosophy from the year 2016 onwards. The Department has qualified and well experienced faculty.



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Industrial Visit

IMMUNOLOGY AND IMMUNOTECHNOLOGY

One day Industrial Visit organized by department of Biochemistry to IISC Bangalore on 29.02.2020 10 Students took part in the activity.

A one day Industrial Visit was organized by the Department of Microbiology to Pasteur Institute of India, Coonoor on 12.02.2020. Exactly 55 students accompanied by 2 faculty members took part in the activity.



Pasteur Institute, Coonoor



Centre for Urban Biodiversity Conservation and Education, Coimbatore



EDEN Garden, Mettupalayam



National Biosphere Park, Anaikatti



National Research Centre for Banana (NRCB), Tiruchirapalli



SKORF Visit

DIVERSITY AND ENVIRONMENT

About 120 students and 5 faculty members from the Department of Biochemistry visited Biosphere National Park, Anaikatti on 16.08.2019

Exactly 40 students and 2 faculty members from the Department of Biochemistry visited Centre for Urban Biodiversity Conservation and Education, Coimbatore on 17.08.2019

One day visit to Senaapathy Kangayam Cattle research Foundation, Kangayam, Thirupoor was arranged for all four department students and NSS students 50 and 7 Faculty members on 07.12.2019

The Department of Biochemistry arranged one day visit to EDEN Garden, Mettupalayam, Coimbatore on 01.02.2020 30 students and 2 faculty members took part in this visit.

Around 64 students along with 02 faculty members from the Department of Biotechnology, took part in the one day Industrial Visit to National Research Centre for Banana (NRCB), Tiruchirapalli on 19.07.2019

FOOD PROCESSING

The Department of Biochemistry organized a one day Industrial Visit to Central Food Technological Research Institute (CFTRI), Mysore on 24.07.2019. Exactly 60 students and 3 staff members of the department took part in the activity.

About 60 students and 2 faculty members from the Department of Biochemistry visited Central Institute of Fisheries Technology, Cochin, Kerala on 18.10.2019

The Department of Biotechnology organized an one day Industrial visit to Potato Research Institute, on 19.07.2019, which was participated by 38 students and 02 staff members.



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The Department of Microbiology organized one day Industrial Visit was to CFTRI, Mysuru on 24.09.2019. Exactly 55 students accompanied by 3 faculty members took part in the activity.

A one day Industrial Visit was organized by the Department of Microbiology to Senthil Papain, Coimbatore on 08.08.2019. Exactly 58 students accompanied by 2 faculty members took part in the activity.

The Department of Food Science and Nutrition organized an Industrial Visit to Sakthi Soya, Pollachi on 18.07.2019. Around 63 students and 2 staff members from the department took part in the activity.

About 60 students and 3 faculty members from the Department of Food Science and Nutrition visited Kodai Dairy Products, Batlagundu on 06.09.2019.

A one day Industrial Visit was organized by the Department of Food Science and Nutrition visited Doddabetta Tea Factory, Ooty on 15.02.2020. Exactly 90 students accompanied by 4 faculty members took part in the activity.

The Department of Food Science and Nutrition organized one day Industrial Visit was to CFTRI, Mysuru on 19.02.2020. Exactly 96 students accompanied by 3 faculty members took part in the activity.



Central Food Technological Research Institute(CFTRI), Mysore



F&N Students at Doddabetta Tea Factory, Ooty



Senthil Papain, Coimbatore

AGRICULTURE

About 50 students and 2 faculty members from the Department of Biochemistry visited Incubation centre at TNAU on 05.08.2019.

Exactly 60 students and 3 faculty members from the Department of Biochemistry visited Indian Agricultural Research Institute, Wellington, Ooty on 13.09.2019.

A one day Industrial Visit was organized by the Department of Microbiology to Sugarcane Research Institute, Coimbatore on 08/08/2019. Exactly 60 students accompanied by 2 faculty members took part in the activity.

About 40 students and 2 faculty members from the Department of Microbiology visited Agri. Business Dev. Center TNAU on 14/09/2019.

About 180 students and 5 faculty members from the Department of Microbiology visited Codissia, Science & Technology FAIR on 30/08/2019.



Biotechnology students visit to NRCS, Tiruchirappalli



Second year Biotechnology students visit to Bharathidasan University



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Invited Lectures

MOLECULAR STUDIES

The Department of Biochemistry organized Guest Lecture on "Machine Learning on Biotechnology: Pooling Perspectives" on 28.06.2019. Dr. Murugesh Eswaran, Research Scientist - I, Nutritional Improvement of crops, International Centre for Genetic Engineering and Biotechnology, New Delhi was the resource person. 230 students attended this lecture and benefited.

The Department of Biochemistry organized Guest Lecture on "Personalized Genomic Medicine" on 12.07.2019. Prof. N. Senthil Kumar, Department of Aizawl Biotechnology, School of Life Sciences, Mizoram University was the resource person. In this event 230 students attended and gained knowledge on Genomic Medicine.

The Biochemistry department organized Guest Lecture on "Biotechnology of DNA Cleaning for Photodynamic Therapy" on 16.09.2019. Prof. Dr. V. Nethaji, Chief Scientist, Department of inorganic and Physical Chemistry, IISc, Bangalore was the resource person. Around 400 students took part in this programme.

The Biochemistry department organized Guest Lecture on "Recent Advancements in Liposomal Drug Delivery System" on 17.12.2019. Dr. Satheesh Babu Natarajan, Associate Professor and Head, Department of Pharmaceutics, Faculty of Pharmacy, Lincoln University College, Malaysia was the resource person. In this event 230 students attended.

The Biotechnology department organized Guest Lecture on "Uses of Bioinformatics Tools" on 12.09.2019. Dr. S. Sathyamoorthy, Senior Researcher and Consultant, Insilicogen, Inc. Yonglun, Gyeonggi-do, South Korea was the resource person. In this event 71 students participated and gained knowledge about Bioinformatics Tools.

The Biotechnology department organized Guest Lecture about "Biomarkers" on 01.02.2020. Dr. V. Bharath Kumar, Assistant Professor, Department of Faculty of Applied Sciences, Ton Duc Thang University, Vietnam was the resource person. Around 200 students participated and benefited.

Microbiology department organized Guest Lecture on "In Vitro Display Techniques" on 18.12.2019. Dr. Kaushik Rajaram, Asst. Prof. Central University, Thiruvananthapuram delivered the lecture and 280 students took part in this event.



BIODIVERSITY AND BIOMOLECULES

The Department of Biotechnology organized Guest Lecture on "Microbe mediated mitigation of multiple environmental stress in plants" on 22.06.2019. The resource person of this event was Dr. M. Rajkumar, Professor, Department of Environmental Sciences, Bharathiar University, Coimbatore. 107 students participated in this event.

The Department of Biotechnology organized Guest Lecture on "Development of Biotechnological Processing with microalgae and plant using Flow Cytometry and Next Generation Sequencing Approaches" on 05.08.2019. Dr. Natarajan Velmurugan, Scientist – CSIR-NEIST & DST INSPIRE, Branch Laboratory, Itanagar, Arunachal Pradesh was the resource person. 113 students attended this programme.

The Biotechnology department organized Guest Lecture on "Mitochondrial Calcium, the signal integrator for cellular metabolism" on 05.02.2020. Shanmugha priya Santhanam, Assistant Professor Heart and Vascular Institute, Department of Medicine Department of Cellular and Molecular Physiology Pennsylvania State University, Hershey was the resource person. Around 250 students took part in this event.

The Biotechnology department organized Guest Lecture about "Microbes and Microbial Products for Sustainable Environment and Agriculture" on 13.03.2020. Dr. P. M. Ayyasamy, Assistant Professor, Department of Microbiology, Periyar University, Salem was the resource person. 150 students attended this program.



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Department of microbiology organized Guest Lecture on "Protein Based Diagnostics and its Application in Plant Virus Diagnosis" delivered by Dr.N.Vijayakanth - ICAR National Research Centre for Banana on 25.01.2020. In this event 280 students participated.

NANO TECHNOLOGY AND IMMUNOTHERAPY

The Biotechnology department organized Guest Lecture on "Nano biotechnology – Prospects and Applications" on 27.06.2019. Dr.N.Geetha .N, Assistant Professor, Department of Biotechnology, University of Mysore was the resource person. Around 171 students attended this programme.

Microbiology department organized Guest Lecture on "Current Trends in Immunotherapy" on 24.02.2020. Dr.G.Durairaj, Director, Cell Creep Biotech, Bangalore was the resource person. 280 students were attended this event.

BIOINFORMATICS

Department of microbiology organized Guest Lecture about "Biofilms and its control with molecular biology and bioinformatics tools" on 27.07.2019. Dr. B. Anand Kumar, Scientist, IGCAR was the resource person. Around 280 students took part and benefited.



Department of microbiology organized Guest Lecture about "Emergence of antibiotic resistance and scope of bioinformatics approaches to understand the mechanism of resistance" on 04.09.2019. Dr. Anand Anbarasu, Professor, VIT was the resource person. Around 280 microbiology students took part in this event and gained awareness on mechanism of resistance.

CAREER GUIDANCE

The Biotechnology department organized Guest Lecture on "Opportunities for Biotechnology students in United kingdom" on 08.01.2020. Mr.Vignesh Balamurugan, Center for Cancer Research and Cell Biology, Queens University Belfast, United Kingdom interacted via skype. In this event 56 students attended.

Microbiology department organized Guest Lecture on the topic "Plant cell culture system and its applications" on 05.09.2019. Dr. M. Arun, Prof. Bharathiar University delivered the lecture and 280 students took part in this event.

Microbiology department organized Alumni Lecture on "Environmental monitoring in Pharma industry" on 03.03.2020. Mr.Kavin kumar, Orchid Pharma was the resource person. 280 students took part in this programme.

Department of microbiology organized Endowment Lecture on "Indian Microbiology: A Zoologist View" delivered by T.J.Pandian, Former INSA fellow, MKU, Madurai on 06.03.2020. In this event 900 students participated and gained knowledge.

Department of Food Science and Nutrition organized Guest Lecture on "Quality Assurance in Food as per FSSAI & Awareness on FSSAI Licensing and Initiatives" on 05.07.2019. Suganthan S Nair, FPCA Lead instructor, Preventive control for human food, Coimbatore was the resource person. 250 students took part in this event.

Food Science and Nutrition department organized guest lecture on "Career Opportunities on Bio Industrial Sectors" delivered by Dr.Saraswathy Eswaran, CEO, Ramaswamy Chinnammal Trust on 18.12.2019. Around 100 students took part in this programme.



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AWARENESS AND HYGIENE

The Department of Biochemistry organized Guest Lecture on "Laboratory Waste Management" on 01.02.2020. Dr.P.Siddhuraju, Professor and Head, Department of Environmental Science, Bharathiar University, Coimbatore was the resource person. Around 230 students and 12 Lab Assistants attended this programme.

Dr. S.S. Sudha, Programme Coordinator, DBT STAR College Scheme, Department of microbiology delivered the Lecture on "Benefits of DBT STAR College Scheme" on 22.06.2019 to all students of biotechnology.

The Biotechnology department organized Guest Lecture on "Promotion of Mental Health and Suicide Prevention" on 09.01.2020. Mrs.N.Mangaleshwari Manjari Assistant Professor in Psychology & Student Counselor, KMCRET, Coimbatore was the resource person. Around 250 students took part in this event.

Department of Biotechnology organized Guest Lecture about "Who is the Master Mind" on 13.03.2020. Dr.Subash chandrabose Chinnathambi ACSIR Assistant Professor and Senior Scientist Neurobiology Group, Biochemical Sciences Division National Chemical Laboratory (CSIR - NCL) Pune, Maharashtra was the resource person. In this event 150 students participated and gained knowledge.



Teeny Folks Friends or Foes Delivered by Dr.S.K.Lakshmi Priya, Dentist, Hopes, Coimbatore



Malnutrition among Children Ms. Adhira Devi Dietician, Government Hospital, Kerala

Department of Food Science and Nutrition organized Guest Lecture."Newer tool for dietary assessment and planning" was delivered by Gurdeep Kaur shetty, Dietician, AIIMS, Delhi on 30.07.2019. 250 students took part in this event.

Food Science and Nutrition department organized guest lecture on "Prevalence of PCOD symptoms in women, nutritional problem and complications during prenatal, postnatal" delivered by Dr.Meenakshi Priya, Nova Fertility Centre, Coimbatore on 01.08.2019. Around 400 students attended this programme.

Food Science and Nutrition department organized guest lecture on "RDA Requirements of School Going Children and their growth and development" on 03.09.2019. Fathima Rosan, CDPO, SS kulam block, Coimbatore was the resource person. In this event 250 students participated.

Department of Food Science and Nutrition organized Workshop on "Physical Fitness Activity" on 04.09.2019. Ms.Almos Sajeeth, Fitness consultant, Coimbatore was the resource person. 60 students took part in this event.

Food Science and Nutrition department organized guest lecture on "Personal Hygiene and hand washing practices" delivered by M.Vijayalakshmi and S. Jothimani, ICDS, Coimbatore on 13.09.2019. Around 200 students took part in this event and gained knowledge.

Food Science and Nutrition department organized Alumni lecture on "Malnutrition among Children" on 05.12.2019. Ms. Adhira Devi.A, Dietician, Government Hospital, Kerala was the resource person. 50 students attended this programme.

Food Science and Nutrition department organized Endowment lecture on "Cereal Grains-Functional ingredient for Good Health and Nutrition" on 07.03.2020. Dr.S.Haripriya, Associate Professor, Department of Food Science & Technology, Pondicherry University was the resource person. Around 350 students took part in this event.



Demonstration of the exercise by Ms.AlmosSajeeth to the students



Guest lecture by Gurdeep Kaur shetty, Dietician, AIIMS, Delhi



Endowment lecture on Cereal Grains-Functional ingredient for Good Health and Nutrition delivered by Haripriya Pondicherry University



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Outreach Programs

AWARENESS PROGRAMMES (HEALTH AND HYGIENE)

Biochemistry Department observed National Yoga Day and organized an awareness programme on Health Benefits of Yoga and distributed Pamphlets to Dr. N.G.P Arts and Science College Students on 21.06.2019

Biochemistry Department organized an awareness programme on Leptospirosis to General Public on 19.07.2019

Biochemistry Department organized Health camp for Housekeeping ladies to observe Blood Glucose and Hb Analysis on 20.07.2019 and 70 Housekeeping ladies benefitted out of this programme

Biochemistry Department observed World Hepatitis Day and organized an awareness programme to General Public on 28.07.2019

Biochemistry Department organized awareness programme on Organ donation to Dr. N.G.P Arts and Science College Students on 13.08.2019

The Department of Biotechnology organized an awareness programme for Non-teaching staff at Dr. N.G.P. Arts and Science College on COVID 19 prepared sanitizer and distributed.

Microbiology department organized an awareness on Food safety and personal hygiene to road side food vendors of Veeriyampalayam and Kalapatti on 25.07.2019

Microbiology department in association with YRC organized an awareness on Leprosy to College students on 16.08.2019

Microbiology department organized an awareness on Diptheria & DBT Vaccination to Periyathadagam village General Public on 04.01.2019



Microbiology department organized an awareness for Lab Assistants on Oral Health: A Glimpse of our Overall Health by inviting - Dr.S.K.Lakshmi Priya, Dentist, Hopes, Coimbatore on 15.02.2019 about 30 Lab Assistants benefitted out of this programme.

Microbiology department organized an awareness Program for College Students on COVID-19 (corona Virus) 17.02.2020

Food and Science and Nutrition Department organized an Oath taking awareness programme for female students of Dr. N.G.P Arts and Science College on 26.07.2019

Food and Science and Nutrition Department educated post natal mothers on Nutrition education at primary health centre, Peelamedu, Coimbatore on 31.07.2019

Food and Science and Nutrition Department educated pregnant and lactating mothers on Nutrition education at Urundampalayam on 01.08.2019.

Food and Science and Nutrition Department educated pregnant and lactating mothers on Nutrition education at Kaikonampalayam on 02.08.2019.

Food and Science and Nutrition Department given awareness programme on Importance of breast feeding through social media from 03.08.2019 to 04.08.2019.

Food and Science and Nutrition Department Educated pregnant, lactating mothers & their family members on Nutrition education at Government Hospital, Coimbatore on 05.08.2019

Food and Science and Nutrition Department in association with NSS organized an awareness programme on Importance of breast feeding through rally on 06.08.2019.

Food and Science and Nutrition Department organized an awareness programme on Importance of breast feeding and Nutrition education through puppet show at KMCH, Coimbatore on 07.08.2019.

The department of Food Science and Nutrition organized an Awareness program at The N. G. P school, Kalapatti, Coimbatore on the topic Deforming on 10.02.2020



AWARENESS PROGRAMMES (ENVIRONMENT)

Students and staff members of DBT-Star departments organized an Awareness programme on Water Conservation. Mr. Karthikeyan Founder and CEO of Senaapathy Kangayam Cattle research Foundation, Kangayam, Thirupoor deviled a talk on Neerenri Amaiyathu Ulagu on 06.08.2019.

The Department of Biotechnology organized an awareness programme on Water Management - The need of the hour in Periyathadagam village on 07.09.2019





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The Department of Biotechnology organized an awareness programme on Organic Farming - A Step to Sustainable Agriculture in Appanaikanpatti Village on 01.02.2020

SCIENCE PROMOTION, POPULARIZATION OF SCIENCE



National Science day celebration

Students and staff members of DBT-Star departments organized **National Science Day** celebration on the Theme: Women in Science at 20 different government school premises in Tirupur and Coimbatore districts on 26th February 2020. School children participated in various activities and competitions organized and received awards and prizes from the Chief Guest Dr. S. Krishnakumar, Senior Technical Officer at DRDO, Chennai.

Microbiology department organized competitions for School students to observe National Science Day on 28.02.2020. Quiz, Oratorical and essay writing competitions are conducted at M.M. Murugappa chettiar school, government school Tripur and 100 Students were participated.

Microbiology department gave training and lecture on Basic techniques like isolation of microbes and biochemical tests to Sri Rajarajeswari School Students, Kangeyam on 06.01.2020

The department of biotechnology Trained 82 school students on Basic Microscopic Techniques and Qualitative Analysis of Biomolecules on 22.11.2019



Foldscopy awareness and Training

Mushroom production team of biotechnology department given Hands on training on Mushroom Cultivation for 10 School students on 11.12.2019



SURVEY

Food and Science and Nutrition Department organized an Survey nutrition assessment on Anthropometrical data collection for transgender community on 08.02.2020

The Department of Biochemistry organized a Survey work Thadagam on 12.03.2020



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Highlights & Achievements

BIOCHEMISTRY

- III B.Sc. BC Students won First Place in Mime Show Conducted by Department of Biotechnology, Hindustan Arts and Science College, Coimbatore on 28.02.2020.
- II B.Sc. Janani and Jeevarathanam Got 3rd Prize in Short film (Organic Farming) Making Competition conducted by PSGR Krishnammal College of For Women on 29.01.2020.
- II B.Sc. Students Got Prizes in the competitions such as Collage Competition, Elocution in English and Tamil conducted by Regional Science Centre on 20.02.2020 as National Science Day Celebration.
- Ms.Jeevarathanam, of II B.Sc Won First Prize in Photography Competition Conducted by Avinashilingam Institute of Home Science for Women on 03.03.2020.
- Ms.Keerthana of II B.Sc Won Third Prize in Poster Presentation Competition Conducted by Avinashilingam Institute of Home Science for Women on 03.03.2020.
- Ms. S.D GavyaBharathi of III B.Sc. BC has got admission for M.Sc. Immunology&Inflammatory Disease and M.Sc. Molecular Biology & Biotechnology in University of Glasgow, Scotland and Queen's University,Belfast,Ireland respectively.
- Department of Biochemistry received Best Research Oriented department award at Dr.N.G.P ASC for this Academic year.
- Dr.N.Kannikaparameswari received Best Faculty Award at Dr.N.G.P ASC for this Academic year.
- Dr.C.Venkatesan received Best Mentor Award at Dr.N.G.P ASC for this Academic year.
- Dr.K.Rajathi received Dr.N.G.P Women Venturous Award on 9th March 2020 at Dr.N.G.P ASC for this Academic year.
- Dr.T.Indhumathi and Dr.K.Rajathi has completed online Refresher Course on "Teacher and Teaching in Higher Education" Conducted by Annual Refresher Programme in Teaching(ARPT), MHRD, Government of India during the academic year 2019-2020.
- All faculty members completed NPTEL online Courses.Dr.S.Gowri and Dr.D.Pradeepa has received award of Topper in Nanobiotechnology Course conducted by NPTEL.
- Dr.S.Gowri has participated in the 'online City Camp on Essentials of Scientific Entrepreneurship' organised by BIRAC Regional Bioinnovation Center @ Venture center in Collaboration with PSG-STEP.
- I B.Sc Student Team selcted for grand finale of Smart india Hackathon 2020.
- Dr.S.Gowri and Dr.K.Rajathi was selected for CSIR Summer research Training at CSIR NEIST and CSIR-IITR respectively.
- Ms.Meena of I M.Sc Biochemistry was selected for summer research training at CFTRI
- Dr.C.Venkatesan has selected for IASc-INSa-NASi Summer Research Fellowship in 2020 under the guidance of Dr Dinkar Sahal, International Centre for Genetic Engineering & Biotechnology, New Delhi
- 8 Faculty members, 31 UG and 3 PG students were participated and received online course certificate from IIC -MIC in the areas of innovation,IPR,Entrepreneurship and starups from 28th April 2020 to 22nd May 2020.
- Dr.K.Rajathi and Mr.Lineey Green of I M.Sc Bc Student was sanctioned with Rs.7500/. from TNSCST for the project entitled" Design and implementation of intelligent biosensors, personal defence devices in smart watches for women sexual harassment.



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BIOTECHNOLOGY

- Best Department Award for the academic year 2019-2020 at Dr. N.G.P. ASC.
- Dr. P. Chidambararajan and Miss M. Lavanya has been sanctioned with Rs.10000/- for the project entitled Milk casein as an alternate source for plastic.
- Dr. Radha Palaniswamy has cleared UGC-NET.
- Dr. Radha Palaniswamy is the recipient of Best Faculty and Best Mentor Award for the academic year 2019-2020 at Dr. N.G.P.ASC.
- Dr. S. Karthik is awarded for Research Excellence by INSC.
- Dr. S. Karthik has received Sri Nalla Gounder Research & Innovation Award for Best Thesis and Sri Nalla Gounder Research & Innovation Award for Best Work Paper.
- Dr. M. Poongothai with Dr.S.Gowri and Dr.D.Pradeepa of Biochemistry has applied for research grant on the project entitled "Design and development of multipurpose sanitizer wipes for covid-19" in SERB.
- Dr. P. Chidambararajan and Dr. M. N. Kathiravan has applied for research grant.
- Logeshwaran, II PG has been selected by Periyar University Business Incubation confederation, Salem for his innovative idea on Bioplastic production
- 5 Faculty members, 18 UG and 7 PG students received online course certificate from IIC -MIC in the areas of innovation, IPR, Entrepreneurship and startups from 28th April 2020 to 22nd May 2020.
- Mushroom production of 3.0 kg at lab and sales resulted in income generation of Rs. 150.

MICROBIOLOGY

- Nivedha A. II UG got selected for Indian Academy of Science Summer Research Fellowship.
- Dr.Karthiksundaram and his PG student received Rs.10,000 grant for Research project from TNSCST.
- Dr. S.S. Sudha received Outstanding Faculty Award from Indian Association of Applied Microbiologists society.
- Dr. J. Rengaramanujam received Best head of the Department on Achievers day celebration at Dr NGPASC.
- Dr. R. Mahendran received Best Mentor & Best Teacher Award Achievers day celebration at Dr NGPASC.
- Dr.S.S.Sudha received Best Research Guide from Sri Nalla Gounder Research and Innovation Awards.
- Dr.S.S.Sudha received Best Researcher Award from Sri Nalla Gounder Research and Innovation Awards.
- Dr. A. M. Ramachandran received Best Fund Mobilizer Award from Sri Nalla Gounder Research and Innovation Awards.
- Dr. Karthik Sundaram has completed NPTEL course.
- Ms. Sahstika I UG., received II prize for poster presentation at Sri Ramakrishna College of Arts and Science for Women
- Microbiology given consultancy to Krishnammal College for Women students (Antimicrobial activity).



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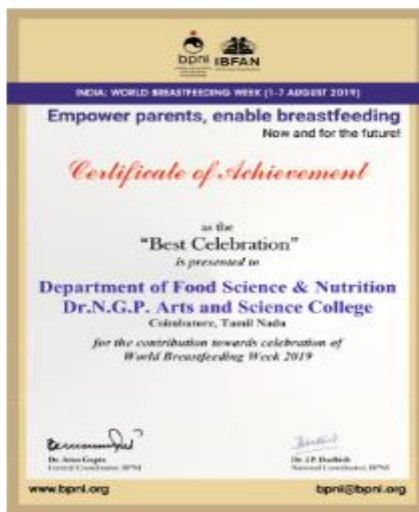
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FOOD SCIENCE AND NUTRITION

- Our department has received Award by Breast Feeding Promotion Network of India, 2019.
- Dr. S.Uma Maheswari, Assistant Professor received cash prize of ₹1000/- from ICMR- NIRT for Recipe contest for Tuberculosis- High protein.
- Dr. S.Daniel Robert, Professor, received Best Senior Faculty Award from Novel Research Academy
- Ms.R.Shivani, cleared National Eligibility Test on June, 2019.
- Parvathy M of III – B.Sc. (FSN) received the Merit cum Means Scholarship (₹20,000) for UG students of Food Science & Nutrition by PFNDI
- Parvathy M of III – B.Sc. (FSN) won 2nd prize in solo singing at CIT, Coimbatore.
- Arthi.C of II – B.Sc. (FSN) Won 1st prize in Kuralum Naanum at PSGR Krishnammal, Coimbatore.
- Arthi.C of II – B.Sc. (FSN) Won 1st prize in variety entertainment at KPRCAS, Coimbatore.
- Surya.S and Madhumita.R of II – B.Sc.,(FSN) Won 3rd prize on Quiz Competition at Dept. of Biochemistry, Dr. N.G.P. Arts and Science College, Coimbatore.
- Clareen Cecily and Anusha Varghese of I – B.Sc. (FSN) received 1st prize in face painting contest conducted by Women's Forum.
- Lara annie (2016-2018 batch student) started a small scale industry at home.
- Dencili Verginiya L and Clareen Cecily of I – B.Sc. (FSN) Won 1st prize in Poster presentation at Department of Microbiology, Dr. N.G.P. Arts and Science College, Coimbatore.



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DBT Star Colleges Cluster

National Symposium on Graduate Research NSGR - 20

National Symposium on Graduate Research 2020 (NSGR – 20) is organized on 21.02.2020 and 22.02.2020 at conference Centre, Dr.NGP Arts and Science College, Coimbatore under the DBT Star College Scheme by all participating departments. This is the second consecutive year that this program is being held to motivate the graduate students to take up research as their career.

The Sponsors for the event are Justice Basheer Ahmed Sayeed College for women, Muthayammal College for Arts and Science, St.Teresa's College, PSGR Krishnammal College for Women. The event provide the platform and opportunity for graduate students in science and technology discipline from DBT star colleges and others to share their innovative ideas, proposals, findings, process and exhibit products.

This is a unique national platform for institutions running Department of Biotechnology supported "Star College Scheme" this is organized First of its Kind in India for the second consecutive year under the leadership of our principal Prof.Dr.V.Rajendran .



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National Conference - FATBR



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Common Programs



National Conference- FATBR



Kalapatti Site Visit for making pond



Neerindri Amayathu Ulagu



Students at SKCRF



SKCRF visit



SKCRF pond



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College Category : 85



- The status of the college by Atal Ranking - Secured Band-B (Rank Between 26th - 50th)
- Dr.NGPASC Ranked within Top 100 consecutively for two years



Category	Rank
Arts Stream (Total Rank: 120)	
National Level Rank	62
City wise	01
Emerging Colleges of this century	06
Stream: Commerce (Total Rank: 160)	
National Level Rank	64
Emerging Colleges of this century	08
Stream: BCA (Total Rank: 110)	
National Level Rank	88
Emerging Colleges of this century	08
Best Value for Money	01
Stream: Fashion Design (Total Rank: 35)	
National Level Rank	29
Lowest Course Fees	05
Best Value for Money	04
Stream: Hotel Management (Total Rank: 35)	
Lowest Course Fees	08

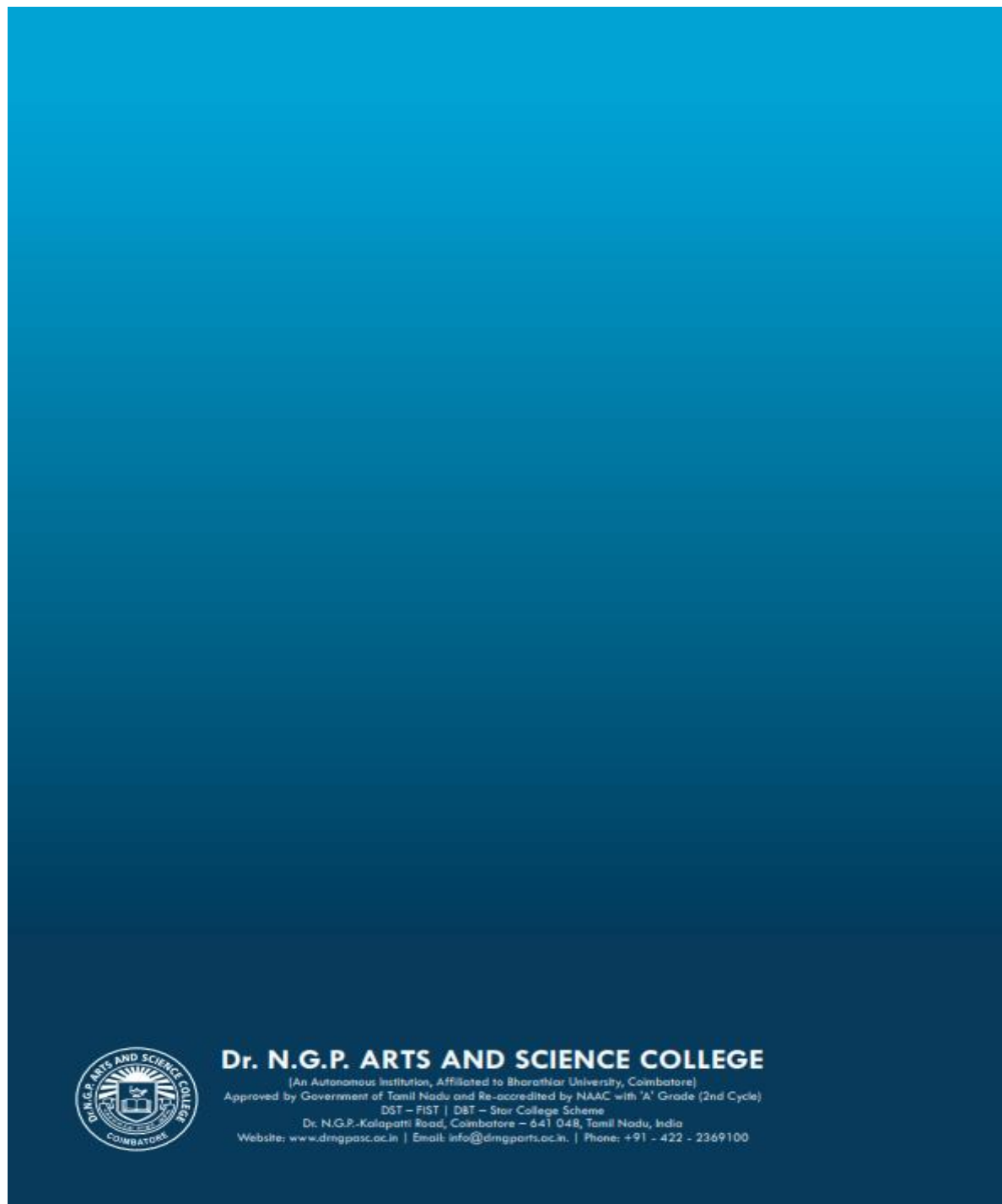


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Messages



Science knows no country, because knowledge belongs to humanity, and is the torch which illuminates the world. Life is moving in the way of science and technology. We will always have to march ahead with these developments. Some things will drop out of the public eye and will go away, but there will always be science, engineering, and technology. Science is fun. Science is curiosity. We all have natural curiosity. Science is a process of investigating. It's posing questions and coming up with a method. It is delving in. I feel elated to note that the Faculty of Bio Sciences, Dr.N.G.P. Arts and Science, Coimbatore is bringing out the annual newsletter consolidating the activities under the DBT-Star Scheme. The support from DBT has strengthened the physical infrastructure in laboratories, library, teaching aids, and promoted networking with neighboring institutes. Hands-on training and projects of day to day relevance have enhanced interest in students to pursue science courses at Undergraduate and Postgraduate level. Dr.N.G.P. Arts and Science takes pride in organizing such Scientific programmes which will create a unique platform to analyze the present and future objectives and to update technological advancements in Science and Technology.

Dr. Nalla G Palaniswami
Chairman
Kovai Medical Center and Hospital (KMCH)



We are thankful to the Government of India, New Delhi for sanctioning the prestigious DBT-star college scheme of Department of Biotechnology. Under the scheme currently four departments are supported: Biotechnology, Biochemistry, Microbiology and Food & Nutrition. The scheme has helped immensely in improving the infrastructural facilities in these departments. Various students- centric activities are being conducted for over all departments of students, including DBT-Star series, hands on training, workshops, industrial & academic visits, research projects and competition as well as faculty trainings. We are living in a society where we depend on continuous improvement in technology, good understanding of a science to take care of the environment and safe guard from various pollution. We all know that over future generation will be suffering if we don't take care of our environment. We all have to work hand in hand to improve the environment with the help of science and technology.

Dr. Thavamani D Palaniswami
Secretary
Dr. NGP Educational Institutions



I am very delighted to note that the DBT Newsletter is being brought by the participating departments under DBT-Star scheme. The Newsletter brings out the various activities organized under DBT-Star scheme at our College. The support from Department of Biotechnology, Government of India has strengthened the laboratory infrastructure, library, and other technology enabled learning resources of the participating departments. The programmes organized by the departments paved way to promote networking with neighboring institutions. I am happy to know that various activities were conducted to create a unique platform to students for updating their skill and knowledge in recent technological advancements in Science and Technology. I wish the Principal, Deans, DBT-Star college overall Programme Coordinator and the Department Coordinators, Staff, and Students of our College a great success in all their future endeavors.

Dr. O. T. Buvaneswaran
Chief Executive Officer
KMCRET



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It is my pleasure to extend heartfelt greetings to the readers of the first issue of the biannual Newsletter of the DBT-Star departments of our College. Department of Biotechnology (DBT), Government of India recognized the excellent Research and Development activities of the various departments of our College and sanctioned DBT-Star scheme to the Biochemistry, Biotechnology, Microbiology and Food and Nutrition Programmes. The main objective of the scheme is to motivate UG research and provide platform for innovative learning of Graduate students. Under this scheme, the participating departments of our College strive to disseminate their expertise and knowledge to the other participating Colleges and to the Community. Dr.N.G.P. Arts and Science College has organized a National Symposium on Under Graduate Research an annual conference, the first of its kind in India by forming DBT-Star Scheme Cluster of Colleges to explore the inherent talent and Innovative Research among the Graduate students in India. On behalf of the Management and on my own behalf, I congratulate Dr. S. S. Sudha, DBT-Star scheme Coordinator of our College and Prof. S. Senthil Prabhu, Coordinator of DBT-Star scheme, Dept of Microbiology, Dr. M. Poongothai, Coordinator of DBT-Star scheme, Dept of Biotechnology, Dr. T. Indhumathi, Coordinator of DBT-Star scheme, Dept of Biochemistry, and Dr. S. Uma Maheswari, Coordinator of DBT-Star scheme, Dept of Food and Nutrition in addition to Dr. S. Balasubramanian, Dean-Research and Development for their sincere and arduous efforts to organize various programmes to kindle the unquenchable fire of curiosity and inquiry in students and the general public. We congratulate the DBT-Star Departments for bringing out this Newsletter to reach the Community.

Prof. Dr. V. Rajendran

Principal
Dr.N.G.P. Arts and Science College



I feel delighted in penning a message to an annual newsletter being brought out by the Faculty of Biosciences to mark the successful completion of the first year of DBT-Star college scheme and eventual display of comprehensive activities undertaken by them. Star College Scheme is an initiative of Department of Biotechnology (DBT), one of the premier national scientific establishment functioning under the aegis of Department of Science and Technology (DST), Government of India. The scheme objective is to provide support to institutions offering undergraduate programmes to strengthen and improve teaching and learning outcomes in science disciplines. It is important to note that all participating departments of Dr.N.G.P. Arts and Science College, with the support from DBT have strengthened the physical infrastructure in laboratories, library, teaching aids and promoted networking with neighboring institutes. In equal measure, they have organized various activities to improve upon the skills of teachers, technical staff, and most importantly to elevate student interest in learning. Having the cardinal features of DBT-Star college scheme instituted in the first year, the participating departments should sight on organizing scientific programmes which will create a unique platform for achieving excellence in teaching and learning, and stimulate original thinking among students. I heartily congratulate the departments and wish them all success in the forth coming years.

Dr.S.Balasubramanian

Dean - Research and Development
Dr.N.G.P. Arts and Science College



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I sincerely acknowledge the Department of Biotechnology (DBT), Government of India, New Delhi for considering Dr. N. G. P. Arts and Science College under DBT-Star college scheme. Microbiology, Biotechnology, Biochemistry and Food Science and Nutrition are the four participating departments under this scheme. The department heads, department programme coordinators, each & every staff member of the department joined hands under the guidance of our team leader Prof. Dr. V. Rajendren, Principal and Dr. S. Balasubramanian, Dean R&D have completed the second year of DBT Star Scheme successfully. The participating departments organized 5 conference/ Seminars, 55 workshops and hands on training, 35 Guest Lectures, 27 intra, inter and intercollegiate Competitions, 37 outreach activities. They also participated in 17 Industrial Visits, 5 Summer training, 57 hands-on training and workshops, 48 conferences/ seminars, 188 internships for both faculties and students. 109 mini and interdisciplinary projects were effectively done by students of participating departments.

I, sincerely thank the mentors Dr. R. Rajendren and Dr. N. Ezhili for their support and suggestions. My heartfelt thanks to Dean R&D, HoDs, Department coordinators and all members of faculty for their effective execution of all the above activities. Finally, I owe my profound thanks to our management for their persistent and consistent support for smooth implementation

Dr. S. S. Sudha

DBT-Star College Scheme Coordinator
Dr.N.G.P. Arts and Science College



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About The Institute

Kovai Medical Center Research and Educational Trust (KMCRET) is a non-profitable voluntary organization established in 1990. The goal of the trust is to render quality and character building education and providing research facilities to the youth of India and abroad. The trust extends its educational service through 6 institutions. Dr. N.G.P. Arts and Science College (Dr NGPASC) is an organization of KMCRET trust which was established in the year 1997 under the leadership of Dr. Nalla G. Palaniswami, as its Chairman and Dr. Thavamani D. Palaniswami as its Managing Trustee and Secretary. The Institution has begun with four Undergraduate programmes namely B.Sc. Biochemistry, B.Sc. Computer Science, B.Com. and B.B.M. with a student strength of 78 and with Faculty members of 9. This co-educational self-financing College was started in a rural area in Kalapatti, Coimbatore District with a motto on Nurture, Grow and Prosper, is affiliated to Bharathiar University, Coimbatore. The College has been recognized under 2(f) and 12(B) by UGC, New Delhi. The University Grants Commission, New Delhi has conferred autonomous status from the Academic year 2015-16. This facilitates the institution a freedom of designing the curricular and co-curricular activities to mould the students and meet global standards. The college was re-Accredited by NAAC with "A" Grade with the CGPA of 3.17 on March 17, 2016. The National Institutional Ranking Framework (NIRF) of MHRD has ranked our college at 44th, 91st and 67th positions in the years 2017, 2018 and 2019 respectively.

At present, 7068 students are pursuing their graduate, Postgraduate and research programmes at Dr NGPASC. The institution has 310 faculty members and 75 administrative and technical staff. The teacher student ratio is 1: 20. The institution offers 31 UG courses, 16 PG courses and 12 research programmes (M. Phil./Ph.D.) In order to promote research activities among Staff and Students, the Management has initiated the in-house funding (Seed money, Student Start-up projects, research incentives/ honorarium, travel grant support etc.). To promote inter disciplinary and quality research; the research advisory/steering committee guides the Faculty in drafting/finalizing their research proposals for funding. The Institution has been granted a sum of Rs. 3.53/- Crore for projects, schemes, seminars, conferences and workshops from various funding agencies like UGC, DRDO, ICMR, ICSSR, CSIR, DST, DBT and TNSCST. The Alumni Association conducts the alumni meet in India and abroad through chapters frequently in order to enrich the connectivity of Alumni. The Institution recognizes the meritorious Alumni with awards on 26th January every year. The NSS has 3 units which extends its service to the community. Outreach activities are carried out in areas such as village adoption, Awareness camps on health issues, Cashless transaction, Digital India etc. under Swachh Bharat initiatives. The deep involvement of students in different club activities.

DBT-STAR COLLEGE SCHEME

The Department of Biotechnology (DBT), Government of India, New Delhi, has launched Star College Scheme with an aim to strengthen life science and biotechnology education and training at undergraduate level. The purpose is to improve critical thinking and provide 'hands on' experimental work in the cutting edge-technologies needed for modern biological studies at undergraduate level in life sciences and as a result of such experiences, more students will take up life science as a career.

Under this scheme various programmes is being organized to strengthen academics and research for achieving excellence in teaching and training and to enhance the quality of learning.

This also helps to enhance the teaching process and to stimulate original thinking through 'hands-on' exposure to experimental work and participation in summer schools. The scheme envisages intensification of interdisciplinary approach among the science departments and also with nearby institutions for small research projects, expert lectures, visits and training programmes and outreach activities.



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Training Received

ENTREPRENEURIAL

Dr.V.Dhana Rangesh Kumar from Biochemistry and Ms.R.Shivani & Ms.P.Ashwini from Food Science and Nutrition department attended One day Training Program on "Dairy Products" organized by Kodai Dairy Products(P) Ltd, Kodaikanal on 06.09.2019.

Dr.S.Balasubramanian from department of Biochemistry participated in Workshop on "Funding Opportunities for Innovation and Entrepreneurship Development" organized by IIC UnoM, TOCIC,DSIR, Government of India, RMK Engineering College, Tamilnadu on 09.09.2019

Dr. K. Arungandhi and Dr. M. Poongothai from Biotechnology department and Dr.C.Venkatesan from Biochemistry department participated in Workshop on "Techniques on Oyster Mushroom Production" organized by Department of Plant Pathology,TNAU on 01.10.2019

Ms.P.Kaneeshwari and Ms.P.Ashwini from Food Science and Nutrition department participated in "Value added products from Moringa and mushroom" organized by TNAU, Coimbatore on 11 & 12.02.2020

Ms.C.Abinaya and Ms.R.Shivani from Food Science and Nutrition department attended Training program on "Preparation of Spice powders and pickles" organized by TNAU, Coimbatore on 18 & 19.02.2020



BIODIVERSITY



Mr. S. Senthil Prabhu from Micro Biology department participated in "Identification, Bioprospecting and conservation of Lichens" organized by Dept. of Botany,Bharathiar University on 12 & 13.09.2019.

IPR

Dr.S.Gowri, from Biochemistry and Dr. Arun. P and Dr. M.N. Kathiravan from Biotechnology department participated in A two day state level workshop on "Intellectual Property Rights"(IPR) organized by IPR cell & IQAC PSG College of Arts and Science on 28.01.2020 to 29.01.2020.

Dr.S.Kathiravan from Biochemistry department participated in BIRAC Sensitization Workshop on "Grant Writing,Intellectual Property and Technology Management in Life Sciences" organized by BITS Pilani K K Birla Goa Campus on 14.02.2020 to 15.02.2020.

BIOINFORMATICS

Dr.T.Indhumathi and Dr.K.Rajathi from Biochemistry department participated in Workshop on "Applied Bioinformatics-Techniques,Tools and Tasks" organized by Department of Marine Biotechnology School of Marine Sciences Bharathidasan University Tiruchirapalli on 18.02.2020 to 19.02.2020.

MOLECULAR BIOLOGY (DIAGNOSIS)

Dr. N. Vidhya, C.Sasikala and A.D. Priyadharshini from Microbiology Department participated in the "Molecular Diagnostics for pathogenic bacteria" Bannari Amman Institute of Tech, Erode on 22.06.2019.



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COMMUNITY ENGAGEMENT

Dr. S. Gowri, Dr. V. Usha, Dr. N. Kannikaparameswari, Dr. T. Indhumathi, Dr. K. Rajathi and Dr. D. Pradeepa from Biochemistry department participated in Workshop on "Rural Immersion, Community Engagement" organized by Mahatma Gandhi National Council of Rural Education in association with NSS unit of Dr. N.G.P. Arts and Science College on 21.09.2019.

RM & DATA ANALYTICS

Dr. Dhana Rangesh Kumar V from Biochemistry department participated in two days state level workshop on "Research Methodology and Data Analysis" organized by Department of Biochemistry, Sree Narayana Guru College, Coimbatore - 105 on 29.11.2019 to 30.11.2019.

ANALYSIS

Dr. N. Kannikaparameswari and Dr. D. Pradeepa of Biochemistry department participated in Workshop on "Chemical Analysis in FTIR & AAS" organized by Department of Chemistry, Kongunadu Arts and Science College on 14.02.2020.

Dr. J. Deva Kumar from Microbiology department participated in 8 days Workshop on "Isolation and identification of Bioactive compounds from natural resources" organized by Agharkar Research Institute, Pune from 25.05.2019 to 01.06.2019.



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Workshop Training & Organized

FIRST AID

Department of Biotechnology and Microbiology jointly organized "Training and Emergency care – CPR" in association with Ekam Foundation & 108 ambulance. In this training Lab assistant, Faculty members and 350 students were trained on 21.06.2019.



ENTREPRENEURIAL

Department of Biotechnology organized "Workshop on Intricacies in handling Plant tissue culture" on 28.06.2019. Dr. K. Kalimuthu, Assistant Professor, Department of Botany, Government Arts and Science College, Coimbatore addressed Faculty members and 107 students.

Dr. M. Shanmuga vadivu and Dr. M. Poongothai, Assistant Professor, Department of Biotechnology, organized Knowledge exchange program on "Insights of Plant Tissue Culture" to 33 Microbiology students on 16.17.2019.



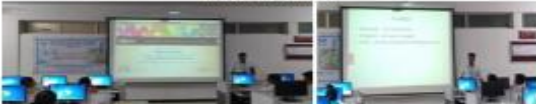
Hands on Training on UV Visible Spectrophotometer using Nanoparticles



Hands on training on ice cream and pasta making



Mushroom Cultivation



Workshop on Death of Piracy and Video editing tools



Mushroom Production

FS&N students Hands on training on fruits and vegetable preservation

BEE KEEPING

All four participating department students went to Nilgiri Biosphere National park to observe Bee Keeping



MUSHROOM

Mushroom Production Team of Department of Biotechnology organized Knowledge exchange program on "Mushroom cultivation and entrepreneurship opportunities" in association with B.Com CA and B.Com BPS on 18.07.2019 and 26.08.2019 respectively.

Mushroom Production Team of Department of Biotechnology organized "Spawn Production and Mushroom Cultivation" to 214 students of Biotechnology during 12.12.2019 to 13.12.2019 and "Cost Effective Mushroom Cultivation" to 80 students on 03.02.2020.

FRUITS AND VEGETABLE PRESERVATION

Department of Food Science and Nutrition organized Hands on Workshop on "Fruits and Vegetable Preservation" in collaboration with Ministry of Women and Child Development from 17.06.2019 to 21.06.2019. Mr. Jeba kumar & Mr. Manoj kumar, Food & Nutrition board, Madurai trained 60 students.



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INSTRUMENTATION

Dr. M. Shanmugavadivu and Dr. M. Poongothai, Assistant Professors, Department of Biotechnology, organized Interdepartmental hands on training workshop on "Quantification of DNA from Herbal leaves and Animal tissue" using Nanophotometer to 47 students on 01.07.2019.

Mr. S. Karthik, Assistant Professor, Department of Biotechnology offered Interdepartment Hands on training on "UV Visible Spectrophotometer using Nanoparticles" to 40 students on 05.07.2019.

The Department of Food Science and Nutrition organized Hands on Training on "Ice cream and Pasta making" to 50 students on 01.02.2020.

The Department of Food Science and Nutrition organized Two days workshop on "Enumeration of bacteria, mould & yeast from food sample and preparation of ice cream & pasta making" during 18.2.2020 & 19.02.2020 to 100 intercollegiate students.

ISOLATION AND ANALYSIS

The Department of Biochemistry organized Intradepartmental Workshop on "Microbial Plating Techniques" Hands-on training to 20 students 13.08.2019-14.08.2019

Department of Biochemistry organized Interdepartmental Workshop with Chemistry department on "Water and Waste Water Analysis" Dr. Raman Sivakumar Ph.D., IDH (USA), Coop (Canada) Chief Scientist, MAK India Ltd, addressed 60 students during 20.08.2019 – 21.08.2019

Department of Biochemistry in association with Catering Science and Hotel Management Extraction of Natural Dyes from "plants & vegetables and its application" in Food preparation to 40 students on 07.12.2019.

Department of Biochemistry organized Alumni Interaction Programme & Hands on Training on "Basic Microbial Culture Techniques in Quality Control Management" Mr. Prakasam V (Alumini), Quality Control Executive, Care Now Medical Pvt Ltd addressed 40 students.

Dr. M. Poongothai, Assistant Professor, Department of Biotechnology, organized Hands on training on "Protein Purification Techniques" to 12 students on 28.09.2019.

BIOINFORMATICS & IT

Dr. Radha Palaniswamy, Assistant Professor, Department of Biotechnology organized Hands on training on "Tools for Biologists in Bioinformatics" to 30 students on 08.07.2019

Mrs. M. Savithri, Assistant Professor (SG), Dept. of Computer Science, Dr. NGP ASC organized an Intradepartmental Workshop on "Biostatistics & Solving Through Excel" for 60 students on 27.08.2019

The Department of Biochemistry organized Functional FDP & Hands on Training on "ICT Enabled Teaching" for Bioscience Staff and Lab Assistants, on 20.01.2020 Dr. R. Rajesh Kanna, Professor & Head, department of Information Technology and Dr. Anjith Raja, Professor and Head, Department of Cognitive Systems were the resource persons.

The department of Biotechnology organized Hands on training on "Operations in MS Office", Mr. Rajakrishnan, Assistant Professor, Department of Commerce, Dr. N.G.P. Arts and Science College gave intradepartmental training to 65 students on 15.07.2019.

Biotechnology department conducted Workshop on Operations in MS Excel, Dr. Dinesh Kumar, Assistant Professor, Department of Commerce, Dr. N.G.P. Arts and Science College on 05.09.2019 for 65 students.

Biotechnology department organized an intradepartmental lecture workshop on Computer aided drug designing on 13.07.2019. Dr. M. Poongothai, Assistant Professor, Department of Biotechnology was the resource person.



Workshop on Operations in MS Office



Workshop on ICT Enabled Teaching



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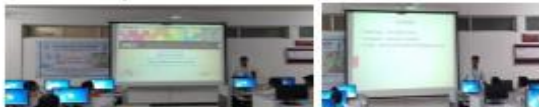
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TEACHING TECHNIQUES

Knowledge about Online teaching tool (Google Classroom) explained by Dr. Arun. P, Assistant Professor, Department of Biotechnology, Dr.N.G.P. Arts and Science College to department faculty members on 12.07.2019

Biotechnology department organized Workshop on Death of Piracy and Video Editing tools on 19.08.2019 for 65 students, Dr. Rajeshkanna, Head, Department of IT, Dr.N.G.P. Arts and Science College was the resource person.



Biotechnology organized Workshop on Death of Piracy and Video editing tools

SUMMER INTERNSHIP

Biochemistry department organized one week Summer Internship programme on separation techniques, culture techniques from 23.05.2019 to 28.05.2019 (SIP-2019).

Internal Faculty members provided Hands-on training in various techniques to 12 other college students

Biochemistry department organized Interdepartmental Workshop on "Plant and Animal Tissue Culture, Electrophoresis, Chromatography and Spectroscopic Techniques" from 24.06.2019-28.06.2019 for 100 bioscience students.



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SKILL ENHANCEMENT

An intercollegiate Lecture workshop on Scientific Writing conducted by biotechnology department on 01.02.2020. Eighty students and scholars from various part of the state took part in this workshop.

Biotechnology department organized Skill enhancement programme for the Life science students on 08.02.2020 for 60 students, Dr. S. Karthik, Assistant Professor, Department of Biotechnology, was the resource person.



Intercollegiate Workshop on Scientific Writing

Department of Biochemistry organized an Interdepartmental competition to observe National energy conservation Day on 14.12.2019. Competitions like Paper & poster presentation, Glass Painting, Nail art were conducted in which more than 100 students participated.

Biochemistry department organized an intercollegiate Competition to observe World cancer Day on 04.02.2020, Dr. R. Madhu Sairam, Radiation Oncologist, KMCH was the resource person addressed students. Paper, poster presentation and mime competitions were conducted.

Department of Biotechnology organized an interdepartmental contest on 26.06.2019. Observance of International Day against Drug abuse and illicit trafficking with Youth Red Cross 62 students from various departments were participated.

Biochemistry department organized an interdepartmental competition, Short film making on "Biodiversity in and around Dr.N.G.P. Campus on 18.07.2019.

Department of biochemistry organized an intradepartmental competition on "micro videos in Life Science Experiments". Students prepared micro videos in life science experiment and presented on 26.07.2019.

Biotechnology department organized an interdepartmental Bioquiz on 14.08.2019. In this event 46 students were participated.

Department of biotechnology organized an interdepartmental contest on Rose Day to Observe the welfare of Cancer Patients on 24.09.2019. 61 students were participated in the different competitions.

Biotechnology department organized an intercollegiate innovative idea contest -"BIO IDEA 2020" on 28.01.2020. More than 40 students were participated and presented their ideas.

Microbiology department organized an Inter and Intra departmental poster Competitions to observes Bioconservation day on 27.07.2019.60 students were participated.

Skill Enhancement

Department of microbiology organized Competitions like Slogan writing, Short film, Drama & Mime to observes Organ Donation Day on 13.08.2019 and more than 60 Students were participated.

Microbiology department organized an intra departmental Competitions like Seminar, poster presentation and slogan writing to observes National Pollution day on 02.12.2019. In this contest 60 Students were participated.



Poster presentation by students on a part of rose day observance

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Microbiology department organized an intra departmental Competitions like Seminar, poster presentation and slogan writing to observe National Pollution day on 02.12.2019. In this contest 60 Students were participated.

KNOWLEDGE SHARING WORKSHOPS

Biochemistry department organized Colloquium (Intra departmental Presentation) on "Savor of Research" by Summer Interns on 20.06.2019. 230 students were participated.

Department of biochemistry organized an Intradepartmental Workshop (Student Knowledge Sharing Programme) on 22.06.2019. Second year B.Sc. Biochemistry students Ms. Madhumitha.C & Ms. Sangamithra.B shared their knowledge on "Genomics" to other students.

Biochemistry department organized an Intradepartmental Workshop (Student Knowledge Sharing Programme) on 23.07.2019. III B.Sc Biochemistry students Ms. Manjubhashini & Ms. Sharulatha shared their knowledge on "Analysis of Nano particles in UV Visible Spectrophotometer" to other students.



Second year biochemistry student shared their knowledge about Genomics

EXPO

Biochemistry department organized exhibition on Ayur-Food Festival" in association with Department of Catering Science and Hotel Management on 1st February 2020. Students prepared food using herbs and traditional ingredients and displayed its benefits.

Department of Biotechnology organized exhibition on Medicinal plants on 22.07.2019. Students Exhibited various medicinal plants and explained on its uses to entire college students.

Department of Food Science and Nutrition conducted "World Breast Feeding Week Celebration" from 01.08.2019 to 08.08.2019.



Food Expo



Ayur Food Festival



FS&N Conducted Food Expo



Department Of Biochemistry And Catering Science And Hotel Management Jointly Organized Ayur-food Festival



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2019 - 2020





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Conferences Organized

NATIONAL CONFERENCE

Microbiology and information technology departments jointly organized National Seminar on Computing platforms for Bigdata analytics, Sponsored by SERB on 05.02.2020 & 06.02.2020. Dr. P. Chella Durai, Dr. N. Jeyakumar, Dr. Sanjeev Kumar Singh were the resource persons and 600 Students took part in this conference.



BIOSCIENCE CONFERENCE

Faculty of Bioscience organized two days National Conference on Futuristic Approaches in Transformation of Bioscience Research(FATBR-2020) on 06.03.2020 and 07.03.2020



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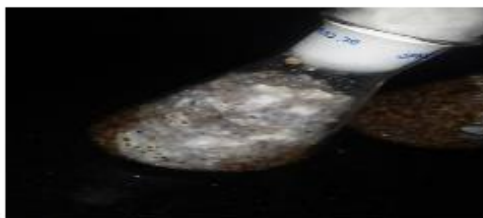
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Mini Projects & Entrepreneurship Training

Mushroom cultivation, Spawn production, Vermicomposting, Biodiesel Production, Biodiversity, Organic farming, Nanotechnology, Biofertilizer production, Bioprospecting of plants and microbes, Antimicrobial, Antioxidant activities, Water quality analysis, Isolation of food spoiling microbes, Milk Quality analysis, Enzyme production, Culture preservation, Azolla cultivation, Spirulina cultivation, Food formulations, Food safety Interdisciplinary projects



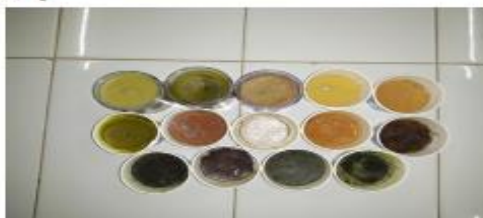
Mushroom Cultivation



Organic Farming



Medicinal Product



Organic Candles



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Azolla Cultivation



Composting



Bio Diesel Production



Spirulina Production



Health Survey



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Impact of Star College Scheme

DBT STAR ACTIVITIES 2019-20

DBT Star Scheme paves way to improve the basic science skills and research skills to the students and faculty.

Consistent Hands on workshops, exposure to Nationalized Laboratories and visits to industries, access to New Equipment all improvised teacher skills and teaching skills.

Training given to Lab assistants on various aspects like safety measures, instruments handling, Animal Tissue Culture, dispensing acids and other corrosive reagents helps to manage practical in a smooth way.

DBT STAR ACTIVITIES 2019-20

S.No	Event/Activities	2018- 2019	2019- 2020
Participation			
1	Industrial visits	12	17
2	Summer Training	3	5
3	Hands on Trainings/Workshop	27	57
4	Conference / Seminar	48	48
5	Summer Training/ Internship	62	188
Organized			
6	Conference/Seminars	4	5
7	Hands on Training/ workshop	26	55
8	Special /Guest Lectures	19	35
9	Competitions(Intra, Inter, Inter collegiate)	5	27
10	Mini Project/Inter Disciplinary Project	41	109
11	Outreach activities	34	37



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College Category : 85



- The status of the college by Atal Ranking - Secured Band-B (Rank Between 26th - 50th)
- Dr.NGPASC Ranked within Top 100 consecutively for two years



Category	Rank
Arts Stream (Total Rank: 120)	
National Level Rank	62
City wise	01
Emerging Colleges of this century	06
Stream: Commerce (Total Rank: 160)	
National Level Rank	64
Emerging Colleges of this century	08
Stream: BCA (Total Rank: 110)	
National Level Rank	88
Emerging Colleges of this century	08
Best Value for Money	01
Stream: Fashion Design (Total Rank: 35)	
National Level Rank	29
Lowest Course Fees	05
Best Value for Money	04
Stream: Hotel Management (Total Rank: 35)	
Lowest Course Fees	08



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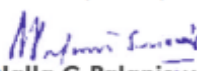
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MESSAGES



Science knows no country, because knowledge belongs to humanity, and is the torch which illuminates the world. Life is moving in the way of science and technology. We will always have to march ahead with these developments. Some things will drop out of the public eye and will go away, but there will always be science, engineering, and technology. Science is fun. Science is curiosity. We all have natural curiosity. Science is a process of investigating. It's posing questions and coming up with a method. It is delving in. I feel elated to note that the Faculty of Bio Sciences, Dr.N.G.P. Arts and Science, Coimbatore is bringing out the annual newsletter consolidating the activities under the DBT-Star Scheme. The support from DBT has strengthened the physical infrastructure in laboratories, library, teaching aids, and promoted networking with neighboring institutes. Hands-on training and projects of day to day relevance have enhanced interest in students to pursue science courses at Undergraduate and Postgraduate level. Dr.N.G.P. Arts and Science takes pride in organizing such Scientific programmes which will create a unique platform to analyze the present and future objectives and to update technological advancements in Science and Technology.


Dr. Nalla G Palaniswami
Chairman
Kovai Medical Center and Hospital (KMCH)



We are thankful to the Government of India, New Delhi for sanctioning the prestigious DBT-star college scheme of Department of Biotechnology. Under the scheme currently four departments are supported: Biotechnology, Biochemistry, Microbiology and Food & Nutrition. The scheme has helped immensely in improving the infrastructural facilities in these departments. Various students-centric activities are being conducted for over all departments of students, including DBT-Star series, hands on training, workshops, industrial & academic visits, research projects and competition as well as faculty trainings. We are living in a society where we depend on continuous improvement in technology, good understanding of a science to take care of the environment and safe guard from various pollution. We all know that over future generation will be suffering if we don't take care of our environment. We all have to work hand in hand to improve the environment with the help of science and technology.


Dr. Thavamani D Palaniswami
Secretary
Dr. NGP Educational Institutions



I am very delighted to note that the DBT Newsletter is being brought by the participating departments under DBT-Star scheme. The Newsletter brings out the various activities organized under DBT-Star scheme at our College. The support from Department of Biotechnology, Government of India has strengthened the laboratory infrastructure, library, and other technology enabled learning resources of the participating departments. The programmes organized by the departments paved way to promote networking with neighboring institutions. I am happy to know that various activities were conducted to create a unique platform to students for updating their skill and knowledge in recent technological advancements in Science and Technology. I wish the Principal, Deans, DBT-Star college overall Programme Coordinator and the Department Coordinators, Staff, and Students of our College a great success in all their future endeavors.


Dr. O. T. Buvaneswaran
Chief Executive Officer
KMCRET



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It is my pleasure to extend heartfelt greetings to the readers of the first issue of the biannual Newsletter of the DBT-Star departments of our College. Department of Biotechnology (DBT), Government of India recognized the excellent Research and Development activities of the various departments of our College and sanctioned DBT-Star scheme to the Biochemistry, Biotechnology, Microbiology and Food and Nutrition Programmes. The main objective of the scheme is to motivate UG research and provide platform for innovative learning of Graduate students. Under this scheme, the participating departments of our College strive to disseminate their expertise and knowledge to the other participating Colleges and to the Community. Dr.N.G.P. Arts and Science College has organized a National Symposium on Under Graduate Research an annual conference, the first of its kind in India by forming DBT-Star Scheme Cluster of Colleges to explore the inherent talent and Innovative Research among the Graduate students in India. On behalf of the Management and on my own behalf, I congratulate Dr. S. S. Sudha, DBT-Star scheme Coordinator of our College and Prof. S. Senthil Prabhu, Coordinator of DBT-Star scheme, Dept of Microbiology, Dr. M. Poongothai, Coordinator of DBT-Star scheme, Dept of Biotechnology, Dr. T. Indhumathi, Coordinator of DBT-Star scheme, Dept of Biochemistry, and Dr. S. Uma Maheswari, Coordinator of DBT-Star scheme, Dept of Food and Nutrition in addition to Dr. S. Balasubramanian, Dean-Research and Development for their sincere and arduous efforts to organize various programmes to kindle the unquenchable fire of curiosity and inquiry in students and the general public. We congratulate the DBT-Star Departments for bringing out this Newsletter to reach the Community.

[Signature]
Prof. Dr. V. Rajendran

Principal
Dr.N.G.P. Arts and Science College



I feel delighted in penning a message to an annual newsletter being brought out by the Faculty of Biosciences to mark the successful completion of the first year of DBT-Star college scheme and eventual display of comprehensive activities undertaken by them. Star College Scheme is an initiative of Department of Biotechnology (DBT), one of the premier national scientific establishment functioning under the aegis of Department of Science and Technology (DST), Government of India. The scheme objective is to provide support to institutions offering undergraduate programmes to strengthen and improve teaching and learning outcomes in science disciplines. It is important to note that all participating departments of Dr.N.G.P. Arts and Science College, with the support from DBT have strengthened the physical infrastructure in laboratories, library, teaching aids and promoted networking with neighboring institutes. In equal measure, they have organized various activities to improve upon the skills of teachers, technical staff, and most importantly to elevate student interest in learning. Having the cardinal features of DBT-Star college scheme instituted in the first year, the participating departments should sight on organizing scientific programmes which will create a unique platform for achieving excellence in teaching and learning, and stimulate original thinking among students. I heartily congratulate the departments and wish them all success in the forth coming years.

[Signature]
Dr.S.Balasubramanian

Dean - Research and Development
Dr.N.G.P. Arts and Science College



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I sincerely acknowledge the Department of Biotechnology (DBT), Government of India, New Delhi for considering Dr. N. G. P. Arts and Science College under DBT-Star college scheme. Microbiology, Biotechnology, Biochemistry and Nutrition & Dietetics are the four participating departments under this scheme. Alone we can do little, and together we can do a lot. This aptly suits for the Departments that participate in DBT Star College Scheme. As an overall Programme Co-ordinator initially I had a doubt, how these activities can be done and executed well, but the department heads, department programme coordinators, each & every staff member of the department joined hands under the guidance of our team leader Prof. Dr. V. Rajendren, Principal and Dr. S. Balasubramanian, Dean R&D. The one year journey under DBT-Star College Scheme provided me insights and experience widely. All four participating departments have done their maximum level and striding to reach acme in the forth coming years. The concept of learn, unlearn and relearn has been practiced by all members of faculty of participating department. Through this DBT-Star College Scheme teacher quality & teaching quality are being improved. Students are highly motivated and they show keen interest to comprehend practical methodologies in a conducive way. It is an opportunity for them to visit Industries, to participate in Conferences, Seminars and Workshops to take up the mini group projects in order to ameliorate their personal skills. I, sincerely thank the mentors Dr. R. Rajendren and Dr. N. Ezhili for their support and suggestions. Finally, I owe my heartfelt thanks to our management for their constant and consistent support in all the steps that we initiate.

Dr. S. S. Sudha

DBT-Star College Scheme Coordinator
Dr.N.G.P. Arts and Science College



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ABOUT THE INSTITUTE

Kovai Medical Center Research and Educational Trust (KMCRET) is a non-profitable voluntary organization established in 1990. The goal of the trust is to render quality and character building education and providing research facilities to the youth of India and abroad. The trust extends its educational service through 6 institutions. Dr. N.G.P. Arts and Science College (Dr NGPASC) is an organization of KMCRET trust which was established in the year 1997 under the leadership of Dr. Nalla G. Palaniswami, as its Chairman and Dr. Thavamani D. Palaniswami as its Managing Trustee and Secretary. The Institution has begun with four Undergraduate programmes namely B.Sc. Biochemistry, B.Sc. Computer Science, B.Com. and B.B.M. with a student strength of 78 and with Faculty members of 9. This co-educational self-financing College was started in a rural area in Kalapatti, Coimbatore District with a motto on Nurture, Grow and Prosper, is affiliated to Bharathiar University, Coimbatore. The College has been recognized under 2(f) and 12(B) by UGC, New Delhi. The University Grants Commission, New Delhi has conferred autonomous status from the Academic year 2015-16. This facilitates the institution a freedom of designing the curricular and co-curricular activities to mould the students and meet global standards. The college was re-Accredited by NAAC with "A" Grade with the CGPA of 3.17 on March 17, 2016. The National Institutional Ranking Framework (NIRF) of MHRD has ranked our college at 44th, 91st and 67th positions in the years 2017, 2018 and 2019 respectively.

At present, 7068 students are pursuing their graduate, Postgraduate and research programmes at Dr NGPASC. The institution has 310 faculty members and 75 administrative and technical staff. The teacher student ratio is 1: 20. The institution offers 27 UG courses, 14 PG courses and 12 research programmes (M. Phil./Ph.D.) In order to promote research activities among Staff and Students, the Management has initiated the in-house funding (Seed money, Student Start-up projects, research incentives/ honorarium, travel grant support etc.). To promote inter disciplinary and quality research; the research advisory/steering committee guides the Faculty in drafting/finalizing their research proposals for funding. The Institution has been granted a sum of Rs. 3.53/- Crore for projects, schemes, seminars, conferences and workshops from various funding agencies like UGC, DRDO, ICMR, ICSSR, CSIR, DST, DBT and TNSCST. The Alumni Association conducts the alumni meet in India and abroad through chapters frequently in order to enrich the connectivity of Alumni. The Institution recognizes the meritorious Alumni with awards on 26th January every year. The NSS has 3 units which extends its service to the community. Outreach activities are carried out in areas such as village adoption, Awareness camps on health issues, Cashless transaction, Digital India etc. under Swachh Bharat initiatives. The deep involvement of students in different club activities.

DBT-STAR COLLEGE SCHEME

The Department of Biotechnology (DBT), Government of India, New Delhi, has launched Star College Scheme with an aim to strengthen life science and biotechnology education and training at undergraduate level. The purpose is to improve critical thinking and provide 'hands on' experimental work in the cutting edge-technologies needed for modern biological studies at undergraduate level in life sciences and as a result of such experiences, more students will take up life science as a career.

Under this scheme various programmes is being organized to strengthen academics and research for achieving excellence in teaching and training and to enhance the quality of learning.

This also helps to enhance the teaching process and to stimulate original thinking through 'hands-on' exposure to experimental work and participation in summer schools. The scheme envisages intensification of interdisciplinary approach among the science departments and also with nearby institutions for small research projects, expert lectures, visits and training programmes and outreach activities.





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MAIN OBJECTIVES - STAR COLLEGE

- Strengthening the academic and physical infrastructure for achieving excellence in teaching and training. Enhancing the quality of learning and teaching process to stimulate original thinking through 'hands-on' exposure to experimental work and participation in summer schools.
- Increasing capabilities of core instrumentation resources by procuring new equipment and upgrading of existing facilities
- Network promotion and strengthening ties with neighbouring institutions and other laboratories.
- Providing access and exposure to students to research laboratories and industries in the country.
- Help to devise Standard Operating Procedures (SOP's) /kits for Practical; and to provide better library facility to students and teachers.
- Organizing specialized training programmes for faculty improvement for optimizing technical capabilities. Field trips, guest lectures, workshops, hands-on training, visits to National Laboratories, National and International Seminars for both faculty and students.
- Instilling research acumen in UG students and seed the aspiration in young minds to pursue advanced learning (post graduate and doctoral programmes)

ENVISAGED IMPACT OF STAR COLLEGE SCHEME

Demonstration to Experimentation, Group to Individual, and Realization of research at undergraduate level. Increase in wet lab standard and Hands on approach, Interdepartmental interface, and need based syllabi

EXPECTED OUTCOME

Sustenance of Student Strength, Increase in Employability, Basic Research Interest and Faculty instructional ability. Upgraded syllabi beyond consumables constraint, Professional view on Science courses.



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DBT-STAR DEPARTMENTS

DBT under the star college scheme sanctioned an amount of Rs. 82.00 lakhs for three years to the following bioscience departments

- *Biochemistry*
- *Biotechnology*
- *Microbiology*
- *Nutrition and Dietetics*

DEPARTMENT OF BIOCHEMISTRY

Biochemistry is a discipline that offers a challenging environment, and in return nurtures the candidate's future. The curriculum is framed in such a way that will allow students to develop knowledge and gain expertise to meet demands of voluminous opportunities at various capacities in Diagnostic and Research Laboratories in a Clinical setup and in Pharmaceutical Companies. The Department of Biochemistry is a vibrant and ambitious division of the college with qualified academic staff, research scholars and students. The Department is a very successful unit of the college which is firmly committed to excellence both in research and teaching. The department adopts an integrated approach embracing the view that tomorrow's breakthrough are likely to occur at the interface of traditional biological subdivisions. A degree in Biochemistry is the first step towards a wide variety of careers options in pharmaceutical and food industries, in hospital services, and in many biological and medical research divisions.

DEPARTMENT OF BIOTECHNOLOGY

The Department was established in the year 2002 with the goal of rendering innovative education to the learning aspirers. Biotechnology being a fast growing arena of research and innovation, our department offers UG, PG, M.Phil. and Ph.D. programs. Department is a good platform for the budding bio-technologists with excellent infrastructure and instrumentation facilities.

DEPARTMENT OF MICROBIOLOGY

The department of Microbiology was established in the year 2003 with the postgraduate programme and in 2004 with the undergraduate course. The research programme comprises M.Phil. and Ph.D. which was started in the year 2005 and 2007 respectively. The department has a strong link with the Kovai Medical Center and Hospital and other institutions of the rust where there are a number of ongoing research projects. The department is armed with well qualified, dedicated and experienced faculty members. The department is committed towards the healthy academic (curriculum and co-curriculum) growth of the students as well as fostering the teaching and research activities of the faculty. The Department engages in various Projects supported by DBT, ICMR, UGC, DST, DRDO, CSIR and TNSCST.

DEPARTMENT OF NUTRITION & DIETETICS

The Department of Nutrition and Dietetics was started in the year 2003 offering the course B.Sc. in Food Science and Nutrition with well-equipped laboratories. Post Graduate course in Food and Nutrition was started in the year 2004. The department also extends the activities of research by offering Master of Philosophy in Food and Nutrition from the year 2005 and Doctorate of Philosophy from the year 2016 onwards. The Department has qualified and well experienced faculty.



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INDUSTRIAL VISITS

The aims of this program is to provide an opportunity to all undergraduate students to personally experience the foundational importance of various industrial establishments, relate industries functional setup with their curricula and identify the matching industrial job to their academic profile (or) inspired to start an industry or business of their own. The participating departments identified various industrial establishments in the following specialized areas around Coimbatore which are relevant to respective academic discipline and arranged student visits. This student visit to industrial establishments is made mandatory in their curricula and the DBT-Star scheme provides eagerly sought support to meet this obligatory requirement.

VACCINES AND IMMUNOLOGY

A one day Industrial Visit was organized by the Department of Microbiology to Pasteur Institute of India, Coonoor on 12.09.2018. Exactly 56 students accompanied by 3 faculty members took part in the activity.

Around 63 students along with 2 faculty members from the Department of Biotechnology, took part in the one day Industrial Visit to Pasteur Institute of India, Coonoor on 22.09.2018.



Students of Microbiology and Biotechnology visiting Pasteur Institute of India in Coonoor

FOOD PROCESSING

Department of biochemistry organized a one day Industrial Visit to Indian Institute of Food Processing Technology, Thanjavur on 24.09.2018. Exactly 59 students and 3 staff members of the department took part in the activity.

About 68 students and 5 faculty members from the Department of Biochemistry visited UPASI Tea Research Foundation, Valparai on 09.02.2019.

The Department of Nutrition and Dietetics organized an Industrial Visit to Aavin Milk Industry Coimbatore on 13.08.2018. Around 60 students and 3 staff members from the department took part in the activity.

Exactly 114 students and 3 staff members from the Department of Nutrition and Dietetics visited TANTEA, Coonoor on 08.02.2019.



Visit of N&D Students to TANTEA in Coonoor.

N&D Students at Aavin, Coimbatore.

BIODIVERSITY AND ENVIRONMENT

The Department of Microbiology organized two days Industrial Visit to SACON (Salim Ali Institute for Ornithology and Natural history), Coimbatore on 26.02.2019 and 27.02.2019. Exactly 126 students and 4 staff members from the department took part in the activity.

The Department of Biotechnology organized one day Industrial visit to National Research Centre for Banana (NRCB), Tiruchirapalli on 12.09.2018, which was participated by 5 students and 2 staff members.

The students and staff members of the Department of Biotechnology visited Botanical Survey of India, TNAU Campus, Coimbatore, on 10.01.2019. Exactly 65 staff members and 2 staff members took part in the activity.

CLINICAL DIAGNOSIS

Exactly 65 students and 3 staff members of the Department of Biochemistry visited "Alchem Diagnostics", Coimbatore on 03.09.2018.



Biotechnology Students visit to NRCB at Tiruchirapalli.

Students of Microbiology at SACON, Coimbatore.



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CONFERENCES, SEMINARS AND SYMPOSIUMS PARTICIPATION

This program is intended to encourage teaching and technical fraternity and student community to participate in various national and international programs organized by state and central universities, institutions, colleges, government and non-governmental organizations, professional bodies, societies, and share their professional opinions, ideas and research findings and get abreast with latest scientific and technical developments in the interested fields. The following are the notable participation of our student and staff from the DBT-Star departments in conferences, seminars and symposiums during the academic year (2018-19) under the DBT-Star scheme.

NANOTECHNOLOGY

8 students and 2 staff members from DBT-Star departments participated in the national conference on "Recent Innovation in Nano-medicine and Targeted Drug Delivery" held at St. Aloysius College (autonomous), Mangaluru on 03rd September 2018.



Students and Staff participation in the National Conference held at St. Aloysius College, Mangaluru

Staff participation in the International Conference held at SRM Institute of Science and Technology, Chennai.

Dr. S. S. Sudha and Prof. A. D. Priyadharshni of Microbiology department participated in the international conference on "Nano-science and Nano-technology (ICONN, 2019) held at SRM Institute of Science and Technology, Chennai from 28th to 30th January, 2019.

IPR

8 students and 3 staff members from DBT-Star departments participated in the DBT sponsored workshop on "Patent and Copyright" held at Hindustan College of Arts and Science, Coimbatore on 06th and 07th September, 2018.



Staff participation in the International Conference held at Kannur University, Kerala.

8 students and 3 staff members from DBT-Star departments participated in the workshop on "IPR" held at Hindustan College of Arts and Science, Coimbatore on 26th September, 2018.

BIOSCIENCE RESEARCH

Dr. A. M. Ramachandran and Dr. J. Devakumar of Microbiology department participated in the international conference on "Research and Development in Bioscience (CRBD-2019)" held at Kannur University,

FOOD MICROBIOLOGY

Prof. M. Shanmugavadivu of Biotechnology department participated in the national seminar cum medicinal plant exhibition on "Complementary and Alternative Indian System of Medicine" held at Nirmala College for Women, Coimbatore on 01st and 02nd February, 2019.



Students at the National Seminar on "Foodborne Pathogenesis and its Biocontrol" held at Dr.G.R.D. College of Science, Coimbatore.

6 students from Biotechnology department participated in the national conference on "Biological Science-Emerging Challenges & Issues (NCBCI'19) held at Sri Ramakrishna College of Arts and Science for Women, Coimbatore on 16th February, 2019



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GUEST LECTURES - MENTORS

The objective of this program is to provide an opportunity to teaching fraternity and student community to identify expertise from nationally renowned institutions and invite them to deliver lecture (s) in emerging scientific and technological disciplines. Additional purpose of this arrangement is to facilitate students and staff interaction with the mentor, and exchange opinions, ideas and research findings and develop everlasting mentoring rapport with resource person (s) for the professional guidance and development. The following are the eminent mentors invited by the students and staff of DBT-Star departments during the academic year (2018-19) under the DBT-Star scheme.

STRUCTURAL BIOLOGY

► The Department of Microbiology organized guest lecture on "NMR and MRI in clinical applications" on 04th September, 2018. Dr. S. Senthil Kumaran from AIIMS, New Delhi was the invited speaker. In this event 900 students from all participating departments attended this lecture.



Dr. Senthil Kumaran from AIIMS, New Delhi at the Inauguration session of lecture on NMR and MRI applications

Mr. S. Sivakumar from SITRA, addressing Dr. NGPASC Lab Assistants on Laboratory Safety.

LABORATORY PRACTICE

The department of Biochemistry organized guest lecture on "Good Laboratory Practices and Lab Management" on 20th February, 2019. Mr. S. Sivakumar from The South Indian Textile Research Association (SITRA), Coimbatore was the resource person. Ten Laboratory assistants from DBT-Star and basic science departments participated and benefited.



Dr. Yuvraj Haldorai, Ramalingaswamy Faculty Fellow, from BU delivering a guest lecture on Nanotechnology to Microbiology students

Dr. Ramesh Subbiah from Georgia Institute of Technology, USA during the inauguration session of a guest lecture to Biotechnology students

NANOTECHNOLOGY AND DRUG DELIVERY

The Department of Microbiology organized a guest lecture on "Nanotechnology and its Bio-application" on 16th February, 2019. Dr. Yuvraj Haldorai, Ramalingaswamy Faculty Fellow, Bharathiar University, Coimbatore was the resource person. Around 250 students and 10 faculty members attended this programme.

The department of Biotechnology organized an invited lecture on "Material Science and Design Principles of Growth factors delivery system for tissue regeneration" on 21st January, 2019. Prof. Dr. Ramesh Subbiah from Georgia Institute of Technology, USA was the invited speaker. About 230 students and 10 staff from the biotechnology attended the guest lecture.

BIODIVERSITY AND BIOMOLECULES

The Department of Microbiology organized guest lecture on "Micro Algal Biotechnology" on 16th August, 2018. Dr. N. Thajuddin, Bharathidasan University, Trichirapalli was the resource person. In this event 900 students participated and gained knowledge on diversity of Algae and its applications.

The Department of Biochemistry organized guest lecture on "Bio-molecules - Tools for social relevance" by Prof. M. N. Ponnusamy, University of Madras, Chennai on 12th September, 2018. Around 900 students and staff members of DBT-Star departments attended the guest lecture.



Dr. N. Thajuddin, Professor, Bharathidasan University addressing students of Microbiology

Prof. M. N. Ponnusamy, University of Madras, during the inauguration of guest lecture on Bio-molecules

MOLECULAR STUDIES



Dr. Gurusamy Hariharasudhan, CMRC, Chosun University, South Korea addressing Biochemistry students.

The Department of Biochemistry organized guest lecture on "DNA Damage Repair Response" on 11th February, 2019. Dr. Gurusamy Hariharasudhan, Cancer Mutation Research Center (CMRC), Chosun University, South Korea was the guest speaker. About 250 Students and 10 staff members from the department of Biochemistry participated in this programme.



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OUTREACH PROGRAMMES

The objective of this program is to provide an opportunity to teaching and technical fraternities and student community to observe the society at large, relate and connect the events in society to their curricula and devise ways and means to reach the society and observe socially important national/international events, organize camps to create awareness and provide training and practices. The following are the list of social outreach programs undertaken by students and staff of DBT-Star departments during the academic year (2018-19) under the DBT-Star scheme.

SCIENCE PROMOTION: NATIONAL SCIENCE DAY-2019

Students and staff members of DBT-Star departments organized National Science Day-2019 celebrations on the theme of "Science for people and people for science" at 10 different Government School premises in Tirupur and Coimbatore districts on 28th February, 2019. School children participated in various activities and competitions organized on that day, and received awards and prizes from the Chief Guest Dr. S. Krishnakumar, Senior Technical Officer at DRDO, Chennai.



The celebration of National Science Day 2019 at Pandinagar government secondary school by Biotechnology Students and Staff members.

AWARENESS PROGRAMMES

Microbiology department organized door to door awareness program on "Self Medication" at Periya Thadagam



Students and Staff members of Microbiology department during Awareness Campaign held at Thadagam Village, Coimbatore.

Microbiology department organized an awareness program on "Immunization against Lethal Diseases" at Periya Thadagam Village, Coimbatore on 21st July, 2018.



Microbiology Students at the Liver Safety Awareness Campaign. Personal Hygiene Awareness Programme held in Thadagam village.

Microbiology department observed World Hepatitis day and organized an awareness program on "Liver Safety" to Dr.N.G.P. Arts and Science College Students on 29th July, 2018.

Microbiology department organized an awareness program on "Zoonotic diseases and Personal Hygiene" at

Microbiology Microbiology department organized an awareness program on "Water Borne and Zoonotic Diseases" at Veeriyam Palayam, Karupparayan Palayam and Kaikolam palayam Villages on 08th February, 2019.2018.



Microbiology Students participation in a Awareness Campaign on World Hand Wash Day held at Verriam Palayam village.



National Science day celebrations at Kanakampalayam government primary school.

Microbiology department organized an awareness program on "Personal Hygiene School children" 23rd July, 2018.

Microbiology department conducted a survey on "Pathogens & Diseases among General Public" by UG Students on 12th August, 2018

Microbiology department celebrated "World Hand Wash Day" and organized an awareness program on "Hand Wash Practice" to Dr.NGPASC students on 15th October, 2018.

Biochemistry department organized an awareness programme on "Drug Abuse and Illicit Trafficking" at Periya Thadagam Village on 20th July, 2018.



Students and staff members of Biochemistry at Periya Thadagam village during the awareness campaign on Drug Abuse.



Awareness programme on Child sexual abuse at Panchayat Union Primary School, Thadagam village.

Biochemistry department organized an awareness programme on "Child Sexual Abuse" at Panchayat Union primary school, Thadagam Village on 11th September, 2018.

Nutrition and Dietetics department organized an awareness campaign on "Breast Feeding" to pregnant and lactating women of urban health care centre at Peelamedu on 01st August, 2018.



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OUTREACH PROGRAMMES



N&D students and staff with ICDS workers at a awareness programme on Nutrition for School children.

Nutrition and Dietetics department organized an awareness campaign on "Nutrition for School Children among ICDS Workers" on 28th September, 2018.

Nutrition and Dietetics department organized an awareness campaign on "Nutrition and Health Education for Transport Employees of Dr.NGP Educational Institutions" on 10th December, 2018.

Nutrition and Dietetics department organized an awareness campaign on "Importance of Iron and Folic Acid Rich Foods among Pregnant and Lactating Mothers" at



Nutrition and Health Education awareness camp for Dr. NGPASC Transport Employees by the N&D department.

Awareness camp for Pregnant and Lactating Mothers by Dept. of N&D at Kovilpalayam, Coimbatore.

Nutrition and Dietetics department organized an awareness and information dissemination camp on "The Need for Iron Rich Nutritious Foods among Women" at Poombukar Nagar, Saravanampatti, Coimbatore on 13th February, 2019.

Nutrition and Dietetics department organized awareness on "The Impact of Nutrition Education on Iron among Adolescent Girls" on 04th March, 2019.

Biotechnology department organized an awareness on "Drug Abuse and Addiction" at Chinna Thadagam village on 08th September, 2018.

Biotechnology department organized an awareness program on "Prevention of Breast and Cervical Cancer" on 25th September, 2018.

Biotechnology department organized an outreach program on "Cancer Prevention" for Dr.N.G.P.



Students and staff members of Biotechnology at the Drug abuse awareness camp held at Chinna Thadagam village.

Biotechnology department organized an awareness program on "Drug Abuse" at Veeriyam Palayam, Karupparayan Palayam and Kaikolam palayam Villages on 11th February, 2019.

TRAINING & PRACTICES

Nutrition and Dietetics department organized an oath taking awareness program on "Breast Feeding" to female students of Dr.NGP educational institutions on 03rd August, 2018.

Nutrition and Dietetics department organized training on "Healthy Cuisines for School Children" on 03rd September, 2018.

Nutrition and Dietetics department organized hands on training program to general public on "Fruits and Vegetable Preservation" on 12th September, 2018.

Nutrition and Dietetics department organized a demonstration session on "Formulation of Low Cost Iron and Protein Enriched Snacks for Pre-School Children" at Vilankurichi, Coimbatore on 12th February, 2019.

Nutrition and Dietetics department organized a demonstration session on "Nutritious Recipes among Anganwadi Workers" at Kovilpalayam, Coimbatore on 14th February, 2019.

Biochemistry department organized a "Health camp for Public of Kaikolampalayam Village" on 12th February, 2019.



Students and staff members of Biochemistry at the Health Camp held at Kaikolam Palayam, Coimbatore.

Awareness camp for Anganwadi workers by Dept. of N&D, at Kovil Palayam, Coimbatore.



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ACHIEVERS

Congratulations to our Faculty



Dr. J. RENGARAMANUJAM
Professor & Head, Microbiology
Cleared CSIR- NET – 2018



Mrs. M. SHANMUGAVADIVU,
Assistant Professor, Biotechnology
Cleared SET - 2018



Dr. L. NIVETHA
Assistant Professor, Biotechnology
attended Science Academies' summer
research fellowship
programme (INSA)
at Banaras Hindu University, Varanasi



Dr. V. SHANMUGARAJU
Dean – Student affairs and Professor, Biotechnology
attended Science Academies' summer research
fellowship programme (INSA) at North East Hill
University, Shillong



Dr. P. Chidambara Rajan
Head, Department of Biotechnology
Attended Science Academies' summer
research fellowship (INSA) at IIT, Mandi
Himachal Pradesh
Received TNSCST Student Project Fund



Mr. S. KARTHIK
Assistant Professor, Biotechnology
Received Young achiever award - 2019
Institute of Scholars (INSC), Bangalore



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Dr.K.Rajathi

Associate Professor, Biochemistry

Received fund Rs 7500/- for their project entitled "Effect of Fucoidan mediated zinc oxide nano particles and the cytotoxic inhibition of trial induced apoptosis in prostate cancer PC3 cells" from **TNSCST** on February 2019 under student project scheme.



Ms. Muthubharathi

M.Sc., Biochemistry



Dr.N.Kannikaparameswari

Associate professor

Department of Biochemistry

Cleared SET - 2018

STUDENTS



Ms. N. Mayirika III.B.Sc.

Best outgoing student award by Dr.Kalam educational Trust 2019.

Best outgoing student award and Proficiency award
Received award for fellowship and intercollegiate level competitions

Dr.N.G.P.ASC Nalla Gounder research awards.

Received INSA summer training at Rajiv Gandhi center for Biotechnology, Thiruvananthapuram.

First place in poster presentation at JSS Academy of Higher education and research.

Second place in paper presentation at National

conference of futuristic intricate stratagems in

computational genomics (CGEN 2019) at Niramala college for Women, Coimbatore.



Ms. DIVYA S. III.B.Sc.

INSA Summer Internship Fellow at natural Biological Resources & Community Development (CNBRCD) Bengaluru, duration 2 months



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Ms.P. Kanimozhi, II M.Sc.,
Received Best Outgoing Student award
by Dr.Kalam Educational Trust for Tribal,
Chennai on 28th Feb 2019
during National Science Day Celebration.



Ms.J.Aswatha
III B.Sc., Biochemistry has got admission offer
for **M.Sc Drug Chemistry** from Newcastle
University, UK. She got 100% British Council
Indian Scholarship. She also got offers from
other universities such as Northumbria University,
University of Leicester, Bangor University,
Sheffield Hallam University and Aston University, UK.



Mr.T.Aadithiyan,
III B.Sc., Biochemistry has got admission
offer from five universities such as
Nottingham Trent University, Sheffield
Hallam University, Aston University, Leeds
Beckett University and University of Strathelgde,
Scotland.



Mr. P. Gautham
M.Sc., Food Innovation
University Of Greenwich UK
Received Best Documentary
Award "Unavalla Uyir"



Mr. K.S. Sagar
M.Sc., Sports Nutrition
Lough borough
University UK
Indian Dietetics Day



Mr. B. Vishnu, III B.Sc., Biotechnology
Overseas Admissions/Scholarships
(Aston University – M.Sc Plant Science
and Biotechnology University of Leicester
M.Sc Cancer cell and Molecular Biology
University of Leeds – M.Sc Stem cells and
Regenerative Medicine University of
Sheffield, Newcastle University, Queens
University Belfast, University of Portsmouth,
University of Kent, Nottingham Trent University)



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Ms. M. NIVETHTHIA, III B.Sc.,
In achiever day celebration received award for
intercollegiate level competitions winner.
First place in poster presentation at JSS Academy of
Higher education and research.
Second place in paper presentation at National
conference of futuristic intricate stratagems in
computational genomics (CGEN 2019) at Niramala
college for Women, Coimbatore.



Ms. R. Sandhiya, II M.Sc.,
Biotechnology Best Research
Paper Review Award



Mr. R. Jagadeesh, III B.Sc., Biotechnology
Overseas Admissions/Scholarships
(University of Queensland
M.Sc Biotechnology
University of Leicester,
New castle University)



Ms. M. A. Sheerin Fatima, III B.Sc., Biotechnology
Overseas Admissions/Scholarships
(University of Leicester, New castle
University, Queen's University Belfast)



Ms. V. Harsini, II M.Sc., Biotechnology
Recipient of TNSCST Student Project fund



Ms. M. Mynumathi, I M.Sc., Microbiology
Young Scientist Award
Tamilan TV
Tamilan Mandram Viruthugal - 2018
Chennai (14.02.2019)



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DBT - STAR COLLEGES CLUSTER

National Symposium on Graduate Research (NSGR - 19)

The participating departments of DBT-Star college scheme, under the steward leadership of our Principal, Prof. Dr. V. Rajendran came up with an excellent idea of hosting annually a national event to provide a platform and opportunity for graduate students in science and technology disciplines from DBT-Star colleges and others to share their innovative ideas, proposals, findings, process and products. Dr. N.G.P.ASC organized a first of its kind program in India on 26th & 27th February, 2019, where four DBT-Star colleges from Tamilnadu co-sponsored the event. PSGR Krishnammal College for Women was our Diamond Sponsor. Silver sponsors were Lady Doak College Madurai, Hindusthan College of Arts and Science, Coimbatore and Muthayammal College of Arts and Science, Rasipuram. Students from sponsored colleges and others in the region participated, presented their innovative ideas, proposals, findings, process and exhibited products. A best in each category of competition from basic sciences, life sciences and computer science received a cash prize and certification. The next phase of this event is already planned and it is scheduled to be held on 23rd & 24th January 2020. In this version, more participation is expected from different parts of our country. Through this NSGR, the organizers intended to instill the traits of innovation, idea conception, nurturing, devising, developing and demonstration among graduate students of science and technology stream.





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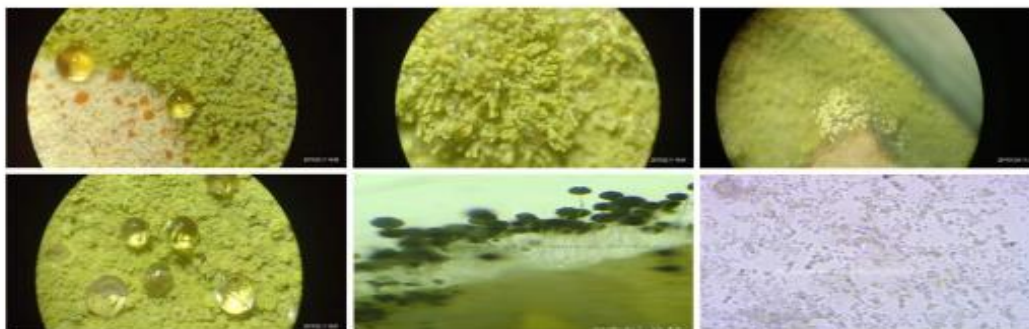
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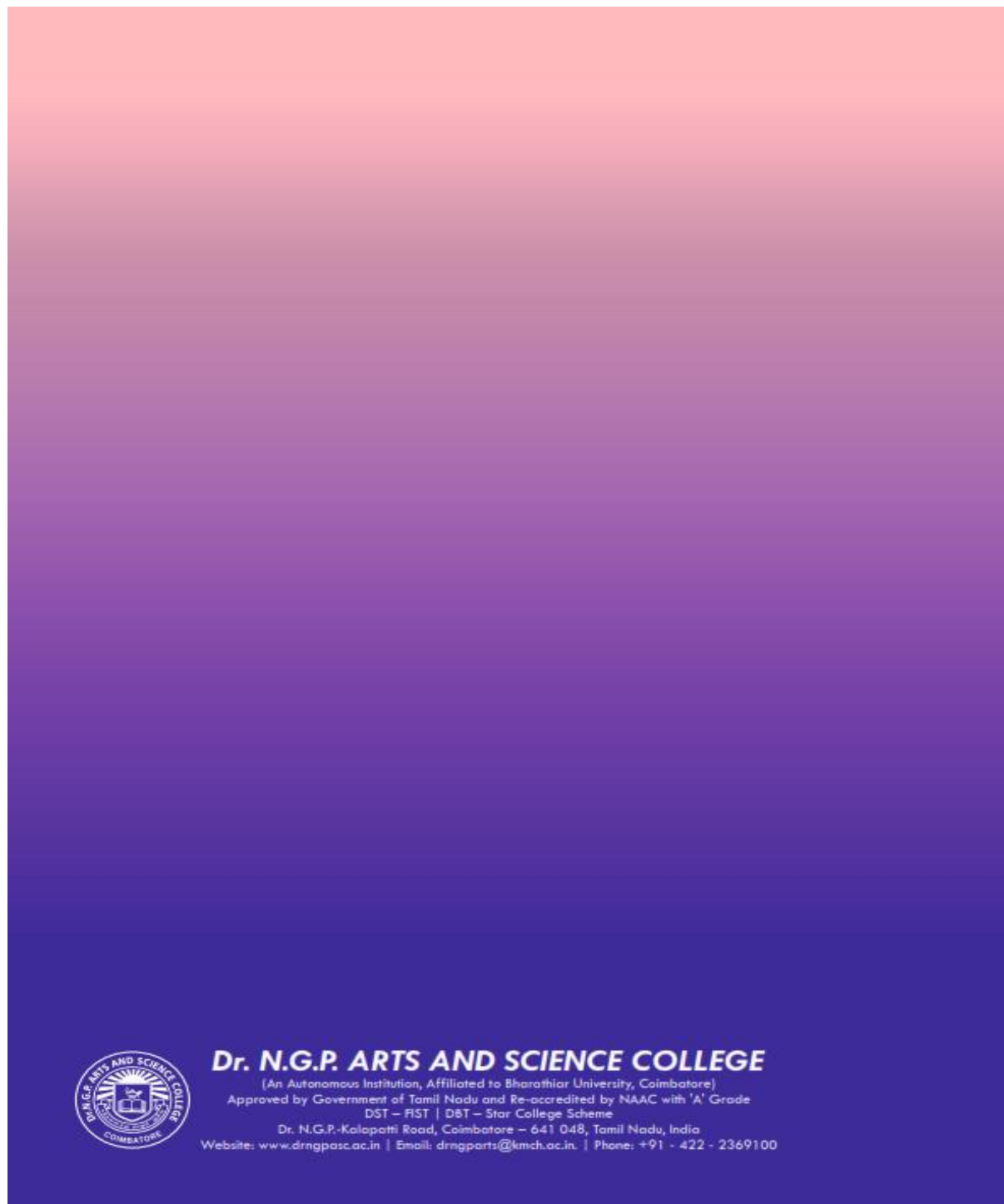
LABORATORY UPGRADATION



OBSERVATION OF MICROBES BY USING STEREO & INVERTED MICROSCOPE



	<p align="center">Dr. N.G.P. ARTS AND SCIENCE COLLEGE (An Autonomous Institution, Affiliated to Bharathiar University, Coimbatore) Approved by Government of Tamil Nadu and Accredited by NAAC with 'A' Grade (2nd Cycle) Dr. N.G.P. – Kalapatti Road, Coimbatore-641048, Tamil Nadu, India Web: www.drngpasc.ac.in Email: info@drngpasc.ac.in Phone: +91-422-2369100</p>	<p align="center">NAAC 3rd Cycle</p>
		<p align="center">Criterion VI Metric 6.5.1</p>





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Approved by Government of Tamil Nadu and Accredited by NAAC with 'A' Grade (2nd Cycle)
Dr. N.G.P. – Kalapatti Road, Coimbatore-641048, Tamil Nadu, India
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MESSAGES



Science knows no country, because knowledge belongs to humanity, and is the torch which illuminates the world. Life is moving in the way of science and technology. We will always have to march ahead with these developments. Some things will drop out of the public eye and will go away, but there will always be science, engineering, and technology. Science is fun. Science is curiosity. We all have natural curiosity. Science is a process of investigating. It's posing questions and coming up with a method. It is delving in. I feel elated to note that the Faculty of Bio Sciences, Dr.N.G.P. Arts and Science, Coimbatore is bringing out the annual newsletter consolidating the activities under the DBT-Star Scheme. The support from DBT has strengthened the physical infrastructure in laboratories, library, teaching aids, and promoted networking with neighboring institutes. Hands-on training and projects of day to day relevance have enhanced interest in students to pursue science courses at Undergraduate and Postgraduate level. Dr.N.G.P. Arts and Science takes pride in organizing such Scientific programmes which will create a unique platform to analyze the present and future objectives and to update technological advancements in Science and Technology.


Dr. Nalla G Palaniswami
Chairman
Kovai Medical Center and Hospital (KMCH)



We are thankful to the Government of India, New Delhi for sanctioning the prestigious DBT-star college scheme of Department of Biotechnology. Under the scheme currently four departments are supported: Biotechnology, Biochemistry, Microbiology and Food & Nutrition. The scheme has helped immensely in improving the infrastructural facilities in these departments. Various students-centric activities are being conducted for over all departments of students, including DBT-Star series, hands on training, workshops, industrial & academic visits, research projects and competition as well as faculty trainings. We are living in a society where we depend on continuous improvement in technology, good understanding of a science to take care of the environment and safe guard from various pollution. We all know that over future generation will be suffering if we don't take care of our environment. We all have to work hand in hand to improve the environment with the help of science and technology.


Dr. Thavamani D Palaniswami
Secretary
Dr. NGP Educational Institutions



I am very delighted to note that the DBT Newsletter is being brought by the participating departments under DBT-Star scheme. The Newsletter brings out the various activities organized under DBT-Star scheme at our College. The support from Department of Biotechnology, Government of India has strengthened the laboratory infrastructure, library, and other technology enabled learning resources of the participating departments. The programmes organized by the departments paved way to promote networking with neighboring institutions. I am happy to know that various activities were conducted to create a unique platform to students for updating their skill and knowledge in recent technological advancements in Science and Technology. I wish the Principal, Deans, DBT-Star college overall Programme Coordinator and the Department Coordinators, Staff, and Students of our College a great success in all their future endeavors.


Dr. O. T. Buvaneswaran
Chief Executive Officer
KMCRET



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It is my pleasure to extend heartfelt greetings to the readers of the first issue of the biannual Newsletter of the DBT-Star departments of our College. Department of Biotechnology (DBT), Government of India recognized the excellent Research and Development activities of the various departments of our College and sanctioned DBT-Star scheme to the Biochemistry, Biotechnology, Microbiology and Food and Nutrition Programmes. The main objective of the scheme is to motivate UG research and provide platform for innovative learning of Graduate students. Under this scheme, the participating departments of our College strive to disseminate their expertise and knowledge to the other participating Colleges and to the Community. Dr.N.G.P. Arts and Science College has organized a National Symposium on Under Graduate Research an annual conference, the first of its kind in India by forming DBT-Star Scheme Cluster of Colleges to explore the inherent talent and Innovative Research among the Graduate students in India. On behalf of the Management and on my own behalf, I congratulate Dr. S. S. Sudha, DBT-Star scheme Coordinator of our College and Prof. S. Senthil Prabhu, Coordinator of DBT-Star scheme, Dept of Microbiology, Dr. M. Poongothai, Coordinator of DBT-Star scheme, Dept of Biotechnology, Dr. T. Indhumathi, Coordinator of DBT-Star scheme, Dept of Biochemistry, and Dr. S. Uma Maheswari, Coordinator of DBT-Star scheme, Dept of Food and Nutrition in addition to Dr. S. Balasubramanian, Dean-Research and Development for their sincere and arduous efforts to organize various programmes to kindle the unquenchable fire of curiosity and inquiry in students and the general public. We congratulate the DBT-Star Departments for bringing out this Newsletter to reach the Community.

[Signature]
Prof. Dr. V. Rajendran

Principal
Dr.N.G.P. Arts and Science College



I feel delighted in penning a message to an annual newsletter being brought out by the Faculty of Biosciences to mark the successful completion of the first year of DBT-Star college scheme and eventual display of comprehensive activities undertaken by them. Star College Scheme is an initiative of Department of Biotechnology (DBT), one of the premier national scientific establishment functioning under the aegis of Department of Science and Technology (DST), Government of India. The scheme objective is to provide support to institutions offering undergraduate programmes to strengthen and improve teaching and learning outcomes in science disciplines. It is important to note that all participating departments of Dr.N.G.P. Arts and Science College, with the support from DBT have strengthened the physical infrastructure in laboratories, library, teaching aids and promoted networking with neighboring institutes. In equal measure, they have organized various activities to improve upon the skills of teachers, technical staff, and most importantly to elevate student interest in learning. Having the cardinal features of DBT-Star college scheme instituted in the first year, the participating departments should sight on organizing scientific programmes which will create a unique platform for achieving excellence in teaching and learning, and stimulate original thinking among students. I heartily congratulate the departments and wish them all success in the forth coming years.

[Signature]
Dr.S.Balasubramanian

Dean - Research and Development
Dr.N.G.P. Arts and Science College



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I sincerely acknowledge the Department of Biotechnology (DBT), Government of India, New Delhi for considering Dr. N. G. P. Arts and Science College under DBT-Star college scheme. Microbiology, Biotechnology, Biochemistry and Nutrition & Dietetics are the four participating departments under this scheme. Alone we can do little, and together we can do a lot. This aptly suits for the Departments that participate in DBT Star College Scheme. As an overall Programme Co-ordinator initially I had a doubt, how these activities can be done and executed well, but the department heads, department programme coordinators, each & every staff member of the department joined hands under the guidance of our team leader Prof. Dr. V. Rajendren, Principal and Dr. S. Balasubramanian, Dean R&D. The one year journey under DBT-Star College Scheme provided me insights and experience widely. All four participating departments have done their maximum level and striding to reach acme in the forth coming years. The concept of learn, unlearn and relearn has been practiced by all members of faculty of participating department. Through this DBT-Star College Scheme teacher quality & teaching quality are being improved. Students are highly motivated and they show keen interest to comprehend practical methodologies in a conducive way. It is an opportunity for them to visit Industries, to participate in Conferences, Seminars and Workshops to take up the mini group projects in order to ameliorate their personal skills. I, sincerely thank the mentors Dr. R. Rajendren and Dr. N. Ezhili for their support and suggestions. Finally, I owe my heartfelt thanks to our management for their constant and consistent support in all the steps that we initiate.

Dr. S. S. Sudha

DBT-Star College Scheme Coordinator
Dr.N.G.P. Arts and Science College



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ABOUT THE INSTITUTE

Kovai Medical Center Research and Educational Trust (KMCRET) is a non-profitable voluntary organization established in 1990. The goal of the trust is to render quality and character building education and providing research facilities to the youth of India and abroad. The trust extends its educational service through 6 institutions. Dr. N.G.P. Arts and Science College (Dr NGPASC) is an organization of KMCRET trust which was established in the year 1997 under the leadership of Dr. Nalla G. Palaniswami, as its Chairman and Dr. Thavamani D. Palaniswami as its Managing Trustee and Secretary. The Institution has begun with four Undergraduate programmes namely B.Sc. Biochemistry, B.Sc. Computer Science, B.Com. and B.B.M. with a student strength of 78 and with Faculty members of 9. This co-educational self-financing College was started in a rural area in Kalapatti, Coimbatore District with a motto on Nurture, Grow and Prosper, is affiliated to Bharathiar University, Coimbatore. The College has been recognized under 2(f) and 12(B) by UGC, New Delhi. The University Grants Commission, New Delhi has conferred autonomous status from the Academic year 2015-16. This facilitates the institution a freedom of designing the curricular and co-curricular activities to mould the students and meet global standards. The college was re-Accredited by NAAC with "A" Grade with the CGPA of 3.17 on March 17, 2016. The National Institutional Ranking Framework (NIRF) of MHRD has ranked our college at 44th, 91st and 67th positions in the years 2017, 2018 and 2019 respectively.

At present, 7068 students are pursuing their graduate, Postgraduate and research programmes at Dr NGPASC. The institution has 310 faculty members and 75 administrative and technical staff. The teacher student ratio is 1: 20. The institution offers 27 UG courses, 14 PG courses and 12 research programmes (M. Phil./Ph.D.) In order to promote research activities among Staff and Students, the Management has initiated the in-house funding (Seed money, Student Start-up projects, research incentives/ honorarium, travel grant support etc.). To promote inter disciplinary and quality research; the research advisory/steering committee guides the Faculty in drafting/finalizing their research proposals for funding. The Institution has been granted a sum of Rs. 3.53/- Crore for projects, schemes, seminars, conferences and workshops from various funding agencies like UGC, DRDO, ICMR, ICSSR, CSIR, DST, DBT and TNSCST. The Alumni Association conducts the alumni meet in India and abroad through chapters frequently in order to enrich the connectivity of Alumni. The Institution recognizes the meritorious Alumni with awards on 26th January every year. The NSS has 3 units which extends its service to the community. Outreach activities are carried out in areas such as village adoption, Awareness camps on health issues, Cashless transaction, Digital India etc. under Swachh Bharat initiatives. The deep involvement of students in different club activities.

DBT-STAR COLLEGE SCHEME

The Department of Biotechnology (DBT), Government of India, New Delhi, has launched Star College Scheme with an aim to strengthen life science and biotechnology education and training at undergraduate level. The purpose is to improve critical thinking and provide 'hands on' experimental work in the cutting edge-technologies needed for modern biological studies at undergraduate level in life sciences and as a result of such experiences, more students will take up life science as a career.

Under this scheme various programmes is being organized to strengthen academics and research for achieving excellence in teaching and training and to enhance the quality of learning.

This also helps to enhance the teaching process and to stimulate original thinking through 'hands-on' exposure to experimental work and participation in summer schools. The scheme envisages intensification of interdisciplinary approach among the science departments and also with nearby institutions for small research projects, expert lectures, visits and training programmes and outreach activities.





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TRAINING RECEIVED

This program intends to provide an equal opportunity to all staff members (teaching and technical assistants) and selective student representatives from participating departments to attend workshops (hands on) and undergo training organized by nationally renowned institutions in very carefully chosen discipline specific skill development areas. Both the staff and student attendees after receiving hands on experience should share and impart the knowledge to their discipline and interdisciplinary peers. The following discipline specific skill development areas are identified in the current academic year (2018-19), and both the staff and students are sent to receive training under the DBT-Star scheme.

MICROBIAL DIVERSITY

Prof. S. Senthil Prabhu from the Microbiology department participated in the workshop on "Taxonomy, Biodiversity, Ex-Situ Conservation and Applications of Fungi" held at National Fungal Culture Collection of India (NFCI), Agharkar Research Institute (ARI), Pune from 21st to 28th May 2018.

Dr. N. Vidhya & Prof. C. Sasikala from Microbiology department participated in the workshop on "Prospects and Challenges in Algal studies" held at Department of Botany, Catholicate College, Pathanamthitta, Kerala on 5th and 6th October 2018.



Professor of Microbiology, Mr. Senthil Prabhu during a workshop session at Agharkar Institute, Pune.

Students and staff members of Microbiology during the Mushroom Cultivation Training session at TNAU, Coimbatore



Professor of Biochemistry, Dr. C. Venkatesan at Stem Cell Culture and Flow Cytometry training in Stellixir Biotech (Pvt) Ltd, Bengaluru.

ENTREPRENEURIAL

Skill impartment on "Mushroom Cultivation" was given for 7 students from the Department of Microbiology at TNAU, Coimbatore on 05.02.2019.

Training on "Mushroom Cultivation" was provided for 14 students from the Department of Biochemistry and Biotechnology, at TNAU, Coimbatore, on 07.01.2019.

Exactly 2 technical staff from the Department of Biotechnology, received Training on "Mushroom Cultivation" at TNAU, Coimbatore on 05.04.2019.

Training on "Amla Processing" was provided for 6 students and 1 Faculty member from the Department of Nutrition & Dietetics at the Post Harvest Technology Centre, TNAU, CBE, on 09.01.2019.

Exactly 6 students and 1 faculty member from the Department of Nutrition & Dietetics, took part in the 2 day Training Programme on Novel Bakery at the Post Harvest Post Harvest Technology Centre, TNAU, Coimbatore, on 29th and 30th January 2019.

Training on "Value Added Products using Tomato and Noni Fruits" was provided for 2 Faculty members from the Department of Nutrition & Dietetics, at the Post Harvest Technology Centre, TNAU, Coimbatore, on 19th and 20th February 2019.

Two Days Training Programme on "Quantitative Analysis of Bioactive Compounds" was given to 4 faculty members from the Department of Nutrition & Dietetics, at the Alpha Labs, Coimbatore, on 21st and 22nd February 2019.

Training on "Novel Value Added Products from Millets" was provided for 8 students from the Department of Nutrition & Dietetics, at the Post Harvest Technology Centre, TNAU, Coimbatore, on 27th and 28th February 2019.

Three days Training on "Value Added Products from Millets" was provided for 2 faculty members from the Department of Nutrition & Dietetics, at Ramaswamy Chinnasamy Trust, Coimbatore from 23rd to 25th February 2019.

BIOINFORMATICS

Dr. S. Gowri from the Biochemistry department participated in the two day workshop on "Computational methods in Drug Discovery" held at JSS College of Pharmacy, Ooty on 28th and 29th September 2018.

Dr. D. Pradeepa from the Biochemistry department participated in the workshop on "In Silico Molecular Modeling and Drug designing" held at Bioinformatics Centre and ARIS Cell, Madras Veterinary College, Chennai from 07th to 11th January 2019.

Students of Biochemistry department participated in the one day workshop on "R-Programming for Biologists" held at the Dept. of Biotechnology, School of Agriculture and Biosciences, Karunya Institute of Technology and Sciences, Coimbatore on 09.02.2019.

Dr. M. Poongothai from the Biotechnology department participated in the two day workshop on "Computational Methods in Drug Discovery" held at JSS college of Pharmacy, Ooty on 28th and 29th September 2018.



Professor of Biochemistry, Dr. Usha during the e-Teaching workshop at Avinashilingam University, Coimbatore.



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CELL CULTURE TECHNIQUES

Dr. N. Kannikaparameswari from the Biochemistry department received hands on training on "Cell Culture Techniques" at The South Indian Textile Research Association, Coimbatore on 12th and 13th February 2019.

Dr. C. Venkatesan from the Biochemistry department received hands on training on "Stem Cell Culture and Flow Cytometry" at Stellixir Biotech Pvt. Ltd., Bangalore from 15th to 17th February 2019.



Biochemistry students during R-Programming workshop held at Karunya University, Coimbatore.



Dr. T. Indhumathi, Professor of Biotechnology at Western Blotting Technique Workshop held at PSGCAS, Coimbatore.

E-LEARNING

Dr. V. Usha from the Biochemistry department and Prof. P. Arun Biotechnology department participated in three days workshop on Enablers of E-Teaching and E-Learning at the Avinashilingam Institute for Home science and Higher Education for Women, Coimbatore from 06th to 08th March 2019.

BIOTECHNOLOGY AND VIROLOGY

Dr. V. Dhana Rangesh Kumar from the Biochemistry department participated in the UGC & DBT Sponsored National Seminar cum Workshop on "Genomics and Proteomics-2019" held at Alagappa University, Karaikudi from 06th to 08th February 2019.

Dr. T. Indhumathi & Dr. K. Rajathi from the Biochemistry department participated in the national workshop on "Western Blotting Technique" held at PSG College of Arts and Science, Coimbatore on 15th and 16th February 2019.

6 students from the Biotechnology department participated in the workshop on "Advance Biotechnology Techniques Module-1: Volatile molecule analysis by Gas Chromatography" held at Karpagam Academy of Higher Education, Coimbatore on 03rd and 04th January 2019.

4 students from the Biotechnology department participated in the two day workshop on "Computational Genomics molecular docking and Biomolecular visualization tools (Hands on training)" held at Karpagam Academy of Higher Education, Coimbatore on 07th and 08th January 2019.

3 students from the Biotechnology department participated in the international workshop on "Recent Advances in Virology" held at Karunya Institute of Technology and Sciences, Coimbatore on 06.03.2019.



Dr. M. Poongothai, Professor of Biotechnology, participating in a workshop held at JSS College of Pharmacy, Ooty.

Students of N&D participating in AMLA processing Training held at TNAU, Coimbatore.

WORKSHOPS AND TRAINING CONDUCTED

The recipients (staff and selective student representatives) of a well intended training from nationally renowned institutions as well as staff members and students who are expertise in various skill development areas organize training programs for the rest of academic community. Certain skill areas which are already developed into processes or products are exhibited in shows organized by participating departments. The following are training programs and exhibits organized in the current academic year (2018-19) under the DBT-Star scheme.

LABORATORY SAFETY

Dr. A. M. Ramachandran and Prof. E. Kumaran from the microbiology department offered training to 10 laboratory assistants from biosciences and chemistry departments on laboratory safety measures, symbols and awareness on 11.09.2018.

Department of Biotechnology organized hands on training on "Operation of bottle top dispenser for dispensing acids and other corrosive reagents" to Laboratory assistants from DBT-Star and basic science

Departments on 1st February 2019. Ten lab assistants participated in the workshop and the resource person was Mr. V. Manikandan, Microlit.



Dr. A. M. Ramachandran, Microbiology Professor, addressing laboratory assistants on Laboratory Safety Measures.

Mr. E. Kumaran, Professor of Microbiology handling training session on Microscopy to students of Microbiology.



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IPR

DBT-Star departments of Dr.NGP ASC jointly with PSGR Krishnammal College for Women, Coimbatore organized one day workshop on Intellectual Property Rights and Innovations on 27.10.2018 where Dr. M. Kantha babu from Anna University was a resource person. 12 staff members from the DBT-Star departments attended the meeting.

DBT-Star departments jointly with IPR cell organized national workshop on Intellectual Property Rights (WIPR-19) on 15th and 16th February 2019. Dr. S. P. Subramaniyan, Deputy Controller and Mr. V. Palanisamy, Assistant controller from Chennai Patents Office were resource persons. More than 350 students and all staff members in the DBT-Star departments attended the program.

MICROBIAL DIVERSITY & ITS APPLICATION

Microbiology department organized interdepartmental workshop on "Identification of Fungi & Algae and Hands on training in Fold scope" for Bioscience departments of our college on 08th and 09th January 2019. 44 students participated in the workshop.

Microbiology department organized intercollegiate workshop on "Identification of Fungi & Algae and Hands on training in Foldscope (WIFATF-19)" on 06th and 07th February, 2019. 53 students from neighboring colleges received hands on training.

Microbiology and Catering Science departments jointly organized workshop on "Microbes and their role in baking" on 13.02.2019. 92 students from partnering departments participated in this knowledge exchange program.



Professor of Biotechnology, Mrs. Shanmugavadivu demonstrating the functioning of Nanodrop to student participants.

Student participants receiving hands on training on Nanodrop usage at the Biotechnology department.

INSTRUMENTATION

Microbiology department offered training to 230 students on handling of Stereo and Inverted microscopy from 11th to 15th February, 2019. Biochemistry department offered training to 120 students on Quantification of alkali and alkaline earth metals in Biological samples by flame photometry on 23rd February, 2019.

Nutrition and Dietetics department organized workshop to 177 students on handling of Extruder Machine & Ice cream machine on 08th, 29th January, 2019 and 11th February, 2019.

Dr. N. Kannikaparameswari and Dr. D. Pradeepa of Biochemistry department offered hands on training to 27 students from bioscience departments on Phytochemical

Biotechnology department offered training to 100 interdepartmental students on handling of Nanophotometer on 10.01.2019.

Biotechnology department offered training to 150 interdepartmental students on Microtome handling on 07.02.2019.

Dr. Radha Palaniswamy of Biotechnology department offered hands on training to 50 intercollegiate students on Operations and Applications of UV-Visible Spectrophotometer on 21.02.2019.

MOLECULAR BIOLOGY

Prof. M. Shanmugavadivu and Dr. M. Poongothai of Biotechnology department offered hands on training to 150 intradepartmental students on PCR and Nanophotometer on 13.02.2019.

Dr. M. Poongothai of Biotechnology department offered hands on training to 80 intercollegiate students from Coimbatore on Protein & Nucleic Acid Quantification with Nanophotometer on 19.02.2019.



Dr. Subramanian, Controller of Patents & Design, and Mr. Palanisamy, Asst. Controller of Patents & Design, at the inauguration session of WIPR-19.

Professor of Biotechnology, Dr. A. Poongothai explaining the functioning of Nanodrop to student participants.

TISSUE CULTURE

Biotechnology department organized one day intradepartmental Skill Development Programme on Plant Tissue Culture for 50 students on 31.08.18.

Biotechnology department organized interdepartmental training programme on Animal Tissue Culture Techniques to 10 teaching staff, 5 research Scholars and 2 non-teaching staff from bioscience departments on 30.03.2019.

SOFT-SKILL TRAINING

Nutrition and Dietetics department organized soft skill training to 120 interdepartmental students in Memory Management on 06.09.2018.

SOFTWARE TOOLS TRAINING

Ms. G. Kaavya, Ms. C. Meena, Ms. N. Suganya, Ms. S. Sneha, Mr. S. Pukazhendhi and Mr. K. Hariprasath of Biochemistry department offered training to 40 interdepartmental students on R-Programming for Biologists on 14th February, 2019.



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CONFERENCES, SEMINARS AND SYMPOSIUMS ORGANIZED

This program is design to provide a platform for teaching and technical fraternity and student community to acquire experience and organizational skills through identification of subject element for scientific deliberations, selecting expertise resource persons in the chosen topic from nationally renowned institutions and organizing the planned professional meetings successfully. The following are the notable conferences, seminars and symposiums organized in the current academic year (2018-19) under the DBT-Star scheme.

GRADUATE RESEARCH SYMPOSIUM

DBT-Star college departments jointly organized a National Symposium on Graduate Research on 26th and 27th February, 2019. In this meeting, 980 students from various colleges in Coimbatore and other parts of Tamil Nadu participated and presented their research findings. Best research projects received awards and



Dr. S. Krishna Kumar, Senior Technical Officer, MoD, DRDO, Chennai, addressing the gathering at NSBP 19.

BIODIVERSITY AND BIO-PROSPECTING

Microbiology and Biotechnology departments jointly organized a National Seminar on Biodiversity and Its Prospecting (NSBP-19) on 28th February, 2019. In this meeting, 230 students from various colleges in Coimbatore participated.

Chief guest Dr. M. Palanisamy, Scientist 'D', BSI, SRC, Coimbatore during the NSBP 19 session.



NATURAL MEDICINE

"Biochemistry, and Nutrition and Dietetics departments jointly organized a National conference on prospects of Nutraceuticals and Natural medicine" on 25th February, 2019. There were 750 student participants from various colleges in Coimbatore.

VACCINE AND IMMUNOLOGY

Microbiology department organized the guest lecture on "Blood: The Testament of Life from development to disease" on 01st February, 2019. Dr. B. M. Kanthesh, JSS AHMER, Mysuru addressed 250 students and 11 staff members of Microbiology department attended the guest lecture.

Biotechnology department organized the invited lecture on "Trends in Microbial Vaccine Production" on 22nd February, 2019. Dr. S. Jaganathan, Pasteur Institute of India, Coonoor addressed 250 students and 11 faculty members of Biotechnology department attended the guest lecture and gained knowledge about vaccine production

HEALTH CARE AND NUTRITION

Department of Nutrition and Dietetics organized a guest lecture on "Benefits of Breast Milk and its Nutritive Value" on 07th August, 2018. Dr.Lakshmi, M.B.B.S., Clinical Diabetes, Coimbatore addressed 200 students and 10 faculty members. The students were insisted upon the importance of breast feeding.

Department of Nutrition and Dietetics organized a guest lecture on "Health Care Nutrition in Todays Hospital Set-Up" on 5th September, 2018. Mr.Madhumohan and Mr.Vikraman Kalidass, Executive Nutritionists, Nestle, Coimbatore addressed 300 students and 15 staff members of DBT-Star departments.

Department of Nutrition and Dietetics organized a guest lecture on "Importance of Nutrition among Expectant and Lactating Women" on 02nd August, 2018. Ms.Rekha and Ms.Jency, Dietitian, GKNM Hospitals, Coimbatore addressed 350 students and 7 staff members of DBT-Star departments.

Department of Nutrition and Dietetics organized a guest lecture on "Awareness about Nutrition for School Children among ICDS Workers" on 28th September, 2018. Mrs.Fathima Roshan ICDS CDPO Officer addressed 257 students and 7 staff members of participating department.

Department of Nutrition and Dietetics organized a guest lecture on "Awareness about Nutrition for School Children among ICDS Workers" on 28th September, 2018. Mrs.Kavitha, Dietitian, PSG Coimbatore addressed 257 students and 30 ICDS employees.



Judges valuating posters presented at the National Conference on Prospects of Nutraceuticals and Natural Medicine



Dignitaries releasing the proceedings of National Conference on Prospects of Nutraceuticals and Natural Medicine in a CD.



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GUEST LECTURES - INHOUSE FACULTY

The objective of this program is to provide an opportunity to teaching and technical fraternities who have received training from nationally/internationally renowned institutions or expertise in various science and technology domains to offer in-house lectures and share their opinions, ideas and research findings with the rest of academic community. The following are the list of in-house faculty lectures given by the staff of DBT-Star departments during the academic year (2018-19) under the DBT-Star scheme.

BIODIVERSITY AND BIO-PROSPECTING

Prof. S. Senthil Prabhu of Microbiology department delivered a lecture on "Identification of Fungi" to 630 intradepartmental and interdepartmental students respectively on 28th June and 02nd July, 2018.

Dr. V. Shanmugaraju of Biotechnology department delivered a lecture on "Bio-prospecting and its perspectives" to 250 students and staff members of DBT-Star departments on 31st January, 2019.

FOLDSCOPE

Dr. A.M. Ramachandran of Microbiology department delivered a lecture on "An Introduction to Foldscope" to 200 intradepartmental and interdepartmental students respectively on 28th June and 02nd July, 2018.

WORLD FOOD DAY

Dr. S. Uma Maheswari of Nutrition and Dietetics department delivered a lecture on "Food Security" to 200 intradepartmental and interdepartmental students and 10 faculty members on 25th October, 2018.

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Dr. D. Sri Devi of Nutrition and Dietetics department delivered a lecture on "Importance of Copyrights" to 350 students of Dr. N.G.P. Arts and Science College and neighboring college at IPR workshop on 15th and 16th February, 2019.

WOMEN REPRODUCTIVE HEALTH

Dr. D. Sri Devi of Nutrition and Dietetics department delivered a lecture on "Menstrual Health" to 300 intradepartmental and interdepartmental female students on 04th March, 2019.



Dr. Kanthesh, JSS AHMER, Mysuru, addressing students and staff members of Microbiology during a seminar.



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EXPO

The objective of this program is to provide a platform for teaching and technical fraternities and student community to display their manufactured products, invented process, ideas etc. to the rest of academic community and general public. The following are the list of product and process exhibits organized by the students and staff of DBT-Star departments during the academic year (2018-19) under the DBT-Star scheme.

EXHIBITIONS

Nutrition and Dietetics department observed "World Food Day" and conducted a "Food Expo" on 16th October, 2018.

Nutrition and Dietetics department organized a "Food Expo" and exhibited prepared food products on 06th March, 2019.

Nutrition and Dietetics department organized a "Value Added Product Sale" on 20th March, 2019.

Nutrition and Dietetics department jointly with Integrated Child Development Services (ICDS) organized "Food Expo" on 28th March, 2019.

STUDENT SKILL EXHIBIT

Microbiology department organized an interdepartmental Bio-photography competition on 08th January, 2019. 105 students participated.

Biochemistry department organized a colloquium: "Savor of Research" summer interns presented their research findings on 12th September, 2018. 240 students participated.

Nutrition and Dietetics organized an interdepartmental cooking contest: "Snacky feast for expectant and lactating mothers" on 31st July, 2018. 190 students participated.

Nutrition and Dietetics organized an interdepartmental poster competition on 02nd August, 2018. 250 students participated.

Nutrition and Dietetics organized an intradepartmental Skit (5 Min) on 06th August, 2018. 257 students participated.

Nutrition and Dietetics organized an intradepartmental creative cookery competition jointly with Nestle, Coimbatore on 04th September, 2018. 257 students participated.

Nutrition and Dietetics organized an intradepartmental slogan competition on 28th September, 2018. 189 students participated.

Biotechnology department organized an interdepartmental "Bio-Idea'18" contest on 14th August, 2018. 60 students participated.

Biotechnology department organized an intradepartmental poster presentation competition to observe "Rose Day-A day for Cancer patients" on 25th September, 2018. 40 students participated.



Students preparing for interdepartmental Bio-Photography competition.



Professor of Microbiology, Dr. A. M. Ramachandran & Mrs. A. D. Priyadharshini, evaluating participant's presentation during the Bio-photography competition.



Students and staff members of N&D department during the inter-departmental skit competitions organized as a part of Breast Feeding week celebrations.



Observation of Rose Day - A day for cancer survivors organized by the dept. of Biotechnology



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PROJECTS-MINI AND INTERDISCIPLINARY

The primary goal of this program is to provide a platform to undergraduate students to acquire multidisciplinary research experience while they are at study, and take up research and development related career in future. Students of participating departments are grouped, and allowed to choose interesting scientific question on their own and prepare a presentation on the chosen topic for review by the expert committee. In this manner, many projects which address scientific problems in the following focus areas are selected, and given support from the DBT-Star scheme.

LARVICIDAL SCREENING STUDIES

Larvicidal activity of *Bacillus thuringiensis israelensis* and its enhanced activity with selected plants - Department of Microbiology.

Larvicidal Activity with Combination of Medicinal Plants - Department of Biochemistry.

ANTI-MICROBIAL SCREENING STUDIES

Anti-microbial Activity of *Calophyllum inophyllum* extracts - Department of Microbiology.

Anti-bacterial activity of Anthocyanin from the petals of *Hibiscus rosa-sinensis* - Department of Microbiology and Department of Clinical Lab Technology.

Anti-bacterial activity of *Syzygium cumini* leaf on various strains of bacteria - Department of Microbiology and Department of Clinical Lab Technology.

Determination of Anti-oxidant and Anti-microbial Activities in Rhizome of *Alpinia Purpurata* - Department of Biochemistry.

NANO-BIOTECHNOLOGY

Green Synthesis of Titanium Nanoparticles using *Abutilon indicum* leaf extract and its anti-bacterial, anti-oxidant, anti-inflammatory and anti-arthritis activity - Department of Microbiology and Department of Clinical Lab Technology.

Synthesis of copper nanoparticle from leaves of *Casabela thevetia* and evaluation of their anti-bacterial activity - Department of Microbiology and Department of Clinical Lab Technology.

Green synthesis of ZnO nanoparticles from *Piper betel* leaves and to test for anti-fungal and anti-bacterial activities - Department of Biotechnology.

Green synthesis of Zinc oxide nanoparticles using Edible blue green Algae (*Cynophyta*) and their Anti-oxidant and anti-bacterial activity - Department of Biotechnology.

FOOD AND WATER MICROBIOLOGY

Study of Microbial Quality of Street Vended Foods - Department of Microbiology and Department of Nutrition and Dietetics.

Survey on assessing quality of the water consumption among domestic animals around Sular area in Coimbatore - Department of Nutrition and Dietetics.

Microbiological profile on water Selection of food product among the school going children-a pilot study - Department of Nutrition and Dietetics.

BIO-PROSPECTING

Anti-oxidant, Anti-inflammatory and Angiogenic Activity of *Tridax Prouimbens* - Department of Biochemistry.

Anti-arthritis, Anti-oxidant and Comparative Studies with Methanol, Ethanol and Aqueous Extract of *Calotropis Gigantea* (Stem) - Department of Biochemistry.

Efficacy of Fruit Waste on the Seed Germination of *Capsicum Annum* - Department of Biochemistry.

Anti-oxidant, Anti-diabetic and Anti-arthritis Activity of *Alpinia Purpurata* - Department of Biochemistry

Evaluation of Total Anthocyanin Content (TAC) in Selective Flowers and To Compare the TAC Using Different Solvents - Department of Biochemistry.

A Study on Efficacy of *Andrographis Echioides* against Skin Biome - Department of Biochemistry.

Anti-oxidant and Free Radical Scavenging Properties of *Mukia Madaraspatta* - Department of Biochemistry.

Evaluation of anti-cancer activity from the leaf extracts of *Phyllis minima* - Department of Biotechnology.

Isolation, Identification and Pathogenicity of Fungi associated with Spoilage of cauliflower (*Brassica oleracea* var. *botrytis*) - Department of Biotechnology.

Phytochemical analysis and Anti-microbial activity of *Ixora coccinea* and *Cissus quadrangularis* - Department of Biotechnology.

Phyto-Niosome production from *Curcuma Longa* and *In-vivo* analysis of Anti-microbial and Wound Healing Properties - Department of Biotechnology.

Production of third generation Bio-fuel: Bio-ethanol using *Algae Tetraselmis indica* - Department of Biotechnology.

Phytochemical analysis of *Nadusi* plant for anti-coagulant activity - Department of Biotechnology.

Extraction of Keratin from chicken feathers - Department of Biotechnology.



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Testing of Anti-coagulant activity in *Tridax procumbens* by Department of Biotechnology.

Isolation of cellulose from *Prosopis Juliflora* tree for biomaterials production - Department of Biotechnology.

Confirming *Arabidopsis* vascular pyrophosphatase (AVP1) gene in *Sorghum* plant - Department of Biotechnology.

Reduction of nucleic acid in Single cell protein from *Sacchromyces cerevisiae* - Department of Biotechnology.

FOOD FORMULATIONS

Subjective analysis of soy milk enriched proco waffles - Department of Nutrition and Dietetics.

Formulation of sprouted coconut juice - Department of Nutrition and Dietetics.

Formulation of soy incorporated muffins - Department of Nutrition and Dietetics.

Development of pumpkin cookies incorporated with veld grape powder - Department of Nutrition and Dietetics.

Development and formulation of *Rosa damascene* flavoured ice cream - Department of Nutrition and Dietetics.

Development and quality evaluation of cake incorporated with soya flour - Department of Nutrition and Dietetics.

Formulation of nutria-bar enriched with palmyrah sprout flax seed - Department of Nutrition and Dietetics.

Formulation and evaluation of Spirulina incorporated stevia jelly and mocktail - Department of Nutrition and Dietetics.

Study and development of gooseberry incorporated health mix - Department of Nutrition and Dietetics.





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IMPACT OF STAR COLLEGE

- Improvisation in Teacher and Teaching skills
- Training in secondary agricultural practices resulting in enhancement of entrepreneurial skills
- Exposure in workshops and training helps to identify the research problems
- Mini project Completion and statement of purpose secures admission in foreign universities
- Contests create awareness on science and its significances
- UG research initiatives like "Bio-idea" help to take up interdisciplinary research
- Student actively engaged in innovative research ideas
- Student external exposures secure training in reputed national institutions
- Student peer discussion instills interpersonal and leadership skills
- Interdisciplinary approach has enhanced student's academic insights and performance
- Good Laboratory Practices (GLP) help in smooth conduct of lab experiments
- Students feel comfortable in handling laboratory equipments.
- Outreach programmes inculcate the moral and ethical values among students

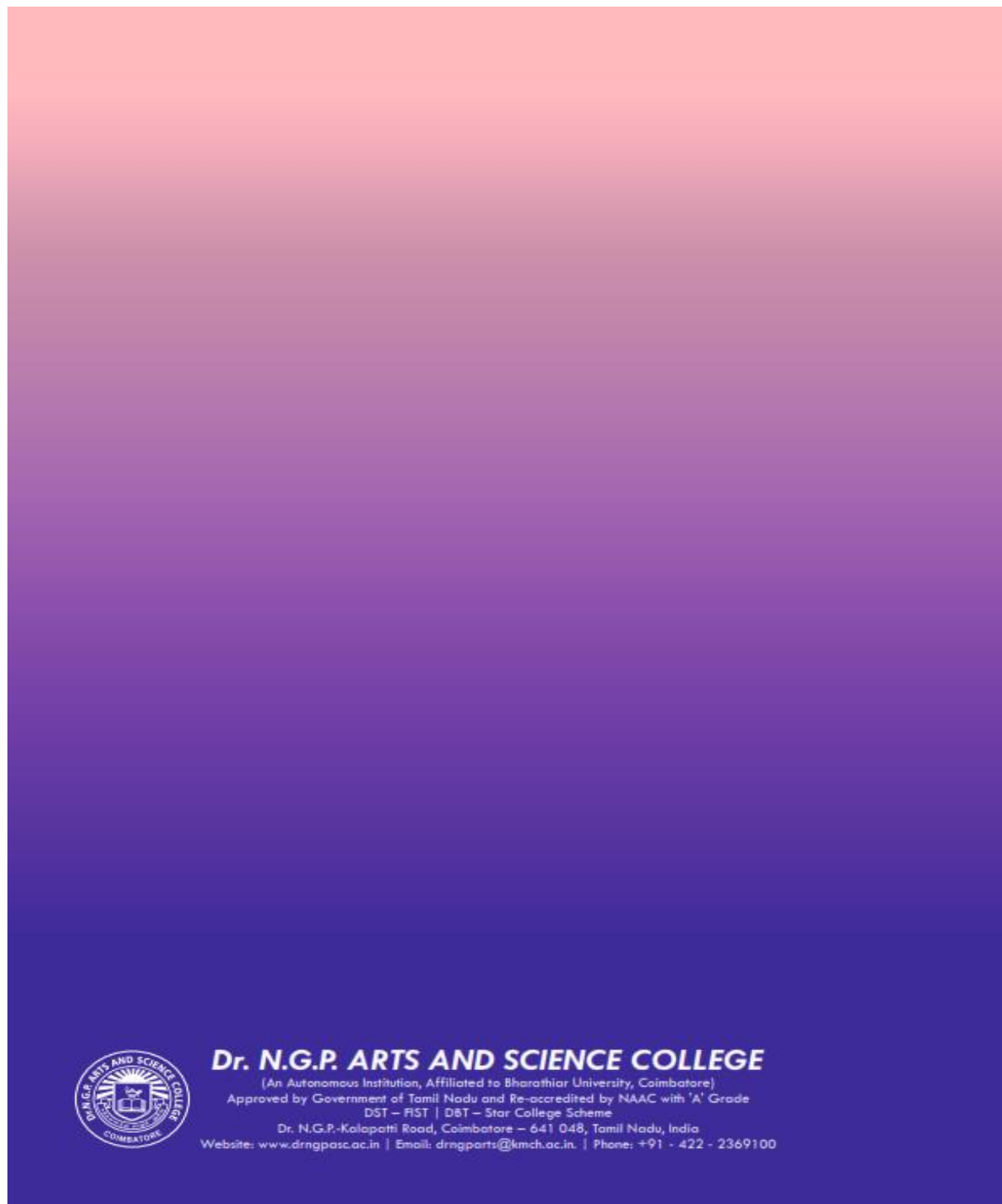
DBT STAR ACTIVITIES 2018-19

S.No	Event / Activity	MS	BT	BC	N&D	Total
1.	Industrial Visits	3	3	3	3	12
2.	Summer Training Attended	2	-	-	1	3
3.	Training / Workshop Attended	3	7	11	6	27
4.	Conference / Seminar Attended	2	3	3	3	11
5.	Seminars Conducted	1	-	1	-	2
6.	Training / Workshop Conducted	5	8	5	8	26
7.	Special / Guest Lecture	7	3	3	6	19
8.	Inter Departmental Competition	1	2	-	2	5
9.	Summer Training / Internship Attended	2	-	-	60	62
10.	Mini Project	2	13	9	12	36
11.	Inter Disciplinary Project	7	-	-	-	7
12.	Outreach activities	8	8	4	14	34

FUTURE PLAN

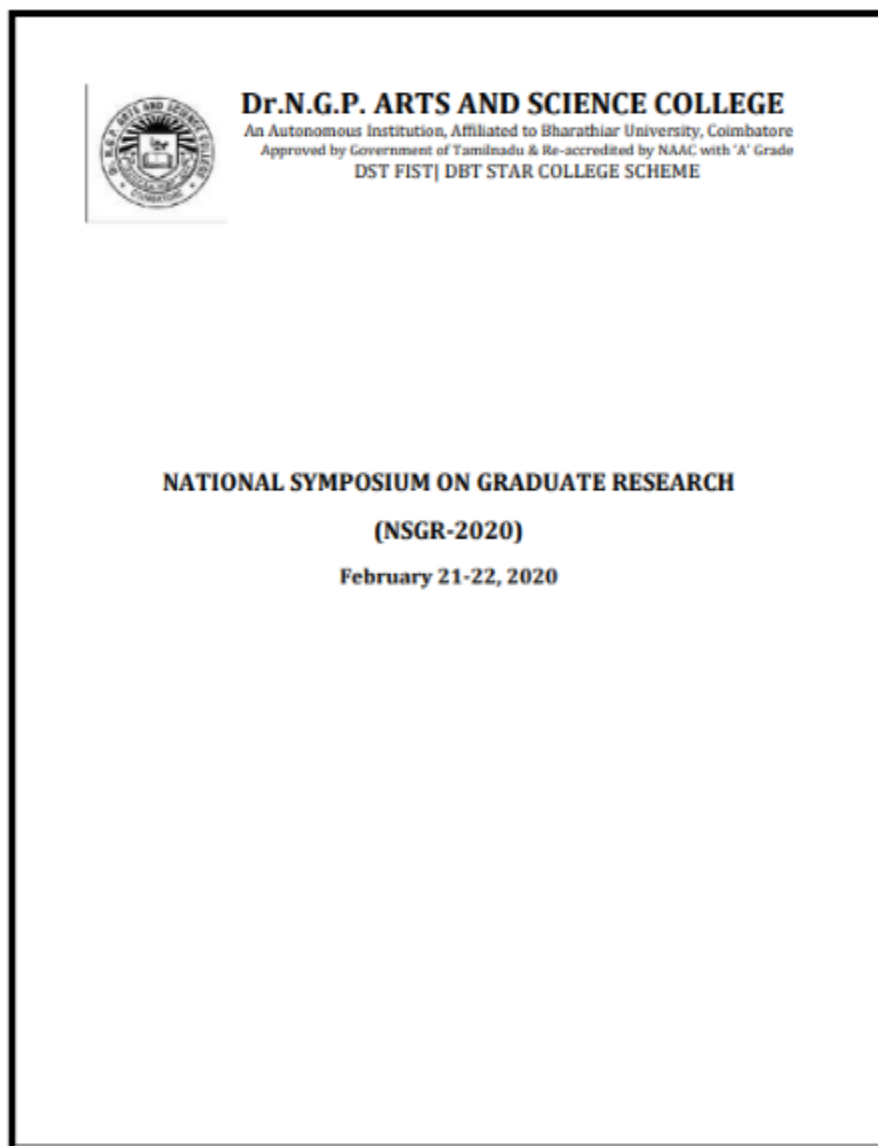
- Model e-content development
- Innovation, process, product development and start-ups
- Intense students training
- Training the Student Trainee
- Focusing on impact of community programmes
- Inter institution research partnership in thrust areas
- Digitalization of plant, animal and microbial specimen slides
- National Symposium on Graduate Research - 23rd & 24th Jan 2020
- Science Popularisation among School Children
- Star Student Awards - Project | Products | Case Study etc.

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		<p align="center">Criterion VI Metric 6.5.1</p>



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3.National Symposium on Graduate Research(NSGR)





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NATIONAL SYMPOSIUM ON GRADUATE RESEARCH (NSGR-20) February 21-22, 2020

Organized under DBT STAR SCHEME
by
Department of Biochemistry, Biotechnology, Microbiology and Food Science & Nutrition

Under DBT STAR college scheme, 2 day national symposium was conducted on February 21st and 22nd of this year with grand success. The event was designed to instill the importance of research in the young minds and to nourish and nurture their skills to become future scientists. The broad areas which were covered in the symposium were literature reviews, systematic reviews, research methods, managing data and other such related topics.

It began with a formal inauguration with a cordial welcome address by Prof. Dr. V. Rajendran, principal, Dr. N.G.P. Arts and Science College, Coimbatore. The chief guests for the occasion were Dr. Basavaraj Madhusudhan, Professor, Former Chairman & Dean, Davangare University. The guests of honour were Mr.G.Sriram Prasad, Chief Executive officer, Keeraikadai Ventures Pvt.Ltd, Coimbatore. The above two members delivered lectures as the keynote speakers. Dr. S.S. Sudha, the DBT STAR College Scheme Co-ordinator proposed the vote of thanks which marked the end of the inaugural session and the beginning of the symposium.

Following this, in the afternoon, the session was purely technical where the young researchers who were all under graduate students presented their findings with lot of enthusiasm and confidence awaiting exciting rewards. More than 50 students from different disciplines like Microbiology, Zoology, Physics, Chemistry, Mathematics, Biochemistry, Biotechnology and Computer science participated in the symposium. The peer group of students posed interesting questions which each of the participant took it up as a challenge and did their best to answer the questions as a dynamic defense session.

There were model presentation by the students of participating departments. students prepared working models, chart and displayed in conference centre. They enthusiastically took part in presentation.

The second day began with a lecture session by the key note speaker Dr.Durairaj Gnanprakasam, Director - Technical & BD, Cell Creep Biotech, Bangalore continued with enriched sessions of deliberations by the students. Some colleges which participated in the symposium are Justice





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Basheer Ahmed Sayeed College for Women, Chennai, Muthayammal College of Arts and Science, Namakkal, St.Teresa's College, Emakulam, PSGR Krishnammal College for Women, PSG College of Arts and Science are some of the few colleges. Students presented their findings in front of the judges and the jury decided to award three awards as first, second and third prizes to the internal students from Dr .N.G.P Arts and Science college and yet another three prizes to the students who participated from outside colleges. The prizes were distributed in the category of basic sciences, bio sciences and applied sciences, Life Science, model which was bagged by both outside participants and internal participants.

The event came to a close on the second day afternoon with a formal valedictory function. The welcome address was given by Dr.P.Chidambara Rajan, Professor & Head, Biotechnology department, Dr. N.G.P. Arts and Science College, Coimbatore. The guest for the valedictory address was Dr. Durairaj Gnanaprakasam, Director- Technical & BD, Cell Creep Biotech, Bangalore who delivered the valedictory address. Interesting feedback was received from the students who appreciated for creating an avenue for express their innovations. Formal vote of thanks by Dr. D.Sridevi, Head, Dept of Food Science and Nutrition drew the curtains down for the event which marked a grand success of one of its kind.

Dr.Durairaj Gnanaprakasam, Director- Technical & BD, Cell Creep Biotech also delivered a sparkling note to encourage and motive the students on the Challenges of Entrepreneurship.





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INVITATION

TECHNICAL SESSIONS

21.05.2020 Venue: 1802P Conference Center Time: 09.30 a.m.

Programme Schedule

DAY – 1 (21.05.2020) (Friday)

Forenoon: 09.30 – 09.45 a.m. Registration
09.50 – 10.00 a.m. Inauguration
10.00 – 11.00 a.m. Session I
11.00 – 11.30 a.m. Tea Break
11.30 – 12.30 p.m. Session II
12.30 – 01.30 p.m. Lunch

Afternoon: 01.30 – 03.00 p.m. Session III Paper Presentation

DAY – 2 (22.05.2020) (Saturday)

Forenoon: 09.30 – 10.45 a.m. Session IV Paper Presentation
10.45 – 11.00 a.m. Tea Break
11.00 – 12.30 p.m. Session V Paper Presentation
12.30 – 01.30 p.m. Lunch

Afternoon: 01.30 – 03.30 p.m. Session VI
03.30 – 05.00 p.m. Valedictory

Dr. D. D. Dhanasekaran
Convener

Dr. S. V. S. Srinivasan
Co-Convener

Dr. N.G.P. ARTS AND SCIENCE COLLEGE
Coimbatore
NATIONAL SYMPOSIUM ON GRADUATE RESEARCH 39
(NSGR-39)
Organized Under
MS-2 – Short Course Scheme

Friday: 21.05.2020 Venue: 1802P Conference Center

INVITATION

Graduate Research

Department of Biochemistry, Microbiology, Microbiology and Food Science & Nutrition

Sponsors

Platinum Sponsors: [Logos]
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Silver Sponsors: [Logos]
Bronze Sponsors: [Logos]

INAUGURATION

21.05.2020 Venue: 1802P Conference Center Time: 09.30 a.m.

Chief Guest

Dr. BALASUBRAMANIAN
Deputy Commissioner, Coimbatore

Guest of Honour

Dr. S. V. S. SRINIVASAN
Deputy Commissioner, Coimbatore

VALEDICTORY FUNCTION

22.05.2020 Venue: 1802P Conference Center Time: 03.30 p.m.

Chief Guest

Dr. S. V. S. SRINIVASAN
Deputy Commissioner, Coimbatore

PRESIDENTIAL ADDRESS

Dr. N. R. LAKSHMI
Secretary, Coimbatore

Dr. S. V. S. SRINIVASAN
Deputy Commissioner, Coimbatore

Felicitations

Dr. R. V. SRINIVASAN
Deputy Commissioner, Coimbatore

Welcome

Dr. S. V. S. SRINIVASAN
Deputy Commissioner, Coimbatore







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NATIONAL SYMPOSIUM ON GRADUATE RESEARCH (NSGR-20)
February 21-22, 2020

Organized under DBT STAR SCHEME
by
Department of Biochemistry, Biotechnology, Microbiology and Food Science & Nutrition
INAUGURATION

Date: 21.02.2020 **Time: 09:30 am.**

AGENDA

Prayer	College Choir
Welcome Address	Prof.Dr. V. Rajendran <i>Principal, Dr.N.G.P. Arts and Science College</i>
Presidential Address	Dr. Nalla G Palaniswami <i>Chairman, Dr. N.G.P. Educational Institutions</i>
	Dr. Thavamani D. Palaniswami <i>Secretary, Dr. N.G.P. Educational Institutions</i>
About the Symposium	Dr.S.Balasubramanian <i>Dean, Research & Development</i>
Introduction of Chief Guest	Dr.T.Indhumathi <i>Department of Biochemistry</i>
Honoring the Chief Guest	Dr. Nalla G Palaniswami <i>Chairman, Dr. N.G.P. Educational Institutions</i>
Honoring the Guest of Honors	Dr. Thavamani D. Palaniswami <i>Secretary, Dr. N.G.P. Educational Institutions</i>
	Prof.Dr. V. Rajendran <i>Principal, Dr.N.G.P. Arts and Science College</i>
Chief Guest Address	Dr.Basavaraj Madhusudhan <i>Professor and Former chairman & Dean, Davangere University</i>
Felicitations	Dr. O.T. Buvaneshwaran <i>Chief Executive Officer, KMCRET</i>
	Vote of Thanks Dr. S. S. Sudha <i>DBT – STAR College Scheme Coordinator</i>





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Organized under DBT STAR SCHEME
by
Department of Biochemistry, Biotechnology, Microbiology and Food Science & Nutrition

VALEDICTION

Date: 22.02.2020	Time: 02:30 pm.
AGENDA	
Prayer	College Choir
Welcome Address	Dr.P.Chidambara Rajan <i>Prof. & Head, Biotechnology Department</i>
Presidential Address	Dr. Nalla G. Palaniswami <i>Chairman, KMCH, & Dr. N.G.P. Educational Institutions</i>
	Prof. Dr. V. Rajendran <i>Principal</i> <i>Dr.N.G.P. Arts and Science College</i>
Honoring the Chief Guest	Dr. Thavamani D. Palaniswami <i>Secretary, Dr. N.G.P. Educational Institutions</i>
Valedictory Address	Dr.Duraiaraj Gnanaprakasam <i>Director – Technical & BD, Cell Creep Biotech</i> <i>Bangalore</i>
Feedback by delegates	
Awards Announcements	Dr.N.Vidhya <i>Professor, Microbiology Department</i>
Vote of Thanks	Dr. D.Sridevi <i>Associate Professor and Head, Dept. of Food Science</i> <i>And Nutrition</i>
National Anthem	College Choir

NSGR-2020 Brochure



Dr. N.G.P. ARTS AND SCIENCE COLLEGE

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Department of Biotechnology
Govt of India

NATIONAL SYMPOSIUM ON UNDERGRADUATE RESEARCH / 20th NSGR-20
Under DBT - Star College Scheme
February 21 - 22, 2020

ORGANIZING COMMITTEE

Patrons

Dr. Nalla G. Palaniswami, M.D., A.B. (USA)
Chairman
Dr. Thavamani D. Palaniswami, Secretary, M.D. (USA)
Secretary
Dr. O. T. Buneswaran, M.A., M.Phil., M.B.A., Ph.D.,
CEO

Chairman - NSGR-20

Prof. Dr. V. Rajendran
M.Sc., M.Phil., B.Ed., M.Tech. (Nanotech), Ph.D., D.Sc.,
Frost P. (London)
Principal

Steering Committee

Dr. G. Geetharamani Head - Acad
Dr. S. Saravanan Dean - Admin
Dr. S. Balasubramanian Dean - R & D
Dr. V. Shanmugaraja Dean - Sh

Convenors

Dr. S. S. Sudha Coordinating, DBT - Star Scheme
Dr. S. Gowri Head - IC
Dr. P. Chidambaram Rajan Head - IT
Dr. D. Sridevi Head - F&N
Dr. J. Ranga Ramamurthy Head - MB

Organizing Secretaries

Dr. T. Indhumathi Dept. Coordinator - IC
Dr. M. Poongothai Dept. Coordinator - IT
Prof. R. Shrivani Dept. Coordinator - F&N
Prof. S. Senthil Prubhu Dept. Coordinator - MB

MEMBERS

Biochemistry

Dr. N. Kannikapuramswari
Dr. C. Venkatesan
Dr. K. Rajathi
Dr. V. Usha
Dr. D. Pradeepa
Dr. V. Dharmarajesh Kumar
Dr. S. Kathiravan
Prof. M. Saranya

Biotechnology

Prof. P. Arun
Dr. K. Arungandhi
Dr. M. Shanmugavadivu
Dr. Radha Palaniswamy
Prof. S. Karthik
Dr. M. N. Katticavan
Prof. K. Priyadarshini

Microbiology

Dr. N. Vidhya
Prof. C. Sasikala
Dr. A. M. Ramachandran
Dr. J. Devakumar
Dr. S. Karthik Sundaram
Dr. B. Mahenthiran
Prof. A. D. Priyadarshini
Prof. S. Indhu

Food Science & Nutrition

Dr. S. Daniel Robert
Prof. S. Bhavani
Dr. S. Uma Maheswari
Prof. P. Kanneshwari
Prof. P. Ashwini
Prof. C. Abinaya

Objective

To Facilitate Research at Undergraduate Level

Key Sessions

Keynote Address

- Student Startups
- Innovation/ Incubations
- Entrepreneurship

B to B Opportunities

- Agriculture
- Animal husbandry
- Environment and natural resources
- Education and research
- Industry
- Public health
- Waste management

Presentation - Paper & Project

- Chemical Sciences
- Physical Sciences
- Mathematical Sciences
- Applied Sciences
- Life Sciences
- Computer Science & IT

Sponsorship Categories

- Diamond: ₹. 15,000/-**
15 Students + 3 Faculty Members
- Silver: ₹. 5,000/-**
5 Students + 1 Faculty Member
- Gold: ₹. 10,000/-**
10 Students + 2 Faculty Members

Registration

- Fee ₹. 500/-
- Includes kit, refreshments and lunch

Accommodation

- The necessary accommodation will be arranged based on the request either in students hostel or at hotels against payment

Bank Details

Name : NGP-BS
Ac No : 6652439792
Bank Name : Indian Bank - Kalapatti
IFSC : IDIB000K173

Address for Communication

The Convenors
NSGR-20
Dr. N.G.P. Arts and Science College
Dr. N.G.P. - Kalapatti Road
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Committee Allotment of NSGR 2020

February 21-22, 2020

Under DBT STAR Scheme

S.No	Name of Committee	Responsibilities	Responsible Dept / Coordinator
1	Programme & Technical Committee	<ul style="list-style-type: none">• Agenda(File), Name Plate, Water Bottle, Paper weight ,pen• Purchasing / Handling memento to the guest• Audio & video, LCD, white board ,duster, Laser pointer arrangements.• Arrangements for paper presentation, name board of Session Chair• Display of programme schedule in front of the hall• Display of list of paper presentation in front of the hall• Photography/ Recording- Inauguration/ Valedictory• Presence of delegates, session chair, invited speakers etc.,• Honoring invited speakers & Session chair for each session• Segregation of students• Selection of judges(In house) and chair person for all six disciplines• Selection of student volunteers• Designing of score sheet for parallel sessions	Dr.N. Kannika parameswari Dr.N.Vidhya Dr. M.Shanmuga vadivu Dr.T.Indhumathi Dr.M.Poongothai Dr.M.Kathiravan
2	Finance	<ul style="list-style-type: none">• Develop and oversee the budget of the NSGR2020	





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	Committee	<ul style="list-style-type: none"> • Collect / Deposit cheque /cash into NSGR A/C • Responsible for all accounts receivable / payable • Approve / Document all expense receipts • Prepare account for Auditing 	Dr. T. Indhumathi, Dr. M. Poongothai, Dr. S. Uma Maheswari, Prof. S. Senthil Prabhu
3	Website & Publicity Committee	<ul style="list-style-type: none"> • Posting / updating conference related information / pictures in the college website • Pre/ Post conference press release to local and Indian news media • Develop Feedback from • Feedback from students 	Dr.V. Usha & Dr. Radha Palaniswamy
4	Registration Committee	<ul style="list-style-type: none"> • Develop registration form • Coordinate with Publicity and website committees in sending formal and e-mail invitation to the registrants • Preparation of Name Badges for registrants, Volunteers and Committee members and plough cards/Sign boards • Prepare registration Packages containing Name badge, Souvenir, etc., • Check in the Registrants and distribute the registration kit • Prepare registration form for spot registration • Handover registration forms, cheque and cash to the finance committee at the end of the NSGR 2020 • Hand over the list of registered participants to the certificate committee 	Mrs. C. Sasikala Dr. K. Rajathi Dr. S. Uma Maheswari Prof.S.Indhu





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		<ul style="list-style-type: none"> • Preparation of attendance certificate in college Letterhead and to be issued if requested • Distribution of the attendance certificate after the Valedictory 	
5	Accommodation & Transport Committee	<ul style="list-style-type: none"> • Accommodation will be on the basis of pre request • The participants will be notified individually their accommodation venue by phone/Email • Airport or railway station pick up or drop for invited/plenary/Keynote speakers • Timing and other details will be notified in their venue itself 	Dr. K. Arungandhi Mr. S. Daniel Robert Dr. C.Venkatesan Dr. J. Devakumar
6	Food Committee	<ul style="list-style-type: none"> • Arrangement and lunch for external participants. 	Dr.V. Dhanarangesh Kumar Dr. S. Karthik Mrs A.D Priyadarshini Dr.R.Mahendran
7	Certificate Committee	CERTIFICATE FOR THE PARTICIPANTS <ul style="list-style-type: none"> • Finalizing Registered Delegates List • Spot Registration list to be received from Registration Committee • Distributing after the valedictory function CERTIFICATE FOR PLANARY / KEYNOTE ADDRESS / INVITED TALK PERSONS / CHAIR PERSON <ul style="list-style-type: none"> • Designing of certificates and collect the Registered List • Printing and distributing the Certificates at the 	Dr.D.Pradeepa Ms.S.Shivani





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		end of each Speech CERTIFICATE FOR BEST PAPERS (I, II, III PRIZES FOR EACH SESSIONS) <ul style="list-style-type: none"> • Designing of Certificates for I,II,III Prizes for Each Sessions • Prize Winners List to be received from Judges • Distribution of certificate after Valedictory function 	
8	Master of Ceremony (MOC) Committee	<ul style="list-style-type: none"> • Coordinate with the program committee and A/V committee to arrange required microphones (wired & wireless) • Coordinate with the program committee in developing the script for announcement for each program • Develop MCs schedule with equal participation of MCs • Coordinate with the program committee in managing the time during program execution • All MC scripts must be typed to avoid impromptu speeches by the MCs 	Ms. M. Saranya Mrs Rosan Varkhey Prof.K Priyadharshini Prof.S.Indhu
9	Stage and Seating Committee Reception	<ul style="list-style-type: none"> • Coordinate with the program committee to keep ready the stage and seating at allotted halls for entire programme • Function form • Arrangement of Receptions at required venue • Collect Volunteer from all depts 	Dr.S.Karthik Prof.P.Kanneshwari Dr.A.M.Ramachandran





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10	Printing Committee	<ul style="list-style-type: none"> • Develop/ Print contents and publicity materials • Develop/ Print Invitation • Responsible to circulate the printed brochure and Invitation • To design and develop Back drop for the conference • Designing of Certificates & badges 	Prof. P. Arun Dr.M.N.Kathiravan Dr. C. Venkatesan Dr. S. Daniel Robert
11	Discipline Committee	To Maintain silence in conference centre	Dr.S.Karthik Sundaram Dr.M.Shanmugavadivu Prof.A.D.Priyadharshini Dr.S.Uma Maheswari Prof.P.Ashwini Prof.C.Abinaya Student volunteers





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SPONSORED COLLEGES

National Symposium on Graduate and Research-20 (NSGR-20) Dr.Basavaraj Madhusudhan, Professor, Former Chairman and Dean, Davangere University, Karnataka, Mr.G.Sriram Prasad, CEO & Founder of Keeraikadai Ventures Pvt. Ltd, Dr.Duraij Gnanaprakasam, Director – Technical & BD, Cell Creep Biotech, Bangalore were delivered their sessions. The Diamond sponsor of Justice Basheer Ahmed Sayeed College for Women and Golden sponsor of Muthayammal College of Arts and Science and Silver Sponsor of St.Teresa's College and PSGR Krishnammal College for women faculty members and students around 1000 were participated.

Students from different colleges and Host College were presented their papers and projects, models and we have selected the best papers and projects also they have been individually awarded based on their research work under the category chemical science, Physical science, Mathematical science, Applied science, Life science, Computer science and IT.

Swetha.G Department of Biochemistry from Muthayammal College of Arts and Science presented “Biogenic Synthesis of Silver Nanoparticles and their In-Vitro Antioxidant and Antidiabetic Activity from Leaf Extract of *Justicia Tranquebariensis*”

Rubasri.S.B Department of Biotechnology from Muthayammal College of Arts and Science presented “Isolation of Biosurfactant Producing Actinomycetes from Soil Sample and Analysis of their Antibacterial Activity”

Divyabharathi Department of Biotechnology from Muthayammal College of Arts and Science presented “Phytochemical analysis of *Gloriosasuperba* leaf extract against diabetic and anti-cancer activity of HT-29 colon cancer cell line”

R.J.Dharsan Department of Computer Science from Muthayammal College of Arts and Science presented “Programming in C”

Mr.R.Vasanth Department of Chemistry from Muthayammal College of Arts and Science presented “Synthesis and application of metal ferrites for ground water and sago water treatment in and around Namakkal district”

Niruban.R Department of Computer Science from Muthayammal College of Arts and Science presented “Industry 4.0”

Jeyaprakash.S.R. Department of Microbiology from Muthayammal College of Arts and Science presented “Phytochemical analysis and Antibacterial activity of *Leucas aspera* against Methicillin resistant *Staphylococcus aureus*”





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Momina anzum A. Department of Microbiology from Dr.N.G.P.ASC presented “Palindromic sequence-targeted (PST) PCR: a rapid and efficient method for high-throughput gene characterization and genome walking”

Sashtika A.C. Department of Microbiology from Dr.N.G.P. ASC presented “History, Structure, Pathogenesis and Epidemiology of Novel Corona Virus”

M.Sc. Food Science and Nutrition department students from Dr.N.G.P.ASC presented the model of “ sugar manufacturing process”.

Padmapriya A and Srinidhi.A Department of Biotechnology from Dr.N.G.P. ASC presented “Fluorescence Microscope”

Sneha.K and Priyanka.J Department of Microbiology from Dr.N.G.P. ASC presented “Southern Blotting”

Blessie Selsia.D & Prithi.J Department of Biotechnology from Dr.N.G.P. ASC presented the model chart about “Liquid Scintillation Counting”

Third year Microbiology department student Kiruthika.B from Dr.N.G.P.ASC presented the model “Detection of Human Infections Pathogens with an Antibody Coated Stride”.

Second year B.Sc. Biotechnology student S.Sneha and V.Harini presented the model “ Enzyme linked Immuno Sorbent Assay”

Third year B.Sc. Microbiology students presented the model “ t - RNA”

PRIZE WINNERS LIST

PAPER PRESENTATION – LIFE SCIENCE

G.Brahammanayagi, department of Biochemistry From Justice Basheer Ahmed Sayeed College for Women, Won First Prize for the presentation about Squalanine.

V.C.Vinaya, department of Home Science From St.,Teresa College, Won Second Prize for the Presentation about Lifestyle and Dietary Assessment among IT Professionals.

S.R.Jayaprakash & S.Sankar , department of Microbiology, From Muthayammal College of Arts and Science, Won Third Prize for the Presentation about Phytochemical analysis and antibacterial activity of *Lucas aspera* against methicillin resistant *staphylococcus aerues*.





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PAPER PRESENTATION – CHEMICAL SCIENCE

P.Saratha & S.Shanmuga priya, department of Chemistry From PSGR Krishnammal College for Women, Won First Prize for the presentation about A Facile approach on Carbon dots.

Aneeta Tytus & Sreelakshmi Dileep, department of Chemistry From St. Teresa's College, Won Second Prize for the presentation about Micro Analysis: A Step towards Green Chemistry.

V.Charuprabha, M.Karthika & Zaleekha Maryam.K.A, department of Chemistry From Justice Basheer Ahmed Sayeed College for Women, Won Third Prize for the presentation about Rape Alarm.

PAPER PRESENTATION – BASIC AND APPLIED SCIENCE

Tania Mary Nian & Alicia Mariam, department of Physics from St. Teresa's College, Won First Prize for the presentation about Rape Alarm.

M.Renukadevi, department of Mathematics From PSGR Krishnammal College for Women, Won Second Prize for the presentation about Regression and Correlation.

P.M.Kowsika & V.S.Shwetha, department of Mathematics, from PSG College of Arts and Science, Won Second prize for the presentation about Prime the Crime.

T.Vishnuvardhini & R.Yoga Indra Eniya, department of Physics, from PSGR Krishnammal College of Arts and Science won Third Prize for the presentation about Arduino Based Heart Beat Sensor.

PAPER PRESENTATION – BIOLOGICAL SCIENCE

Harsita.M & Monica Sri. K department of Zoology from PSGR Krishnammal College for Women, Won First Prize for the presentation about Birds and Butterflies as BIONICATORS.

Mubashira Afnan Khan, Ashika A & Jayaraji.V, PG Research department of Zoology from Justice Bhaseer Ahmed Sayeed College for Women, Won second prize for the presentation about Stem cell in Endometrium.

R.Bhuvaneshwari, department of Botany from PSGR Krishnammal College for Women Won third prize for the presentation about Nutritional Evaluation of Cheysophyllum oliviforme L an under utilized exotic fruit.





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MODEL PRESENTATION –PRIZE WINNERS

Kalaivani P & Team, first year M.Sc.Microbiology department from Dr.N.G.P. ASC won first prize.

Sharulatha.M & Team, second year B.Sc. Biochemistry department from Dr.N.G.P. ASC won Second prize.

Kiruthika.B & Team, third year B.Sc. Microbiology department from Dr.N.G.P. ASC won third prize

POWER POINT PRESENTATION PRIZE WINNERS

V.Logeshwaran & K.Sabarinath, Second year M.Sc.Biotechnology department from Dr.N.G.P.ASC won First Prize.

N.Kavya, Second year M.Sc.Biotechnology department from Dr.N.G.P.ASC won second Prize.

Anagha S. Nair, first year M.Sc.Microbiology department from Dr.N.G.P.ASC won third Prize.





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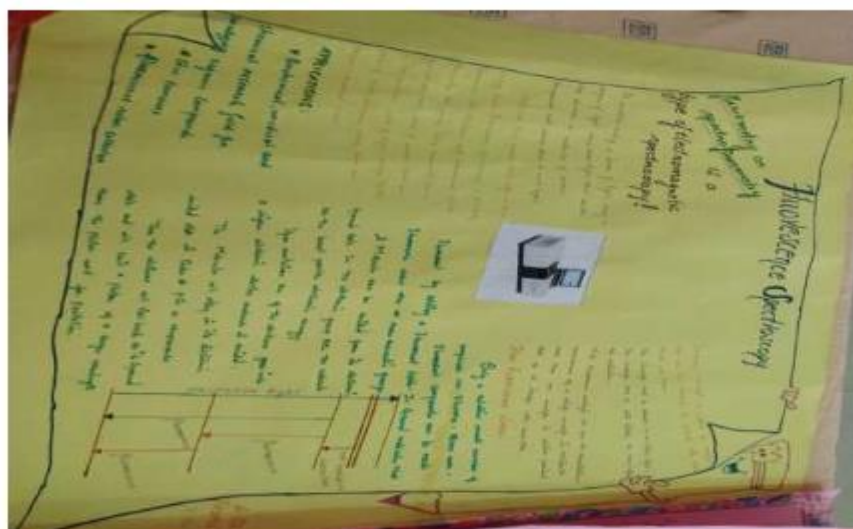
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ABSTRACTS

MUTHAYAMMAL COLLEGE OF ARTS AND SCIENCE, RASIPURAM
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DEPARTMENT OF BIOCHEMISTRY

**BIOGENEIC SYNTHESIS OF SILVER NANOPARTICLES AND THEIR *IN-VITRO*
ANTIOXIDANT AND ANTIDIABETIC ACTIVITY FROM LEAF EXTRACT OF
JUSTICIA TRANQUEBARIENSIS
SWETHA.G*, MADHUMITHA .B**

ABSTRACT

Nanotechnology is one of the most active researches nowadays. Eco friendly methods of green mediated synthesis of nanoparticles are the present research in the limb of nanotechnology. *Justicia tranquebariensis* linn belongs to family acanthaceae; it is one of the important herbal being used in ayurvedic system of medicine. Mostly the leaves are used for the medical purpose. The present study reports the use of *Justicia tranquebariensis* leaf extract for the synthesis of silver nanoparticles (AgNPs). The synthesized AgNPs were initially noticed through visual color change from yellow to reddish brown and further confirmed by surface plasmonic resonance (SPR) band at 450 nm using UV-visible spectroscopy. In addition, the synthesized AgNPs were tested for antioxidant and antidiabetic activities. The leaf extract shows higher antioxidant activity found by DPPH assay and Hydrogen Peroxide assay. Our plant extract exhibit dose dependent increase in % inhibitory activity of α -glucosidase enzymes & α -amylase. It could be concluded that *Justicia tranquebariensis* leaf extract can be used efficiently in the production of potential antioxidant and antidiabetic activity for commercial application.

Keywords: *Justicia tranquebariensis*, Spectroscopy, Acanthaceae, α -glucosidase, α -amylase





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ISOLATION OF BIOSURFACTANT PRODUCING ACTINOMYCETES FROM SOIL SAMPLE AND ANALYSIS OF THEIR ANTIBACTERIAL ACTIVITY

RUBASRI S B* AND KAVITHA D

ABSTRACT

Biosurfactants are produced by microorganisms for producing important biotechnology products, owing to their modes of action, low toxicity, relative ease of preparation, and widespread applicability as an industrial, medicinal and in food industries. The present study was carried out to isolate the biosurfactant producing Actinomycetes from soil samples. Three actinomycetes isolates were isolated to identify biosurfactant producers. Of these three, only one isolates showed a positive result for blue agar plate methods. Microscopic examination results that indicates the isolate was aerobic Gram positive rods with extensive branching were observed confirming growth of Streptomyces sp. Actinomycetes have complex enzymatic mechanism that aids hydrocarbon mineralization and thus increases the potential for biosurfactant production. Biosurfactant production from the isolate was further evaluated by surface-tension measurement (Drop-count) method and emulsification index. **The cell-free culture broth of the isolate had emulsification activity and decreased surface tension.** This result was further confirmed by orcinol assay, taking L-rhamnose as standard. This indicated that the isolated biosurfactant was Rhamnolipid in nature. **The cell-free culture broth of the Streptomyces sp. was further extracted with chloroform: methanol (2:1) for extract the biosurfactant. The biosurfactant was characterized using FTIR analysis. The exactated biosurfactant was** Rhamnolipid biosurfactant type. This surfactant has permeabilizing effects on Gram-positive and Gram-negative bacterial strains (E.coli, Bacillus cereus, Klebsiella sp. and Pseudomonas aeruginosa) reinforcing their potentiality in antibacterial activity.

Keywords: Biosurfactants, Actinomycetes, Streptomyces sp., and Rhamnolipid



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DEPARTMENT OF BIOTECHNOLOGY

PHYTOCHEMICAL ANALYSIS OF *GLORIOSASUPERBA* LEAF EXTRACT AGAINST DIABETIC AND ANTI-CANCER ACTIVITY OF HT-29 COLON CANCER CELL LINE

DIVYABHARATHI*. E, SUBANA.S and RAJASEKARAN.D

ABSTRACT

Cancer, a multifactorial disorder, arises due to defect in genetic makeup and exposure to environmental condition. Cancer is a common and crucial clinical problem nowadays. Among all the types of cancers, breast and colon cancers are the most prominent, dangerous, and life threatening cancers. Since, it is difficult to detect and in some cases, ignorance of the early signs of these malignancies, *Gloriosasuperba* is the potent medicinal plant mostly found in kolli hills. Phytochemical analysis of *Gloriosasuperba* leaf extract revealed activity against diabetics and Anti-cancer activity of HT-29 colon cancer cell line.

Key words: Antioxidants, Antidiabetic, HT-29 cancer cell line, *Gloriosasuperba*, Colon cancer.





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E- CONTENT PREPARATION

Name : R. J.Dharsan*

Dept : Department of computer science

Title : Programming in C

ABSTRACT:

By this educational content, every learners can understand the basic concepts of c programming language. It is a video content that describes the basic concepts of c such as, history, fundamentals, steps in learning C, uses of C language, Advantages, Constants and its types, Variables, Operators, Functions, Inheritance and its classifications, polymorphism, Conditional statements with their syntax and Looping statements with their syntax. Finally there were two example programs where given with the basic concepts described above. The first program is about adding to numbers and the second is about finding the largest number from the given numbers using relational operators.





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SYNTHESIS AND APPLICATION OF METAL FERRITES FOR GROUND WATER AND SAGO WATER TREATMENT IN AND AROUND NAMAKKAL DISTRICT

DEPARTMENT OF CHEMISTRY

Mr. R. Vasanth* and Mr. M. Monish* (III – B. Sc., Chemistry) &

Dr. N. Sudha (Asst. Prof./Chemistry)

DBT Sponsored project

ABSTRACT

Effluent generated by the sago industries are highly toxic when it is released into the environment without proper treatment, it alters the characteristics of ecosystem. The main aim of this project is to synthesize different metal ferrite nanoparticles and to use for water treatment on sago effluent and well water in and around Namakkal district area. The synthesized different metal ferrite nanoparticles are characterized by using UV-Visible absorption spectroscopy, FTIR, SEM, EDX, XRD and VSM. The effluent from the sago industry and different well water are collected and treated with different metal ferrite nanoparticles. Odour, pH and colour of the effluent sample are determined on the site from where the samples are collected. The pH, total hardness, BOD and COD value for normal well water and sago water is greater than the normal range. Treatment of metal ferrite with well water and sago water reduced the value of pH, total hardness, BOD and COD and we conclude that the metal ferrite will be applicable for water treatment.



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PAPER PREPARATION

NAME : Niruban.R

ROLL NO : 17UCS152

DEPT : Department of computer science

TITLE : Industry 4.0

ABSTRACT:

By this I would like to present a PPT on topic Industry 4.0 which is more trending nowadays in the field of information technology and growing industry. PPT includes concept of Cyber-Physical systems, Internet of things, Cloud Computing, Data mining, Smart production etc.



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PHYTOCHEMICAL ANALYSIS AND ANTIBACTERIAL ACTIVITY OF *LEUCAS ASPERA* AGAINST METHICILLIN RESISTANT *STAPHYLOCOCCUS AUREUS*

DEPARTMENT OF MICROBIOLOGY

Jeyaprakash S R*, Shankar S., Santhoshkumar *, Tamil Selvan R., Thamodharan G and
Dr.M.Sankareswaran

*III B.Sc Microbiology and Assistant Professor

The use of antimicrobial drugs day by day increases due to emergence of the new diseases caused by the pathogenic microorganisms and development of microbial resistance towards different antibiotics, the advantages of effective antimicrobial chemotherapy are self-evident, but this has led to a significant problem in ensuring that they are always appropriately used. Surveys of antibiotic use have demonstrated that more than 50% of antibiotic prescribing can be inappropriate; this may reflect prescribing in situations where antibiotics are either ineffective, such as bacterial and viral infections, or that the selected agent, its dose, route of administration or duration of use are inappropriate. Antibiotics act in different manner. For instance an antibacterial agent may prevent the bacterium's ability to turn glucose into energy or its capacity to build its cell wall. Many pathogenic microorganisms have developed the ability to resist which makes them strong and they became Multidrug resistant organisms and this limit various options which could be used and interfere the effective therapy. Bacterial drug resistance has many consequences. These include increased mortality and morbidity among patients and a reduction in the number of useful drugs for future generations of patients. Of additional concern is the economic impact of infections caused by antibiotic resistant bacteria. Methicillin-resistant *Staphylococcus aureus* (MRSA) is an increasing problem in human medicine that may have catastrophic effects. Methicillin-resistant *Staphylococcus aureus* (MRSA) is a global public health problem, associated with considerable morbidity and mortality. Therefore, there is an urgent need to develop new drugs. Recently, there has been considerable interest in the use of plant materials as an alternative method to control pathogenic microorganisms. The discovery of new drug from the bioactive compound of *Leucas aspera* against MRSA will be based on the results of this research work. The present study carried out on the plant samples revealed the presence of medicinally active constituents. The Phytochemical analysis of the plants assayed in this study revealed that *Leucas aspera* contained tannins, alkaloids, flavonoids, phenols, steroids and Glycosides. Ethanol leaf crude extracts of *Leucas aspera* showed significant activity of 17mm against MRSA by agar well diffusion method. Highest antimicrobial activity of 19 mm was recorded against MRSA. Methanol crude extracts of *Leucas aspera* showed highest antibacterial activity of 19 mm against MRSA.

Key Words: MRSA, *Leucas aspera*, Phytochemical analysis, Antibacterial activity.





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Dr. N.G.P ARTS AND SCIENCE

PADMAPRIYA.A (181BT036)
SRINITHI .A (11BT052)

FLUORESCENCE MICROSCOPE.

ABSTRACT:

A FLUORESCENCE MICROSCOPE is an optical microscope that uses fluorescence and phosphorescence instead of, or in addition, scattering, reflection and attenuation or absorption to study the properties of organic or inorganic substance. "Fluorescence microscope" refers to any microscope that uses fluorescence to generate an image, whether it is a more simple set up like an epifluorescence microscope or complicate. The specimen is illuminate with light of a specific wavelength which is absorbed by the fluorescence causing them to emit light of longer wavelength. The filters and the dichoric beam splitter are chosen to match the spectral excitation and emission characteristics of the fluorophore used to lable the specimen.

In this manner, the distribution of a single fluorescence is imaged at a time. There are several methods of creating a fluorescent sample. The main techniques are labeling with fluorescent stains, in case of biological sample, expression of a fluorescent protein. In the life science fluorescence microscopy is a powerful tool which allows the specific and sensitive staining of a specimen in order to detect the distribution of proteins. The modern understanding of genetics and the techniques available for modifying DNA allows scientist to genetically modify proteins to also carry a fluorescent protein reporter. In the biological sample samples this allows a scientist to directly make a protein of interest fluorescent the protein location can ne tracked easily.





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HISTORY, STRUCTURE, PATHOGENESIS AND EPIDEMIOLOGY OF NOVEL CORONA VIRUS

Department of Microbiology,
Sashtika A.C*, Priyadharshini A. D and Sasikala C
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7708206443.

ABSTRACT:

Corona viruses cause infections like common cold which are generally self-resolving. During the last 4 years, corona viruses have become the most important viruses worldwide because of the occurrence of several recent deaths. Spread of the infection occurred worldwide; however, most cases of mortality have occurred in the Middle East. Owing to the predominance of outbreaks in the Middle Eastern countries, the virus was renamed a Middle East respiratory syndrome corona virus (MERS-CoV) by the Corona virus Study Group. The Center for Diseases Control and Prevention and World Health Organization maintain a website that is updated frequently with new cases of MERS-CoV infection. This review describes the history, structure, pathogenesis, epidemiology, host defences, diagnosis and control of this novel virus. Studies of the genetics and molecular mechanisms of this virus are expected to facilitate the development of vaccines in the future.

KEYWORDS: Corona virus, respiratory syndrome, glycoprotein, SARS, CoV genome.

INTRODUCTION:

Corona virus was first identified as a cause of the common cold in 1960. In 2001, a study carried out in Canada reported that, more than 500 patients were presented with flu-like symptoms. Virological analyses by polymerase chain reaction (PCR) showed that 3.6% of these cases were positive for the HCoV-NL63 strain. Until 2002, corona virus was considered a relatively simple, nonfatal virus; however, an outbreak in 2002–2003 in Guangdong province in China, which resulted in spread to many other countries like Thailand, Vietnam, Taiwan, Hong Kong, Singapore and USA, caused Severe Acute Respiratory Syndrome (SARS) and high mortality rates in over 1000 patients. After this outbreak, microbiologists and infectious disease experts focused on understanding the pathogenesis of the disease and discovered that this infection was caused by a new form of corona virus. A total of 8096 individuals were infected with this virus, resulting in 774 deaths. Another outbreak in Saudi Arabia in 2012 resulted in many deaths and spread worldwide, resulting in renewed interest in studies of this new form of coronavirus.

STRUCTURE OF CORONA VIRUS:





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Coronavirus virions are spherical to pleomorphic enveloped particles. The envelope is studded with projecting glycoproteins, and surrounds a core consisting of matrix protein enclosed within which is a single strand of positive-sense RNA ($M_r 6 \times 10^6$) associated with nucleoprotein. The envelope glycoproteins are responsible for attachment to the host cell and also carry the main antigenic epitopes, particularly the epitopes recognized by neutralizing antibodies. OC43 also possesses a haemagglutinin.

CLASSIFICATION:

The coronaviruses were originally grouped into the family *Coronaviridae* on the basis of the crown or halo-like appearance given by the glycoprotein-studded envelope on electron microscopy. This classification has since been confirmed by unique features of the chemistry and replication of these viruses.

ANTIGENIC TYPES:

There are subtypes of corona virus- alpha corona virus, beta corona virus, gamma corona virus and delta corona virus. Most human coronaviruses fall into one of two groups: 229E-like or OC43-like. These differ in both antigenic determinants and culturing requirements: 229E-like coronaviruses can usually be isolated in human embryonic fibroblast cultures; OC43-like viruses can be isolated or adapted to growth in suckling mouse brain. There is little antigenic cross-reaction between these two types.

MODE OF TRANSMISSION AND REPLICATION:

Corona viruses are transmitted through airborne zoonotic droplets. It is transmitted mainly through camels, as per different studies. Aminopeptidase-N and a sialic acid-containing receptor have been identified in corona viruses to act in such a role for 229E and OC43 respectively. After the virus enters the host cell and uncoats, the genome is transcribed and then translated. A unique feature of replication is that all the mRNAs form a “nested set” with common 3' ends; only the unique portions of the 5' ends are translated. There are 7 mRNAs produced. The shortest mRNA codes for the nucleoprotein, and the others each direct the synthesis of a further segment of the genome. The proteins are assembled at the cell membrane and genomic RNA is incorporated as the mature particle forms by budding from internal cell membranes. In addition to humans, corona viruses are also found in bats, whales, pigs, birds, cats, dogs, and mice.

CLINICAL PRESENTATION AND INVESTIGATIONAL METHODS:

The median incubation period for MERS-CoV is 5–12 days and adults are mostly affected. However, several pediatric cases have been reported. The clinical presentation of MERS-CoV ranges from flu-like symptoms, i.e., fever and cough in 87% of patients; chills, rigor, rhinorrhea, myalgia, and fatigue to more severe symptoms, including shortness of breath in





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48% of patients and respiratory failure, resulting in the requirement for intubation and ventilation.

Gastrointestinal symptoms including nausea, vomiting, diarrhoea, and abdominal pain, have also been reported in about 35% of cases and acute renal failure necessitating haemodialysis has been seen.

On physical examination, patients generally present with fever and pulmonary findings, such as rhonchi and crepitation. Laboratory investigation may reveal lymphopenia, thrombocytopenia, Disseminated Intravascular Coagulation (DIC) and multi-organ failure, which results in death. The CDC recommends collecting multiple specimens at different times from different sites. For example, samples should be collected from oropharyngeal and nasopharyngeal swabs, sputum, blood, stool and rectal swabs, as well as the lower respiratory tract, which is most frequently positive for the virus. Typically, samples will be processed by real-time reverse transcription (rRT)-PCR to analyze the following sequences: upstream of the E protein gene (upE), open reading frame 1b (ORF 1b), and open reading frame 1a (ORF 1a), which is the most sensitive sequence for identification of the specific virus. RNA dependent RNA polymerase (RdRp) and N genes are also target sites in the MERS-CoV genome. To confirm the diagnosis, one of the following criteria must be present: (1) a positive PCR result for at least two different specific targets in the MERS-CoV genome (2) one positive PCR result for a specific target on the MERS-CoV genome and an additional different PCR product confirming a known sequence of MERS-CoV.

PATHOGENESIS:

Studies in both organ cultures and human volunteers show that coronaviruses are extremely fastidious and grow only in differentiated respiratory epithelial cells. Infected cells become vacuolated, show damaged cilia, and may form syncytia. Cell damage triggers the production of inflammatory mediators, which increase nasal secretion and cause local inflammation and swelling. These responses in turn stimulate sneezing, obstruct the airway, and raise the temperature of the mucosa.

HOST DEFENCES:

Although mucociliary activity is designed to clear the airways of particulate material, coronaviruses can successfully infect the superficial cells of the ciliated epithelium. Only about one-third to one-half of infected individuals develop symptoms, however. Interferon can protect against infection, but its importance is not known. Because coronavirus infections are common, many individuals have specific antibodies in their nasal secretions, and these antibodies can protect against infection. Most of these antibodies are directed against the surface projections and neutralize the infectivity of the virus. Cell-mediated immunity and allergy have been little studied, but may play a role.





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EPIDEMIOLOGY:

The epidemiology of coronavirus colds has been little studied. Waves of infection pass through communities during the winter months, and often cause small outbreaks in families, schools, etc. Immunity does not persist, and subjects may be re-infected, sometimes within a year. The pattern thus differs from that of rhinovirus infections, which peak in the fall and spring and generally elicit long-lasting immunity. About one in five colds is due to coronaviruses.

The rate of transmission of coronavirus infections has not been studied in detail. The virus is usually transmitted via inhalation of contaminated droplets, but it may also be transmitted by the hands to the mucosa of the nose or eyes.

DIAGNOSIS AND CONTROL:

There is no reliable clinical method to distinguish coronavirus colds from colds caused by rhinoviruses or less common agents. For research purposes, virus can be cultured from nasal swabs or washings by inoculating organ cultures of human fetal or nasal tracheal epithelium. The virus in these cultures is detected by electron microscopy or other methods. The most useful method for laboratory diagnosis is to collect paired sera (from the acute and convalescent phases of the disease) and to test by ELISA for a rise in antibodies against OC43 and 229E. Complement fixation tests are insensitive; other tests are inconvenient and can be used only for one serotype. Direct hybridization and polymerase chain reaction tests for viral nucleic acid have been developed and, particularly with the latter, are the most sensitive assays currently available for detecting virus.

Although antiviral therapy has been attempted, the treatment of coronavirus colds remains symptomatic. The likelihood of transmission can be reduced by practising hygienic measures. Vaccines are not currently available.

CONCLUSION:

MERS-CoV is a lethal zoonotic virus that originated in the Middle East. The main source of transmission, as has been shown in several studies, is through camels. Therapies are still under development and include ribavirin a, interferon alpha, and mycophenolic acid. Further studies are underway to develop an effective vaccine for MERS-CoV aiming to reduce the incidence and mortality rate of infection with this virus.

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MINI DEGRADATION PLANT

Kalaivani P , Janani Rajam S , Nivethitha M, Nivedha P, Kiruthika R

Department of Microbiology.

ABSTRACT:

Now a days the world faces major thread due to pollution. Even in our living area we are exploiting the nature with dump of waste. The growing pile of waste at vellalore kurichi dump yard is a nuisance to residents in the area. A recent survey by " the energy and resources institute" found that most residents felt that improper waste disposal severely impacted their health and routine life. The smell and the growing mosquito in sub-urban locality continue to affect people within a 500m radius with much harmful diseases and infections.

Our idea is to minimize the waste by degradation and reuse it as compost with natural nutrients with help of microorganisms. We are proposing a "mini degradation plant" with cost effective and naturally with pure strains of indigenous organisms like *pseudomonas*, *P.putida*, *acinetobacter*, *bacillus subtilis*, *aspergillus.sp*, *trichoderma.sp* without addition of any physical or chemical agent, by the conventional method. The expected result is to minimize the time of degradation of solid waste with beneficial by products and to enhance soil fertility.





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MITOSIS

MODEL PRESENTATION

BY,

J.G.SACHITHA & J.KANUSHIKA SHREE
I Bsc, Microbiology

ABSTRACT:

Cell division is the driving process of reproduction at the cellular level. Most eukaryotic cells divide in a manner where the number of chromosomes remains the same, except in the case of germ cells where the number of chromosomes is halved.

Stages of Mitosis

Right before prophase, the cell spends most of its life in the interphase, where preparations are made before the beginning of mitosis. However, since the actual process involves the division of the nucleus, prophase is technically the first stage of this process. The different stages of mitosis occurring during **cell division** are given as follows-

Interphase: Before entering mitosis, a cell spends a period of its growth under interphase. It undergoes the following phases when in interphase:

- **G1 Phase:** This is the period before the synthesis of DNA.
- **S Phase:** This is the phase during which DNA synthesis takes place.
- **G2 Phase:** This is the phase between the end of DNA synthesis and the beginning of prophase.

Prophase: Prophase immediately follows S and G2 phase of the cycle and is marked by condensation of the genetic material to form compact mitotic chromosomes composed of two chromatids attached at the centromere. The nuclear envelope starts disintegrating.

Metaphase: At this stage, the microtubules start pulling the chromosomes with equal force, and the chromosome ends up in the middle of the cell. This region is known as the metaphase plate. Thus, each cell gets an entire functioning genome



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.Anaphase: The splitting of the sister chromatids marks the onset of anaphase. These sister chromatids become the chromosome of the daughter nuclei. The chromosomes are then pulled towards the pole by the fibres attached to the kinetochores of each chromosome.

Telophase: The chromosomes that cluster at the two poles start coalescing into an undifferentiated mass, as the nuclear envelope starts forming around it. The nucleolus, Golgi bodies and ER complex, which had disappeared after prophase start to reappear.



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MODEL CHART PRESENTATION

LIQUID SCINTILLATION COUNTING

DEPARTMENT OF BIOTECHNOLOGY

BLESSIE SELSIA.D, PRITHILJ
II BSC BIOTECHNOLOGY

ABSTRACT:

LSC Concepts - Fundamentals of Liquid Scintillation Counting Liquid Scintillation Counting...Making Light of the Situation. The chemical properties of an element are determined by its atomic number - the number of protons in the nucleus (and electrons within neutral atoms of that element). Uncharged neutrons, within the nucleus along with protons, do not contribute to the atomic number, but will alter the atomic mass. This makes possible the existence of isotopes, which are atoms of the same element with different atomic weight. Most isotopes are stable, and do not undergo any spontaneous nuclear changes. A subset of isotopes possess too few or too many neutrons to be stable. These are radioactive. Radioactive atoms spontaneously rearrange their nuclei, emitting energy or particles in the process. Radioactive isotopes of common elements are extremely useful in life science disciplines, among others, because radioactive atoms can be substituted for their nonradioactive counterparts in chemical formulations. The resulting radioactive compound is easily detectable but still chemically identical to the original material. Two detection methods predominate for assaying such incorporated radioactivity. In autoradiography, labeled material is allowed to expose a photographic emulsion. Development of the emulsion reveals the distribution of labeled material. In the second detection method, the amount of radioactivity in labeled samples is directly measured, either by a Geiger counter or by a scintillation counter. In scintillation counting, the sample is mixed with a material that will fluoresce upon interaction with a particle emitted by radioactive decay.





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MODEL CHART PRESENTATION

ENZYME LINKED IMMUNO SORBENT ASSAY

DEPARTMENT OF BIOTECHNOLOGY

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II BSC BIOTECHNOLOGY

ABSTRACT:

An enzyme linked immuno sorbent assay also called ELISA is a test that detects and measures antibodies in your blood. This test can be used to determine antibodies related to certain infectious conditions. ELISA finds use in the fields of biotechnology and medicine as a diagnostic tool. The main risks of ELISA TEST are mainly done for patients who are suffering from faint feeling, infection, bruising and bleeding more than usual. A general ELISA is usually undertaken in a 96 wellled microtitre plate under suitable laboratory conditions.

The main principle of ELISA is that they combine the specificity of the antibodies with the sensitivity of the sample enzyme assays, by using antibodies or antigens coupled to an easily assayed enzyme. ELISA can provide a useful measurement of antigen or antibody concentration. There are 2 main variations on this method. The ELISA can be used to detect the presence of antigens that are recognized by an antibody or it can be used to test for antibodies that recognize an antigen. There are mainly four types of ELISA namely direct, indirect, sandwich and competitive ELISA. The main advantage of ELISA is that reagents are relatively cheap and are having a long shelf life. ELISA is highly specific and sensitive. There are no such radiation hazards that occur like other tests. It is easy to perform and has a quick procedure. ELISA can be used for a variety of infections. The main disadvantage of ELISA is that the measurement of enzyme activity is more complex than measurement of activity of some type of radioisotopes. Enzyme activity can be affected by plasma constituents. The kits are commercially available but not cheap. It is very specific to a particular antigen but won't recognize any other antigen. False positives / negatives possible especially with mutated / altered antigen.





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PALINDROMIC SEQUENCE-TARGETED (PST) PCR: A RAPID AND EFFICIENT METHOD FOR HIGH-THROUGHPUT GENE CHARACTERIZATION AND GENOME WALKING

DEPARTMENT OF MICROBIOLOGY

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ABSTRACT

Genome walking (GW) refers to the capture and sequencing of unknown regions in a long DNA molecule that are adjacent to a region with a known sequence. A novel PCR-based method, palindromic sequence-targeted PCR (PST-PCR), was developed. PST-PCR is based on a distinctive design of walking primers and special thermal cycling conditions. The walking primers (PST primers) match palindromic sequences (PST sites) that are randomly distributed in natural DNA. The PST primers have palindromic sequences at their 3'-ends. Upstream of the palindromes there is a degenerate sequence (8–12 nucleotides long); defined adapters are present at the 5'-termini. The thermal cycling profile has a linear amplification phase and an exponential amplification phase differing in annealing temperature. Changing the annealing temperature to switch the amplification phases at a defined cycle controls the balance between sensitivity and specificity. In contrast to traditional genome walking methods, PST-PCR is rapid (two to three hours to produce GW fragments) as it uses only one or two PCR rounds. Using PST-PCR, previously unknown regions (the promoter and intron 1) of the *VRN1* gene of Timothy-grass (*Phleum pratense* L.) were captured for sequencing. By experience, PST-PCR had higher throughput and greater convenience in comparison to other GW methods.

KEY WORDS : DNA, PCR, PST, PALINDROME, AMPLIFICATION, SEQUENCE.

INTRODUCTION

Genome walking (GW) refers to a collection of methods that capture unknown (unsequenced) genomic regions that are contiguous with and adjacent to a known DNA sequence. Before the advent of next-generation sequencing (NGS), capturing of unknown DNA was based on GW or





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screening of genomic libraries. The initial GW technology also utilized libraries and screening (e.g. use of a sequenced fragment as a probe for hybridization). PCR-based methods are currently predominant among GW techniques because they are rapid and their use avoids construction of large libraries. The first applications of PCR as an alternative to hybridization were reported in the late 1980s. PCR-based GW can be employed when it is possible to select at least one sequence-specific primer (SSP) that anneals to the DNA of interest. A paired companion to the SSP is a walking primer that is intended to solve the problem of annealing (with the greatest achievable specificity) to an unknown target. In principle, all significant improvements to PCR-based GW technologies have been aimed at controlling the balance between sensitivity (i.e. the ability to generate a GW product) and specificity (avoiding generation of unwanted products).

The best walking primer for a particular application reflects a good guess, or a working hypothesis about the unknown target DNA. Often, minimal *a priori* knowledge about the target, e.g. a protein alignment for a similar target, requires the use of degenerate oligonucleotides as walking primers. In turn, applying the degenerate oligonucleotides in PCR with complex templates (genomic DNA) is often accompanied by nonspecific amplification; this is a driving force behind the development of new methods, such as PST-PCR as described here. A review and the systematics of PCR-based GW methods have been presented. Various PCR-based GW approaches have been used to capture DNA fragments from representatives of all kingdoms of life. More recently, GW-like techniques have proven valuable for studies in which DNA capture itself is not the ultimate goal.

Current PCR-based GW methods are more elaborate than the protocols initially used, and some patented techniques are available for researchers in the form of commercial GW kits. Two widely published commercial technologies are the GenomeWalker Kits (Clontech & Takara) and the APAGene GW kit (Bio S&T). With regard to these systems, a comparison of the modern methods for capturing unknown DNA illustrates a diversity of operable approaches. The GenomeWalker Kits are ligation-based, requiring ligation of adaptors to blunt-ended fragments of target DNA; the approach is called “suppression PCR” because the generation of side products is suppressed during PCR.





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The GenomeWalker GW process starts with the creation of “libraries” of DNA fragments, of which each library consists of digestion products of starting DNA. Restriction denuclearizes yield blunt ends to which synthetic adaptors are subsequently ligated. To increase chances of success, the manufacturer recommends simultaneously performing the GW on four libraries, each produced with a different restriction enzyme. The molecular design of the proprietary adaptor is important, as the design provides for increased specificity. The adaptor is composed of two synthetic oligonucleotides with uneven lengths, so that the adaptor has the protruding 5'-end. The 3'-end of the recessed strand in the adaptor is blocked by abomination (3'-NH₂) to prevent the polymerize from extending this 3'-end during a PCR. The PCR is performed with a user-provided SSP in combination with a universal adaptor primer that targets the adaptations protruding end. This primer combination, in theory, allows amplification of only the desired GW products, because the amplified targets must have annealing sites for both the SSP and adaptor primer. The method has been designed to inhibit amplification of unwanted (Random Amplified Polymorphic DNA (RAPD) like) products that have the adaptor primer at both ends. For this purpose, it relies both on the 3'-abominated adaptor described above being present in one strand, and then formation during the PCR annealing step of a “panhandle” structure that diminishes (suppresses) annealing of the adaptor primer on the other strand (hence the name “oppressive PCR”).

The APAGene GW kit uses a three-round nested PCR approach. Each round is performed with a combination of one user-provided SSP and a walking primer from the kit; the kit provides three walking primers with distinctive sequences. A successful capture in the first round depends on annealing of a walking primer to the unknown target DNA. The annealing is achieved by using a walking primer that contains a highly degenerate sequence at the 3'-end. Two more rounds are performed to increase the yields of specific GW products. The second and third rounds are performed with combinations of nested Asps and so-called tagging primers. The tagging primers are designed to be capable of hairpin formation at annealing temperatures. The following two features of the APAGene process are essential for increasing specificity of the amplification: the first-round PCR starts with a single-strand amplification phase that is a repetitive extension from the outer SSP (this phase is intended to increase the template amount for degenerate primer binding); formation of hairpins in the tagging primers make nonspecific annealing less efficient.





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In general, relying on walking primers that have degenerate sequences is common to the majority of GW methods. The use of degenerate primers has the drawback of nonspecific annealing and amplification, which may necessitate a tedious search for the best PCR conditions. One frequent obstacle is that annealing temperatures for the Asps and degenerate primers are very different; the Asps are selected to anneal with high specificity and have high melting temperatures (T_m), whereas degenerate primers require a low T_m . To achieve efficient amplification from two primers having a different T_m , an elaborate thermal cycling profile has to be used. Such a profile consists of thermal cycles with different annealing temperatures that follow each other or alternate in a defined fashion.

Solving a similar task (pairing primers of different T_m) resulted in development of the thermal asymmetric interlaced PCR (TAIL-PAR) method. TAIL-PAR is a GW method that utilizes three consecutive PCR rounds with nested Asps together with a shorter arbitrary degenerate primer. Each round is performed with one SSP (three different high- T_m primers are used in the whole process) and the same short arbitrary degenerate primer with a low T_m . The three rounds differ in thermal cycling profiles. The thermal cycling profile used in the first-round PCR is the most elaborate and represents combinations of high-stringency cycles (annealing temperature $63 \pm 1^\circ\text{C}$), reduced-stringency cycles (annealing temperature $44 \pm 1^\circ\text{C}$), and low-stringency cycles (annealing temperature $30 \pm 1^\circ\text{C}$). For example, the first round may include five high-stringency cycles, followed by one low-stringency cycle, followed by ten reduced-stringency cycles and finishing with twelve “super cycles” (each consisting of two high-stringency cycles and one low-stringency cycle). The product of the first round is diluted 1/1000 and used as a template in the second-round PCR. The second round includes ten super cycles. Again, the diluted product of the second round is re-amplified in the third round, which resembles a common PCR. Although such elaborate amplification schemes provide the opportunity to optimize experimental conditions, optimization is time consuming and does not guarantee success.

Difficulties associated with the use of degenerate primers in PCR motivated attempts to limit primer degeneracy and to devise walking primers that anneal to genomic DNA not randomly but arbitrarily, at unknown but defined sites. This idea is expressed in its most consistent form in the partially overlapping primer (POP) PCR and stepwise partially overlapping primer (SWPOP) PCR methods. In the POP and SWPOP methods, walking primers have completely defined





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sequences with no degenerate or modified positions. To allow annealing of the walking primers, just one cycle in a thermal cycling profile has extremely low (25°C) annealing temperature. Sets of walking primers with different sequences were devised for empirical trials for both methods. Both methods require using three nested Asps. To suppress amplification of by-products that are flanked with walking primers, a three-round PCR is used with different Asps and walking primers. Sequences of the walking primers and temperature profiles are devised so that annealing of a walking primer to template DNA occurs only once during each round. It was reported that a specific product competences RAPD-like products in the POP and SWPOP processes.

Each GW method has advantages and limitations. For example, despite recently published improvements, TAIL-PAR tends to generate significant amounts of side products. On the other hand, ligation-dependent methods are extremely sensitive to template quality. Manufacturers of ligation-dependent GW kits inform users that the starting DNA must be of much higher quality than generally considered necessary for conventional PCR; they also provide ready-to-use libraries for several species. Ligation-dependent GW methods have slow throughput and are not preferable for population studies or those having available only limited or degraded DNA.

Here we report a novel method that we named palindromic sequence-targeted PCR (PST-PCR). PST-PCR is rapid (requiring only one or two PCR rounds) and demonstrates an excellent combination of sensitivity and specificity. Like the above-described POP and SWPOP methods, the PST-PCR method uses walking primers that anneal to a template not randomly but arbitrarily, although this feature was achieved in a different fashion. In our hands, PST-PCR method has a higher efficiency, cost-effectiveness, and sensitivity than previously published method.

The central element of PST-PCR technology is a distinctive design of walking primers that enables annealing to short palindromic sequences, or more specifically, to restriction sites (herein referred to as PST sites, not to be confused with restriction enzyme *Pst* I sites). The walking primers, named palindromic sequence-targeted (PST) primers, anneal to the PST sites that have unknown locations in unsequenced DNA. However, the annealing is not random, as the sequence of the PST site itself is defined. Moreover, the annealing of the PST primer occurs even at a high





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T_m, which is recommended in the PST-PCR protocol. A PST primer has a palindromic sequence of 6 nt at the 3'-end, followed by a degenerate sequence of sufficient length (i.e. 8–12 nt) to allow binding to an unknown target, and completed with an adaptor region of defined sequence at the 5'-end. The principal feature of the PST-PCR protocol is use of high annealing temperatures throughout the PCR amplifications. The high T_m prevents annealing to sequences other than PST sites and contributes to specific amplification of a GW product. Only two or even a single PCR round of about 30–36 cycles is needed to produce a PST-PCR product. Accordingly, PST-PCR can be performed in two to three hours. The PST primer is used in combination with an SSP in the first-round PCR. The same SSP or a nested SSP is used with a tail primer during the second-round PCR. The short tail primer anneals to the adaptor sequence at the 5'-end of the PST primer. In addition, PST-PCR is not very sensitive to template quality; PST-PCR requires starting DNA of quality.

Results and Discussion

PST-PCR principles, starting protocol, and possibility of customization

The PST-PCR process is schematically depicted in Fig. 1. The cornerstone of the PST-PCR technology is a specific design of primers, the PST primers, which are capable of annealing to uncharacterized sequences. A PST primer has a defined palindromic sequence at the 3'-end, a sufficiently long degenerate sequence to allow certain primer species to anneal by base-pairing to 15–18 nt of contiguous sequence, and an adaptor region at the 5'-end. We call the palindrome together with the degenerate sequence the “core” sequence. The core sequence is used to calculate the primer.

METHODS

Plant material and DNA extraction

Timothy-grass plants were collected from various geographic locations. Leaves for DNA isolation were collected from 28-day-old plants grown in a greenhouse. Genomic DNA was extracted using a CTAB-based protocol and treated with Release A. A detailed protocol for DNA isolation is deposited at protocols.io (DOI: 10.17504/protocols.io.mghc3t6). DNA samples were





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diluted in 1X TE buffer (10 mM Trizma pH 7.5, 1 mM EDTA) and DNA quality was verified using a Nanodrop spectrophotometer (Thermo Fisher Scientific) and gel electrophoresis.

***In silico* genome analysis of PST site frequency**

To demonstrate the generality of the PST-PCR method, the frequencies of PST sites were calculated for various commonly studied plant and animal genomes. Complete genomes were extracted from the NCBI database. Frequencies of PST sites (6 nt or 8 nt) were computed using FastPCR software. The number of PST sites per haploid genome and an average distance between the neighboring PST sites were computed and are presented in the Supplementary Material (Supplementary Dataset).

PST primer design

The PST primers were designed to meet the following conditions: a 6-nt palindromic sequence is present at the 3'-end; a 10-nt fully degenerate sequence (dN10) is present upstream (i.e. in the direction of the 5'-terminus) of the palindrome; an adaptor region with a distinctive sequence is present upstream of the degenerate sequence. The invariable adaptor in this study was 19 nt. The calculated T_m and GC content for the PST primers are presented. The T_m were computed for the 16-nt "core" sequences (in this study we define the palindrome together with the degenerate sequence as "core" sequence), as only the core sequences of the PST primers are expected to anneal to template DNA. T_m was calculated using a nearest-neighbor thermodynamic model with the following reaction conditions: 50 mM monovalent cation (K^+/NH_4^+), 2 mM Mg^{2+} , and 0.5 μM of PST primer. Thermodynamic calculations and modeling of primer secondary structures were performed using FastPCR software. Linguistic complexity (LC), a formal measure of informational content in a nucleotide sequence, was computed for palindromic sequences. As an important practical note, for any particular task we recommend screening PST primers. For example, in an experiment it is advisable to set up multiple PST-PCR amplifications that have the same template and SSP, together with different PST primers.

Sequence-specific primer selection

Sequences of *VERNALIZATION 1 (VRN1)* genes from representative species in the *Poaceae* were downloaded from GenBank (a species list and accession numbers are





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presented in the Supplementary Materials). Sequences of individual exons of the *VRNI* genes were extracted and used to build multiple alignments using MULTALIN. Regions within the exons that are highly conserved in all available *Poaceae VRNI* genes were used to target the Asps. We designed two site-specific primers, one for the primary PCR reaction (SSP1) and the other one nested, annealing to sequences beyond the 3' end of the primary PCR primer, for the secondary PCR reaction (SSP2). Sets of Asps were designed to target the termini of the selected exons and one conserved region in the promoter region of the *VRNI* gene, which before this study had been determined for some species in the *Poaceae* family but not for *P. pratense*. The computed Asps collectively guaranteed bidirectional GW to capture introns and unknown parts of the promoter. The Asps are listed in Table 3.

The following rules were used for selection of the Asps: each SSP should be 25–35 nt and have a GC content of 40–60%, and calculated $T_m \geq 65^\circ\text{C}$. A good SSP should not be capable of forming self-dimers. Outer and nested primers preferably should not overlap. Generally, both the Asps should be as close to the end of the known sequence as possible. The Asps were designed using FastPCR software with the following calculation parameters: 50 mM monovalent cation (K^+/NH_4^+), no divalent cations, a working primer concentration of 25 μM , and the software's XCR option turned on.

PST-PCR set up and parameters

The PST-PCR was performed as a two-round PCR. In the first round, various combinations of PST primers with the outer Asps were used. Reaction mixtures were prepared of which each particular reaction contained one SSP and one PST primer. All first-round amplifications were performed using the same reaction conditions. Upon completion of the first round, the first-round reaction mixtures were diluted 1/6 with 1X TE buffer and added as templates to the second-round reaction mixtures. Primers in the second-round reactions were the Asps (same as in the first round, or nested) paired with the universal tail primer. The thermal cycling parameters for the two rounds of the PST-PCR process.

EXAMPLE PROTOCOL FOR FIRST-ROUND PCR

The first-round PCR was performed in a 30- μL reaction mixture consisting of 30 ng template DNA, 1X LongAmp Taq reaction buffer, and 1 U LongAmp Taq DNA polymerase (NEB). The



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reaction contained 2 mM Mg²⁺, 200 μM each dNTP, 0.2 μM SSP, and 0.5 μM PST primer. The first round used the following thermal profile: initial denaturation (95 °C for 2 min), then 18 cycles of linear amplification (95 °C for 15 s, 68 °C for 10 s, 72 °C for 60 s), then 18 cycles of exponential amplification (95 °C for 15 s, 52 or 55 °C for 10 s, 72 °C for 60 s). The final extension step was at 72 °C for 2 min. The reaction mixture was diluted 1/6 in 1X TE buffer in each PCR tube and used as a template in the second-round amplification.

Example protocol for second-round PCR

The reaction mixtures (25 μl) consisted of 1X LongAmp *Taq* reaction buffer, 1 U LongAmp *Taq* DNA polymerase (NEB), 0.2 μM SSP, and 0.2 μM tail primer. A total of 2 μl of the diluted product from the first round was added to the reaction mixtures described above. The thermal cycling profile was 95 °C for 1 min (initial denaturation), then 28–30 two-step cycles (95 °C for 15 sec, 70 °C for 90 sec), and a final extension at 72 °C for 2 min. The PCR products were separated by electrophoresis at 70–90 V for 3 hours in a 1.2% agarose gel (Wide Range, SERVA Electrophoresis GmbH) in 0.5X TBE electrophoresis buffer. Gels were stained with EtBr and scanned using an FLA-5100 imaging system (Fuji Photo Film GmbH) at a resolution of 50 μm. Selected PCR products were cloned for sequencing.

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SOUTHERN BLOTTING

Sneha. K, Priyanka. J

Abstract:

Blotting is used in molecular biology for the identification of proteins and nucleic acids and is widely used for diagnostic purposes. It uses hybridization techniques for the identification of the specific nucleic acids and genes. Southern blotting was introduced by Edwin Southern in 1975 as a method to detect specific sequences of DNA in DNA samples. Southern Blotting is a technique for transfer of DNA molecules from an electrophoresis gel to nitrocellulose or nylon membrane and is carried out prior to detection of specific molecules by hybridization probing. The detection of homologous DNA sequences through the method of Southern Blotting has made a tremendous contribution to Molecular Biology and Recombinant DNA Technology. This technique results in immobilization of DNA fragments, so the membrane carries semi-permanent reproduction of the banding pattern of the gel. The amount of DNA needed for this technique is dependent on the size and specific activity of the probe. Short probe tend to be more specific. Thus, following hybridization, the probe permits the DNA fragments of interest to be detected from among the many different DNA fragments on the membrane. Southern Blotting is used in a number of applications. It is mostly used in the identification of viral infection and certain bacterial infections. In rDNA technology, the Southern Blotting technique is used to isolate particular DNA. Due to the precision in DNA identification, this technique is used in phylogenetic studies, paternity and maternity analysis, forensic studies and personal identification.





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NATIONAL SYMPOSIUM ON GRADUATE RESEARCH 26th & 27th 2019

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About the programme

The participating departments of DBT-Star college scheme, under the steward leadership of our Principal, Prof.Dr. V. Rajendran came up with an excellent idea of hosting annually a national event to provide a platform and opportunity for graduate students in science and technology disciplines from DBT-Star colleges and others to share their innovative ideas, proposals, findings, process and products. Dr.NGPASC organized a first of its kind program in India on 26th and 27th February, 2019, where four DBT-Star colleges from Tamil Nadu co-sponsored the event. Students from sponsored colleges and others in the region participated, presented their innovative ideas, proposals, findings, process and exhibited products.

A best in each category of competition from basic sciences, life sciences and computer science received a cash prize and certification. The next phase of this event is already planned and it is scheduled to be held on 23rd and 24th January 2020. In this version, more participation is expected from different parts of our country. Through this NSGR, the organizers intended to instill the traits of innovation; idea conception, nurturing, devising, developing and demonstration among graduate students of science and technology stream.



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NATIONAL SYMPOSIUM ON GRADUATE RESEARCH
February 26-27, 2019
Organized under
DBT - STAR College Scheme
by
Department of Biochemistry, Biotechnology, Microbiology and Nutrition & Dietetics
Dr.N.G.P. ARTS AND SCIENCE COLLEGE (Autonomous)
Approved by Government of Tamil Nadu & Affiliated to Bharathiar University
Re-Accredited by NAAC with 'A' Grade | DST – FIST | DBT Star College
Coimbatore, Tamil Nadu, India



INAUGURATION

Date: 26.02.2019

Time: 09:30 a.m.

AGENDA

Prayer **College Choir**

Welcome Address

Dr. V. Rajendran
Principal, Dr.N.G.P. Arts and Science College

Presidential Address

Dr.Nalla G Palaniswami
Chairman, Dr. N.G.P. Educational Institutions
Dr.Thavamani D. Palaniswami
Secretary, Dr. N.G.P. Educational Institutions

About the Symposium

Dr.S.Balasubramanian
Dean, Research & Development

Introduction of Chief Guest
Biotechnology

Dr.P.ChidambaraRajan
Associate Professor and Head, Dept. of

Honoring the Chief Guest

Dr.Nalla G Palaniswami
Chairman, Dr. N.G.P. Educational Institutions

Honoring the Guest of Honors

Dr.Thavamani D. Palaniswami
Secretary, Dr. N.G.P. Educational Institutions

Chief Guest Address

Dr. V. Rajendran
Principal, Dr.N.G.P. Arts and Science College
Prof.Dr. Roshan Delabandara
Secretary, Nutrition Society of Srilanka

Felicitations

Dr. O.T. Buvaneswaran





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Institutions
Vote of Thanks

Chief Executive Officer, KMCRET

Dr.P.R.Muthuswamy
Director, Academics, Dr. N.G.P. Educational

Dr.S. S. Sudha
DBT – STAR College Scheme Coordinator



NATIONAL SYMPOSIUM ON GRADUATE RESEARCH-19 February 26-27, 2019

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Coimbatore, Tamil Nadu, India



Program Schedule

Day 1	26.02.2019	Venue: Conference Center
Forenoon	08:30 - 09:15 am	Registration
	09:15 - 10:45 am	Inauguration
	10:45 - 11:00 am	Tea Break
Session 1	11:00 - 12:00 pm	Venue: Conference Center
	Keynote Speaker	Prof.A.V.Gnanasambandam Chief Executive Officer-TBI ABIS Tamil Nadu Agricultural University (TNAU) Coimbatore.
	Chair	Dr.UmaMaheswari Assistant professor, Department of Nutrition and Dietetics
Session 2	12:00 - 1:00 pm	Venue: Conference Center
	Keynote Speaker	Prof.T.Poongodi Vijayakumar Periyar University Salem.
	Chair	Dr. M. Poongothai Assistant Professor, Dept. of Biotechnology, Dr.N.G.P.Arts and Science College.
	01:00 - 02:00 pm	Lunch



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Session 3	02:00 – 3:45 pm	Venue: Conference Center
	Technical Session I	Students Presentation
Day 2	27.02.2019	
Session 4	09:15 - 10:45 am	Venue: Conference Center
	Technical Session II	Students Presentation
	10:45 – 11:00 am	Tea break
Session 5	11:00 - 12:45 pm	Venue: Conference Center
	Technical Session III	Students Presentation
	12:45 – 01:30 pm	Lunch
Session 6	01:30– 03:00 pm	Venue: Conference Center
Afternoon	Keynote Speaker	Dr.Varadharaju Chandrasekar Bioline Laboratory and Research Institute Coimbatore
	Chair	Dr.T.Indhumathi Associate Professor, Department of Biochemistry Dr.N.G.P Arts and Science College.
	03:00 – 03:30 pm	Valediction



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VALEDICTION

Date: 27. 02.2019

Time: 03:00 p.m.

AGENDA

Prayer College Choir

Welcome Address

Dr. V. Rajendran
Principal
Dr.N.G.P. Arts and Science College

Presidential Address

Dr.Nalla G Palaniswami
Chairman, Dr. N.G.P. Educational Institutions

Dr.Thavamani D. Palaniswami
Secretary, Dr. N.G.P. Educational Institutions

Introduction of Chief Guest

Dr.S.Gowri
Associate Professor and Head, Dept. of Biochemistry

Honoring the Chief Guest

Dr.Thavamani D. Palaniswami
Secretary, Dr. N.G.P. Educational Institutions

Valedictory Address

Dr.Varadharaju Chandrasekar
Bioline Laboratory and Research Institute
Coimbatore

Feedback by delegates

Reply to the Feedback

Dr.S.Balasubramanian
Dean, Research & Development

Vote of Thanks

Dr. J. RengaRamanujam
Associate Professor and Head, Dept. of

Microbiology

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National Anthem

College Choir

Plenary Sessions



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Prof.A.V.Gnanasambandam
Chief Executive Officer-TBI
ABIS
Tamil Nadu Agricultural University (TNAU)
Coimbatore.



Prof. A.V.Gnanasambandam enlightened the participants on **Agribusiness** and also about the role of incubation centers in successful agricultural innovations in the way of certification, packaging facilities, financial support etc. The participants actively interacted with the speaker to learn the new opportunities available for startups.



Prof.T.Poongodi Vijayakumar
Department of Food Science and Nutrition
Periyar University
Salem.

Prof.T.Poongodi Vijayakumar provides an insight to the participants on **Leveraging Food and Nutrition Innovations into Practice** and about the role of undergraduate research and startups in the promotion of the Indian economy. Her talk highlighted on Exchange experiences, lessons learnt and good practices and business models from ongoing efforts to promote and sell nutritious and healthy foods through SMEs.

Dr.Varadharaju Chandrasekar
Bioline Laboratory and Research Institute
Coimbatore



Dr.Varadharaju Chandrasekar provoked the students on the topic **Biology, an inspirational science**. He extempored the young minds on different bioprospecting ideas including mushroom cultivation and isolation of secondary metabolites from different mushroom varieties. He also enlightened the participants on the anticancer potential of mushroom varieties. His talk also protracted on career opportunities for life science graduates.



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LIST OF ABSTRACTS RECEIVED FOR PRESENTATION

S.NO	NAME OF THE PARTICIPANT	DEPARTMENT AND NAME OF THE COLLEGE	TITLE OF THE MANUSCRIPT
1	DHIVATHINI T	PSG COLLEGE OF ARTS AND SCIENCE	ANTHROSONE DEPLETION DUE TO CFC
2	SUWATHI S	PSG COLLEGE OF ARTS AND SCIENCE	ANTHROPOGENIC HAZARDS DUE TO INDUSTRIAL ACTIVITY
3	KOKILA S AND DEEPA K	NAVARASM ARTS AND SCIENCE COLLEGE FOR WOMEN	A STUDY ON PHYTOCHEMICAL ANALYSIS ANTIOXIDANT AND ANTIBACTERIAL ACTIVITY OF GROUNDNUT SHELL EXTRACT
4	DHIVYA S	NAVARASM ARTS AND SCIENCE COLLEGE FOR WOMEN	SYNTHESIS OF ZINC OXIDE NANOPARTICLES USING MORINGAOLIEFERA FLOWER EXTRACT AND EVALUATION OF ANTIMICROBIAL ACTIVITY
5	ROHIN KARTHIL J & KISHORE R	HINDUSTHAN COLLEGE OF ARTS AND SCIENCE	VAM AS BIOFERTILIZER
6	SNEHA P & DIVYAPRIYA R	PSGR KRISHNAMMAL COLLEGE FOR WOMEN	PILOT STUDY ON THE EFFECT OF USAGE OF ELECYTRONIC GADGETS TOWARDS DIGITAL DEMENTIA
7	HARINISRI G	PSGR KRISHNAMMAL COLLEGE FOR WOMEN	CONTINUOUS AIR QUALITY MONITORING OF COIMBATORE CITY USING LOW COST SENSORS
8	RAJESHWARI K	PSGR KRISHNAMMAL COLLEGE FOR WOMEN	MOLECULAR DOCKING STUDIES OF BIOACTIVE COMPOUNDS FROM ABUTILON HIRTUM (LOW) SWEET (MALVACEAE)
9	DHARANI S	PSGR KRISHNAMMAL COLLEGE FOR WOMEN, CHEMISTRY	NICKEL ZINC NANOCOMPOSITE SYNTHESIS CHARACTERISATION & DYE DEGRADATION STUDIES
10	SHANMATHI K	PSGR KRISHNAMMAL COLLEGE FOR WOMEN, CHEMISTRY	SYNTHESIS CHARACTERISATION AND TRIBIOLOGICAL PROPERTIES OF MgO-ZnO nanolubricants
11	MADHUBALA D	PSGR KRISHNAMMAL COLLEGE FOR WOMEN, BOTANY	IMPACT OF WATER POLLUTION ON ANATOMICAL AND HISTO CHEMICAL FEATURE OF E.Gassipes
12	SNEHA P & DIVYAPRIYA R	PSGR KRISHNAMMAL COLLEGE FOR WOMEN, ZOOLOGY	ELECTRONIC DEVICES DIGITAL DEMENTIA



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13	HARINISHRI	PSGR KRISHNAMMAL COLLEGE FOR WOMEN, ZOOLOGY	AIRPOLLUTION
14	KOKILA S & DEEPA K	NAVARASM ARTS AND SCIENCE COLLEGE FOR WOMEN	ANTIOXIDANT AND ANTIBACTERIAL GROUNDNUT SHELL ASH EXTRACT
15	DIVYA S & NAVANEETHAVENI K	NAVARASM ARTS AND SCIENCE COLLEGE FOR WOMEN	ANTIBACTERIAL AND ANTIFUNGAL
16	G V MONISHA	PSGR KRISHNAMMAL COLLEGE FOR WOMEN	Fitting Different Mathematical models for the wheat yield
17	HARINI M	PSGR KRISHNAMMAL COLLEGE FOR WOMEN	Fast Fourier transform for weed detection in corn fields
18	JAYASURENDAR S	DR.N.G.P ARTS AND SCIENCE COLLEGE	Power from radiation
19	SRICHARAN A	DR.N.G.P ARTS AND SCIENCE COLLEGE	Power from radiation
20	BALAMURUGAN P	DR. N.G.P ARTS AND SCIENCE COLLEGE	Nanobatteries
21	MOHAMMAD SUHAIB M	DR.N.G.P ARTS AND SCIENCE COLLEGE	GREEN SYNTHESIS OF ZINC NANOPARTICLES USING ALGAE AND THEIR ANTIBACTERIAL ,ANTIOXIDANT ACTIVITY.
22	ASWATHI S	DR.N.G.P ARTS AND SCIENCE COLLEGE	TESTING OF ANTI COAGULANCE FROM TRIDAX PROCUMBUENS
23	RAMYA S	DR.N.G.P ARTS AND SCIENCE COLLEGE	TESTING OF ANTI COAGULANCE FROM TRIDAX PROCUMBUENS
24	VIMAL ARAVIND B	DR.N.G.P ARTS AND SCIENCE COLLEGE	ACTIVATED CARBON FOR CONSUMPTION
25	THARUN VIJAY S V	DR.N.G.P ARTS AND SCIENCE COLLEGE	ACTIVATED CARBON FOR CONSUMPTION
26	MAYURIKAA N	DR.N.G.P ARTS AND SCIENCE COLLEGE	EVALUTION OF THE POTENCY OF LEAF EXTRACT OF CHROMOLAENA ODORATA IN INDUCING CYTOTOXICITY IN CANCER CELLS
27	NIVETHITHA M	DR.N.G.P ARTS AND SCIENCE COLLEGE	LARVICIDAL ACTIVITY THROUGH Bacillus thuringiensis ENHANCED WITH SOME PHYTOPLANT EXTRACT
28	NIVEDHA P	DR.N.G.P ARTS AND SCIENCE COLLEGE	ANTIFUNGAL PROPERTIES OF LICHEN AGAINST HUMAN PATHOGEN
29	JANANIRAJAM S	DR.N.G.P ARTS AND SCIENCE COLLEGE	ANTIFUNGAL PROPERTIES OF LICHEN AGAINST HUMAN PATHOGEN
30	RESHMIKA S	DR.N.G.P ARTS AND SCIENCE COLLEGE	EVOLVULUS ALSINVIDES EXTRACT COATING ON CATHETER AGAINST UTI



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31	GOPAL B	DR.N.G.P ARTS AND SCIENCE COLLEGE	SOLID RAIN
32	DEEPAK C S	DR.N.G.P ARTS AND SCIENCE COLLEGE	SOLID RAIN
33	RAGUL G	DR.N.G.P ARTS AND SCIENCE COLLEGE	ANALYTICAL LIFELINE
34	PRIYADHARSHINI C	PSGR KRISHNAMMAL COLLEGE FOR WOMEN	SMART IRRIGATION SYSTEM
35	VARSHA R	PSGR KRISHNAMMAL COLLEGE FOR WOMEN	SILVER COPPER NANOCOMPOSITE
36	VISHNU B	DR.N.G.P ARTS AND SCIENCE COLLEGE	PHYTO-NIOSOMES AND CANCER
37	SREENITHI V	DR.N.G.P ARTS AND SCIENCE COLLEGE	PHYTO-NIOSOMES AND CANCER
38	KAVYA G	DR.N.G.P ARTS AND SCIENCE COLLEGE	PRODUCT DEVELOPMENT FROM TRIDAX PROCUMBENIS
39	MEENA C	DR.N.G.P ARTS AND SCIENCE COLLEGE	PRODUCT DEVELOPMENT FROM TRIDAX PROCUMBENIS
40	HARI PRASATH K	DR. N.G.P ARTS AND SCIENCE COLLEGE	MUSHROOM (<i>PLUROTUS FLORIA</i>)
41	PUKAZHENTHI	DR. N.G.P ARTS AND SCIENCE COLLEGE	MUSHROOM (<i>PLUROTUS FLORIA</i>)
42	S.V. SANMATHI	DR. N.G.P ARTS AND SCIENCE COLLEGE	EFFICACY OF FRUIT WASTE ON SEED GERMINATION OF <i>CAPSICUM ANNUM</i>
43	S. NANDHINI	DR. N.G.P ARTS AND SCIENCE COLLEGE	EFFICACY OF FRUIT WASTE ON SEED GERMINATION OF <i>CAPSICUM ANNUM</i>
44	T. GOPISHANKAR	DR. N.G.P ARTS AND SCIENCE COLLEGE	SYNTHESIS OF Ag & Cu NANOPARTICLES & SCREENING ITS ANTIBIOFILMIC ACTIVITY
45	NIRANJANA J	DR. N.G.P ARTS AND SCIENCE COLLEGE	ARACHISHYPOGEAE LEAVES AS NOVEL SOURCE OF L-asparaginase -a chemotherapeutic agent



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Momentary Glimpses of NSGR



A grand inauguration session of National Symposium on Graduate Research-19 (NSGR-19) with Mr. Gnanasambandam, TNAU, Dr. T. Poongodi Vijayakumar, Periyar University, Dr. Rosandelabendra, Nutrition Society of Srilanka



Active participation of 980 students and faculty members from various colleges.

A representative from Diamond sponsor of the event receiving the certificates and medals from the resource person.





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Students from different colleges and Host College presented their papers and the best papers and projects were selected. They have been individually awarded based on their research work under the category Chemical science, Physical science, Mathematical science, Applied science, Life science, Computer science and IT. The Sponsorship categories are

Diamond: Rs. 15,000 - 15 students + 3 faculty members

Gold: Rs. 10,000 - 10 students + 2 faculty members

Silver: Rs. 5,000 - 5 students + 1 faculty members

Ragul G. Department of Biotechnology from Dr.N.G.P. ASC presented Analytical life line “meshing” (Software or App), he got the first prize.

J. Niranjana, Department of Biotechnology from Dr.N.G.P. ASC presented “Arachishypogara L.(leaves) as novel source of L – Asperginase – A chemotherapeutic agent”, she got second prize

Sanmathi and Nandhni Department of Biochemistry from Dr.N.G.P. ASC, they presented “Efficacy of fruit waste on germination of *Capsicum annum*” they got third prize

Gopishankar, Department of Biotechnology from Dr.N.G.P. ASC presented “Biosynthesis of inorganic silver and copper nanoparticles from *Tetraselmundica* and screening its antibiofilm activity”, he got third prize



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Shanmathi, Department of Chemistry from PSGR Krishnammal College for Women presented paper in the title "Synthesis, characterization and biological properties of Mgo-Znonano lubricates" she got first prize

G. Harinishri, Department of Zoology from PSGR Krishnammal College for Women presented paper in the title "Air pollution and she got first prize"

R. Saikishore and J. RohinKarthik, Department of Microbiology from Hindusthan Arts and Science College presented paper in the title Biofertilizer, they got second prize

D. Madhubala, from PSGR Krishnammal College for Women presented paper in the title "Studies on Anatomical and histochemical characteristic salms, using Foldscope as a tool", she got first prize





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Summary of the event

Under DBT STAR college scheme, 2 day National Symposium was conducted on February 26th and 27th of this year with grand success. The event was designed to instil the importance of research in the young minds and to nourish and nurture their skills to become future scientists. The broad areas which were covered in the symposium were literature reviews, systematic reviews, research methods, managing data and other such related topics.

It began with a formal inauguration with a cordial welcome address by Prof.Dr. V. Rajendran, principal, Dr. N.G.P. Arts and Science College, Coimbatore. The chief guests for the occasion were Prof.Dr.Roshan Delabandara, Secretary, Nutrition Society of Sri Lanka. The guests of honour were Dr. A.V. Gnanasambadam, Chief Executive officer, TNAU, Coimbatore and Dr. T. Poongodi Vijaykumar, Periyar University, Salem. The above two members delivered lectures as the keynote speakers. Dr. S.S. Sudha, the DBT STAR College Scheme Co-ordinator proposed the vote of thanks which marked the end of the inaugural session and the beginning of the symposium.

Following this, in the afternoon, the session was purely technical where the young researchers who were all under graduate students presented their findings with lot of enthusiasm and confidence awaiting exciting rewards. More than 50 students from different disciplines like Botany, Zoology, Physics, Chemistry, Mathematics, Biochemistry, Biotechnology and Microbiology participated in the symposium. The peer group of students posed interesting questions which each of the participant took it up as a challenge and did their best to answer the questions as a dynamic defense session.

The second day began with a lecture session by the key note speaker Dr.VaradharajuChandrasekar, MD, Bioline Laboratory and Research Institute and continued with enriched sessions of deliberations by the students. Some colleges which participated in the symposium are Lady Doak College from Madurai, PSG College of Arts, Hindustan College of Arts and Science, Nanda College of Arts and Science from Perumanallur, Navarasam College of Arts and Science from Arasur are some of the few colleges. Students presented their findings in front of the judges and the jury decided to award three awards as first, second and third prizes to the internal students from Dr .N.G.P Arts and Science college and yet another three prizes to the students who participated from outside colleges. The prizes were distributed in the category of basic sciences, bio sciences and applied sciences which was bagged by both outside participants and internal participants.

The event came to a close on the second day evening with a formal valedictory function. The welcome address was given by Prof.Dr. V. Rajendran, Principal, Dr. N.G.P. Arts and Science College, Coimbatore. The guest for the valedictory address was Dr.Dr.Varadharaju Chandrasekar, MD, Bioline Laboratory and Research Institute, Coimbatore who delivered the valedictory address. Interesting feedback was received from the students who appreciated for creating an avenue for express their innovations. Formal vote of thanks by Dr.Renga Ramanujam, Head, Department of Microbiology drew the curtains down for the event which marked a grand success of one of its kind.