Payal Singhal

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Profile

Payal Singhal is a Faculty Member in the Department of Mathematics at The ICFAI University, Jaipur, working across mathematical reasoning, proof writing, and optimization and modelling. An M.Sc. in Mathematics and a Ph.D. in progress underpin a teaching and research practice built on advanced mathematics, calculus, analytical problem-solving, mathematical modelling and technical academic writing, complemented by earlier experience as a Mathematics Expert with Chegg, where she developed detailed step-by-step solutions to mathematics and physics problems for high-school and university-level learners. She is comfortable working with Mathematica and MATLAB for both mathematical computation and research.

Payal's education runs from a B.Sc. in Mathematics, Computer Science and Yoga at Dev Sanskriti Vishwavidyalaya, Haridwar (2014–2017), through an M.Sc. in Mathematics at IIS (Deemed to be University), Jaipur (2018–2020) — with coursework spanning fluid dynamics, operational research, modelling and simulation, differential geometry, advanced algebra, probability and statistics, hydro-dynamics and functional analysis, and a dissertation on the application of fluid dynamics to the study of blood flow in arteries — to a Ph.D. in Mathematics currently in progress at Banasthali Vidyapith, Rajasthan, with a research focus on sustainable supply chains, optimization and inventory models.

She joined The ICFAI University, Jaipur as a Teaching Associate at Dev Sanskriti Vishwavidyalaya, Haridwar from August 2020 to March 2022, before moving to ICFAI as Faculty Associate in the Department of Mathematics from March 2022, and has served as Faculty Member since October 2025. In these roles she teaches undergraduate mathematics across B.Tech, BCA and B.Sc. programmes with an emphasis on analytical thinking, quantitative reasoning and structured problem solving, develops and explains mathematical solutions and academic content, uses Mathematica and MATLAB for computation and modelling, contributes to curriculum development and technical documentation, and mentors students in mathematical problem solving and mini-projects.

Payal's research centres on mathematical modelling, fractional equations and sustainable supply-chain optimization, including models involving payment policy, production rate, and pricing and promotional effects. Her publications include a 2026 paper on optimizing profitability for a sustainable dynamic system with deteriorating green products under carbon-emissions regulation in the Journal of Revenue and Pricing Management, alongside 2025 contributions on fractional linear decay equations, elastic payment policy in sustainable supply-chain models, and pathway-type transforms for fractional kinetic equations, published with Springer and the International Journal of Mathematics for Industry. She has presented her research at international conferences organised by the Lebanese American University, Pandit Deendayal Energy University, the University of Delhi (under India's G20 Presidency), and JECRC University, among others.

Beyond teaching and research, Payal is active in academic service and continuing development: she was a member of the Organizing Committee for the International Conference on Futuristic Aspects of Science

and Engineering at The ICFAI University, Jaipur (2025), organised a two-week Faculty Development Programme on MATLAB for Engineers and Scientists with the MathTech Thinking Foundation (2024), and was invited as a Resource Person for a workshop on research topic selection and critical reading at Dev Sanskriti Vishwavidyalaya (2026). She holds an NPTEL Elite Certification in Supply Chain Analytics from IIT Roorkee (2026) and has participated in faculty development programmes on optimization, cloud computing and bibliometric analysis. She is proficient in Hindi, English and Sanskrit.

Education

Degree	Institution	Year
Ph.D. in Mathematics (Pursuing)	Banasthali Vidyapith, Rajasthan	Research Area: Sustainable Supply Chain Optimization, Inventory Models
M.Sc. in Mathematics	IIS (Deemed to be University), Jaipur	2018–2020
B.Sc. (Mathematics, Computer Science, Yoga)	Dev Sanskriti Vishwavidyalaya, Haridwar	2014–2017

Selected Recognition

- NPTEL Elite Certification in Supply Chain Analytics, IIT Roorkee (Feb–Apr 2026).
- Resource Person, workshop on "Research Topic Selection & Critical Reading of Research Papers", Dev Sanskriti Vishwavidyalaya, Haridwar (September 2026).
- Organizing Committee member, International Conference on Futuristic Aspects of Science and Engineering, The ICFAI University, Jaipur (February 2025).
- Presented research papers at international conferences organised by the Lebanese American University, Pandit Deendayal Energy University, University of Delhi (India's G20 Presidency), and JECRC University.