

Name: Dr. P. Umadevi

Designation: Professor

Department: Mathematics

Qualification: M.Sc., M. Phil., PGDCA., Ph.D.

Experience: Teaching: 12.5 Years Research: 4.9 Years

Area of Specialization(s): Computational Fluid Dynamics, Heat Transfer, Nanofluids

Email (Official ID): umadevi@drngpasc.ac.in



Academic Qualifications

Degree	Branch	Institution / University Name	Year of Graduation
Ph. D.	Mathematics	School of Mathematics and Statistics, Bharathiar University, Coimbatore.	2017
M. Phil.	Mathematics	Navarasam Arts and Science College for Women, Erode.	2010
M. Sc.	Mathematics	Karuppannan Mariappan College of Arts and Science, Muthur.	2007
B. Sc.	Mathematics	Navarasam Arts and Science College for Women, Erode.	2005

Additional Qualifications

Diploma / Vocational / Certification	Area of Specialization	Institution / University / Agency Name	Year
PGDCA	Computer Application	Navarasam Arts and Science College for Women, Erode	2008

Research Guidance

Programme	No. of Scholars	
	Completed	Pursuing
Ph. D.	-	4
M. Phil.	1	-

Research Publications (Indexed)

International:

- Nagarajan Nithyadevi and Periyasamy Umadevi, **NATURAL CONVECTION AROUND A HEAT CONDUCTING AND GENERATING SOLID BODY INSIDE A SQUARE ENCLOSURE WITH DIFFERENT THERMAL BOUNDARIES**, Journal of Korean Society of Industrial and Applied Mathematics, Vol. 19 (4) pp. 459-479, December -2015. (Indexed in Google Scholar)
- Nithyadevi Nagarajan and Umadevi Periyasamy, **NATURAL CONVECTION IN A TILTED SQUARE ENCLOSURE HAVING HEAT GENERATING SOLID BODY AND WITH VARIOUS THERMAL BOUNDARIES**, Procedia Engineering, Vol. 127, pp. 1235-1242, January 2015. (Indexed in SCOPUS).
- P. Umadevi and N. Nithyadevi, **MAGNETO-CONVECTION INSIDE AN ENCLOSURE HAVING A HEAT GENERATING SOLID SQUARE BODY AND WITH VARIOUS THERMAL BOUNDARIES**, Proceedings of the International Conference on Computing in Mechanical Engineering, doi:10.3850/9789810962784-1570135337, February 2016. (Indexed in Google Scholar)
- P. Umadevi and N. Nithyadevi, **MAGNETO-CONVECTION OF WATER-BASED NANOFLUIDS INSIDE AN ENCLOSURE HAVING UNIFORM HEAT GENERATION AND VARIOUS THERMAL BOUNDARIES**, Journal of the Nigerian Mathematical Society, Vol. 35(1), pp. 82-92, April 2016. (Indexed in Google Scholar)
- Umadevi P and Nithyadevi, **CONVECTION IN A SINUSOIDALLY HEATED SQUARE ENCLOSURE UTILIZING AG WATER NANOFLUID WITH HEAT GENERATING SOLID BODY**, International journal of Mechanical Sciences, Vol. 131–132 , pp. 712–721, ISSN: 0020-7403, (Indexed in SCI, SCIE, SCOPUS and Google Scholar)), Impact Factor: 2.884, August -2017.
- Periyasamy Umadevi and Nagarajan Nithyadevi, **CONVECTION IN A TILTED SQUARE ENCLOSURE WITH VARIOUS BOUNDARY CONDITIONS AND HAVING HEAT GENERATING SOLID BODY AT ITS CENTER**, International Journal of Mathematical Modeling and Computations, Vol. 07 (2), pp 130 – 144, November 2017, Impact Factor: 1.2448.
- P. Umadevi, N. Nithyadevi and H.F. Oztop, **NUMERICAL STUDY ON THE EFFECT OF ANGLE OF INCLINATION ON MAGNETOCONVECTION INSIDE ENCLOSURE WITH HEAT GENERATING SOLID BODY**, Journal of the Indian Mathematical Society, Vol.86 (3-4), pp 341 – 358, 2019, (Indexed in Scopus and UGC's - CARE List of Journals (Group A)).
- P Umadevi, M Suganya and J Prakash, **INFLUENCE OF THE FERRO PARTICLES ON CONVECTION INSIDE INCLINED 2D ENCLOSURE WITH HEAT CONDUCTING**

AND GENERATING BODY, Journal of Nanofluids, Vol. 11 (4), pp 572-582 (Indexed in Scopus and SCIE and Google Scholar), Impact Factor 1.96, Aug 2022

- K Al-Farhany, B Al-Muhja, K Loganathan, U Periyasamy, F Ali and IE Sarris, **ANALYSIS OF CONVECTION PHENOMENON IN ENCLOSURE UTILIZING NANOFLUIDS WITH BAFFLE EFFECTS**, Journal of Energies, Vol. 15 (18), pp-6615 (Indexed in Scopus, Web of Science and SCIE and Google Scholar), Impact Factor 3.252, Sep 2022
- U Periyasamy, N Alessa, G Sadhana and K Loganathan, **COMPARATIVE STUDY ON THERMAL TRANSMISSION ASPECTS OF NANO AND FERROFLUID IN ENCLOSURES HOLDING HEAT-GENERATING BODY**, Journal of Coatings, Vol. 12 (12), pp 1810 (Indexed in Scopus, Web of Science and SCIE and Google Scholar), Impact Factor 3.236, Nov 2022
- P. Umadevi, A. Shamadhani Begum, Ali J. Chamkha and G. Maheshwari, **NUMERICAL ANALYSIS OF MAGNETIC FIELD EFFECT ON FERRO PARTICLE SUSPENDED NANOFLUID FILLED SQUARE, ENCLOSURE CONSIST OF HEAT GENERATING BODY**, Journal of Nanofluids Vol. 12, pp. 1605–1613, 2023 (Indexed in Scopus and SCIE and Google Scholar), Impact Factor 1.96, July 2023
- K. Manimekalai, P. Umadevi, K. Loganathan, and C. Selvamani, **BIOCONVECTIVE FLOW OF MAXWELL NANOFLUID WITH SWIMMING OF GYROTACTIC MICROORGANISMS WITH TRIPLE STRATIFICATION**, Journal of Materials Today: Proceedings (not yet assigned) (Indexed in Scopus and Google Scholar), 2023.
- M. Vinitha and P. Umadevi, **RESOLVENT OPERATOR APPROACH TO THE EXISTENCE AND UNIQUENESS OF MILD SOLUTIONS FOR FRACTIONAL INTEGRO-DELAY DIFFERENTIAL EQUATIONS WITH NONLOCAL BOUNDARY TERMS**, Journal of Dalian University of Technology | ISSN: 1000-8608, Vol. 32, Issue-10 (Indexed in Scopus) , 2025.

Presentations in Conference

- **FUZZY TOPOLOZY**, National Conference on Recent Trends in Fuzzy Sets, Navarasam Arts & Science College for women, Arachalur, 25- Sep-10
- **MAGNETO-CONVECTION IN A PARTIALLY HEATED ENCLOSURE WITH TEMPERATURE DEPENDENT HEAT SOURCE**, 57th Congress of Indian Society of Theoretical and Applied Mechanics (ISTAM), An International Meet, Defense Institute of Advanced Technology (Deemed University), Pune, 17- Dec- 12 to 20 -Dec-12

- **MAGNETOCONVECTION IN A DIFFERENTLY HEATED VERTICAL WALLS IN A SQUARE CAVITY WITH THE PRESENCE OF TEMPERATURE DEPENDENT HEAT SOURCE**, National Conference on Partial Differential Equations and Applications, Department of Mathematics, Bharathiar University, Coimbatore, 30-Jan- 14 to 31 -Jan-14
- **NUMERICAL ANALYSIS OF NATURAL CONVECTION IN AN ENCLOSURE HAVING HEAT CONDUCTING AND GENERATING SOLID OBSTACLE WITH VARIOUS THERMAL BOUNDARIES**, National conference on Recent Trends in Theory and Applications of Partial Differential Equations, Department of Mathematics, Bharathiar University, Coimbatore, 26-Mar- 15to 27- Mar-15
- **MAGNETOCONVECTION INSIDE AN ENCLOSURE HAVING A HEAT GENERATING SOLID BODY AND WITH VARIOUS THERMAL BOUNDARIES**, International Conference on Computing in Mechanical Engineering (ICCM^E’ 15), SCMS School of Engineering and Technology, Kochi, Kerala, 10-Aug -15 to 13- Aug-15
- **NATURAL CONVECTION IN A TILTED SQUARE ENCLOSURE HAVING HEAT GENERATING SOLID BODY AND WITH VARIOUS THERMAL BOUNDARIES**, International Conference on Computations in Heat and Mass Transfer (ICCHMT-2015), NIT Warangal, Telungana, 30 -Nov-15 to 2 -Dec-15
- **EFFECT OF ANGLE OF INCLINATION ON CONVECTION INSIDE ENCLOSURE INCLUDING A HEAT GENERATING SOLID BODY** , 61st Congress of Indian Society of Theoretical and Applied Mechanics (ISTAM 2016) An International Conference, VIT University, Vellore, 11- Dec- 16 to 14 -Dec- 16.
- **CONVECTION IN A DIFFERENTLY HEATED ENCLOSURE WITH HEAT GENERATING SOLID BODY**, One Day National seminar on Recent Developments in Pure and Applied Mathematics, Department of Mathematics, Karpagam University, Coimbatore, on 15 – Sep- 17.
- **ROLE OF OPERATIONS RESEARCH IN MEDICAL DECISION MAKING**, National conference in Opportunities and Challenges of Operation Research in Healthcare, Dr.NGP Arts and Science College, Coimbatore, 9- Feb -18.
- **CONVECTION IN A DIFFERENTLY HEATED ENCLOSURE WITH HEAT CONDUCTING AND GENERATING SOLID BODY IN PRESENCE OF MAGNETIC FIELD**, International conference on Mathematical Modeling, Analysis and Computing(MMAC - 2018), Department of Mathematics, Thiruvalluvar University, Vellore, 13- Dec- 18 to 14- Dec-18.
- **EFFECT OF SINUSOIDAL HEATING ON NATURAL CONVECTION IN ENCLOSURE WITH HEAT GENERATION AND FILLED WITH NANOFLUID**, National conference on Differential Equations and Dynamical Systems, Department of Mathematics, NIT Karaikal, 5- Apr- 19 to 6- Apr- 19.

- **CONVECTION IN ENCLOSURES**, International Conference on New Trends in Differential Equations and Applied Mathematics, Christ University (Consortium of Colleges), Bengaluru, 12-Apr- 21 to 13- Apr- 21.
- **MHD NATURAL CONVECTIVE FLOW ANALYSIS IN AN INCLINED SQUARE DOMAIN SUSPENDED WITH AG-WATER NANOFLUID AND HEAT GENERATING BODY**, National Conference on New Trends in Applied Mathematics, Chhtrapat Shahu Ji Maharaj University, Kanpur, 11- Oct- 21 to 12- Oct - 21.
- **MHD NATURAL CONVECTIVE FLOW ANALYSIS IN AN INCLINED SQUARE DOMAIN SUSPENDED WITH AG-WATER NANOFLUID AND HEAT GENERATING BODY**, National Conference on New Trends in Applied Mathematics, Chhtrapat Shahu Ji Maharaj University, Kanpur, 11- Oct- 21 to 12- Oct - 21.
- **NUMERICAL ANALYSIS OF MAGNETIC FIELD CONTROLLED NATURAL CONVECTION OF FERRO PARTICLE SUSPENDED NANOFLUID FLOW AROUND A HEAT GENERATING BODY INSIDE A SQUARE ENCLOSURE ENCOUNTERS UNLIKE THERMAL BOUNDARY CONDITIONS**, 1st International Conference on Applied Analysis, Computation and Mathematical Modelling in Engineering, NIT Rourkela, 24-Feb-21 to 26-Feb-21.
- **MAGNETO-CONVECTION IN INCLINED DOMAIN UTILIZING FERRO FLUID WITH HEAT GENERATING OBSTACLE**, National Conference on Numerical Analysis and Application, Department of Mathematics, NIT Puducherry, Karaikal, 06- Jan- 22 to 07- Jan- 22.
- **A COMPARITIVE STUDY OF SIMPLE AND FERRO PARTICLE SUSPENDED NANOFLUID FLOW AND HEAT TRANSFER IN A 2D SQUARE ENCLOSURE WITH HEAT GENERATING SOLID BODY**, 3rd International Conference on Mathematical Techniques and Applications, SRM Institute of Science and Technology, Kattankulathur, 23- Mar- 22 to 25- Mar- 22.
- **BIOCONVECTIVE SUTTERBY NANOFLUID FLOW PAST A RIGA PLATE WITH NON-LINEAR RADIATION AND SWIMMING OF GYROTACTIC MICROORGANISMS**, 6th International Conference on Advancements and Materials and Manufacturing, MLR Group of Institutions, Hyderabad 16-Feb-24 to 17-Feb-24.
- **CONVECTION HEAT TRANSPORT BEHAVIOUR OF NANOFLUIDS IN THE PRESENCE OF MAGNETIC FIELD**, International Conference on Applied Mathematics and Computing, Bharathiar University, Coimbatore 19-Feb-25 to 20-Feb-25.

Participation in Conference

National:

- National Conference on Computational Biology, Department of Mathematics, Bharathiar University, Coimbatore, 15 - Feb - 13 to 16 - Feb - 13.

- National Conference on Partial Differential Equations and Applications, Department of Mathematics, Bharathiar University, Coimbatore, 30- Jan- 14 to 31 - Jan- 14.
- Conference on Computer Communication and Information Technology, Dr. N.G.P. Arts and Science College, Coimbatore, 28-Sep-16.
- NBHM Sponsored Conference on Computational and Theoretical Partial Differential Equations (CCT-PDE 2016), Department of Humanities and Sciences, National Institute of Technology, Goa, 5 –Oct- 16 to 7- Oct -16.
- National Conference on Recent Advances in Theoretical and Computational Methods for Partial Differential Equations, Dr. NGP Arts and Science College, Coimbatore, 6- Jan - 17 to 7- Jan - 17.
- FOURTH NATIONAL CONFERENCE ON COMPUTATIONAL BIOLOGY, DRDO-BU Center For Life Science, Bharathiar University Campus, Coimbatore, 7- Sep- 17.
- National Conference on Applications of Statistics in Biological Sciences, Dr.NGP Arts and Science College, Coimbatore, 7- Feb- 19 to 8- Feb- 19.
- DST PURSE Sponsored National Webinar on RESEARCH ADVANCES IN APPLIED MATHEMATICS, Department of Applied Mathematics, Bharathiar University, Coimbatore, 22- Mar- 21 to 24- Mar- 21.
- Indian Women and Mathematics Annual Conference 2021-22, Department of Mathematics & Statistics, Banasthali Vidyapith, Rajasthan, 28- Jan- 22 to 30- Jan- 22.

Participation in Seminars / Webinar

- LARGE DEVIATIONS THEORY: CONNECTIONS TO CONTROL THEORY, FLUID DYNAMICS, NONLINEAR PDE AND STATISTICS, Department of Mathematics, Bharathiar University, Coimbatore, 16- Feb- 12 to 22- Feb -12
- SEMINAR ON PARTIAL DIFFERENTIAL EQUATIONS, Department of Mathematics, Bharathiar University, Coimbatore, 28–Feb-12 to 29-Feb-12
- SPECIAL LECTURE SERIES ON MATHEMATICS OF TURBULENCE, RANDOM WAVES AND QUANTUM FIELDS, Department of Mathematics, Bharathiar University, Coimbatore, 16- Jul- 12 to 27 -Jul -12
- LECTURE SERIES ON QUASI-LINEAR PARTIAL DIFFERENTIAL EQUATIONS OF FLUID DYNAMICS AND PHYSICS, Department of Mathematics, Bharathiar University, Coimbatore. 30 - Jun -14 to 11 -Jul- 14
- INTERNATIONAL SYMPOSIUM ON NEOTERIC NOTION IN ALGEBRA, Nandha Arts and Science College, Erode, 21 –Sep- 16
- STRATEGIES FOR LOW BUDGET RESEARCH, Crescent innovation Incubation Council, 20-May- 20.

- Webinar on DISSERTATION WRITING : PRACTICES AND PRINCIPAL, Pondicherry University, Pondicherry, 23-May-20.
- Webinar on INTRODUCTION TO MATLAB, Gobi Arts and Science College, Gobichettipalayam, 26-Jun- 20.

Participation in Workshop

- DAAD Network International Workshop on MODELING, COMPUTING AND OPTIMIZATION, Department of Mathematics, IIT Madras, 3 Sep-12 to 12-Sep-12.
- THE STATE LEVEL WORKSHOP ON APPLICATIONS OF TOOLS USING R-LANGUAGE- A HANDS ON TRAINING, Dr.NGP Arts and Science College, Coimbatore, 23- Sep- 16 to 24- Sep- 16.
- WORKSHOP ON SCILAB - AN OPEN SOURCE TOOL EQUIVALENT TO MATLAB, Dr. NGP Arts and Science College, Coimbatore, 23- Sep- 17.
- National Hands of Workshop on FINITE ELEMENT METHOD FOR BEGINNERS AND ENGINEERS, Dr. NGP Arts and Science College, Coimbatore, 20- Dec- 18 TO 20- Dec- 18.
- UGC-SAP-DRSI Sponsored National Workshop on NEW TRENDS ON STOCHASTIC PROCESSES, SQC & RELIABILITY USING R PROGRAMMING, DEPARTMENT OF STATISTICS, Annamalai University, 11- Jly-19 to 12- Jly 19.
- One day Workshop on LATEX- A TOOL FOR RESEARCH, PSGR Krishnammal College for Women, Coimbatore, 15 – July – 19.
- International Workshop on RECENT TRENDS IN APPLIED MATHEMATICS AND RESEARCH METHODOLOGY, Govt MGM PG College, Itarsi, MP, 04-Mar-21 to 05-Mar-21.
- Five Days international workshop on RECENT ADVANCES IN DIFFERENTIAL EQUATIONS AND APPLICATIONS, VIT-AP University, Andhra Pradesh, 27-Oct-23 to 31-Oct-23.

Participation in Orientation Programme / Short Term Courses

- NPTEL Online Certification: AN INTRODUCTION TO CARDIOVASCULAR FLUID MECHANICS, IIT Guwahati, Feb- Mar -2018.
- NPTEL Online Certification: DATA BASE MANAGEMENT SYSTEM, IIT Kharagpur, Aug - Sep - 2018.
- A comprehensive Online Course on PERSONNAL AND STRESS MANAGEMENT, Department of Commerce CA, Erode Arts College, Erode, 13 – May – 20 to 14 – May – 20.
- 10 Days FIP online short term Course on BIOSTATISTICS AND R- PROGRAMMING, Rathnavel Subramaniam College of Arts and Science, Coimbatore, 09 – Aug – 21 to 19 – Aug – 21.

Conference/ Seminar/ Workshop Organised

- Organizing Member, Science Academics Refresher course in Differential Equation and its

Applications, Dr. N.G.P. Arts and Science College, 11-Aug-21 to 26-Aug-21.

- Organizing Member, National Conference on Recent Trends in Basic and Applied Sciences, Dr. N.G.P. Arts and Science College, Coimbatore, 2-Mar-2020 to 3-Mar-2020.
- Organizing Member, Emerging Trends in Mathematics with Computer Applications, Dr. N.G.P. Arts and Science College, Coimbatore, 12-Sep-19 to 13-Sep-2019.
- Organizer, Guest Lecture on Relevance of Mathematics in Control Systems, Dr. N.G.P. Arts and Science College, Coimbatore, 01-Feb-24.
- Organizer, Hands on Training on Cloud Computing, Dr. N.G.P. Arts and Science College, Coimbatore, 14-Feb-24.

Participation in Faculty Development Programme

- NATIONAL LEVEL TEACHERS ENRICHMENT WORKSHOP ON GALOIS THEORY AND COMPLEX ANALYSIS, (Funded by NCM) A joint centre of TIFR and IIT Bombay, St. Berchmans College, Kerala, 30- Apr -18 to 5- May -18.
- QUALITY INITIATIVES IN HIGHER EDUCATION, Dr. N.G.P. Arts and Science College, Coimbatore, 3- Dec -18 to 9 -Dec -18.
- ONE DAY FDP ON ALGEBRA AND NUMBER THEORY, Dr. N.G.P. Arts and Science College, Coimbatore, 18 - May - 19.
- NAAC REVISED ACCREDITATION FRAME WORK AND OBE ASSESSMENT METHODOLOGY, Dr. N.G.P. Arts and Science College, Coimbatore, 27 - May - 19 to 02 - Jun - 19.
- Two Day FDP on RECENT ADVANCES IN MATHEMATICS, Department of Mathematics, Dr. N.G.P. Arts and Science College, Coimbatore, 3 - Jun - 19 to 04 - Jun - 19.
- One week PDF Program on QUALITY INITIATIVES IN HIGHER EDUCATION, Consortium of Colleges, Online 13 - Apr - 20 to 20 - Apr - 20.
- One Week FDP on ADVANCED RESEARCH METHODOLOGY AND WRITING OF HIGH QUALITY RESEARCH PAPERS, Swami Keshvanand Institute Of Technology, Management and Gramothan, Jaipur, 24 - Aug- 21 to 28 - Aug – 21.
- One Week FDP on CURRENT TRENDS IN APPLICATIONS OF MATHEMATICS, Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology, Avadi, Chennai, 21-Sep-2022 to 04- Sep-2022
- Seven Days International Virtual FDP on RESEARCH INSIGHTS FOR ACADEMIC EXCELLENCE, KPR College of Arts Science and Research, Coimbatore, 3- Aug-2023 to 9-Aug-2023
- National Level Teachers Enrichment Workshop on **GROUP THEORY, LINEAR ALGEBRA AND ENUMERATIVE COMBINATORIES**, (Funded

by NCM) A joint center of TIFR and IIT Bombay, Mangalore University, Mangalore, 5- Aug -24 to 10- Aug -24.

- NEP ORIENTATION AND SENSITISATION PROGRAMME, Organised by Malaviya Mission Teacher Training Centre by UGC-Indira Gandhi National Tribal University, Amarkantak, Madhya Pradesh, 03 Apr 25 to 12t Apr 25
- National level online workshop on “**Application Development with AI and Essential Skills**”, Organized by BRAINOVISION SOLUTIONS INDIA PVT. LTD. in collaboration with AICTE, 23-Jun 25 to 27-Jun 25
- National level online workshop on “**Generative AI**”, Organized by BRAINOVISION SOLUTIONS INDIA PVT. LTD. in collaboration with AICTE, 4-Aug 25 to 8-Aug 25

Members in BoS

- Board of Studies member at Department of Mathematics, Sri Ramakrishna College of Arts and Science, 1- Jun - 2020
- External Auditor in Academic Audit held in Rathinam College of Arts and Science on 24.11.22.
- Board of Studies member at Department of Mathematics, Dr. NGP Arts and Science College, Nov-2017 to till date.

Editorial / Review Board Member

- Review Board Member, Journal of Applied Mathematics and Information Sciences, since 2019.

Membership in Professional Bodies

Name of the Professional Body	Nature of membership	Duration
Indian Society of Industrial and Applied Mathematics	Life-time	-