

Name : Dr. R. Sowrirajan
Designation : Assistant Professor & Head
Department : Mathematics
Qualification : M. Sc., M. Phil., Ph.D.
Experience : Teaching: 16 Years 3 Months Research: 3 Years
Area of Specialization(s): Partial Differential Equations, Mathematical Finance
Email : sowrir@gmail.com



Academic Qualifications

Degree	Branch	Institution / University Name	Year of Graduation
Ph.D.	Mathematics	Bharathiar University, Coimbatore	2009
M. Phil.	Mathematics	Bharathiar University, Coimbatore	2005
M. Sc.	Mathematics	Sri Ramakrishna Mission Vidyalaya College of Arts and Science, Coimbatore	2003
B. Sc	Mathematics	N.G.M College, Pollachi	2001

Research Guidance

Programme	No. of Scholars	
	Completed	Pursuing
Ph. D.	-	2
M. Phil.	2	

Other Publications: International / National Journals

- K.Balachandran, K.Sakthivel, R.Sowrirajan and J.H.Kim, **On Exact Null Controllability of Black-Scholes Equation**, Kybernetika , Vol 44, (2008), 685-704
- R.Sowrirajan and K.Balachandran, **Determination of a source term in a Partial Differential Equation arising in Finance**, Applicable Analysis, Vol 88 (2009), 131-140.
- R.Sowrirajan and K.Balachandran , **Existence and uniqueness results for semi linear Black-Scholes type equation**, Nonlinear Analysis: Real world Applications, Vol 11, (2010), 2796-2809.
- P.Sozhaeswari, R. Sowrirajan, K.Loganathan and S. Gyeltshen, **“A study on the Impact of Non-linear Source Term in Black-Scholes Option Pricing Model”** Abstract and Applied Analysis, Vol. 2022.

- S. Baskaran , R. Sowrirajan , Sanju Jangid and K. Loganathan, “**Computational heat transfer analysis of ternary hybrid nanofluid flow over a rotating disk using the Cattaneo-Christov model: Application of the Lobatto-III formula**” , International Journal of Thermofluids, Vol 24, (2024), 100946.
- S. Baskaran , R. Sowrirajan , S.Eswramoorthi, S.Dhivya and K. Loganathan, “**Analysis of water based Casson hybrid nanofluid (NiZnFe₂O₄+ MnZnFe₂O₄) flow over an electromagnetic actuator with Cattaneo-Christov heat-mass flux: A modified Buongiorno model**”, Partial Differential Equations in Applied Mathematics, Vol 13, March 2025, 101079.

Presentations in Conference

- **Carleman Inequality and Parabolic Partial Differential Equations** , National Conference on Partial Differential Equations and Applications (Fluid Flow and Control), Bharathiar University. 10-Mar-05 to 11- Mar- 05
- **Carleman Estimate for 3D Black-Scholes equation** , Recent trends in Non-linear Differential Equations and Dynamical Systems, P.S.G. College of Arts and Science. 24-Mar-06 to 25-Mar- 06
- **Stability of Black-Scholes equation by Carleman Estimate**, National Conference on Partial Differential Equations and Applications , Periyar University. 10-Mar-06 to 11-Mar-06
- **An Inverse problem for a certain Parabolic Integrodifferential equation**, Proceedings of the National Conference on Applications of Partial Differential Equations, Bharathiar University. 24-Jan-07 to 25-Jan- 07.

Participation in Conference

National:

- **National Conference on Fluid Flow and Control**, Bharathiar University, 16-Mar-04 to 17-Mar-04.
- **XII Ramanujan Symposium on Recent Trends in Analysis**, Ramanujan Institute for Advanced Study in Mathematics, University of Madras. 2-Mar-05 to 4-Mar-05.
- **International: conference on Nonlinear Dynamical Systems** , Bharathiar University. 24-Mar-06 to 26-Mar-16
- **International Conference and Symposium on AI advancements in Hyperbolic and Parabolic PDE's, (virtual mode)**, University of Calicut, INDIA and UNIST, Korea, 20-10-2023 to 22-10-2023.

Participation in Seminars

- **Partial Differential Equations**, Bharathiar University, 6-Nov-09.
- Winter School on **Introduction to Partial Differential Equations**, Nonlinear Studies Group, Indian Institute of Science, Bangalore.19- Dec-05 to 23-Dec-05,

Participation in Workshop

- **Second SERC School on Aviation Meteorology, with special emphasis on Thunderstorm and its modelling** held at the Air Force Administrative College, Coimbatore and secured Satisfactory grade in Seminar Presentation. 9-May -05 to 28-May-05.
- **Innovation, IPR, Entrepreneurship and Start-ups among HEI's (Online mode)** during April 28-May 22, 2020 organized by Institution Innovation Council of MHRD' Innovation Cell, New Delhi.
- **Digital Teaching Techniques (Online mode)** during June 29- July 04,2020 organized by ICT Academy.
- **Introduction to Programming Using Python** on July 24,2020 conducted by Microsoft Technology Associate
- **Advanced Topics In Partial Differential Equations** during December 29,2023-January 11,2024 organised by Central University of Tamilnadu, Thiruvavur

Participation in Faculty Development Programme

- **Pedagogical Knowledge of Mathematics, the teaching of Linear Algebra"** held at Central University of Tamilnadu, Thiruvavur, 18-dec-17 to 22-dec-17
- **Quality Measures in Higher Education**, Dr. N.G.P. Arts and Science College, Coimbatore, 3-Dec-18 to 9-Dec-18.
- **NAAC Revised Accreditation Framework and OBE Assessment Methodology** during May 27-June 02,2019 organized by Dr.N.G.P. Arts and Science College, Coimbatore
- **Quality Initiatives in Higher Education (Online mode)** during April 13-April 20,2020 organized by Dr.N.G.P. Arts and Science College, Coimbatore
- **Application of Moodle LMS (Online mode)** during June 11-25, 2020 organized by Crescent Institute of Science and Technology, Chennai and D.Y. Patil College of Engineering, Aundh.
- **Computational Tools and Techniques: MATLAB (Online mode)** during July 27-31,2020 organized by Symbiosis University of Applied Sciences, Indore and Mathworks.
- **Research Methodology and Pedagogy for Tertiary Education (Online mode)** during June 15-June 21,2021 organized by Dr.N.G.P. Arts and Science College, Coimbatore
- **National Education Policy 2020;Revisioning Higher Education in India (Online mode)** during August 30-September 07, 2021, organized by Teaching Learning Centre, Ramanujan College, University of Delhi.
- **Research Methodology using ChatGPT and AI tools (Online mode)**, during September 21-September 29,2023, jointly organised by Marian College Kerala and The Kerala State Higher Education Council,
- **NEP 2020 Orientation and Sensitization Programme (Online mode)**, organized by UGC-Malaviya Mission Teacher Training Centre, National Institute of Educational

Planning and Administration, New Delhi, during November 12-21, 2024.

- **ATAL-FDP on “Data Driven Mathematics: Empowering Academicians for the Era of Data Sciences”** organised by Jain Deemed-to-be-University, Bengaluru during December 16-21, 2024.

Conference / Seminar / Workshop Organized

- Convenor, National Conference on Advances in Partial Differential Equations (**Sponsored by SERB and CSIR**), December 13-14, 2013.
- Convenor, National Conference on Recent Advances in Theoretical and Computational Methods for Partial Differential Equations (**Sponsored by SERB**), January 6-7, 2017.
- Convenor, National Conference on Stochastic Differential Equations and its applications, 27-Dec-17.
- Convenor, National Hands-on-workshop on Finite Element Analysis for Beginners and Engineers (**sponsored by CSIR**), December 20-21, 2018.
- Convenor : National Conference on Emerging Trends in Mathematics with Computer Applications. September 12-13, 2019.
- Convenor : National Conference on Applications of Statistics in Biological Sciences during February 7-8, 2019.
- Convenor : International Conference on Emerging Trends in Mathematical Sciences during February 18, 2019.
- Convenor : Two days FDP on Recent Advances in Mathematics during June 2-3, 2019
- Convenor : National Conference on Research Trends in Basic and Applied Sciences during March 2-3, 2020.
- Coordinator : Science Academies Refresher Course in Differential Equations and its Applications (**Sponsored by INSA, IASc and NASC**) during August 11-26, 2021.

Invited Speaker / Session Chair- Conference / Seminar / Workshop

- **Invited Speaker**, “*Mathematics and Vedic Mathematics (Need and Practice)*”, Dr.N.G.P Institute of Technology, Coimbatore on 15-Jun-19
- **Invited Speaker**, “*Mathematical Finance - An Introduction*”, Tiruppur Kumaran College for Women, Tirupur on 29-Jul-19
- **Invited speaker**, **National Conference on Stochastic differential equations**, Sri Ramakrishna Mission Vidyalaya College of Arts and Science, Coimbatore on 5-Feb-18.
- **Invited Speaker**, “*Mathematical Modeling*”, P.S.G. College of Arts and Science,

Coimbatore on 19-Sep-19

- **Invited Speaker** , “*Modern Teaching methods*”, Mathematics Club inauguration of Dr.N.G.P College of Education, Coimbatore. 27-Nov-19
- **Invited Speaker**, “*Option Pricing Models and its Impact in Financial Markets*” at “**International Conference on New Trends in Differential Equations and Applied Mathematics**” on April 13,2021 organized by Christ University and Sri Vidya Mandir Arts and Science College.
- **Chief guest : Inauguration of Mathematics club and National Mathematics Day Celebration** at Dr.N.G.P College of Education, Coimbatore on 22-December-21
- **Adjudicator for CBSE Regional Science Exhibition 2022-23** at National Model Senior Secondary School during December 2-3, 2022.
- **Invited Speaker** , “*Applications of Green’s Function*”. P.K.R. Arts College for Women, Gobi on 31.03.2023

Member in BOS/Doctoral Committee

- Board of Mathematics, Sri Ramakrishna Mission Vidyalaya College of Arts and Science during 2016-2022.
- Board of Mathematics, Sri Ramakrishna College of Arts and Science during 2023-Till date.
- Member of doctoral committee for research scholars of Bharathiar University and Anna University
- Adjudicator for CBSE Regional Science Exhibition 2022-23 organised by Central Board for Secondary Education during December 22-23,2022
- External expert member for academic audit in Rathinam College of Arts and Science, Coimbatore.

Books /Book Chapters Authored / Edited/ Compiled

- Compilation : Business Mathematics and Statistics (2020), Mc-Graw Hill, ISBN : 978-93-5316-848-3.
 - Chapter Title : Graph- Theoretic Approaches to Optimizing Connectivity and Security in Ubiquitous Healthcare Systems
Book : Ubiquitous Computing and Technological Innovation for Universal Healthcare
Publisher : IGI Global Publishers
ISBN : 9798369322680
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