

## DR. MADHUMITA MAHANTA



**Designation:** Associate Professor & HoD (i/c), Mathematics

**Date of joining:** 11.07.2008

### **Address for communication**

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### **Academic/ Administrative Experience:**

- HOD (i/c), Mathematics, GCU (since April 2023)
- Ph. D Supervisor, GCU (since April 2023)
- Chairperson, Gender Sensitization Cell, GCU (since February 2023)
- Resource Person in Workshops (Both internal and external)
- Convenor of Workshop/Seminar/Conference (GIMT & GCU)
- Dean, Student Affairs, GIMT (September 2020-December 2022)
- Member of college Anti Ragging Squad, GIMT & GCU
- Mentor of 10/15 students, GIMT
- Member of Counselling cum Selection Committee for AIEEE qualified candidates, GIMT
- Department coordinator of Routine Committee, GIMT
- Teacher member in College Magazine Committee, GIMT
- Teacher member in Marketing Committee, GIMT
- Teacher member in various sports and literature Committees, GIMT
- Syllabus Preparation Committee, ASTU

### **Research Publications**

1. *Free Convective MHD Flow of a Visco-elastic Fluid past an Infinite Vertical Plate*, International Journal of Applied Mathematics, ISSN 1311-1728, 22 (2), 2009 (189-203)
2. *Heat and Mass Transfer in a Visco-elastic MHD Flow Past a Vertical Plate Under Oscillatory Suction Velocity*, International Journal of Computational Science and Mathematics, ISSN 0974-3189, 2 (3), 2010 (137-146)

3. *Periodic MHD Flow of Visco-elastic Fluid Through a Channel with Heat Transfer*, International Journal of Mathematical Sciences and Engineering Applications, ISSN 0973-9424, 5 (VI), 2011 (395-404)
4. *Mixed Convective MHD Flow of Visco-elastic Fluid Past a Vertical Infinite Plate with Mass Transfer*, International Journal of Scientific and Engineering Research, ISSN 2229-5518, 3 (2), 2012 (1-7)
5. *MHD Mixed Convective Oscillatory Flow of a Visco-elastic Fluid in a porous Channel, JP Journal of Heat and Mass Transfer*, ISSN 0973-5763, 6 (2), 2012 (177-190)
6. Free Convective Oscillatory Flow of a Visco-Elastic Fluid Past A Porous Plate In Presence Of Radiation And Mass Transfer, International Journal of Engineering and Science, ISSN 2319-1813(e), 2319-1805(p), 2 (9), 2013 (51-57)
7. Visco-elastic Fluid Flow with Heat and Mass Transfer in a Vertical Channel Through Porous Medium, Journal of Global Research in Mathematical Archives, ISSN 2320-5822, 2(1), 2014 (22-33)
8. Unsteady MHD Flow of a Viscoelastic Fluid Through a Porous Medium Near an Oscillating Porous Plate, Journal Name: Journal of Fluid Flow, Heat and Mass Transfer (JFFHMT), ISSN 2368-6111, 12, 2025 (417-422), DOI: 10.11159/jffhmt.2025.041

### **Book Publication**

1. A Textbook of Engineering Mathematics-III (As per Syllabus of ASTU), Mani Manik Prakash, Guwahati-781001, ISBN: 978-81-85917-47-7 (Partial Differential Equations (09-72))

### **Conference/Workshop/FDP/STTP/Symposium attended/participated:**

1. 50<sup>th</sup> Annual Technical Session and National Conference on Current Trends of Research in Science and Technology, Gauhati University & Assam Science Society, 28-29 January 2005 (presented a paper)
2. First National Workshop on Techniques in Applied Mathematics, Department of Applied Mathematics, University of Calcutta, Kolkata, 18-28 October 2005
3. Third National Workshop on Techniques in Applied Mathematics, Department of Applied Mathematics, University of Calcutta, Kolkata, 10-18 October 2006
4. Workshop on Development of Self-instructional Material for Distance Education, Post Graduate Correspondence School, Gauhati University, Assam, 22-24 January 2007

5. International Conference on Frontier of Mathematics and Applications, Department of Mathematics, The University of Burdwan, Burdwan, 16-18 January 2008 (presented a paper)
6. National Conference on Advances in Mathematics, Department of Mathematics, Gauhati University, Assam, 4-7 September 2008 (presented a paper)
7. Workshop on Introduction to MATLAB and Labview, Department of Physics, Gauhati University, Assam, Gauhati University, 19-20 December 2008
8. 96<sup>th</sup> Indian Science Congress, North East Hill University, Meghalaya, 3-7 January 2009
9. National Conference on Recent Trends in Mathematics and its Applications, Assam Science Society, Assam and Department of Mathematics, Gauhati University, 12-13 September 2009 (presented a paper)
10. National Workshop cum Training Programme on Recent Trends in Fluid Mechanics, Department of Mathematics, Banaras Hindu University, Varanasi, 06-12 July 2010 (delivered a talk on 'Slow Motion')
11. North East Regional Conference of Mathematics-II, Assam Academy of Mathematics, Assam, 16 July 2011 (presented a paper)
12. National Conference on Frontiers of Mathematics, Department of Mathematics, Gauhati University, Assam, 29-30 September 2011 (presented a paper)
13. 57<sup>th</sup> Annual Technical Session of the Assam Science Society, Gauhati University, 16 March 2012 (presented a paper)
14. Staff Development Programme on Emerging Trends and Practices in Management, Department of Business Administration, Girijananda Chowdhury Institute of Management and Technology, Guwahati, 7-19 May 2012
15. One Day Symposium on the occasion of National Mathematics Year, Department of Mathematical Sciences, Institute of Science and Technology, Gauhati University, 22 September 2012
16. Technical Session on Mathematical Sciences on the occasion of 125<sup>th</sup> Birth Day Celebration of Srinivasa Raamanujan, Department of Mathematics, Gauhati University & Assam Academy of Mathematics, 22 December 2012
17. International Conference on Recent Advances in Mathematical Statistics and Its Applications in Applied Sciences, Department of Statistics, Gauhati University & ISI, Kolkata, 31 December 2012 to 2 January 2013 (presented a paper)

18. National Conference on Mathematics Commemorating Birth Anniversary of Srinivasa Ramanujan, Department of Mathematics, GIMT Guwahati, 23 December 2013 (acted as Joint Secretary)
19. FDP on Meeting Global Challenges in Higher Technical Education, GIMT, Guwahati, 28 July to 01 August 2015
20. National Seminar on Advances in Mathematical Sciences, Department of Mathematics, Gauhati University & Assam Science Society, 21-22 December, 2015 (presented a paper)
21. Short Term Course on Higher Secondary Mathematics, Department of Mathematics, GIMT, Guwahati, 20-24 June, 2016
22. National Workshop on Mathematical Modelling and Computational Techniques using Mathematica, Department of Mathematics, Zakir Husain Delhi College, New Delhi, 30-31 March 2017
23. SAMANTRANA-2018: A National Seminar on Role and Importance of Research in Technical Education, GIMT Guwahati & Assam Science and Technology University, 18-19 January 2018
24. Short Term Training Programme on Topics in Discrete Mathematics, NITTTR, Kolkata, 12-16 March 2018
25. Symposium on World Environment Day, GIMT Guwahati, 05 June 2018
26. Symposium on National Education Day, GIMT Guwahati, 10 Nov 2018
27. Two-Day Workshop on Fuzzy Logic Applications in Engineering, Assam Science and Technology University and GIMT Guwahati, 17-18 May 2019
28. One day workshop on ‘Mathematics Education in Engineering Colleges of Assam’, Assam Science and Technology University and GIMT Guwahati, 27 June 2019
29. FDP on “Student Induction” (AICTE), GIMT Guwahati, 22-24 July 2019
30. Indian Women and Mathematics (IWM) Regional Workshop on Research and Opportunities, NIT Meghalaya, 19-20 October 2019
31. Faculty Development Programme (FDP) on “Engaging Today’s Learner”, Assam Science and Technology University and GIMT Guwahati, 09-14 December 2019
32. 9th National Conference on Technology & Innovations in Math Education (TIME 2019), IISER Pune, 26-28 December 2019

33. 3-days Faculty Development Program for Student Induction (FDP-SI AICTE), SITM Guwahati, 23-25 January 2020
34. Webinar on "Technical Scenario post COVID-19 Lockdown: Challenges and Opportunities" GIMT Guwahati, 13 May 2020
35. Webinar on "Art of Learning Mathematics" Royal Global University, 08 June 2020
36. 5-day Webinar on "Strategies for Mental and Physical Health Protection During & Aftermath Pandemic: #COVID 19", GIMT Guwahati and Assam Science & Technology University (under TEQIP-III), 17-21 June 2020
37. Webinar on "Prime Divisors in an Arithmatic Progression", G. C. College, Assam Academy of Mathematics, Silchar and Gonit Sora.com, 07 July 2020
38. Webinar on "The Congruent Number Problem and Elliptic Curves", IQAC Lakhimpur Girls' College and Gonit Sora, 12 July 2020
39. Webinar on "Differential Equations as they arise in large water bodies and how to solve them", Gonit Sora, 19 July 2020
40. STC-QIP on "Differential Equations: Solution Techniques and Applications", IIT Guwahati sponsored by AICTE/MHRD, 7-12 September 2020
41. FDP on Coastal and Offshore Engineering, IIT Guwahati, organized by AICTE Training and Learning (ATAL) Academy, 14-18 September 2020
42. Two Day International Webinar on Mathematics: Needs & its Scope in Sciences, Patharkandi College in association with Gonit Sora, 18-19 September 2021
43. STTP on Numerical Linear Algebra & Optimization Techniques in Engineering, NIT Meghalaya, 18-19 March 2022
44. 4<sup>th</sup> National Web Series on NEP-2020 East Edition, AICTE, 24 March 2022
45. One week National Level FDP on "Moodle-Open Source Learning Management System", GIMT Guwahati 20-24 June 2022
46. Webinar on "Teaching and Learning Mathematics, in Endemic and Beyond", Mathematics Pedagogy Unit, St. Xavier's Institute of Education, Mumbai, 27 August 2022
47. FDP on "Essentials of HRM", NITTTR Kolkata, 19-23 December 2022
48. FDP on "Circuit Design Simulation and PCB Fabrication under AICTE-IDEA Lab", GIMT Guwahati, 04-09 January 2023

49. One day Orientation Programme on Academic Governance, IQAC GCU Assam, 25 July 2023

50. "Mathematics Week" from 18th – 24<sup>th</sup> December 2023, GCU Assam, 22 December 2023

51. Webinar on "Introduction to Einstein's General Theory of Relativity", 'Physics for Students' registered under Ministry of Micro, Small and Medium Enterprises Govt. of India, 31 December 2023

52. 5-day Face-to-Face UHV-II FDP organized by All India Council for Technical Education (AICTE), 8-12 January 2024

53. Workshop on Mathematics and related Career organized by D. K. College, 22 March 2024 (delivered a talk)

54. 3-day workshop on "Multivariate Data Analysis and Mathematical tools for Sciences, Engineering and Management (MDAMSEM-2024)", Department of Engineering Sciences, ABV-IIITM, Gwalior, 20-22 May 2024

55. Meeting on Analysis, Dimensions and PDEs" organized by the Department of Applied Sciences, IIIT Allahabad, 27 July 2024

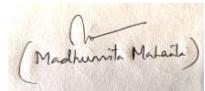
56. IISF 2024, event Science Odyssey: Focused S&T for North East India organized by IIT Guwahati, 30 November-03 December 2024

57. International Conference on Nonlinear Dynamics: Modeling and Computation (1CNDMC 2025), organized by Bharathiar University, Coimbatore, 17-19 February 2025 (presented a paper)

58. International SPARC workshop titled "Computational and AI-Driven Multi-Physics Simulation in Porous Media(CAIMS-Poro-2025)", Department of Applied Mathematics, DIAT, Pune (under Ministry of Education, GOI), 16-20 June 2025

### **Membership of Professional bodies:**

- Life member of Assam Academy of Mathematics (AAM)



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