Dr. Goutam Mandal
Curriculum Vitae

Assistant Professor
Department of Mathematics
Brainware University
398, Ramkrishnapur Road,
Jagadighata Market,
Barasat, Kolkata-700125,
India
+91 9635327246
goutammandal95@gmail.com

Objective:

- To work in a dedicated professional environment where I can apply my knowledge and skills to achieve organizational success with personal growth.
- Aspiring for a rewarding teaching and research position in a reputable Institute/University/College in India/Abroad.
- Excited to gain a wealth of knowledge and experience in both research and teaching by working with and mentoring students.

Education

November, 2019 – April, 2024 **Ph.D. in Mathematics**, *Department of Mathematics*, The University of Burdwan, West Bengal, India.

- **Ph.D. Thesis: "**Studies of hybridization of metaheuristic algorithms and applications", under the supervision of **Prof. Asoke Kumar Bhunia**.

2016 - 2018 **M.Sc. in Applied Mathematics**, Percentage: 76.00 %, *Department of Mathematics*, The University of Burdwan, West Bengal, India.

2013 - 2016 **B.Sc. in Mathematics**, Percentage: 65.75 %, Bankura Sammilani College, The University of Burdwan, West Bengal, India

2011 - 2013 **Higher Secondary in Science Stream**, Percentage: 66.20 %, Garh Raipur High School, Raipur, Bankura, West Bengal, India.

2011 **Secondary Education**, Percentage: 76.375 %, Matgoda High School, Bankura, West Bengal, India.

Research Interests

- Metaheuristic algorithms and their hybridization
- Computational optimization
- Non-linear Optimization in Imprecise Environment.
- Solution of system of nonlinear equations and differential equation using optimization techniques
- Reliability optimization and Inventory control

Research Experiences

2021 – 2024 **Senior Research Fellow,** *Department of Mathematics*, The University of Burdwan, West Bengal, India, under the supervision of **Prof. Asoke Kumar Bhunia**

2019 – 2021 **Junior Research Fellow,** *Department of Mathematics*, The University of Burdwan, West Bengal, India, under the supervision of **Prof. Asoke Kumar Bhunia**

Teaching Experiences

August, 2024-Till date **Assistant Professor**, Brainware University, Department of Mathematics, Brainware University, 398, Ramkrishnapur Road, Jagadighata Market, Barasat, Kolkata-700125, W.B

Academic Achievements

- Qualified NET-LS, December, 2018
- Recipient of National fellowship**,** research fellowship for pursuing Ph.D. (2019-2024).
- Recipient of West Bengal Swami Vivekananda Merit-Cum-Means scholarship (2013-2016).
- Recipient of Indian Oil Scholarship, India (2011-2013).
- Recipient of West Bengal government Merit-Cum-Means scholarship (2011-2013).

- **Publications:**

#Published/Accepted Papers: **12**

#Published Book Chapter: **00**

#Papers presented in Seminar/Conference: **08**

Published Papers

- **Mandal, G.,** Kumar, N., Duary, A., Shaikh, A. A., & Bhunia, A. K. (2023). A league-knock-out tournament quantum particle swarm optimization algorithm for nonlinear constrained optimization problems and applications. ***Evolving Systems*****,** Volume-14 (2019), Pages- 1117-1143 (**Springer, SCIE, Quartile: Q2, Impact factor: 2.7**). doi: https://doi.org/10.1007/s12530-023-09485-1
- Das, S., **Mandal, G.,** Manna, A. K., Shaikh, A. A., & Bhunia, A. K. (2023). Effects of emission reduction and rework policy in a production system of green products: An interval valued optimal control theoretic approach. ***Computers & Industrial Engineering,*** Volume-179 (2023), Pages- 109212 (**Elsevier, SCI, Quartile: Q1, Impact factor: 7.9**). doi: https://doi.org/10.1016/j.cie.2023.109212.
- Das, S., **Mandal, G.,** Akhtar, F., Shaikh, A.A., & Bhunia, A.K. (2024). Pricing and dynamic service policy for an imperfect production system: extended Pontryagin's maximum principle for interval control problems. ***Expert Systems with Applications***, Volume-238, (2024), Pages-122090 (**Elsevier, SCIE, Quartile: Q1, Impact factor: 8.5**). doi: https://doi.org/10.1016/j.eswa.2023.122090.
- Shaikh, A. A., Mondal, R., Bhattacharyya, A. N., Kumar, N., & **Mandal, G.** (2020). Analysis of a Two-Storage System for Advance Payment Policies with the Partial Backlogged Shortage. ***Advances in Industrial Engineering,*** Volume- 54, Issue- 3 (2020), Pages- 221-24.
- **Mandal, G.,** Akhtar, M., Bhunia, A. K., & Shaikh, A. A. (2024). Applications of a league-then-knockout tournament based hybrid algorithm for engineering problems. OPSEARCH, 1-34. (**Springer, ESCI, Quartile: Q2, Impact factor: 1.4**). doi: https://doi.org/10.1007/s12597-024-00869-8
- Halder, P., **Mandal, G.**, Mondal, R., & Bhunia, A.K. Impact of displayed inventory level in a two-warehouse system for deteriorating item with discount facilities via different metaheuristic algorithms. ***Evolving Systems*** **(Springer, SCIE, Quartile: Q2, Impact factor: 2.7**). doi: https://doi.org/10.1007/s12530-025-09657-1
- **Mandal, G.**, Kumar, N., & Bhunia, A.K. A comparative performance of different Type-1 tournament based metaheuristic algorithms in solving engineering beam design optimization problems and structural engineering design problems. ***Soft Computing*** **(Springer, SCIE,**

Quartile: Q2, Impact factor: 3.1). doi: https://doi.org/10.1007/s00500-025-10611-1

- **Mandal, G.**, Das, S.C., Manna, A.K., & Bhunia, A.K. Optimization of a deteriorated inventory model with bi-level credit periods and variable demand via tournament teaching learning based optimization algorithm. **International Journal of System Assurance Engineering and Management** (**Springer, SCIE, Quartile: Q2, Impact factor: 1.6) doi: https://doi.org/10.1007/s13198-025-02744-1**
- Mondal, M. **Mandal, G.** Shaikh, A.A., & Bhunia, A.K. Investigation of a fixed charge transportation problem with quantity dependent discount policy along with quantity dependent purchasing cost via multi objective optimization techniques. **INFOR: Information Systems and Operational Research (Taylor & Francis, SCIE, Quartile: Q1, Impact factor: 1.1) doi: https://doi.org/10.1080/03155986.2025.2492739**
- Halder, P., **Mandal, G.**, Mondal, R., & Bhunia, A.K. A two-warehouse deteriorating inventory model with credit period and price dependent demand under partially backlogged shortages. **Mathematical Methods in the Applied Sciences** (**Wiley, SCIE, Quartile: Q1, Impact factor: 2.1**).
- Akhtar, M., **Mandal, G.**, & Bhunia, A.K. Optimization of bound-constrained and constrained optimization problems with interval coefficients via tournament differential evolution. *Evolving Systems* (**Springer, SCIE, Quartile: Q2, Impact factor: 2.7**).
- Akhtar, M., **Mandal, G.**, & Bhunia, A.K. A hybrid algorithm based on differential evolution for reliability redundancy allocation problem of a series system under multiple brands. The Journal of Supercomputing (**Springer, SCIE, Quartile: Q2, Impact factor: 2.7**).

Accepted Papers

Communicated Papers

- **Mandal, G.,** Kumar, N., & Bhunia, A.K. A comparative performance of different bound-constrained benchmark optimization problems in solving system of nonlinear equations via hybrid algorithm. (Under review submitted in Opsearch, Springer)
- **Mandal, G.**, Akhtar, M., & Bhunia, A.K. A new tournament based hybrid algorithm for solving complicated reliability redundancy allocation problems. (Under review in *Soft Computing*, Springer)
- Kumar, N., **Mandal, G.,** & Bhunia, A.K. A comparison of four tournament based algorithms in solving system of nonlinear equations via Zakharov's function. (Under review in Evolving

Systems, Springer)

- Ali, H., **Mandal, G.**, Shaikh, A.A., Ahmad, I., & Bhunia, A.K. Optimal lot sizing of an imprecise advanced payment and fixed discount facility based interval valued inventory model with green level and price dependent demand. (Review submitted in *Soft Computing*, Springer)

Conferences Attended

December 09-10, 2019	**'4th Regional Science & Technology Congress (Western Region) (4th RSTC, 2019)'**, Department of Mathematics, The University of Burdwan, Burdwan, West Bengal, India.
April 22-24, 2022	**International Conference on 'Computational Methods in Sciences and Engineering (CMSE-2022)'**, Department of Mathematics, BITS-Pilani, Hyderbad Campus.
March 12-13, 2022	**International Conference on 'Emerging Trends in Pure and Applied Mathematics'**, Department of Applied Sciences, School of Engineering in association with Department of Mathematical Sciences, School of Sciences, Tezpur University, Assam, India.
June 28-29, 2022	**'International Conference on Mathematical Analysis and Applications (ICOMAA-2022)',** Department of Mathematics, University of Kalyani, W.B., India
December 22-23, 2022	**'National Conference Advances in Mathematical Sciences-2020 (NCAMS-2022)',** Department of Mathematics, Gauhati University, Guwahati, Assam, India
December 21-22, 2023	**'International Conference on Role of Mathematics for the Development of Science and Society',** Department of Mathematics, Tripura University (A Central University), Suryamaninagar, Tripura, India
March 05-06, 2024	**'International Conference on Mathematics and Applications (ICMA-2024)',** Department of Mathematics, The University of Burdwan, Burdwan, West Bengal, India.
June 02-06, 2025	**'Global Assembly for Mathematical Modeling and Analysis (GAMMA)-2025',** Department of Mathematics, The ICFAI University Tripura, Kamalghat, Tripura (W), Agartala - 799210

Webinar Attended

December 14, 2022 — **'One day Webinar in "Contemporary Advances in Computational Intelligence',** Department of Computer and System Sciences, Visva-Bharati with IEEE Computational Intelligence Society (CIS), Kolkata

November 24, 2023 — **'One day training on computational facilities' [under SERB-sponsored Core Research Grant (CRG/2022/005219)],** Department of Mathematics, The University of Burdwan, Burdwan, West Bengal, India

Faculty Development Programme (FDP)

May 13-17, 2025	**'Advanced research and Methodologies,** Department of Basic Science and Humanities, Abacus Institute of Engineering & Management (AIEM), West Bengal, India
June 17-21, 2025	**"Python for Data Science: Testing and Debugging",** Department of Basic Science and Humanities, IEM Newtown and HRDC, IEM-UEM Group, West Bengal, India

Computer Skills

- **Programming Language:** C programming, Python
- **Operating System:** Windows, LINUX
- **Software:** Mathematica, Matlab
- **Writting Applications:** MS Word, MS Powerpoint

Personal Information

Name	Goutam Mandal
Father's name	Anadi Mandal
Mother's name	Kalpana Mandal
Current Address	Department of Mathematics, Brainware University, 398, Ramkrishnapur Road, Jagadighata Market, Barasat, Kolkata-700125, India
Permanent Address	Matgoda, Raipur, Bankura, West Bengal, India, 722134.

Date of Birth	13th August, 1995
Nationality	Indian
Gender	Male
Marital Status	Married
Languages Known	Bengali (Mother's tongue), English, Hindi
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Orcid	https://orcid.org/0000-0002-9212-5200
Google Scholar	https://scholar.google.com/citations?user=v_EY-NIAAAAJ&hl=en&oi=ao
Linkdin	https://www.linkedin.com/in/goutam-mandal-429b28a4/

Teaching and Research Plan

If I am appointed as a teacher of this Institute, then I have the following teaching and research plans:

- **Teaching Plan**

  Teaching is an art which consists of a number of scientific steps for the effective learning of the students. It is a dynamic process including a proper learning plan. For me, as a teacher, I would like to teach with a properly structured teaching plan. The course that I will teach will be divided into a number of modules and the discussion on those modules will be accomplished step by step through a period of time. On the very first day of the commencement of the course, I will provide the students with the modules of the complete course plan so that in future, they can attend the class with pre-preparation. While introducing a new topic I will start with a brief motivation on that topic and its real-life applications. The discussion on the topic will continue in a demonstrative approach with several comprehensible examples. To make the class interesting and enjoyable to the students, I will try to create a dramatic environment where every student will play their role. My every lecture will include an interactive session where the students will be asked to interact with each other regarding the topic presented before them. To improve their learning skill the course will include a number of sudden tests and assignments. To improve the verbal capacity of the students, they will often be asked to present on different topics. On the other hand, to improve my teaching plan, I will arrange for anonymous feedback from the students during the class time so that the students can suggest me what will be better for them. Along with the course plan, I have to prepare some other plans regarding the betterment of the students. I will discuss with them various career options IN which they may enter after completion of their respective courses.

- ## Research Plan

Research is an important part of academic career of teacher of an institution. As a teacher-cum-researcher of this institute, I have also some plans to peruse the research activities throughout my academic career. Presently, I am working in the areas of 'Computational optimization, Metaheuristic algorithms and their hybridization, Reliability optimization, System of nonlinear equations and differential equations, Non-linear Optimization in Imprecise Environment, Mathematical Modeling, Mathematical analyses etc. So, I want to explore the research activities in these topics by making a research team with scholars, teachers and foreign researchers. I shall apply for individual R & D projects from DST SERB, CSIR and other financial agencies for the financial support. I will build up a healthy relationship among the co-researchers through our mutual help in research activities. Students' participation in research activities in an advanced stage will help them to flourish their research field in future. Acquaintance with a number of scholars and professors from different parts of the world will boost up their confidence to work beyond the national level and it would help them to secure a place in any prestigious institute around the globe.

References

- **Dr. Asoke Kumar Bhunia**
  Professor, Department of Mathematics
  The University of Burdwan
  West Bengal, Bharat-713104
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- **Dr. Sanat Kumar Mahato**
  Professor, Department of Mathematics
  Sidho Kanho Birsha University
  West Bengal, India-723104
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- **Dr. Bibhas Chandra Giri**

  Professor, Department of Mathematics

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  West Bengal, Bharat-700032

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- **Dr. Chandra K. Jaggi**

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  University of Delhi

  Delhi, Bharat-713104

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I hereby declare that the details furnished above are true and correct to the best of my knowledge and belief. Further I will undertake to inform you of any changes therein as early as possible.

Goutam Mandal

Dated: 23 /09 /2025
Place: Kolkata

(Goutam Mandal)
Signature