Dr. J. RAJI

M.Sc., M.Phil., Ph.D.

15 years of Academic Experience

rajij@tjohngroup.com

Passionate mathematics educator with over 13 years of teaching experience in engineering colleges. Holds a Bachelor's and Master's degree in Mathematics from T.B.M.L College (affiliated with Bharathidasan University), an M.Phil. from A.D.M.C (affiliated with Bharathidasan University), and a Doctorate in Fluid Dynamics from Bharathiar University, Coimbatore. Skilled in presenting mathematical concepts in a clear, simple, and engaging manner. Actively stays updated with advancements in the field and enjoys engaging with students on contemporary topics and real-world applications of mathematics.

Areas of expertise (subjects handled):

- Numerical Methods
- Queuing Theory
- Formal Languages and Automata Theory
- Graph Theory and Combinatorics
- Discrete mathematical Structures
- OR
- Complex Analysis, Probability & Statistical Methods
- Transform Calculus, Fourier Series and Numerical techniques
- Engineering Mathematics I
- Engineering Mathematics II
- Probability & Statistics
- Fluid Dynamics

FDP & Conferences attended:

- UGC Sponsored "National seminar on Mathematical modelling to social and managerial problems", organized by A.D.M.College for women, on 24th and 25th September, 2004.
- Faculty Development Programme "Towards a New Curriculum in Engineering Mathematics with Scilab and Maxima", organized by Jyothy Institute of Technology, Bengaluru, on 26th and 27th December 2014.
- National conference on Applied Science and Humanities, organized by K. S. School of Engineering and Management, Bengaluru, Feb 2015.
- International Conference on Engineering, science, Management and Advances in Research Technology organized by T. John Institute of Technology, Bengaluru, 2016.
- International Conference on Applied Engineering, organized by Presidency university, Bengaluru, 2018
- National level webinar on "Mathematica and Applications of Mathematics". (Mathemtica) organized by Pillai College of Engineering, new Panval, 2020.
- Webinar on Sage Math organized by BIT, Bangalore, July 2020.
- Webinar on Introductory Universal Human Values, AICTE-UHV Cell, Aug 2021.
- Webinar on UHV Refresher1 (Part 1), AICTE-UHV Cell, Aug 2021.
- Webinar on how to conduct the AICTE Students Induction Program (SIP), AICTE-UHV Cell ,2021.
- Webinar on Empowering Women, Building gender Parity, Ministry of Education and UGC, 2021.
- 5-day Face-to-Face UHV-II FDP, by All India Council for Technical Education (AICTE) at RV College of Engineering, Bengaluru from 05th September to 09th September 2022.

- TJfdpIT-2024: Advanced Pedagogy Skills & 21st Century Soft Skills, Jan2024.
- Technology Trends and Revolution in Web and Mobile, BVICAM, Jan 2024.
- Mentor's Training Programme" organized by Career Guidance, Training & Placement Cell, TJGI, Bengaluru.
- Session on TinyML with Edge Impulse organized by Robocraze in association with TJIT, Bengaluru.

List of Publications

Journal Papers

- J.Raji, and Dr.S.R.Sudheendra.(2014) "Mathematical solutions to Transport of pollutants through unsaturated porous media with adsorption in finite domain." International Journal of combined Research and Development, Vol.2, Issue 2.
- J.Raji, and Dr.S.R.Sudheendra.(2014) "Mathematical Modelling of Transport of pollutants in unsaturated porous media with radioactive decay and comparison with soil column experiment. "International scientific journal on science, Engineering and Technology, Volume 17, Issue 5
- J. Raji, and Dr. S. R. Sudheendra (2015) "Mathematical Analysis in Unsaturated porous medium." International Journal of Engineering Research and Technology, Vol.3, Issue .19
- J. Raji, and Dr. S. R. Sudheendra. (2016) "Mathematical Analysis of Solute Transport Exponentially varies with Time in Unsaturated Soil Media," International Journal of Research in Engineering and Technology, Volume 5, Special Issue 04
- J. Raji, and Dr. S. R. Sudheendra (2018) "Modelling of Effect of water content on transport of pollutant in unsaturated porous media."

International Journal of Applied Engineering Research." ISSN 0973-4562, Volume 13, PP.109-114.

- Dr.J. Raji Dr. Kavipriya K., Nisha M, Kiran D Hosagoudar, Sinchana N, Harsha Kumar V (2024)" Breaking Barriers: Unveiling Ethical Hacking and Penetration Testing Tactics for Secure Systems." National Conference on Advancements of Science, Technology, Engineering, and Management, T. John Institute of Technology, Bengaluru.

List of Conference Papers

- J. Raji, and Dr. S.R. Sudheendra." Mathematical Analysis of transport in unsaturated porous media" National conference on Applied Science and Humanities, K. S. School of Engineering and Management, Bengaluru.
- J. Raji, and Dr.S.R.Sudheendra. "Mathematical Analysis of Solute Transport Exponentially varies with Time in Unsaturated Soil Media, "International Conference on Engineering, science, Management and Advances in Research Technology, T. John Institute of Technology, Bengaluru.
- J. Raji, and Dr. S.R. Sudheendra." An analytical solution of one-dimensional solute transport of pollutants with spatially varied retardation factor using change of variables." International Conference on Engineering, science, Management and Advances in Research Technology, T. John Institute of Technology, Bengaluru.
- J. Raji Dr. Kavipriya K., Nisha M, Kiran D Hosagoudar, Sinchana N, Harsha Kumar V " Breaking Barriers: Unveiling Ethical Hacking and Penetration Testing Tactics for Secure Systems." National Conference on Advancements of Science, Technology, Engineering, and Management, T. John Institute of Technology, Bengaluru.

Membership/Reviewer in Professional Bodies

- Reviewer in International Journal of Advances in Engineering Architecture Science and Technology.
- Member in good standing of the Computer Science Teachers Association.

Research Supervisor Accreditation

- Recognized as a Research Supervisor by Visvesvaraya Technological University (VTU) in November 2024.