



DR. NOOR-E-MISBAH

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Seeking a dynamic career opportunity to apply my skills and passion in producing high-quality research, while contributing to the development of the institute through impactful teaching and mentorship, and continuing to expand my knowledge and expertise.

EDUCATION

PhD	Bengaluru City University Applied Mathematics	SEP 2023
MSc	Bangalore University Central College Campus First Class Exemplary – CGPA 8.17	JUL 2018
BSc	BMS College for Women Physics, Chemistry and Mathematics. First Class – 78.5 %	JUL 2016
PUC	BMS College for Women Physics, Chemistry, Mathematics and Biology First Class – 74.66 %	MAY 2013
SSLC	Jame-Ul-Uloom Distinction – 91.20 %	APR 2011

ACADEMIC ACHIEVEMENTS

Junior Research Fellow

Served as a Project Fellow on a **Science and Engineering Research Board** (SERB) project (Core Research Grant, CRG: 2019/004806) titled '*Linear Stability of Two-Dimensional Boundary-Layer Flow in Non-Newtonian Fluids*', funded by the Government of India.

Best Presenter Award

Received the Best Presenter Award at the 'International Conference on Applied Research in Engineering Sciences,' hosted by Ramaiah Institute of Technology, November 24-25, 2022.

KSET Examination

Qualified the Karnataka State Eligibility Test (KSET) for Assistant Professor in Mathematics, conducted by the Karnataka Examinations Authority (KEA), held in 2017.

TEACHING EXPERIENCE

Dayananda Sagar College of Arts, Science and Commerce, Bengaluru

DEC 2023 – SEP 2025

Assistant Professor, Mathematics.

- Taught undergraduate mathematics courses offered by Bangalore University across multiple semesters, covering topics including Real Analysis, Group Theory, Differential Equations, Conic Sections, Analytical Geometry, Riemann Integration, Numerical Analysis and Ring Theory, to name a few.
- Designed and developed quizzes, exams, and homework assignments to enhance student learning and assessment.
- Conducting laboratory sessions to solve mathematical problems using Python, in accordance with the syllabus prescribed by Bangalore University.

Bengaluru City University, Bengaluru

DEC 2022 – SEP 2023

Guest Faculty, Mathematics.

- Taught Numerical Analysis I and II encompassing techniques to solve various system of linear equations, ordinary differential equations and partial differential equations to MSc Mathematics students in alignment with the syllabus prescribed by Bengaluru City University.

University of Visvesvaraya College of Engineering, Bengaluru AUG 2019 – NOV 2023

Guest Faculty, Mathematics.

- Taught all mathematics modules for the BE/B.Tech program across various branches, including Electrical Engineering, Mechanical Engineering, Computer Science Engineering, and Information Science Engineering, to an average of 90 undergraduate students per semester, following the syllabus prescribed by Bangalore University.
- Taught Advance Engineering Mathematics course for M.Tech Electrical Engineering course.

RESEARCH ACCOMPLISHMENTS

PhD Dissertation

Linear Stability of Shear Flows in Generalized Newtonian Fluids at High Reynolds Number

Publications

- Ramesh B. Kudenatti, Bharathi M. C. and **Noor-E-Misbah**, “Linear stability on transpiration effect of self-similar boundary layer flow of non-Newtonian fluids over a moving wedge”, *Mathematics and Computers in Simulations*, (2025), 231, 46-61. (IF: 4.6, Q1)
DOI: <https://doi.org/10.1016/j.matcom.2024.11.016>
- Ramesh B. Kudenatti, **Noor-E-Misbah** and Bharathi M. C., “A numerical study on boundary layer flow of Carreau fluid and forced convection heat transfer with

viscous dissipation and generalized thermal conductivity”, *Mathematics and Computers in Simulations*, (2023), 208, 619-636. (IF: 4.6, Q1)
DOI: <https://doi.org/10.1016/j.matcom.2023.01.026>

- Ramesh B. Kudenatti, **Noor-E-Misbah**, “The onset of instability in a hydromagnetic channel flow of Casson fluid: the accurate solutions”, *Applied mathematics and Computation*, (2023), 436, 127475 (1-14). (IF:4.397, Q1)
DOI: <https://doi.org/10.1016/j.amc.2022.127475>
- Shashi Prabha Gogate S., Bharathi M. C., **Noor-E-Misbah** and Ramesh B. Kudenatti, “A computational study of three-dimensional laminar boundary layer flow and forced convective heat transfer in a porous medium”, *Archive of Applied Mechanics*, (2023), 93, 551-569. (IF:2.8, Q1)
DOI: <https://doi.org/10.1007/s00419-022-02285-0>
- Shashi Prabha Gogate S., **Noor-E-Misbah**, Bharathi M. C. and Ramesh B. Kudenatti, “Local thermal non-equilibrium effects in forced convection stagnation boundary layer flows in porous medium: the Chebyshev collocation method for coupled system”, *Engineering with Computers*, (2023), 39, 1249-1266. (IF:8.7, Q1)
DOI: <https://doi.org/10.1007/s00366-021-01492-7>
- Ramesh B. Kudenatti, **Noor-E-Misbah** and Bharathi M. C., “Stability of hydromagnetic boundary layer flow of non-Newtonian power-law fluid flow over a moving wedge”, *Engineering with Computers*, (2022), 38, 1107-1126. (IF:8.7, Q1)
DOI: <https://doi.org/10.1007/s00366-020-01094-9>
- Ramesh B. Kudenatti, **Noor-E-Misbah**, “Hydrodynamic flow of non-Newtonian power-law fluid past a moving wedge or a stretching sheet: a unified computational approach”, *Scientific Reports*, (2020), 10(1), 9445. (IF: 4.996, Q1)
DOI : <https://doi.org/10.1038/s41598-020-66106-6>
- Ramesh B. Kudenatti, **Noor-E-Misbah** and Bharathi M. C., “Linear stability of momentum boundary layer flow and heat transfer over a moving wedge”, *ASME Journal of Heat Transfer*, (2020), 142(6), 061804. (IF: 2.1, Q1)
DOI : <https://doi.org/10.1115/1.4046645>
- Ramesh B. Kudenatti, **Noor-E-Misbah** and Bharathi M. C., “Boundary-layer flow of the power-law fluid over a moving wedge: a linear stability analysis”, *Engineering with Computers*, (2021), 37, 1807-1820. (IF:8.7, Q1)
DOI: <https://doi.org/10.1007/s00366-019-00914-x>

Communicated:

- Stability characteristics of viscoelastic Jeffrey fluid at high Reynolds number channel flow: dual stability analysis.
- Viscoplastic Instabilities in Porous Media: Modal and Non-Modal Behavior of Casson Fluid in Plane Couette–Poiseuille Flow.

- Linear Modal Instabilities in Couette–Poiseuille Flow of Oldroyd-B Fluid.

INVITED LECTURES

Presented an invited talk in a workshop “Computational Techniques in Fluid” hosted by Bengaluru City University, Bengaluru, on 24th & 25th January 2023.

CONFERENCE PRESENTATION AND PARTICIPATION

Presented

- 2025 | “2nd International Conference on Emerging Trends in Applied Advances in Mathematics” hosted by Ramaiah Institute of Technology, Bengaluru from 20th – 21st February 2025. Presented a paper titled “Solution of nonlinear flow problems using spectral methods”.
- 2022 | “International Conference on Recent Advances in Mathematical Fluid Dynamics” hosted by Malaviya Institute of Technology, Jaipur from 2nd- 4th December 2022. Presented a paper titled “The onset of instability in a channel flow of Casson fluid: the accurate solutions”.
- 2022 | “International Conference on Applied Research in Engineering Sciences” hosted by Ramaiah Institute of Technology, Bengaluru from 24th – 25th November 2022. Presented a paper titled “The onset of instability in a hydromagnetic channel flow of Casson fluid: the accurate solutions”.
- 2022 | “International Conference on Emerging Trends in Applied Advances in Mathematics” hosted by Mount Carmel College, Bengaluru from 21st – 22nd April 2022. Presented a paper titled “Hydrodynamic flow of non-Newtonian power-law fluid past a moving wedge or a stretching sheet: a unified computational approach”.
- 2020 | “Four days Online National Conference on Pure and Applied” hosted by Gogte Institute of Technology, Belagavi, from 11th – 14th August 2020. Presented a paper titled “On Linear stability of boundary layer flow of the power-law fluid over a moving wedge”.
- 2020 | Two days International Conference on “International Conference on Advances in Applicable Mathematics” held at Bharathiar University, Tamilnadu, from 21st – 22nd February 2020. Presented a paper titled “On Linear stability of boundary layer flow of the power-law fluid over a moving wedge”.
- 2020 | Five days Congress committee on “XLIII Indian Social Science Congress” held at Bengaluru Central University, Bengaluru, from 17th – 21st January 2020. Presented a paper entitled “On applications of Chebyshev Collocation technique for solving highly nonlinear differential equations”.
- 2018 | Four days International Conference on “International Conference on Numerical Analysis, Computing & Applications in Science, Engineering & Technology” held at Mohandas college of Engineering and Technology, Kerala, from 17th – 20th December.

- 2018 | Presented a paper entitled “Linear stability of two-dimensional boundary layer flow of a non-Newtonian fluid”.

Participated

- 2025 | Participated in the one-week Faculty Development Program on “A Multidisciplinary Approach of Mathematics in Engineering” organized by Ramaiah Institute of Technology, Bengaluru, from 08th-12th September.
- 2025 | Participated in the Faculty Development Program on “Mathematics for Artificial Intelligence” organized by Ramaiah Institute of Technology, Bengaluru, from 21st-25th July.
- 2025 | Participated in a workshop on “Generative AI” organized by Techgyan Technologies at Indian Institute of Science, Bengaluru on 22nd June.
- 2024 | Participated in the Faculty Development Program on “Counselling and Mentoring Skills” on 29th February 2024, held at Dayananda Sagar College of Arts, Science and Commerce, Bengaluru – 560 078.
- 2024 | Participated in the Faculty Development Program on “Johari Window with Emotional Quotient” on 1st February 2024, held at Dayananda Sagar College of Arts, Science and Commerce, Bengaluru – 560 078.
- 2023 | One Day Workshop on “Pedagogical Training for Mathematics Teachers on Newly Introduced Syllabus under NEP-2020 Scheme” hosted by Bangalore University, Bengaluru in association with SERB on 19th December 2023.
- 2023 | Two Days National Conference on “Computational Methods in Applied Science and Engineering” organized by the Department of Mathematics in association with Operational Research Society of India, Karnataka (ORSI-KA) at Dayananda Sagar College of Engineering, Bengaluru held on 11th and 12th December 2023.
- 2023 | Two Days Workshop on “Computational Methods for Solving Engineering Problems” hosted by Manipal Institute of Technology, Manipal held on 3rd and 4th November 2023.
- 2022 | A workshop organized by Global Initiative of Academic Networks, GIAN on “Interfacial Instability with Industrial Applications” hosted by Department of Mathematics, Indian Institute of Technology, Ropar from 11th - 24th July 2022.
- 2021 | Participated in a workshop on “Wavelets and its Applications: Image Processing, Data Science and PDEs”, organized by Department of Mathematics, Manav Rachna University, Faridabad, in collaboration with Department of Mathematics, IIT Indore, from 06th – 10th December, 2021.
- 2020 | Attended a lecture series on “Recent Trends in Fluid Dynamics” organized by Sapthagiri College of Engineering, from 17th -21st November 2020.

- 2020 |Two days webinar on “Fluid Dynamics” organized by Department of Science and Humanities, held at Dr N. G. P. Institute of Technology, Coimbatore from 23rd-24th July.
- 2020 |Five-day webinar on “Mathematical Perspectives on Computational Science & Engineering” organized by Ramaiah Institute of Technology, from 6th-10th July.
- 2020 | Participated in an “International Conference on Mathematics and its Applications” held at Bangalore University, Bengaluru on 28th -29th February.

TECHNICAL SKILLS

- **Programming** – MATLAB, SciLab, Wolfram Mathematica, Python and Maxima.
- Efficient working on **LaTeX**.
- **Certification Course** – Web Designing and Office Automation.

RESEARCH INTERESTS

- Boundary Layer Theory.
- Stability of boundary layer flows.
- Flow at high Reynolds number.
- Asymptotic Solutions.
- Numerical techniques – Simulations through Chebyshev collocation family.
- Hydrodynamic Stability
- Temporal Stability of channel flows.

PERSONAL DETAILS

- Date of Birth – 19 MARCH 1996
- Languages known – English, Hindi, Kannada, Urdu, Arabic and Basic German.
- Nationality – Indian

DECLARATION

I hereby declare that the above-mentioned particulars are true and correct to the best of my knowledge and belief.

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