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Children: Raagini (daughter), Aarohan Nandan (son)

Education:

Ph. D.: Department of Engineering Mathematics, Technical University of Nova Scotia
(now known as DalTech, Dalhousie University), Halifax, Canada, 1998.
Thesis*: The Interaction of Water Waves with Submerged Spheres and Circular Cylinders.*
M.Sc. (Specialization – Applied Mathematics): University of Delhi, 1991. First Class
B.Sc.: Cotton College, Gauhati University, 1988. First Class Major in Mathematics with
distinction (subsidiary subjects: Physics and Statistics).

Research Areas: Fluid Dynamics, Fractional Differential Equations, Mathematical
Biology
Research Topics: Wave-Structure Interactions, Flow over Uneven Bottom Topography,
Multi-layer Fluid, Trapped Waves, Analytical Modeling for Problems of Flows through
Porous Media, Linear and Nonlinear Sloshing, River Dynamics, Special Functions,
Fractional Differential Equations, Controllability.

Visits Abroad: Canada, Germany, Poland, France, Republic of South Africa, New
Zealand, Malaysia, Japan, China, Thailand, Taiwan, Hong Kong, The Netherlands,
Finland, Spain, Sweden, Austria, Czech Republic.

Work Experience:

1. Teaching cum Research Assistant, Dalhousie University, Sept'1993-Dec'1997.
2. Senior Lecturer, IIT Guwahati Jan'1999-June'2001.
3. Assistant Professor, IIT Guwahati, June'2001-Feb'2007.
4. Associate Professor, IIT Guwahati, Feb'2007-June'2012.
5. Professor (Level 14A), IIT Guwahati, June'2012-Dec'2021.
6. Senior Professor (Level 15 – HAG), IIT Guwahati, Dec'2021-present

Complete Publication List:

Journal: (144 papers)

1. Sohini Pal and **Swaroop Nandan Bora** (2026), Water wave propagation generated by a moving landslide over a porous sea-bed *(doi:10.1063/5.0313510)*, *Physics of Fluids*, Volume 38(3), Paper ID 036604 (Published online since March 9, 2026) 18 Pages.

2. Nabanita Karmakar and **Swaroop Nandan Bora** (2026), Effect of two thin porous barriers and a porous sea-bed on water wave scattering and force mitigation in protecting a rectangular rigid tunnel *(doi:10.1007/s40722-026-00481-6)*, *Journal of Ocean Engineering and Marine Energy*, (Accepted on February 11, 2026).

3. Amin Mahdavi-Meymand, Wojciech Sulisz and **Swaroop Nandan Bora** (2026), Application of swarm-based deep neural networks and ensemble models for reconstruction of specific conductance data *(doi:10.1038/s41598-026-38136-z)*, *Scientific Reports*, Volume 16, Paper ID 7292 (Published online since February 4, 2026) 17 Pages.

4. Shiva Kandpal and **Swaroop Nandan Bora** (2025), Influence of space- and time-dependent lateral inflow for a non-inertia wave model in a finite-length channel with a stage hydrograph imposed at the downstream end (***doi:10.1007/s11600-025-01767-3***), *Acta Geophysica*, Volume 74, Paper ID 40 (Published online since December 24, 2025) 30 Pages.

5. Mahesh Kumar Nehra and **Swaroop Nandan Bora** (2025), Deflection of a floating ice sheet under a moving load: influence of uniform current and elastic bottom *(doi: 10.1016/j.jfluidstructs.2025.104465), Journal of Fluids and Structures*, Volume 140, Paper ID 104465 (Published online since November 11, 2025) 20 Pages.

6. Debananda Basua and **Swaroop Nandan Bora** (2025), Nonlinear analysis for Hilfer fractional differential equations *(doi:10.1016/j.fraope.2025.100383)*, *Franklin Open*, Volume 13, Paper ID 100383 (Published online since October 8, 2025) 7 Pages.

7. Bichitra Kumar Lenka and **Swaroop Nandan Bora** (2025), New observer and state estimates to nonlinear systems with real-order derivatives *(doi:10.1016/j.fraope.2025.100323)*, *Franklin Open*, Volume 12, Paper ID 100323, (Published online since July 26, 2025) 15 Pages.

8. Shilpi Jain and **Swaroop Nandan Bora** (2025), Scattering of oblique incident waves by a floating structure with a porous wall fitted on its vertical sides in the presence of a varying bottom topography *(doi:10.1063/5.0276823)*, *Physics of Fluids*, Volume 37(8), Paper ID 083608, (Published online since August 7, 2025) 18 Pages.

9. Sunil Kundu and **Swaroop Nandan Bora** (2025), On the Ulam-Hyers-Rassias-Mittag-Leffler stability of the solution to a Ψ-Hilfer abstract fractional differential equation, *International Journal of Theoretical Physics (**doi:10.1007/s10773-025-06055-w),** Volume 64, Paper ID 190, (Published online since June 28, 2025) 16 Pages.

10. Nabanita Karmakar and **Swaroop Nandan Bora** (2025), Impact of a composite rectangular porous breakwater in the scattering of water waves by a submerged rectangular tunnel, *International Journal of Applied Mechanics*, Volume 17(8), Paper ID 2550056, (Published online since July 10, 2025) 30 Pages.

11. Mahesh Kumar Nehra and **Swaroop Nandan Bora** (2025), Response of a floating ice sheet due to a moving load in the presence of an undulating sea bottom *(doi:10.1063/5.025552)*, *Physics of Fluids*, Volume 37(4), Paper ID 043603 (Published online since April 2, 2025) 12 Pages.

12. Sunanda Saha, **Swaroop Nandan Bora** and Santu Das (2025), Damping of ocean waves by a porous disk submerged in a two-layer fluid *(doi:10.1016/j.euromechflu.2025.204263)*, *European Journal of Mechanics – B/ Fluids*, Volume 113, Paper ID 204263 (Published online since April 2, 2025) 14 Pages.

13. Sunil Kundu and **Swaroop Nandan Bora** (2025), On Ulam type stability of the solution to a Ψ-Hilfer abstract fractional functional differential equation *(doi:10.1088/1402-4896/adbdfb)*, *Physica Scripta*, Volume 100 (4), Paper ID 045235 (Published online since March 19, 2025) 13 Pages.

14. Shilpi Jain and **Swaroop Nandan Bora** (2025), Scattering of oblique incident waves by a rigid floating structure in the presence of two surface-piercing thick porous breakwaters: pattern of reflection, dissipation and wave forces *(doi: 10.1016/j.jfluidstructs.2025.104285)*, *Journal of Fluids and Structures*, Volume 135, Paper ID 104285 (Published online since March 6, 2025) 34 Pages.

15. Saniya Suhail, Sunanda Saha, Koushik Kanti Barman and **Swaroop Nandan Bora** (2025), Impact of a porous structure placed at the sea-bed in wave scattering around ice floes *(doi:10.1016/j.jfluidstructs.2025.104280)*, *Journal of Fluids and Structures*, Volume 134, Paper ID 104280 (Published online since February 23, 2025) 17 Pages.

16. Debananda Basua and **Swaroop Nandan Bora** (2025), Nonlinear analysis for sequential multipoint fractional boundary values problems with ψ-Hilfer fractional derivative, *Journal of Integral Equations and Applications*, Volume 37(3), 285-295.

17. Sunanda Saha, Koushik Kanti Barman, **Swaroop Nandan Bora** and Chia-Cheng Tsai (2025), Wave scattering by a pair of coaxial surface-piercing porous cylinder and a bottomless thick annular cylinder *(doi:10.1063/5.0254942)*, *Physics of Fluids*, Volume 37(2), Paper ID 022140 (Published online since February 20, 2025) 13 Pages.

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20. Mahesh Kumar Nehra and **Swaroop Nandan Bora** (2024), Response of a floating ice sheet due to a moving load in the presence of a porous sea-bed

(doi:10.1007/s40722-024-00362-w), *Journal of Ocean Engineering and Marine Energy* (Published online since November 25, 2024) 15 Pages.

21. Shiva Kandpal and **Swaroop Nandan Bora** (2024), Non-inertia wave model approximation with stage-discharge relationship imposed at the downstream end and a space- and time-dependent lateral inflow *(doi:10.1063/5.0238656)*, *Physics of Fluids,* Volume 36(11), Paper ID 015020 (Published online since November 20, 2024) 19 Pages .

22. Abhijit Shit and **Swaroop Nandan Bora** (2024), Fractional model for blood flow in a stenosed artery under MHD effect through a porous medium *(doi:10.1142/S1758825124501011)*, *International Journal of Applied Mechanics,* Volume 16(9), Paper ID 2450101 (Published online since November 27, 2024) 20 pages

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33. Sunanda Saha and **Swaroop Nandan Bora** (2024) Analysis of wave force and wave run-up acting on an impermeable vertical circular cylinder surrounded by multiple thick porous layers (***doi:10.1115/1.4063497***), *Journal of Offshore Mechanics and Arctic Engineering*, Vol. 146, Paper ID 031202 (Published online since September 25, 2023) 15 Pages.

34. Bichitra Kumar Lenka and **Swaroop Nandan Bora** (2023), New comparison method for nonautonomous Caputo-type time-delay systems (***doi: 10.7153/fdc-2023-13-08***), *Fractional Differential Calculus,* Vol. 13(2), 141-148.

35. Matap Shankar and **Swaroop Nandan Bora** (2023), Caputo-Fabrizio fractional-order systems: periodic solution and stabilization of non-periodic solution with application to Gunn diode oscillator (***doi:10.1088/1402-4896/ad)c12***), *Physica Scripta*, Vol. 98(12), Paper ID 125242 (Published online since November 24, 2023) 15 pages.

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37. Shiva Kandpal and **Swaroop Nandan Bora** (2023), Analytical Solution for Linearized Saint-Venant Equations with a Uniformly Distributed Lateral Inflow in a Finite Rectangular Channel (***doi:10.1007/s11269-023-03623-9***), *Water Resources Management*, Vol. 37, 5655-5676.

38. Bichitra Kumar Lenka and **Swaroop Nandan Bora** (2023), Limiting behaviour of non-autonomous Caputo-type time-delay systems and initial-time on the real number line (***doi:10.1007/s40314-023-02459-8***), *Computational and Applied Mathematics*, Vol. 42, Article ID 313 (Published online since September 24, 2023) 16 Pages.

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40. Koushik Kanti Barman and **Swaroop Nandan Bora** (2023), Impact of a porous structure in mitigating wave effect on a floating elastic plate in a two-layer fluid (***doi:10.1017/s00419-023-02475-4***), *Archive of Applied Mechanics*, (Published online since July 7, 2023) 21 Pages.

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44. Bichitra Kumar Lenka and **Swaroop Nandan Bora** (2023), Non-negativity, convergence and bounds of non-homogeneous linear time-varying real order systems with application to electrical circuit system (***doi:10.1007/s00034-023-02368-5***), *Circuits, Systems, and Signal Processing*, Vol. 42, 5207-5232.

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47. Bichitra Kumar Lenka and **Swaroop Nandan Bora** (2023), Lyapunov stability theorems for ψ-Caputo derivative systems, (***doi:10.1017/s13540-022-00114-3***), *Fractional Calculus and Applied Analysis*, Vol. 26, 220-236.

48. Sunanda Saha, Santu Das and **Swaroop Nandan Bora** (2023), Trapped waves within the blocking frequency under compressed sea ice and two-dimensional current, (***doi:10.1016/j.marstruc.2022.103336***), *Marine Structures*, Vol. 87, Article No 103336 (Published online since November 19, 2022) 18 Pages.

49. **Swaroop Nandan Bora** and Matap Shankar (2023), Ulam-Hyers stability of second-order convergent finite difference scheme for first- and second-order nonhomogeneous linear differential equations with constant coefficients, ***(doi:10.1007/s00025-022-01791-5)***, *Results in Mathematics*, Vol. 78(1), Article No 17 (Published online since November 19, 2022) 18 Pages.

50. Bichitra Kumar Lenka and **Swaroop Nandan Bora** (2023), New criteria for asymptotic stability of a class of nonlinear real order time-delay systems, (***doi:10.1007/s11071-022-08060-8),*** *Nonlinear Dynamics*, Vol. 111, 4469-4484.

51. Matap Shankar and **Swaroop Nandan Bora** (2022), Generalized Ulam-Hyers-Rassias stability of solution of the Caputo fractional non-instantaneous impulsive integro-differential equation and its application to fractional RLC circuit (***doi:10.1007/s00034-022-02217-x***), *Circuits, Systems, and Signal Processing*, (Published online since October 29, 2022) 25 Pages.

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Computational and Applied Mathematics, Vol. 41, 354 (Published online since October 19, 2022) 15 Pages.

53. Ayan Chanda, Abhijit Sarkar and Swaroop Nandan Bora (2022), An analytical study of scattering of water waves by a surface-piercing bottom-mounted compound porous cylinder placed on a porous sea-bed (***doi:10.1016/j.jfluidstructs.2022.103764), Journal of Fluids and Structures**, Vol 115, 103764 (Published online since October 14, 2022) 19 Pages.

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(*ICRAMS2000*), IIT Kharagpur, December 20-22, 2000. (Published in Recent Trends in Mathematical Sciences EDT by J. C. Misra and S.B. Sinha, pages 117-135).

2. **Second order wave forces for a circular cylinder in finite water depth**, *National Seminar on Advances in Mathematical, Statistical and Computational Methods in Science and Technology*, Indian School of Mines, Dhanbad, Jharkhand, November 29-30, 2001. (Published in the proceedings, pages, 33-42).

3. **Exciting forces due to diffraction of water waves on a sphere in finite depth water**, *WSEAS International Conference on Theoretical and Applied Mathematics*, Miedzyzdroje, Poland, September 1-5, 2002, (Published in the proceedings (CD-Rom), pages 1961-1966).

4. **Multipole expansion method for the diffraction of water waves by a submerged spherical structure**, *HYDRO2002: Conference on Hydraulics, Water Resources and Ocean Engineering*, IIT Bombay. Mumbai, December 16-17, 2002. (Published in the proceedings, pages 363-367).

5. **Analytical solution for the second order wave loading for cylindrical structure(s)**, 30th *Conference on Fluid Mechanics and Fluid Power*, National Institute of Technology Karnataka, Surathkal, December 11-13, 2003. (Published in the Proceedings, pages 92-99).

6. **Associated Legendre polynomials in problems of water wave diffraction by submerged bodies**, 5th International *Conference on Special Functions and their Applications*, Lucknow, February 8-10, 2004 organized by the Society for Special Functions and their Applications. (Published in the Proceedings EDT by A.K. Agarwal, pages 63-73).

7. **Bessel functions in linear water wave diffraction theory**, 5th International *Conference on Special Functions and their Applications*, Lucknow, February 8-10, 2004 (co-author: Subash Chandra Martha), organized by the Society for Special Functions and their Applications. (Published in the Proceedings EDT by A.K. Agarwal, pages 102-114).

8. **Transformation Technique for Water Wave Scattering by a variable Bottom**, *International Conference on Theoretical, Applied, Computational and Experimental Mechanics (ICTACEM04),* Kharagpur, December 28-30, 2004 (Co-author: Subash Chandra Martha), organized by Indian Institute of Technology, Kharagpur, India. (Published in the proceedings, pages 161-165).

9. **Water wave scattering by an ocean bed of small deformation**, *International Conference on Environmental Fluid Mechanics*, March 3-5, 2005 (Co-author: S.C. Martha), organized by Indian Institute of Technology Guwahati, India. (Published in the proceedings *Some Aspects of Environmental Fluid Mechanics*, pages 132-137).

10. **Reflection of wave energy by small undulation on a sea-bed,** *International Conference on Computational Mechanics and Simulations,* December 8-10, 2006 (Co-author: S.C. Martha), organized by Indian Institute of Technology Guwahati, India. (Published in the proceedings Recent Advances in Computational Mechanics and Simulations, Vol 2, pages 1483-1489).

11. S.C. Martha, **S.N. Bora** and A. Chakrabarti, Oblique Surface-wave Propagation over Sinusoidally Varying Topography, Proceedings of 51st *Congress of The Indian Society of Theoretical and Applied Mechanics (ISTAM)*, December 18-21, 2006, College of Engineering, Andhra University, pages 23-30.

Technical Reports:

1. S.N. Bora, M. Rahman and M.G. Satish, *Recent mathematical developments of potential theory applied to diffraction of water waves*, Department of Engineering Mathematics, DalTech, Dalhousie University, Canada (1994), 69 pages.
2. S.N. Bora and M. Rahman, *Effects of diffraction and radiation on a submerged sphere*, Department of Engineering Mathematics, DalTech, Dalhousie University, Canada (1999), 24 pages.

Editorial Responsibilities:

1. S.N. Bora, Some Aspects of Environmental Fluid Mechanics, *Proceedings of International Conference on Environmental Fluid Mechanics* (ICEFM'05, IIT Guwahati, March 3-5, 2005), Allied Publishers Pvt Ltd.
2. S.N. Bora, Lecture Notes on Mathematical Techniques in Science and Engineering, QIP Short Term Course, June 26-30, 2006, IIT Guwahati.
3. S.N. Bora, Lecture Notes on Mathematical Methods, Modelling and Optimal Control, QIP Short Term Course, June 2-6, 2009, IIT Guwahati.
4. R.K. Ray, S.N. Bora and D.K. Maiti (Guest Editors), *International Journal of Advances in Engineering Sciences*, Springer.
5. R.K. Ray, S.N. Bora and D.K. Maiti, Springer Proceedings *Advances in Applied and Theoretical Mechanics* (Peer-reviewed papers of ISTAM-2022)

Project:

Title: **Analytical and Inverse Modelling for Estimating Aquifer Parameters of a Confined Aquifer**
Principal Investigator: Dr. Gautam Barua, Dept of Civil Engineering, IIT Guwahati
Co-Principal Investigator: Dr. Swaroop Nandan Bora, Dept of Mathematics, IIT Guwahati.
Funding Agency: Department of Science and Technology, Govt. of India.
Project No.: SR/S4/ES-123/2004
Duration: Three years (2006-2009)
Amount: Rs. 6 lakhs

Title: **Transient Analysis of Hydrodynamic Coefficients Connected to Cylindrical Breakwaters**
Co-Principal Investigator: Dr. Sunanda Saha, SAS, VIT Vellore, Tamil Nadu
Funding Agency: SERB, Department of Science and Technology, Govt. of India
Project No.: TAR/2021/000177
Duration: Three Years (2021-2024)
Amount: Rs. 18.30 Lakhs

Collaborative Research:

Abroad:

1. Prof. Juan J. Nieto, University of Santiago de Compostela, Spain
2. Prof. Michael Hanke, KTH Royal Institute of Technology, Stockholm, Sweden.
3. Dr. Elena Strelnikova, Ukrainian Academy of Science, Ukraine
4. Dr. Mike H Meylan, The University of Newcastle, Australia
5. Dr. Siming Zheng, University of Plymouth, UK; Zhejiang University, China
6. Prof. Wojciech Sulisz, Institute of Hydro-engineering, Polish Academy of Sciences, Poland
7. Prof. Chia-Cheng Tsai, National Taiwan Ocean University, Keelung, Taiwan

India:

1. Prof. Aloknath Chakrabarti, Indian Institute of Science, Bangalore
2. Prof. Rathinasamy Saktivel, Bharathiar University, Tamil Nadu
3. Prof. Gautam Barua, Indian Institute of Technology Guwahati
4. Dr. Santu Das, Institute of Advanced Study in Science and Technology, Guwahati
5. Dr. Mohammad Hassan, North East Regional Institute of Science and Technology, Nirjuli, Arunachal Pradesh
6. Dr. Sunanda Saha, VIT Vellore, Tamil Nadu
7. Dr. Sanjay K. Mohanty, VIT Vellore, Tamil Nadu
8. Dr. Smrutiranjan Mohapatra, Veer Surendra Sai University of Technology, Odisha
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Membership:

1. Indian Mathematical Society
2. Indian Society of Theoretical and Applied Mechanics (ISTAM)
3. Indian Society for Mathematical Modelling and Computer Simulation (ISMMACS)
4. Society of Special Functions and their Applications
5. Assam Academy of Mathematics

Supervision/Mentoring:

SERB-TARE FELLOW: Dr. Sunanda Saha (Dec2021-Dec2024)

Post Doctoral Fellow

1. Dr. Alka Chaddha, May 2016-September 2017.
2. Dr. Vidushi Gupta, May2017-November 2018.
3. Dr. Bichitra Kumar Lenka, December 2020-December 2022
4. Dr. Basua Debananda, December 2023-May 2025

PhD
(COMPLETED)

1. <u>Subash Chandra Martha</u> (July 2002-May 2007).
   Thesis Title: **Reflection and Transmission of Surface Water Waves by Undulating Bottom Topography.**

2. <u>Smrutiranjan Mahapatra</u> (July 2005-October 2009).
   Thesis Title: **Water Wave Scattering by a Spherical Structure and an Undulating Bottom Topography in a Two-layer Fluid.**

3. Mr. Santu Das (July 2009-September 2014)
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4. Mohammad Hassan (July 2009-September 2014)
   Thesis Title: **Diffraction and Radiation of Water Waves by Two Coaxial Vertical Cylinders**

5. Sunanda Saha (July 2010-October 2014)
   Thesis Title: **Study of Trapped Modes in Two- and Three-layer Fluids**

6. Neelam Choudhary (July 2010-November 2015)
   Thesis Title: **Linear Sloshing in Vertical Circular Cylindrical Containers with Different Configurations under the Influence of Surface Tension**

7. Jayanta Borah (July 2012-January 2019)
   Thesis Title: **A Study on Some Classes of Fractional Differential Equations with Non-instantaneous Impulsive Conditions**

8. Abhijit Sarkar (January 2016-February 2021)
   Thesis Title: **Diffraction and Radiation of Linear Water Waves by a Vertical Composite Porous Cylinder of Various Configurations in Finite Ocean Depth**

9. Ayan Chanda (July 2016-August 2021)
   Thesis Title: **Water Wave Interaction with Different Structures and Obstacles due to Various Types of Bottom Topography in a Homogeneous Fluid and a Two-layer Fluid**

10. Bandita Roy (January 2016-August 2021)
    Thesis Title: **Existence of Solution of Certain Classes of Fractional Differential Equations along with Controllability**

11. Koushik Kanti Barman (July 2017-July 2022)
    Thesis Title: **Study of Scattering and Trapping of Water Waves in Two-layer Fluids for Various Types of Structure Configuration and Sea-beds**

12. Matap Shankar (January 2019-January 2024)
    Thesis Title: **Ulam-Hyers and Lypunov Stability for Some Classes of Fractional Differential Equations and Difference Equations**

13. Shiva Kandpal (January 2019-September 2024)
    Thesis Title: **Linearized Saint-Venant Equations in Various Forms with Lateral Inflow in a Channel of Finite Length**

14. Abhijit Shit (July 2019-January 2025)
    Thesis Title: **Modelling of Some Biological Phenomena via Fractional Differential Equations**

15. Shilpi Jain (January 2020-April 2025)
    Thesis Title: **Study of Linear Water Wave Scattering by a Floating Structure in the Presence of Porous Breakwaters for Different Types of Sea-bed: Pattern of Scattering and Wave Force Mitigation**

                                    (ONGOING)

16. Sunil (January 2021-) (Thesis Submitted)
    Research Topic**: Study on Certain Classes of ψ-Hilfer Fractional Differential Equations: Qualitative Properties and Some Applications**

17. Mahesh Kumar Nehra (January 2021-) (Thesis Submitted)
    Research Topic: **Time-domain Analysis of Moving Load on a Floating Ice-sheet over Different Types of Sea-beds**

18. Nabanita Karmakar (January 2022-)
    Research Topic: **Impact of Various Porous Breakwaters in Mitigating Wave Forces on a Tunnel Placed in a Sea with Different Bottom**

19. Sohini Pal (July 2022-)
    Research Topic: **Diverse Approaches in the Dynamic Analysis of Landslide-driven Tsunami Waves**

20. Smriti Singh (July 2024-)
    Research Topic: **Water Wave Propagation through Periodic Arrays of Vertical Barriers under Variable Boundary and Sea-bed Conditions**

21. Karabee Devi (July 2024-)
    Research Topic: Differential Equations (Topic not decided yet)

M.Sc. and B.Tech.

I have supervised 41 M.Sc. and 9 B.Tech. students for their dissertations. Additionally, I have supervised 24 interns.

Teaching:

The following courses have been taught multiple times:

1. MA 102 (Several Variable Calculus and Ordinary Differential Equations) to B.Tech. students.
2. MA 201 (Complex Analysis, Partial Differential Equations, and Integral Transforms) to B.Tech. students.
3. Scientific Computing to B.Tech. students.
4. Numerical Analysis to M.Sc. students.
5. Differential Equations to M.Sc. students.
6. Differential Equations to Ph.D. students.
7. Potential Flow of Fluids and Water Wave Theory to Ph.D. students
8. Mathematical Methods to B.Tech, MSc, and Ph.D. students. (Elective)
9. Fractional Calculus and Fractional Differential Equations to MSc and PhD students. (Elective)
10. Fluid Dynamics to B.Tech, MSc and PhD students. (Elective)
11. Integral Transforms and Integral Equations to BTech, MSc and PhD students. (Elective)

Academic and Related Administrative Achievements:

1. Graduate teaching and research assistantship, Dalhousie University (1993-1997)
2. Recipient of Bruce and Dorothy Rossetti scholarship for academic excellence during Ph.D. (1994-95, 1995-96)
3. Graduate teaching and research assistantship, Dalhousie University (1993-1997)
4. Executive Member, Indian Society for Theoretical and Applied Mechanics, (2016-18)
5. Assistant General Secretary, Assam Academy of Mathematics, 1998-99.
6. Executive Member, Indian Society for Theoretical and Applied Mechanics (ISTAM), (2016-2018, 2023 (Ex-officio)
7. President, Indian Society for Theoretical and Applied Mechanics (ISTAM), (2022)
8. Executive Member, Indian Society for Mathematical Modelling and Computer Simulation (ISMMACS) (2022-2024)
9. Member, Executive Council, Indian Mathematical Society (2024-2027)

Conferences/workshops organized:

	Event	Date	Role
1	*Mathematics Day - Celebration of Completion of 100 Talks of IITG Mathematics Seminar Series*	August 21, 2004	Organizing Secretary
2	*International Conference on Environmental Fluid Mechanics (ICEFM ′05),*	March 3-5, 2005	Organizing Secretary
3	*QIP STC, Mathematical Techniques in Science and Engineering,*	June 26-30, 2006	Coordinator
4	QIP-STC, *Mathematical Methods, Modeling and Optimal Control*	June 2-6, 2009	Coordinator (Joint)
5	Innovation in Science Pursuit for Inspired Research (INSPIRE)	December 15-21, 2009	Co-Coordinator
6	ATAL FDP on Mathematical Modelling of Problems in Coastal and Offshore Engineering	September 14-18, 2020	Coordinator
7	International Conference on Advances in Differential Equations and Numerical Analysis	October 12-15, 2020	Convener (one of two)

Conference attendance/Invited lectures:

1. Conference attended: 58
2. Conference Presentation: 124 (Including those by Research Scholars and Collaborators)
3. Invited Lectures Elsewhere (excluding conferences): 134

Journal paper reviewing/thesis examination etc.:

1. Have reviewed about 200 research articles in various leading journals.
2. Have acted as Ph.D. thesis examiner for about 75 candidates.
3. Have acted as an expert in faculty selection at various places (around 20).

Other Major Responsibilities:

1. **Vice-Chairman,** DRDO-SET 2009.
2. **Chairman,** Library Advisory Committee, IIT Guwahati, June 2014-May 2017.
3. **Head,** Department of Mathematics, IIT Guwahati, April 2015-March 2018.
4. **Dean of Students' Affairs,** IIT Guwahati, April 2018-September 2019.
5. **Organizing Chairman,** Inter IIT Students Sports Meet, 2018.
6. **Organizing Chairman,** Inter IIT Staff Sports Meet, 2018.
7. **President, Indian Society of Theoretical and Applied Mechanics (ISTAM) – 2022.**