Curriculum Vitae

Amit Kumar Mandal *PhD, MRSC*

Professional Address: Group Leader: Chemical Biology Laboratory, Department of Sericulture & Centre-In-Charge-Centre for Nanotechnology Sciences (CeNS), Raiganj University, North Dinajpur, Raiganj, West Bengal, India.
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Research Focus:

My research integrates Chemical Biology and Nano-Omics to unravel the molecular mechanisms governing bio-molecular interactions and to engineer functional nanostructures for advanced biological applications. I investigate how chemical modulators and nanoscale architectures regulate cellular pathways, with the goal of combining multi-omics insights and molecular design principles to create next-generation platforms for diagnostics, therapeutics, and precision nanomedicine.

Academic Qualifications:

Ph.D. in Biotechnology, University of North Bengal, India (2017)
Master's degree in Microbiology, University of North Bengal, India (2007)
Bachelor's degree in Biotechnology, Chaudhary Charan Singh University, Meerut, India (2005)

Academic Appointments and Professional Experience:

22nd March 2026 – till date: Associate Professor of Sericulture Department at Raiganj University, West Bengal, India.
22nd March 2023 – 21st March 2026: Assistant Professor (Stage-3) of Sericulture Department at Raiganj University, West Bengal, India.
22nd March 2018 – 21st March 2023: Assistant Professor (Stage-2) of Sericulture Department at Raiganj University, West Bengal, India.
2nd February 2017- 21st March 2018: Assistant Professor (Stage-1) of Sericulture Department at Raiganj University, West Bengal, India.
24th February 2014 – 1st February 2017: Assistant Professor (Stage-1) (Under UGC-Innovative post) of Microbiology Department at Vidyasagar University, Midnapore, West Bengal, India.

Awards, Honours, and Recognitions:

1.	World's Top 5% Scientist- 2026	*SciRank Global*
2.	Academic Excellence- 2025	*Raiganj University, India*
3.	Early Career Advisory Board	*RSC Applied Interfaces, Royal Society of Chemistry, UK*
4.	Member of Royal Society of Chemistry (MRSC)	*Royal Society of Chemistry, UK*
5.	Editorial Board Member	*PLOS Neglected Tropical Diseases, PLOS*
6.	Editorial Board Member	*BMC Biotechnology, Springer Nature*
7.	Editorial Board Member	*Journal of Nanotechnology, Wiley*
8.	Top 3% of all scientists in India in the *Natural Sciences and/or Biological Sciences* based on H-index (Last 6 Years)	*AD Scientific Index-2025,*
9.	Top 5% of all scholars worldwide (All Field)	*Scholar GPS, Meta Analytics LLC, California*
10.	Top 1% of most cited papers-2022	*IOP Publishing, UK*
11.	Top 5% highly cited author (2020)	*Royal Society of Chemistry, UK*
12.	CSIR-UGC-NET (AIR-50) in 2011	*CSIR-UGC*
13.	Qualified GATE Examination in 2007	*Ministry of Human Resource Development (MHRD) & IIT-Kanpur*

Research Funding and Project Leadership:

Sr. No.	Project Title	Funding agency	Total Budget	National/ International	Current Status
1.	*Rapid detection of silkworm pathogens through sandwich type dual aptamer functionalized gold nanoparticles complex lateral flow test strip point of care diagnostic device*	SERB DIA	₹ 20,90,000	National	Completed
2.	*BIOINSPIR-Bioinspired Molecules as Innovative Solutions for Agricultural Challenges*	Ministério da Ciência, Tecnologia e Inovação – Governo Federal Brasil União e Reconstrução	USD 2.62 million	International	On-going
3.	*Design and Development of a Field-Ready Aptamer–AuNPs Lateral Flow Biosensor for Aspergillosis Detection in Sericulture*	Anusandhan National Research Foundation	₹ 48,33,469	National	On-going

Supervision of Doctoral Theses:

1. Title: “Rapid detection of silkworm pathogens via sandwich-type dual aptamer-functionalized gold nanoparticles complex lateral flow test strip biosensor” submitted by Rittick Mondal.
2. Title: “Isolation Purification and Characterization of Antimicrobial Peptides from Artificially Induced Mulberry Silkworm *Bombyx Mori* L” submitted by Jannatun Nesa.
3. Title: “Clinico Epidemiological studies on *Plasmodium falciparum* Welch screened from various Endemic zones of Paschimanchal of West Bengal and its susceptibility to Mulberry leaf extract” submitted by Sayantan Pradhan.
4. Title: “Mulberry leaf extract mediated green synthesis of silver nanoparticles and study of its antimicrobial activity” submitted by Sudip Some.

Patents Granted:

Sr. No.	Title	Patent Grant No.	Inventors Name	National/International
1.	Carbon Nanoparticle Composite And The Process Of Manufacture Thereof	340106	Sen, I. K., **Mandal, A. K.,** Hossain, M., Panda, A. K., Yilmaz, M. D., Kati, A., & Bhattacharya. D. C.	Intellectual Property India

Patents Filed:

Sr. No.	Title	Application No.	Inventors Name	National/International
1.	A nanoparticle-based point-of-care biosensing device for rapid detection of silkworm pathogens	202431049662 A	Mondal, R., Chakraborty, J., Dam, P., Ghati, A., Kati, A., **Mandal, A.K.**	Intellectual Property India
2.	A nanocomposite silk scaffold for wound care and method for synthesizing the same	202431057040 A	Dam, P., Shaw, S., Mondal, R., Sadat., A., A., **Mandal, A.K.**	Intellectual Property India

Scientific Publications: (Cumulative Impact Factor – 371.9, Average Impact Factor- 4.27)

1. Sen, I. K., Hossain, M., Bhattacharya, D. C., Kumar, A., Kati, A., Panda, A. K., Yilmaz, M. D., Mandal, A. K. (2026). Luminescent Heparin-Functionalized Carbon Dots with Potential Applications in Nanoparticle-Protein Interactions and Cell Imaging, *Scientific Reports,* (Accepted; Article in press). **(Impact Factor- 3.9)**
2. Das, D., Thapa, R., & Mandal, A. K. (2026). Sustainable Detection of Antibiotic Residues with Aptamer-Based Biosensors. *ACS Sustainable Resource Management*, *3*(4), 919-921.
3. Mondal, R., Manna, A., Mandal, P., Kurt, H., Sen, A., Jangid, K., & **Mandal, A. K.** (2026). *Stenotrophomonas raiganjensis* sp. nov., an extensively drug-resistant bacterium isolated from Bombyx mori L., described under the SeqCode, *Systematic and Applied Microbiology*, 49 (2).
4. Mandal, P., Roy, T., Mondal, R., Chakraborty, A. P., Singh, P., Ghati, A., Sen, A., Sadat, A., & **Mandal, A. K.** (2026). Genomic insights highlight antimicrobial potential of *Micromonospora* sp. PTRAS2. *Microbiology Resource Announcements*, e01306-25. **(Impact Factor- 0.6)**
5. Shand, H., Patra, S., Mondal, R., **Mandal, A. K.**, & Husen, A. (2025). Invisible Contaminants: Environmental Distribution and Biological Consequences of Microplastics and Nanoplastics. *Next Research*, 101032.
6. Das, D., Mondal, R., Mandal, P., Gangopadhyay, D., & **Mandal, A. K.** (2025). Aptamer-Based Sensing in Food Science: Precision Tools for Enhanced Consumer Safety and Perception. *Current Opinion in Food Science*, 101363. (Article in Press) **(Impact Factor- 9.1)**
7. Das, S., Mondal, R., Mandal, P., Kurt, H., Chakraborty, J., Islam, M. M., Sarkar, B., Shaw, Shubhajit., Manna, Sanjeet., Arabaci, N., Jangid, K., Sadat, A., Gangopadhyay, D., Kati, Ahmet., **Mandal, A. K.** (2025). *Bacillus ayatagriensis* sp. nov., a novel plant growth-promoting rhizobacteria strain isolated from mulberry rhizosphere. *Scientific Reports, 15, 26693* **(Impact Factor- 3.9)**
8. Das, D., Chakraborty, J., Mandal, P., Mondal, R., & **Mandal, A. K**. (2025). From lab to field: Revolutionizing antibiotic detection with aptamer-based biosensors. *RSC Advances*, *15*(24), 18920–18946. **(Impact Factor- 4.6)**
9. Sarkar, S., Chattarjee, A., Ghosh, K., Ghosh, N. N., Dutta, A., Kumar, A., **Mandal, A. K.,** Biswas, K. (2025). A Selective "Off-On" Rhodamine based Chemosensor for the Recognition of Cu^{2+} ion: Colorimetric, Theoretical and Biological study. *New Journal of Chemistry*. **(Impact Factor- 2.5)**
10. Ahammed, I., Mondal, R., Nesa, J., **Mandal, A. K.,** & Sadat, A. (2025). Understanding the role of soil microbiota and its' interplay with environment to ensure sustainable development for the future generations. *Applied Soil Ecology*, *212*, 106217. **(Impact Factor- 5.0)**
11. Shaw, S., Mondal, R., Mandal, P., Mandal, A., Acharya, R., Das, D., Paul, S. C., Chakraborty, A. P., Gangopadhyay, D., **Mandal A. K.** (2025). Unveiling the genomic architecture of multidrug-resistant *Pseudomonas* sp. RTCS2 isolated from spoiled *Solanum lycopersicum* L. *Microbiol Resour Announc* 0:e00337-25. **(Impact Factor- 0.6)**
12. Biswas, T., Bhattacharya, R., Mondal, R., Kurt, H., Islam, M. M., Shaw, S., Mandal, P., Dam, P., Gangopadhyay, D., Husen, A., Panda, A. K., Sadat, A., Ertas, Y. N., **Mandal, A. K. (2025)**. Effect of biogenic gold nanoparticles on gut microbiota composition during larval-to-pupal transition in *Bombyx mori* L. *ACS Omega,* **(Impact Factor- 4.3)**
13. Mondal, R., Das, D., Paul, S., Manna, A., Biswas, T., Sarkar, B., Shaw, S., Chakraborty, A. P., **Mandal, A. K.** (2025). Decoding the genomic landscape of *Mammaliicoccus* sp. RAM2 isolated from flacherie-infected *Bombyx mori* L. *Microbiol Resour Announc* 14:e01322-24. **(Impact Factor- 0.6)**
14. Mondal, R., Das, D., & **Mandal, A. K.** (2025). Antibiotic Stewardship in Silkworms: Navigating the Pros and Cons. *Bacteria*, *4*(1), 2.
15. Shand, H., Dutta, S., Patra, S., Jain, H., Mondal, R., **Mandal, A. K.,** & Ghorai, S. (2024). Nanoparticle-based intervention to cardiovascular diseases (CVDS). *Applied Nanoscience*, *14*(1), 57-67. **(Impact Factor- 2.6)**
16. Shaw, S., Mondal, R., Dam, P., Mandal, A., Acharya, R., Manna, S., ... & **Mandal, A. K.** (2024). Synthesis, characterization and application of silk sericin-based silver nanocomposites for antibacterial and food coating solutions. *RSC advances*, *14*(45), 33068-33079. **(Impact Factor- 4.6)**
17. Dam, P., Shaw, S., Mondal, R., Chakraborty, J., Bhattacharjee, T., Sen, I. K., ... & **Mandal, A. K.** (2024). Multifunctional silver nanoparticle embedded eri silk cocoon scaffolds against burn wounds-associated infection. *RSC advances*, 14(37), 26723-26737. **(Impact Factor- 4.6)**
18. Mondal, R., Chakraborty, J., Dam, P., Shaw, S., Gangopadhyay, D., Ertas, Y. N., & **Mandal, A. K.** (2024). Development of Aptamer-Functionalized Gold Nanoparticles as Probes in Point-of-Care Diagnostic Device for Rapid Detection of Multidrug-Resistant Bacteria in *Bombyx mori* L. *ACS Applied Bio Materials.* 7(8), 5740–5753. **(Impact Factor- 4.4)**
19. Chakraborty, J., Mondal, R., Sultana, J., Banerjee, S., **Mandal, A. K.,** & Sarkar, H. (2024). Repurposing of dibucaine and niflumic acid as antimicrobial agents in combination with antibiotics against Staphylococcus aureus. *The Journal of Antibiotics,* 1-11. **(Impact Factor- 2.7)**

20. Mondal, R., Shaw, S., Mandal, P., Dam, P., & **Mandal, A. K.** (2024). Recent advances in the biosensors application for reviving infectious disease management in silkworm model: A new way to combat microbial Pathogens. *Archives of Microbiology*. 206(206). **(Impact Factor- 2.6)**

21. Mondal, R., Dam, P., Chakraborty, J., Shaw, S., Pradhan, S., Das, S., ... & **Mandal, A. K.** (2024). Genomic dataset of a multiple-drug resistant Pseudomonas sp. strain RAC1 isolated from a flacherie infected nistari race of *Bombyx mori* L. *Data in Brief*, 110293. **(Impact Factor- 1.4)**

22. Dadi, S., Cardoso, M.H., **Mandal, A.K.,** Franco, O.L., Ildiz, N., & Ocsoy, I. (2023). Natural molecule incorporated magnetic organic-inorganic nanoflower: Investigation of its dual Fenton reaction dependent enzyme-like catalytic activities with cyclic use. *Chemistry Select*. **(Impact Factor- 2.0)**

23. Pradhan, S., Hore, S., Roy, S., Manna, S., Dam, P., Mondal, R., ... & İnce, İ. A. (2023). Geo-environmental factors and the effectiveness of mulberry leaf extract in managing malaria. *Scientific Reports*, 13(1), 14808. **(Impact Factor- 3.9)**

24. Shand, H., Dutta, S., Patra, S., Jain, H., Mondal, R., **Mandal, A. K.**, & Ghorai, S. (2023). Nanoparticle-based intervention to cardiovascular diseases (CVDS). *Applied Nanoscience*, 1-11. **(Impact Factor- 2.6)**

25. Dam, P., Cardoso, M. H., Mandal, S., Franco, O. L., Sağıroğlu, P., Polat, O. A., ... & Ocsoy, I. (2023). Surge of mucormycosis during the COVID-19 pandemic. *Travel Medicine and Infectious Disease*, 52, 102557. **(Impact Factor- 4.7)**

26. Pradhan, S., Dolai, T. K., & **Mandal, A. K.** (2022). Malaria epidemiology & its control during COVID-19 pandemic situation in India. *Current Science*, 123(11), 1299. **(Impact Factor- 1.1)**

27. Mondal, R., Dam, P., Chakraborty, J., Paret, M. L., Katı, A., Altuntas, S., ... & Husen, A. (2022). Potential of nanobiosensor in sustainable agriculture: the state-of-art. *Heliyon*, e12207. **(Impact Factor- 3.6)**

28. Dam, P., Altuntas, S., Mondal, R., Baudrit, J. R. V., Kati, A., Ghorai, S., ... & Ocsoy, I. (2022). Silk-based nano- biocomposite scaffolds for skin organogenesis. *Materials Letters*, 327, 133024. **(Impact Factor- 2.7)**

29. Pant, S., Nag, P., Ghati, A., Chakraborty, D., Maximiano, M. R., Franco, O. L., ... & Kuila, A. (2022). Employment of the CRISPR/Cas9 system to improve cellulase production in Trichoderma reesei. *Biotechnology Advances,* 108022. **(Impact Factor- 12.5)**

30. Islam, M. M., Sarkar, B., Maiti, P. K., Das, S., Dam, P., Mondal, R., ... & **Mandal, A. K.** (2022). Draft Genome Sequence of an Endophytic *Micromonospora* sp. Strain, ANENR4, Isolated from the Root of a Peanut Plant (Arachis hypogaea). *Microbiology Resource Announcements*, 11(11), e00655-22. **(Impact Factor- 0.6)**

31. Nesa, J., Jana, S. K., Sadat, A., Biswas, K., Kati, A., Kaya, O., ... & **Mandal, A. K.** (2022). Antimicrobial potential of a ponericin-like peptide isolated from *Bombyx mori* L. hemolymph in response to *Pseudomonas aeruginosa* infection. *Scientific Reports,* 12(1), 1-19. **(Impact Factor- 3.9)**

32. Das, P., Sarkar, B., Ghati, A., Mondal, R., Dam, P., Franco, O. L. ... & **Mandal, A. K.** (2022). Draft Genome Sequence of Streptomyces sp. Strain PSAA01, Isolated from the Soil of Eastern Himalayan Foothills. *Microbiology Resource Announcements*, e00370-22. **(Impact Factor- 0.6)**

33. **Mandal, A. K.,** Sarkar, B., Mandal, H., Chakraborty, A. P., Das Mohapatra, P. K., Dam, P., ... & İnce, İ. A. (2022). Genomic Clues of a Multidrug-Resistant Bacterium from Cultured Domestic Silkworm (*Bombyx mori* L.). *Microbiology Resource Announcements,* e00081-22. **(Impact Factor- 0.6)**

34. Paulami, D., Paret, M. L., Mondal, R., & **Mandal, A. K.** (2022). Advancement of noble metallic nanoparticles in agriculture—a promising future: A review. *Pedosphere*. **(Impact Factor- 7.3)**

35. Dam, P., Celik, M., Ustun, M., Saha, S., Saha, C., Kacar, E. A., ... & **Mandal, A. K**. (2023). Wound healing strategies based on nanoparticles incorporated in hydrogel wound patches. *RSC advances,* 13(31), 21345-21364. **(Impact Factor- 4.6)**

36. Sarkar, B., **Mandal, A.K.,** Ghati, A., Ghosh, P., Mandal, S., Kati, A. (2022). Whole-genome shotgun (WGS) sequence of cis-isoprene polymer degrading Nocardia sp. BSTN01. *Microbiology Resource Announcements*. **(Impact Factor- 0.6)**

37. Sadat, A., Biswas, T., Cardoso, M. H., Mondal, R., Ghosh, A., Dam, P., Nesa, J., Chakraborty, J., Bhattacharjya, D., Franco, O.L., Gangopadhyay, D., **Mandal, A. K.** (2022). Silkworm pupae as a future food with nutritional and medicinal benefits. *Current Opinion in Food Science*, 44, 100818. **(Impact Factor- 9.1)**

38. Shand, H., Dutta, S., Rajakumar, S., Paulraj S. J., Mandal, A.K., Devi KT, R., Ghorai, S. (2022). New Age Detection of Viruses: The Nano-Biosensors. *Frontiers in Nanotechnology*, 3:814550. **(Impact Factor- 3.8)**

39. Pradhan, S., Hore, S., Maji, S. K., Manna, S., Maity, A., Kundu, P. K., Maity, K., Roy, S., Mitra, S., Dam, P., Mondal, R., Ghorai, S., Jawed, J. J., Dutta, S., Das, S., Mandal, S., Mandal, S., Kati, A., Sinha, S., Maity, A. B., Dolai, T. K., **Mandal, A. K.,** Ince, I. A. (2022). Study of Epidemiological Behaviour of Malaria and its control in the Purulia district of West Bengal, India (2016-2020). *Scientific Reports,* 12, 630. **(Impact Factor- 3.9)**

40. Yilmaz, S. G., Demirbas, A., Karaagac Z., Dadi, S., Celik, C., Yusufbeyoglu, S., Ildiz, N., **Mandal, A. K.,** Cimen B & Ocsoy, I. (2022). Synthesis of taurine-Cu3 (PO4)2 hybrid nanoflower and their peroxidase-mimic and antimicrobial properties. *Journal of Biotechnology,* 343, 96-101. **(Impact Factor- 3.9)**

41. Dadi, S., Celik, C., **Mandal, A. K.,** & Ocsoy, I. (2021). Dopamine and norepinephrine assistant-synthesized nanoflowers immobilized membrane with peroxidase mimic activity for efficient detection of model substrates. *Applied Nanoscience,* 11(1), 117-125. **(Impact Factor- 2.6)**

42. Sen, I. K., Chakraborty, I., **Mandal, A. K.,** Bhanja, S. K., Patra, S., & Maity, P. (2021). A review on antiviral and immunomodulatory polysaccharides from Indian medicinal plants, which may be beneficial to COVID-19 infected patients. *International Journal of Biological Macromolecules*, 181, 462-470. **(Impact Factor- 8.5)**

43. Bhattacharjya, D., Sadat, A., Dam, P., Buccini, D. F., Mondal, R., Biswas, T., Biswas, K., Sarkar, H., Bhuimali, A., Kati, A., & **Mandal, A. K.** (2021). Current concepts and prospects of Mulberry Fruits for nutraceutical and medicinal benefits. *Current Opinion in Food Science*, 40, 121-135. **(Impact Factor- 9.1)**

44. Meena, K. R., Dhiman, R., Singh, K., Kumar, S., Sharma, A., Kanwar, S. S., Mondal, R., Das, S., Franco, O. L., & **Mandal, A. K**. (2021). Purification and identification of a surfactin biosurfactant and engine oil degradation by Bacillus velezensis KLP2016. *Microbial Cell Factories*, 20(1), 1-12. **(Impact Factor- 4.9)**

45. Ghati, A., Dam, P., Tasdemir, D., Kati, A., Sellami, H., Sezgin, G. C., Ildiz, N., Franco, O. L., **Mandal, A. K.,** & Ocsoy, I. (2020). Exogenous pulmonary surfactant: a review focused on adjunctive therapy for SARS CoV-2 including SP-A and SP-D as added clinical marker. *Current opinion in colloid & interface science*, 51, 101413. **(Impact Factor- 7.0)**

46. Bera, B., Kati, A., Dam, P., Chowdhury, P., Chakraborti, S., Saha, M. K., Bhuimali, A., Franco, O. L., **Mandal, A. K.** (2020). Coronaviruses and tea consumption: a potential strategy to help boost the immune system. *Current Science,* 119(6). **(Impact Factor- 1.1)**

47. Roy, A., Sarkar, B., Celik, C., Ghosh, A., Basu, U., Jana, M., Jana, A., Gencay, A., Sezgin, G. C., Ildiz, N., Dam, P., **Mandal, A.K.,** & Ocsoy, I. (2020). Can concomitant use of zinc and curcumin with other immunity- boosting nutraceuticals be the arsenal against COVID-19?. *Phytotherapy Research,* 34, 2425-2428. **(Impact Factor- 6.3)**

48. Roy, A., Srivastava, S. K., Shrivastava, S. L., & **Mandal, A. K.** (2020). Hierarchical Assembly of Nanodimensional Silver–Silver Oxide Physical Gels Controlling Nosocomial Infections. *ACS omega*, 5, 32617- 32631. **(Impact Factor- 4.3)**

49. Dam, P., Mandal, S., Mondal, R., Sadat, A., Chowdhury, S. R., & **Mandal, A. K.** (2020). COVID-19: Impact on transport and mental health. *Journal of Transport & Health,* 19 100969. **(Impact Factor- 3.3)**

50. **Mandal, A. K.,** Dam, P., Franco, O. L., Sellami, H., Mandal, S., Sezgin, G. C., Biswas, K., Nandi, P. S., & Ocsoy, I. (2020). Response to "MacIntyre et al., 2020: A rapid systematic review of the efficacy of face masks and respirators against coronaviruses and other respiratory transmissible viruses for the community, healthcare workers and sick patients". *International Journal of Nursing Studies*, 111, 103750. **(Impact Factor- 7.1)**

51. Some, S., Sarkar, B., Biswas, K., Jana, T. K., Bhattacharjya, D., Dam, P., Mondal, R., Kumar, A., Deb, A. K., Sadat, A., Saha, S., Kati, A., Ocsoy, I., Franco, O. L., Mandal, A., Mandal, S., **Mandal, A. K.,** & İnce, İ. A. (2020). Bio molecule functionalized rapid one-pot green synthesis of silver nanoparticles and their efficacy toward the multidrug resistant (MDR) gut bacteria of silkworms (*Bombyx mori*). *RSC Advances*, 10(38), 22742- 22757. **(Impact Factor- 4.6)**

52. Nesa, J., Sadat, A., Buccini, D. F., Kati, A., **Mandal, A. K.,** & Franco, O. L. (2020). Antimicrobial peptides from *Bombyx mori*: a splendid immune defense response in silkworms. *RSC Advances*, 10(1), 512-523. **(Impact Factor- 4.6)**

53. Some, S., Bulut, O., Biswas, K., Kumar, A., Roy, A., Sen, I. K., Mandal, A., Franco, O. L., İnce, İ. A., Neog, K., Das, S., Pradhan, S., Dutta, S., Bhattacharjya, D., Saha, S., Mohapatra, P. K. D., Bhuimali, A., Unni, B. G., Kati, A., **Mandal, A. K.,** Yilmaz, M. D., & Ocsoy, I. (2019). Effect of feed supplementation with biosynthesized silver nanoparticles using leaf extract of Morus indica L. V1 on *Bombyx mori* L. (Lepidoptera: Bombycidae). *Scientific reports,* 9(1), 1-13. **(Impact Factor- 3.9)**

54. Jana, T. K., Jana, S. K., Kumar, A., De, K., Maiti, R., **Mandal, A. K.,** Chatterjee, T., Chatterjee, B. K., Chakrabarti, P., & Chatterjee, K. (2019). The antibacterial and anticancer properties of zinc oxide coated iron oxide nanotextured composites. *Colloids and Surfaces B: Biointerfaces*, 177, 512-519. **(Impact Factor- 5.6)**

55. Roy, A., Bulut, O., Some, S., **Mandal, A. K.,** & Yilmaz, M. D. (2019). Green synthesis of silver nanoparticles: biomolecule-nanoparticle organizations targeting antimicrobial activity. *RSC advances*, 9(5), 2673-2702. **(Impact Factor - 4.6)** (Corresponding author). [This article is part of the very best articles themed collections: Chemistry in the battle against infections, 10th Anniversary collection on the Synthesis of nanomaterials, Celebrating recent achievements in chemical science in Turkey, and 2019 International Open Access Week Collection]

56. Das, S., Sen, I. K., Kati, A., Some, S., **Mandal, A. K.,** Islam, S. S., Bhattacharyya, R., & Mukhopadhyay, A. (2019). Flocculating, emulsification and metal sorption properties of a partial characterized novel exopolysaccharide produced by Rhizobium tropici SRA1 isolated from *Psophocarpus tetragonolobus* (L) DC. *International Microbiology*, 22(1), 91-101. **(Impact Factor- 2.3)**

57. Some, S., Sen, I. K., Mandal, A., Aslan, T., Ustun, Y., Yilmaz, E. Ş., Katı, A., Demirbas, A., **Mandal, A. K.,** & Ocsoy, I. (2018). Biosynthesis of silver nanoparticles and their versatile antimicrobial properties. *Materials Research Express,* 6(1), 012001. **(Impact Factor- 2.2)**

58. Barman, P., Bandyopadhyay, P., Kati, A., Paul, T., **Mandal, A. K.,** Mondal, K. C., & Mohapatra, P. K. D. (2018). Characterization and strain improvement of aerobic denitrifying EPS producing bacterium Bacillus cereus PB88 for shrimp water quality management. *Waste and Biomass Valorization*, 9(8), 1319-1330. **(Impact Factor- 2.8)**

59. Basu, P., De, K., Das, S., Mandal, A. K., Kumar, A., Jana, T. K., & Chatterjee, K. (2018). Silica-Coated metal oxide nanoparticles: magnetic and cytotoxicity studies. *ChemistrySelect*, 3(25), 7346-7353. **(Impact Factor- 2.0)**

60. Beg, M., Maji, A., **Mandal, A. K.,** Das, S., Jha, P. K., & Hossain, M. (2018). Probing the binding of *Spathodea campanulata* leaves extract mediated biogenic potential microbicidal silver nanoparticles to human serum albumin: An insight in the light of spectroscopic approach. *Journal of Luminescence*, 202, 147-156. **(Impact Factor- 3.6)**

61. Maity, M., Perveen, H., Dash, M., Jana, S., Khatun, S., Dey, A., **Mandal, A. K.,** & Chattopadhyay, S. (2018). Arjunolic acid improves the serum level of vitamin B 12 and folate in the process of the attenuation of arsenic induced uterine oxidative stress. *Biological trace element research*, 182(1), 78-90. **(Impact Factor- 3.6)**

62. Beg, M., Maji, A., **Mandal, A. K.,** Das, S., Jha, P. K., & Hossain, M. (2018). Spectroscopic investigation on interaction of biogenic, *Croton bonplandianum* leaves extract mediated potential bactericidal silver nanoparticles with human hemoglobin and human serum albumin. *Journal of Biomolecular Structure and Dynamics*, 36(3), 711 723. **(Impact Factor- 2.4)**

63. Roy, B., Guha, P., Nahak, P., Karmakar, G., Maiti, S., **Mandal, A. K.,** Bykov, A.G., Akentiev, A.V., Noskov, B.A., Tsuchiya, K. and Torigoe, K., & Panda, A. K. (2018). Biophysical Correlates on the Composition, Functionality, and Structure of Dendrimer–Liposome Aggregates. *ACS omega*, 3(9), 12235-12245. **(Impact Factor- 4.3)**

64. Guha, P., Roy, B., Nahak, P., Karmakar, G., Chang, C. H., Bikov, A. G., Akentiev, A. B., Noskov, B. A., **Mandal, A. K.,** Kumar, A. and Hassan, P. A., Aswal, V. K., Misono, T., Torigoe, K., & Panda, A. K. (2018). Exploring the dual impact of hydrocarbon chain length and the role of piroxicam a conventional NSAID on soylecithin/ion pair amphiphiles mediated hybrid vesicles for brain–tumor targeted drug delivery. *Colloids and Surfaces A: Physicochemical and Engineering Aspects,* 546, 334-345. **(Impact Factor- 5.4)**

65. Maji, A., Beg, M., **Mandal, A. K.,** Das, S., Jha, P. K., Kumar, A., Sarwar, S., Hossain, M., & Chakrabarti, P. (2017). Spectroscopic interaction study of human serum albumin and human hemoglobin with Mersilea quadrifolia leaves extract mediated silver nanoparticles having antibacterial and anticancer activity. *Journal of Molecular Structure,* 1141, 584-592. **(Impact Factor- 4.7)**

66. Barman, P., Kati, A., **Mandal, A. K.,** Bandyopadhyay, P., & Mohapatra, P. K. D. (2017). Biopotentiality of Bacillus cereus PB45 for nitrogenous waste detoxification in ex situ model. *Aquaculture international*, 25(3), 1167- 1183. **(Impact Factor- 2.4)**

67. Bhadra, A., Karmakar, G., Nahak, P., Chettri, P., Roy, B., Guha, P., **Mandal, A. K.,** Nath, R. K., & Panda, A. K. (2017). Impact of detergents on the physiochemical behavior of itraconazole loaded nanostructured lipid carriers. *Colloids and Surfaces A: Physicochemical and Engineering Aspects,* 516, 63-71. **(Impact Factor- 5.4)**

68. Maji, A., Beg, M., **Mandal, A. K.,** Das, S., Jha, P. K., & Hossain, M. (2017). Study of the interaction of human serum albumin with *Alstonia scholaris* leaf extract-mediated silver nanoparticles having bactericidal property. *Process biochemistry*, 60, 59-66. **(Impact Factor- 4.0)**

69. Jana, T. K., Pal, A., **Mandal, A. K.,** Sarwar, S., Chakrabarti, P., & Chatterjee, K. (2017). Photocatalytic and Antibacterial Performance of α-Fe2O3 Nanostructures. *ChemistrySelect*, 2(10), 3068-3077. **(Impact Factor- 2.0)**

70. Beg, M., Maji, A., **Mandal, A. K.,** Das, S., Aktara, M. N., Jha, P. K., & Hossain, M. (2017). Green synthesis of silver nanoparticles using *Pongamia pinnata* seed: characterization, antibacterial property, and spectroscopic investigation of interaction with human serum albumin. *Journal of Molecular Recognition*, 30(1), e2565. **(Impact Factor- 3.0)**

71. Manna, D. K., Maity, P., Nandi, A. K., Pattanayak, M., Panda, B. C., **Mandal, A. K.,** ... & Islam, S. S. (2017). Structural elucidation and immunostimulating property of a novel polysaccharide extracted from an edible mushroom *Lentinus fusipes*. *Carbohydrate polymers*, 157, 1657-1665. **(Impact Factor- 12.5)**

72. Jana, S. K., **Mandal, A. K.,** Kumar, A., Puschmann, H., Hossain, M., & Dalai, S. (2016). Sensing of tryptophan by a non-toxic cobalt (II) complex. *RSC advances*, 6(98), 95888-95896. **(Impact Factor- 4.6)**

73. Bhattarai, R., Sutradhar, T., Roy, B., Guha, P., Chettri, P., Mandal, A. K., Bykov, A. G., Akentiev, A. V., Noskov, B. A., & Panda, A. K. (2016). Double-tailed cystine derivatives as novel substitutes of phospholipids with special reference to liposomes. *Journal of Physical Chemistry B*, 120(41), 10744-10756. **(Impact Factor- 2.9)**

74. Jana, S. K., Mandal, A. K., Seth, S. K., Puschmann, H., Hossain, M., & Dalai, S. (2016). Synthesis, characterization and crystal structure of new 3D cadmium (II) coordination polymer: binding interaction with DNA and Double stranded RNA. *Journal of Inorganic and Organometallic Polymers and Materials*, 26(4), 806-818. **(Impact Factor- 4.9)**

75. Paul, T., Jana, A., **Mandal, A. K.,** Mandal, A., Mohpatra, P. K. D., & Mondal, K. C. (2016). Bacterial keratinolytic protease, imminent starter for NextGen leather and detergent industries. *Sustainable Chemistry and Pharmacy*, 3, 8-22. **(Impact Factor- 5.8)**
76. Koirala, S., Roy, B., Guha, P., Bhattarai, R., Sapkota, M., Nahak, P., Karmakar, G., **Mandal, A. K.,** Kumar, A., & Panda, A. K. (2016). Effect of double tailed cationic surfactants on the physicochemical behavior of hybrid vesicles. *RSC Advances*, 6(17), 13786-13796. **(Impact Factor- 4.6)**
77. Manna, D. K., Nandi, A. K., Pattanayak, M., Maity, P., Tripathy, S., **Mandal, A. K.,** Roy, S., Tripathy, S. S., Gupta, N., & Islam, S. S. (2015). A water soluble β-glucan of an edible mushroom *Termitomyces heimii*: Structural and biological investigation. *Carbohydrate polymers*, 134, 375-384. **(Impact Factor- 12.5)**
78. **Mandal, A. K.,** Sen, I. K., Maity, P., Chattopadhyay, S., Chakraborty, R., Roy, S., & Islam, S. S. (2015). Structural elucidation and biological studies of a novel exopolysaccaride from *Klebsiella pneumoniae* PB12. *International journal of biological macromolecules*, 79, 413-422. **(Impact Factor- 8.5)**
79. Paul, T., Mandal, A., Mandal, S. M., Ghosh, K., **Mandal, A. K.,** Halder, S. K., Das, A., Maji, S. K., Kati, A., Mohapatra, P. K. D., Pati, B. R., & Mondal, K. C. (2015). Enzymatic hydrolyzed feather peptide, a welcoming drug for multiple-antibiotic-resistant Staphylococcus aureus: structural analysis and characterization. *Applied biochemistry and biotechnology*, 175(7), 3371-3386. **(Impact Factor- 3.3)**
80. Manna, D. K., **Mandal, A. K.**, Sen, I. K., Maji, P. K., Chakraborti, S., Chakraborty, R., & Islam, S. S. (2015). Antibacterial and DNA degradation potential of silver nanoparticles synthesized via green route. *International journal of biological macromolecules*, 80, 455-459. **(Impact Factor- 8.5)**
81. Saha, S., Nayak, S., Bhattacharyya, I., Saha, S., **Mandal, A. K.,** Chakraborty, S., Bhattacharyya, R., Chakraborty, R., Franco, O. L., Mandal, S. M., & Basak, A. (2014). Understanding the patterns of antibiotic susceptibility of bacteria causing urinary tract infection in West Bengal, India. *Frontiers in microbiology*, 5, 463. **(Impact Factor- 4.5)**
82. Chakraborty, R., **Mandal, A. K.,** Mandal, S., & Franco, O. (2014). Swings in cell morphology, and expression of genes essential to cell adhesion, secretion, iron-chelation and transport, multi-drug resistance, and two- component signal transduction mechanism, from copiotrophic to oligotrophic lifestyle in a model strain, *Klebsiella pneumoniae* PB12. *FEBS Journal*, 281. **(Impact Factor- 4.2)**
83. Chakraborti, S., **Mandal, A. K.,** Sarwar, S., Singh, P., Chakraborty, R., & Chakrabarti, P. (2014). Bactericidal effect of polyethyleneimine capped ZnO nanoparticles on multiple antibiotic resistant bacteria harboring genes of high-pathogenicity Island. *Colloids and Surfaces B: Biointerfaces*, 121, 44-53. **(Impact Factor- 5.6)**
84. Sen, I. K., **Mandal, A. K.,** Chakraborty, R., Behera, B., Yadav, K. K., Maiti, T. K., & Islam, S. S. (2014). Structural and immunological studies of an exopolysaccharide from *Acinetobacter junii* BB1A. *Carbohydrate polymers*, 101, 188-195. **(Impact Factor- 12.5)**
85. Sen, I. K., **Mandal, A. K.,** Chakraborti, S., Dey, B., Chakraborty, R., & Islam, S. S. (2013). Green synthesis of silver nanoparticles using glucan from mushroom and study of antibacterial activity. *International journal of biological macromolecules*, 62, 439-449. **(Impact Factor- 8.5)**
86. Chakraborty, R., Kumar, A., Bhowal, S. S., **Mandal, A. K.,** Tiwary, B. K., & Mukherjee, S. (2013). Diverse gene cassettes in class 1 integrons of facultative oligotrophic bacteria of river Mahananda, West Bengal, India. *PloS one*, 8(8), e71753. **(Impact Factor- 2.6)**
87. Yadav, K. K., **Mandal, A. K.,** & Chakraborty, R. (2013). Copper susceptibility in *Acinetobacter junii* BB1A is related to the production of extracellular polymeric substances. *Antonie Van Leeuwenhoek*, 104(2), 261-269. **(Impact Factor- 1.8)**
88. **Mandal, A. K.,** Yadav, K. K., Sen, I. K., Kumar, A., Chakraborti, S., Islam, S. S., & Chakraborty, R. (2013). Partial characterization and flocculating behavior of an exopolysaccharide produced in nutrient-poor medium by a facultative oligotroph *Klebsiella* sp. PB12. *Journal of bioscience and bioengineering*, 115(1), 76-81. **(Impact Factor- 2.9)**
89. Yadav, K. K., **Mandal, A. K.,** Sen, I. K., Chakraborti, S., Islam, S. S., & Chakraborty, R. (2012). Flocculating property of extracellular polymeric substances produced by a biofilm-forming bacterium *Acinetobacter junii* BB1A. *Applied biochemistry and biotechnology*, 168(6), 1621-1634. **(Impact Factor- 3.3)**

Edited Books:

1. Gangopadhyay, D., **Mandal, A. K.,** Ocsoy, I., Husen, A. (Eds.) (2025). *Silk Protein Based Nanoformulation and Its Various Applications.* Springer Nature Singapore.
2. Miere, F., Vicas, S. I., & **Mandal, A. K.** (Eds.). (2025). *Phytochemical Potentials for Dermatological Applications*. CRC Press.
3. **Mandal, A. K.**, Sarkar, H., Vega-Baudrit J. R. (Eds.) (2025). *Functionalized Nanoparticles Hydrogels for Wound Healing.* Springer Nature Singapore.
4. **Mandal, A. K.,** Ghorai, S., & Husen, A. (Eds.). (2024). *Functionalized smart nanomaterials for point-of-care testing*. Springer Nature Singapore.

Book Chapters:

1. Shaw, S., Acharya, R., Mandal, P., **Mandal, A. K.,** & Gangopadhyay, D. (2026). Advances in Extraction and Characterization of Silk Proteins for Future Uses. In *Science and Technology of Silk: Volume I: Silk Production* (pp. 219-246). Cham: Springer Nature Switzerland.

2. Das, D., Pal, T., Mondal, R., Mandal, P., & **Mandal, A. K.** (2025). Safety Issues Associated with Micro and Nanocontaminants. In *Enhanced Crop Production Setup Under Various Micro and Nano Contaminants: Sustainable Use, Production and Future Prospects* (pp. 365-376). Singapore: Springer Nature Singapore.
3. Genc, D., Katı, A., **Mandal, A. K.**, Ghorai, S., Salami, H., ElHefnawi, S. N. K., & Altuntas, S. (2025). Respiratory System-Based In Vitro Antiviral Drug Repurposing Strategies for Sars-Cov-2. In *Organoid Technology: Disease Modelling, Drug Discovery, and Personalized Medicine* (pp. 144-158). Bentham Science Publishers.
4. Mandal, P., Ghosh, P., Mondal, R., Shand, H., & **Mandal, A. K.** (2025). Rhizosphere biology for higher growth and yield. *Agricultural Crop Improvement: Plant and Soil Relationships* (pp. 403-423). CRC Press.
5. Bhattacharya, B., Roy, P., Bhattacharya, S., Prasad, B., & **Mandal, A. K**. (2023). Nanotechnology and sustainable development: Overcoming the obstacles by adopting ethical practices for future farming. In *Engineered Nanomaterials for Sustainable Agricultural Production, Soil Improvement and Stress Management* (pp. 431-445). Academic Press.
6. Shand, H., Mondal, R., Ghorai, S., & **Mandal, A. K.** (2023). Maize Waste Utilization for Nanoparticles Synthesis and Their Various Application. In *Nanomaterials from Agricultural and Horticultural Products* (pp. 179-186). Singapore: Springer Nature Singapore.
7. Shand, H., Mondal, R., Patra, S., Dam, P., Ghorai, S., & **Mandal, A. K.** (2023). Flower-Based Compounds and Their Role in Nanomaterials Synthesis and Applications. In *Secondary Metabolites Based Green Synthesis of Nanomaterials and Their Applications* (pp. 227-240). Singapore: Springer Nature Singapore.
8. Das, D., Chakraborty, J., Shand, H., Mondal, R., Podder, S., Ghorai, S., & **Mandal, A. K.** (2023). Potential Bioactive Compounds of Indian Flora Against SARS-CoV-2. In *Bioactive Compounds Against SARS-CoV-2* (pp. 203-210). CRC Press.
9. Mondal, R., Shand, H., Kumar, A., Sellami, H., Ghorai, S., **Mandal, A. K**., & Husen, A. (2023). Lipid-based cubosome nanoparticle mediated efficient and controlled vesicular drug delivery for cancer therapy. In *Advances in Smart Nanomaterials and their Applications* (pp. 97-107). Elsevier.
10. Bhattacharya, B., & **Mandal, A. K**. (2023). Safety and ethics associated with genomics, transcriptomics, proteomics, and metabolomics of crop plants. In *Genomics, Transcriptomics, Proteomics and Metabolomics of Crop Plants* (pp. 339-351). Academic Press.
11. Some, S., Mondal, R., Dam, P., & **Mandal, A. K.** (2022). Synthesis of biogenic silver nanoparticles using medicinal plant extract: A new age in nanomedicine to combat multidrug-resistant pathogens. In *Green Synthesis of Silver Nanomaterials* (pp. 359-387). Elsevier
12. Mondal, R., Yilmaz, M. D., & **Mandal, A. K.** (2021). Green synthesis of carbon nanoparticles: Characterization and their biocidal properties. In *Handbook of Greener Synthesis of Nanomaterials and Compounds* (pp. 277-306). Elsevier.
13. Dutta, S., Bhattacharjya, D., Sinha, S., & **Mandal, A. K**. (2021). Salt-tolerant and plant growth-promoting Rhizobacteria: A new-fangled approach for improving crop yield. In *Harsh Environment and Plant Resilience: Molecular and Functional Aspects* (pp. 367-385). Cham: Springer International Publishing.
14. Some, S., & **Mandal, A. K.** (2020). Fermented foods for health: processes and prospects. In *Microbial fermentation and enzyme technology* (pp. 73-84). CRC Press.
15. Some, S., & **Mandal, A. K**. (2020). Fermented foods for health: processes and prospects. In *Microbial fermentation and enzyme technology* (pp. 73-84). CRC Press.
16. **Mandal, A. K.** (2013). *Biology of bacterial biofilms*. Levant Books
17. Chakraborty, R., Kumar, A., Mukherjee, S., Bhowal, S. S., **Mandal, A. K**., & Tiwary, B. K. (2013). Oligotrophic bacteria of River Mahananda: Spanking reservoir of integron-borne gene cassettes coding for diverse proteins including antibiotic-resistance. In S. Mukherjee (Ed.), Biotechnology for people (pp. 50–59). Levant Books.