INSTITUTE OF HOME ECONOMICS

UNIVERSITY OF DELHI

Name	Dr Arti Nigam	Photograph
Designation	Professor	
E-mail	arti.nigam@ihe.du.ac.in	

Educational Qualifications: M.Sc. (Biotechnology) JNU, PhD (Microbiology) University of Delhi

Teaching experience: 30 years

Subjects/Papers Taught: Industrial Microbiology, Recombinant DNA Technology, Microbial Biotechnology, Cell Biology, Instrumentation, Diagnostics, Biofertilizers, Applied Food Microbiology, and Microbial Ecology

Awards received/Recognition:
JRF & SRF from UGC
Post Graduate Merit Scholarship from DBT
Biographical profile is included in the XIII Edition, **Asian Admirable Achievers** (2025) published by Rifacimento International

Research Interest/Specialization: Industrial Microbiology, Microbial Biotechnology, Enzymes, Diagnostics, Biofertilizers, Probiotics & Biopharmaceuticals

ORCID No. 000-0002-0642-7932

Research Projects

Title	Funding agency/organization	Duration of Project
Evaluation of chemical and microbiological quality of the vermicompost prepared from different types of wastes using *Eisenia foetida.* Sanctioned grant 6.52 lakhs	UGC Major Project	3 Years (2008-2011)
Evaluation of microbial flora of Indian Fermented foods for the development of novel probiotics having antioxidant properties. Project code:304 Sanctioned grant 4.6 lakhs	DU Innovation Project	1 Year (2015-2016)

Research papers since 2010

Girdhar, M., Sen, A., **Nigam, A.,** Oswalia, J., Kumar, S. & Rashi Gupta (2024). Antimicrobial peptide-based strategies to overcome antimicrobial resistance. Archives of Microbiology (2024) 206:411 https://doi.org/10.1007/s00203-024-04133-x

Sen, A., Oswalia, J., Yadav S., Vachher, M., & Nigam, A. (2024) .Recent trends in nanozyme research and their potential therapeutic applications. Current Research in Biotechnology. 7(33):100205 https://doi.org/10.1016/j.crbiot.2024.100205

Bhati R., **Nigam, A**., Ahmad, S., Raza, K.& Singh, R. (2023). Structural–functional analysis and molecular characterization of arsenate reductase from Enterobacter cloacae RSC3 for arsenic biotransformation. *3 Biotech* 13:305 .https://doi.org/10.1007/s13205-023-03730-9

Sen, A., **Nigam, A**. & Vachher, M. (2022). Role of Polypeptide Inflammatory Biomarkers in the Diagnosis and Monitoring of COVID-19. *International Journal of Peptide Research and Therapeutics*. 28(2): 1-20. https://doi.org/10.1007/s10989-022-10366-5

Singh, T., **Nigam, A**. & Kapila, R. (2022). Analyzing the Use of Medicinal Herbs During the First Wave and Second Wave of COVID-19. *Proceedings in National Academy of Science, India, Sect. B Biological Sciences*. 92: 219–222. https://doi.org/10.1007/s40011-021-01303-5

Rastogi, A., **Nigam, A**., Mandal, S., Nath, S. & Kapila, R. (2022). Increased Inclination towards Herbal Preparations as Immunity Booster among Young Adults in the Times of Pandemic: A Cross-Sectional Study. *Journal of Ayurveda.* 16 (1): 27-33. https://doi.org/10.4103/joa.joa_7_21

Gupta, R., **Nigam, A**. & Kapila, R. (2022). Cultivation and conservation of underutilized medicinal and agricultural plants in India. *Proceedings of the National Academy of Sciences, India Section B: Biological Sciences.* https://doi.org/ 10.1007/s40011-022-01405-8

Sen, A. & **Nigam, A**. (2022). Bioengineering for Decolorization of Synthetic Dyes in Textile Effluents using Microbial Enzymes *Journal of Scientific Research.* 66(3): 66-78. http://dx.doi.org/10.37398/JSR.2022.660310

Aggarwal, S., Sen, A., Rastogi A. & **Nigam A**. (2021) Evaluation of the probiotic potential of yeasts isolated from Indian fermented food items. *Research Journal of Biotechnology* .16 (10): 3342 https://worldresearchersassociations.com/biotechcurrissue/6.pdf

Vachher, M., Sen, A., Kapila, R. & **Nigam, A**. (2021) Microbial therapeutic enzymes: A promising area of biopharmaceuticals. *Current Research in Biotechnology*. 3: 195-208 https://doi.org/10.1016/j.crbiot.2021.05.0063.

Vachher, M., Sen, A., Burman, A. & **Nigam, A**. (2021) Bacterial enzymes as diagnostic tools for various human pathogens. *Journal of Scientific Research*. 65(5): 105-115. https://www.bhu.ac.in/research_pub/jsr/Current%20Issue.html

Singh, T., **Nigam, A.** & Kapila, R. (2021). Innovations in Silkworm Rearing and Importance: Recent Advances. *Journal of the Textile Association.* 82(2): 87-90**.**

Sharma C, **Nigam, A**. & Singh R. (2021) Computational-approach understanding the structure-function prophecy of Fibrinolytic Protease RFEA1 from Bacillus cereus RSA1. *PeerJ* 9:e11570 https://doi.org/10.7717/peerj.11570

Sen, A., Kapila, R., Chaudhary, S. & **Nigam, A.** (2021) Biotechnological Applications of Microbial Enzymes to Replace Chemicals in the Textile Industry- A Review. *Journal of the Textile Association*. volume 82(6) https://issuu.com/textileasociationindia/docs/e-journal_-_jul-aug_21

Kapila, R., Verma, G., Sen, A. & **Nigam, A.** (2021). Compositional Evaluation of Vermicompost Prepared from Different Types of Organic Wastes using *Eisenia fetida* and Studying its Effect on Crop Growth. *Indian Journal of Agricultural Research*. DOI:10.18805/IJARe.A5708.

Kapila, R., Verma, G., Sen, A., & **Nigam, A.** (2021). Evaluation of Microbiological Quality of Vermicompost Prepared from Different Types of Organic Wastes using *Eisenia fetida. Agricultural Science Digest*. DOI: 10.18805/ag.D-5275

Sen, A., Oswalia, J., & **Nigam, A**. (2021). Biodegradation of Synthetic Dyes in Effluents by Immobilised Microbial Cells and Enzymes. *Journal of the Textile Association*. 81(6) :312-318 https://issuu.com/textileasociationindia/docs/e-journal_-_mar-apr_21

Ramesh, M., Sen, A., Vachher, M., & **Nigam, A.** (2021). Delineating Bacteria Using DNA Barcoding. *Molecular Genetics, Microbiology and Virology*, 36(1), S65-S73. 10.3103/S0891416821050128

Chaudhary, S & **Nigam, A.** (2020). Antimicrobial Fabrics: An Innovation in Textile Technology. *Journal of the Textile Association*. 81(4) :204-2010 https://issuu.com/textileasociationindia/docs/e-journal_-_nov-dec_20

Keshan P., Rastogi A., Aggarwal S, **Nigam A.**, Kapila R., & Syed S. (2020). Effect of one-day training onKnowledge related to Biosafety and waste management among life-science Students. *Indian Journal of Community Health*.32(4):694-698.https://doi.org/10.47203/IJCH.2020.v32i04.014

Gupta, S., **Nigam, A**, & Singh, R. (2015).Purification and characterization of a *Bacillus subtilis* keratinase and its prospective application in feed industry. *Acta Biologica Szegediensis* 59(2):197-204

Singh, R., **Nigam, A**., Verma, G., & Kapila, R. (2013). Vermicomposting- A technology for waste management and recycling and its relevance to horticulture. *International Journal of Innovative Horticulture*. 2(1):44-51

Book Authored as **First Author**

Lab Manual in Biochemistry, Immunology and Biotechnology 2007, First Reprint 2008, Second reprint 2009 Lab Manual in Biochemistry, Immunology and Biotechnology ISBN-13:978-0-07-0617674 Published by International publishing company: Tata McGraw Hills

Research Guidance

Ph.D. guidance

Amity Institute of Microbial Biotechnology
Co-Guide for Ph.D. in Microbial Biotechnology

Sonali Gupta 2011- 2015 Bacterial Keratinase: Production, Purification and its properties https://shodhganga.inflibnet.ac.in/handle/10603/18839

Chhavi Sharma. 2017-2021 Production, Purification and Molecular Characterization of Fibrinolytic Protease from *Bacillus sp*.

Reeta Bhati 2017-2024- Isolation, Characterization and Application of Arsenic Resistant Bacteria in Bioremediation.

M.Sc. (Food & Nutrition) Dissertations: 4

Achievements:

Academic expert at Amity Institute of Microbial Biotechnology
Editorial Board Member: European Journal of Sciences
Scientific European (SCIEU)

Contribution to the college:

Positions held

Teacher in charge for six years (Department of Microbiology),
Staff council Secretary, and Staff association president
Deputy Supdt Examinations- For Semester system & NEP)
Convenor- Academic and workload committee for 2 Years
College Committee Member in various committees, including Internal Quality Assurance Cell (IQAC), Admission, Timetable, Orientation, Academic and Workload, Covid Task Force, Examination, Building, Legal Affairs Committee, Cultural Committee, NSS, and Sports Committee, Screening committee for Appointments, Screening committee for promotion and Statutory building committee for HEFA

Contribution to the Teaching-Learning Process:

Participated in syllabus revision exercises for UG &PG courses at DU and other Universities.
Organised several educational visits, Symposia, Departmental Academic Festivals, and International and national-level conferences
Reviewed: Research Papers and book proposals
Edited: Abstract Book of the National Conference held at IHE in April 2025

Life Member: Association of Microbiologists of India
Life Member: Microbiological Society of India