




Shivaji College Faculty Details Proforma

Title	First Name	Last Name	Photograph
Designation	Dr. Aeshna Nigam Assistant Professor		
Address	Department of Zoology, Shivaji College, University of Delhi		
Office Phone No.	-		
Residence	-		
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Educational Qualifications	M.Sc.(Cell Biology), Ph.D. (Molecular Biology)		
Degree	University/Institute	Year	
Ph.D.	Department of Zoology, University of Delhi	2012	
M.Phil./M.Tech.	----	-	
PG	Department of Zoology, University of Delhi	2007	
UG	Miranda House, University of Delhi	2005	
Any Other Qualification	--		
Ph.D. thesis	Genetic Manipulation of Polyketide Synthase (PKS) gene cluster of <i>Amycolatopsis mediterranei</i> S699 to produce 24-desmethylrifamycin B, an analog of rifamycin B. The aim of the investigation was to genetically manipulate the rifamycin polyketide synthase gene cluster of <i>Amycolatopsis mediterranei</i>		

	<p>S699 to produce an analog of rifamycin B. Rifamycin B derivatives are used against tuberculosis (TB) and leprosy. Introduction of this drug reduced the mortality rate due to TB. However incomplete and partial treatment led to emergence of multiple drug resistant strains of <i>Mycobacterium tuberculosis</i>. The potential solution to the problem lies in either chemical synthesis or production of rifamycin analogues by genetic manipulation of the gene cluster. The complexity of the molecule limits the use of chemical tool to only C-3 and C-4 of the carbon skeleton of the rifamycin B molecule. I engineered PKS gene cluster in <i>A. mediterranei</i> S699, by swapping the acyl transferase (AT) domain of the sixth module which adds propionate unit to the growing polyketide chain with AT of module 2 of rapamycin polyketide synthase gene cluster (from <i>Streptomyces hygroscopicus</i>) by homologous recombination.</p> <p>The hybrid DNA formed produced an analogue of rifamycin-B (mol wt.-755), which lacks a C-33 methyl pendant (mol wt.-741). This analog, 24-desmethylrifamycin B was found to have better antibacterial activity against <i>Mycobacterium smegmatis</i> than the native molecule, rifamycin B. The study is the first instance of manipulation of <i>rif</i>PKS by genetic engineering to produce analog of rifamycin B.</p> <p style="text-align: center;">WAS AWARDED THE YOUNG SCIENTIST AWARD FOR THIS WORK The work has been patented</p>	
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Career Profile

University Teaching Assistant, Department of Zoology, University of Delhi (2008-2011)
Assistant Professor, Shivaji College, University of Delhi (2012- till date)

Areas of Interest/Specialisation

Evolutionary Biology
Animal Behaviour
Biotechnology

Subjects Taught

Evolutionary Biology
Animal Behaviour
Biotechnology
Biochemistry
Ecology
Bioinformatics

Innovation Project/Research Projects (Major Grants/Research Collaboration)

- ‘Comparative analysis of heavy metal toxicity and pesticide contamination in vegetables collected from local sites and organic stores in Delhi’. The aim of the investigation is to look into the heavy metal and pesticide contamination in vegetables grown in and around Delhi due to environmental pollution. [2015-16]
- Project Investigator of Research project under the DBT Sponsored Star College Scheme: ‘To study & analyse the microbial diversity at area around Najafgarh Drain’ [2019-2021]

Publications Profile (Research Papers/Books)

Research Papers

1. Dua A., Roshan R., **Nigam A.**, Yadav D. and Chaudhary J.K. (2023). Evaluation of Knowledge, Attitude, and Practice towards the Coronavirus Disease 19 Pandemic: A Cross-Sectional Study in Delhi-NCR Regions of India. *Microsphere* 2(1): 159-169
2. **Nigam A.**, Mukherjee, Verma M (2022). Global Impact of Tuberculosis and HIV coinfection. *Microsphere* Vol 2: pp 12-18
3. Dhingra G.G., Saxena A., **Nigam, A. et al.** (2021). Microbial World: Recent Developments in Health, Agriculture and Environmental Sciences. *Indian Journal of Microbiology* Vol 61:pp 111–115.
4. **Nigam A.**, Bamel K., Nijhawan S., Bharti S., Dogra S., Dalal H., Priyanka⁷, Shashank and Walia A. 2016. “Effect of Heavy Metals on Reproductive Health of Women: Health Alarm!” *International Journal of Basic and Applied biology*, 3(4), 247-251.
5. Bamel K., **Nigam A.**, Nijhawan S., Priyanka, Dogra. S., Dala H., Shashank and Walia A., 2016. Heavy Metal Toxicity affects Male Reproductive Health. *Proceedings of National Seminar on Water and Air Quality in Urban Ecosystem*, 1-6, ISBN:978-93-5267-493-0
6. **Nigam A.**, Bamel K., Malik, D. and Nijhawan, S. 2016. Heavy metal contamination in vegetables: Source of Nutrition or Health Hazard? *Journal of Basic and Applied Engineering Research*, Vol 3(1), 60-65, ISSN-2350-0077
7. Dwiwedi, V., Kumari, K., Gupta, S.K, Kumari, R, Tripathi, C., Lata P., Singh, A.K., Niharika, N, Kumar, R., **Nigam A.**, Garg, N. and Lal, R. 2015 *Thermus parvatiensis* RLT sp. nov., Isolated from a Hot Water Spring, Located Atop the Himalayan Ranges at Manikaran, India. *Indian J. Microbiol.* 55(4), 357-365, ISSN-0973-7715, Impact Factor--0.457
8. **Nigam, A.**, Almabruk, K.H., Saxena, A., Yang, J., Mukherjee, U., Kaur, H., Kohli, P., Kumari, R., Singh, P., Zakharov, L.N., Singh, Y., Mahmud, T. and Lal, R. 2014. Modification of Rifamycin Polyketide Backbone Leads to Improved Drug Activity Against Rifampicin-Resistant *Mycobacterium tuberculosis*. *J Biol Chem*, 289 (30), 21142-21152, ISSN no.- 0021-9258 Impact factor-4.6.

9. Lal, D., Jindal, S., Kumari, H., Jit, S., **Nigam, A.** Sharma, P., Kumari, K. and Lal, R. 2013. Bacterial diversity and real-time PCR based assessment of linA and linB gene distribution at hexachlorocyclohexane contaminated sites.. J Basic Microbiol, 53,1-11, ISSN-1521-4028, Impact Factor-1.198.
10. Sangwan, N., Lata, P., Dwivedi ,V., Singh, A., Niharika, N., Kaur, J.; Anand, S.;Malhotra, J., Jindal, S., **Nigam, A.** Lal, D., Dua A., Saxena A., Garag, N.; Verma, M.; Kaur, J.; Mukherjee, U.;Gilbert , J.A., Dowd, S. E., Raman, R., Khurana, P., Khurana, J., Lal R. 2012. Comparative Metagenomic analysis of soil microbial communities across three Hexachlorocyclohexane gradients. PLoS ONE, 7(9), 1-12, ISSN 1932-6203, Impact factor-3.73
11. Dwivedi, V., Sangwan, N., **Nigam A.**, Niharika, N., Khurana, P., Khurana, J., and Lal, R. 2012. Draft Genome Sequence of *Thermus* sp. RL Isolated from Hot Water Spring Located a top the Himalayan Ranges at Manikaran, India. J Bacteriol, 194(13), 3534, ISSN 1098-5530, Impact factor- 3.193.
12. Verma, M., Kaur, J., Kumar, M., Kumari, K., Saxena, A., Anand, S., **Nigam, A.**, Ravi, V., Raghuvanshi, S., Khurana, P., Tyagi, A. K., Khurana, J. P. and Lal, R. 2011. Whole Genome Sequence of Rifamycin B Producing *Amycolatopsis mediterranei* S699. J. Bacteriol. 193, 5523-5524, ISSN 1098-5530, Impact factor- 3.193.
13. **Nigam, A.**, Jit, S and Lal, R. 2010. *Sphingomonas histidinilytica* sp. nov. isolated from hexachlorocyclohexane (HCH)- dumpsite, India. Int. J. Syst. Evol. Microbiol. 60, 1038- 1043, ISSN-1466-5034, Impact factor-2.112.
14. Sharma, P., Verma, M., Bala, K., **Nigam, A** and Lal, R. 2010. *Sphingopyxis ummariensis* sp. nov., isolated from hexachlorocyclohexane (HCH)-dumpsite in north India. Int. J. Syst. Evol. Microbiol. 60, 780-784, ISSN-1466-5034.Impact factor-2.112.
15. Lal, R., Dadhwal, M., Kumari, K., Sharma, P., Singh, A., Kumari, H., Jit, S.,Gupta, S.K., **Nigam, A.**, Lal, D., Verma, M., Kaur, J., Bala, K. and Jindal, S. 2008. *Pseudomonas* sp. to *Sphingobium indicum*: a journey of microbial degradation and bioremediation of hexachlorocyclohexane. Indian J. Microbiol. 48, 3–18, ISSN-0973-7715, Impact Factor--0.457.
16. Anand, S., Malhotra, J., Dua, A., Garg, N., Saxena, A., Sangwan, N., Lal, D., Verma, M., Jindal, S., Kaur, J., Kumari, K., **Nigam, A.**, Niharika, N., Kaur, J., Jit, S., Bala, K., Negi, P. L. and Lal, R. 2010. A New Life in a Bacterium through Synthetic Genome: Landmark experiments by Craig Venter. Indian J. Microbiol. 48, 125-131, ISSN-0973-7715, Impact Factor--0.457.

Chapters in book:

1. Dua, A., **Nigam, A.** Saxena A, Dhingra G.G. and Kumar R. (2023) Microbial Bioproduction of Antiaging Molecules. In: Microbial Bioreactors for Industrial Molecules,. Singh S. P.and Upadhyay S. K. First Edition, John Wiley and Sons Ltd. pp 465-485.
2. Dua, A., **Nigam, A.** (2022). Evolutionary Genetics. In: Kar, D., Sarkar, S. (eds) Genetics Fundamentals Notes. Springer, Singapore. [ISBN: 978-981-16-7040-4]
3. **Nigam, A.** and Dua, A. 2016. Running Out of Time: The Decline of great Indian Bustard. Wildlife Management: Concept, Analysis and Conservation, Daya Publishing House, India, 247-256.
4. **Nigam A** and Nijhawan, S. 2016. A body to sell, a Story to tell- Sex workers in India. Utkarsha: Epitomizing Progress. Prithavi Prakashan, 59-61, ISBN-978-81-86845-41-0.
5. Dua, A. and **Nigam, A.** 2016. Faces of courage: Acid attack survivors. Utkarsha: Epitomizing Progress. Prithavi Prakashan, 66-69, ISBN-978-81-86845-41-0
6. **Nigam, A.** 2015. The Mutability and Repair of DNA. E content for MHRD project, National Mission on Education Information Communication Technology, India

7. **Nigam, A.** and Nijhawan, S. 2015. The evolving face of Women in Indian Advertisement. Sansrishti-Creator of Good Things. Prithavi Prakashan, 44-52. ISBN-81-8645-38-D
8. Dua, A. and **Nigam, A.** 2015. XX vs XY: The Richer Sex. Sansrishti-Creator of Good Things. Prithavi Prakashan, 62-65. ISBN-81-8645-38-D
9. Anand, S., Malhotra, J., Niharika, N., Lal, D., Jindal, S., Kaur, J., **Nigam, A.**, Garg, N., Lata, P., Kaur, J., Sangwan, N., Singh, A.K., Dua, A., Saxena, A., Dwivedi, V., Mukherjee, U., Lal, R. 2013. Bioremediation of hexachlorocyclohexane (HCH) pollution at HCH Dumpsites. Springer- Verlag Berlin Heidelberg, 387-404, Online ISBN- 978-3-642-36143-2

Conference/Seminar/Faculty Development Programme (FDP)/Workshop

Conferences and Seminars

1. Organizing Secretary, 7th Annual International Conference of Indian Network for Soil Contamination Research (INSCR) organized in association with Acharya Narendra Dev College(DU), Bhaskaracharya College of Applied Sciences (DU), CMP PG College, Prayagraj, Deen Dayal Upadhyaya College (DU), Gargi College (DU), Kirori Mal College (DU), KIIT, Miranda House (DU), PG Department of Zoology (KU), PG Department of Zoology (MU), Ramjas College (DU), School of Allied Sciences (DBUU), Shivaji College (DU), Sri Venkateswara College (DU), S.G.T.B. Khalsa College (DU), PhiXgen Pvt. Ltd. Gurugram & International Microbial Literacy Initiative: South Asian Centre (IMiLi-SAC) from November 8-11,2022.
2. Member, Organizing Committee, 7th Annual International Conference of Indian Network for Soil Contamination Research (INSCR) organized in association with Acharya Narendra Dev College(DU), Bhaskaracharya College of Applied Sciences (DU), CMP PG College, Prayagraj, Deen Dayal Upadhyaya College (DU), Gargi College (DU), Kirori Mal College (DU), KIIT, Miranda House (DU), PG Department of Zoology (KU), PG Department of Zoology (MU), Ramjas College (DU), School of Allied Sciences (DBUU), Shivaji College (DU), Sri Venkateswara College (DU), S.G.T.B. Khalsa College (DU), PhiXgen Pvt. Ltd. Gurugram & International Microbial Literacy Initiative: South Asian Centre (IMiLi-SAC) from November 8-11,2022.
3. Organizing Secretary, of Microsphere 2.0 held on occasion of International Microorganism Day on 17th September, 2022 under the aegis of International Microbiology Literacy Initiative (iMLI), Indian Network for Soil Contamination Research (INSCR), Federation of European Microbiological Sciences (FEMS) & International Society for Microbial Ecology (ISME) in collaboration with Deen Dayal Upadhyaya College (DU), Gargi College (DU), Kirori Mal College (DU), Ramjas College (DU), Shivaji College (DU), Acharya Narendra Dev College (DU), P.G. Department of Zoology (Magadh University) and SGTB Khalsa College (DU).
4. Member, Organising Committee, the 6th Annual International Conference of INSCR on "MICROBES IN SUSTAINABLE DEVELOPMENT" organized in association with the Department of Zoology (DU), Acharya Narendra Dev College (DU), Deen Dayal Upadhyaya College (DU), Gargi College (DU), Kirori Mal College (DU), PG Department of Zoology (MU), Maitreyi College (DU), Ramjas College (DU), Sri Venkateswara College (DU), C.M.P. College (AU), SGTB Khalsa College (DU), COCAS (PU) & PhiXgen Pvt. Ltd., Gurugram from November 15-18, 2021.
5. Completed one week interdisciplinary FDP on 'Wildlife Conservation and Management' organised by Daulatram College in collaboration with Mahatma Hansraj Faculty Development Centre, Hansraj College from 4-9 October, 2021.

6. Member, Organising Committee, of MICROSHERE: An International Outreach Program on occasion of International Microorganism Day on 17 September, 2021 organized by Deen Dayal Upadhyaya College (DU), Gargi College (DU), IIT Rorkee, Kirori Mal College (DU), Ramjas College (DU), PG Dept. of Zoology (MU) & PhiXgen Pvt. Ltd., Gurugram in association with Acharya Narendra Dev College (DU), Maitreyi College (DU), Sri Venkateswara College (DU) & C.M.P. College (AU).
7. Has participated in Orientation cum Training Programme on the use of Twitter Handle for enhanced presence of College in the Social Media organised by University of Delhi on March 22, 2021 at Conference Centre, University of Delhi.
8. Co-Chaired the session 'Industrial Microbial Biotechnology' of 61st Annual International Conference of Association of Microbiologists of India and Indian Network for Soil Contamination and Research from February 3-5, 2021.
9. Organising member of 61st Annual International Conference of Association of Microbiologists of India and Indian Network for Soil Contamination and Research from February 3-5, 2021.
10. Participated and organising member of one week FDP on 'ICT enhanced Teaching Learning and Creating MOOCs' organised by Shivaji College in collaboration with Teaching Learning Centre and Research Development and Services Cell, Ramanujan College from August 18-15, 2020.
11. International Conference on "Women's Leadership for Global Peace and Prosperity" at Shivaji College, University of Delhi on January 9-10, 2020 .
12. National Seminar on "Recent Trends in Biological Research and Career Prospects" organised at Shivaji College, University of Delhi, under the auspices of the DBT Star College Scheme Program on September 27, 2019.
13. Participated and poster presented in Participated and oral presentation in 4th International Conference on "Science and Arts of Holistic Health : Issues, challenges, opportunities, prevention, awareness" held on 25th February, 2017, in Jawaharlal Nehru University
14. Participated in the International Conference on "Role of Microbe-Plant-Animal Interactions in Human Health" held at University of Delhi from 26th-28th September 2017.
15. Participated and poster presented in 2nd International Conference on "Public Health: Issues, Challenges and Opportunities, Prevention, Awareness (Public Health, 2016) on 21st May, 2016.
16. Participated and oral presentation on 'Toxic Effect of Heavy Metals on Reproductive Health of Women' at Environmental Concerns of 21st Century: Indian and Global Context' organized by Zakir Hussain Delhi College (Evening) on 21-22 March, 2016.
17. Participated and presented poster in "National Seminar on Water and Air Quality in Urban Ecosystem" organized by Eco-Club Shivaji College, University of Delhi on 22nd March, 2016.
18. Participated and poster presented in National Symposium on Lifestyle Disorders (NSLD): Understanding the Molecular Mechanism held in Shivaji College, University of Delhi on 28th January 2016
19. Participated in International Conference on "Public Health: Issues, Challenges and Opportunities, Prevention, Awareness (Public Health, 2016) " organized by Daulat Ram College, University of Delhi on 15-16 January, 2016

20. Participated and was awarded the young scientist award in 55th annual conference of Association of Microbiologists of India ‘Empowering Mankind with Microbial Technologies’ from 12-14 November, 2014 at Tamil Nadu Agricultural University, Coimbatore, Tamil Nadu.
21. Participated in International conference on “Empowerment of Women in Developing World” organized by Women’s Development Cell, Shivaji College from 1st- 2nd April, 2013 at University of Delhi, Delhi
22. Participated in 51st Annual Conference of Association of Microbiologists of India entitled ‘International Conference on Microbial Biotechnology for Sustainable Development’ held at Panjab University, Chandigarh, Punjab from 3-6 November, 2011.
23. Participated in ISCB International symposium ‘A decade of experience in Red and Technology Management’ organized by Indo-Swiss collaboration in Biotechnology (ISCB) from 10-11 March, 2011 at New Delhi.
24. Participated in International conference on “Recent trends in Developing Bioremediation Strategies for Hexachlorocyclohexane (HCH) & Other Chlorinated Contaminants” organized by Indo-Swiss collaboration in Biotechnology (ISCB) from 9th- 11th February, 2011 at University of Delhi, Delhi.
25. Participated in the 51st Annual Conference of Association of Microbiologists of India entitled “International Symposium on Recent advances in Cross-disciplinary Microbiology: Avenues & Challenges” from 14th-17th December, 2010 at Birla Institute of Technology, Ranchi, Jharkhand.
26. Participated in Phase III meeting of Indo-Swiss Collaboration in Biotechnology (ISCB) “Environmental Risk and Bioremediation of Hexachlorocyclohexane Isomers” on 16th November, 2009 at the Department of Zoology, University of Delhi, Delhi.
27. Participated in the 49th Annual Conference of The Association of Microbiologists of India entitled “International Symposium on Microbial Biotechnology: Diversity, Genomics & Metagenomics” from 18th-20th November, 2008 at University of Delhi, Delhi.
28. Participated in first co-ordination meeting of Indo-Australian Collaboration in Biotechnology (IACB) “Enabling Technologies for the Enzymatic Bioremediation of Cyclic Organochlorine Residues”, with project partners from CSIRO (Australia) and IMTECH (India) held on 11th- 12th September 2007, at the Department of Zoology, University of Delhi.
29. Participated in 30th All India Cell Biology Conference and Symposium on ‘Molecules to Compartments: Cross-Talks and Networks’ organized by Department of Zoology, University of Delhi, held on 2-4 February, 2007
30. Participated in National Seminar on ‘Chemistry of Life’ organized by Miranda House held on 18-20, January, 2005, Miranda House, University of Delhi.

SYMPOSIA:

- National Symposium on “Lifestyle Disorders: Understanding the molecular Mechanisms” held at Shivaji College from 28th-29th January, 2016.

- National Symposium on Man Made Diseases: An Urban Menace held at Maitreyi College from 11th-12th February, 2016
- Indo-Swiss Collaboration in Biotechnology (ISCB) International Symposium organized by ISCB "A Decade of Experience in R&D and Technology Management" held in NASC Complex, New Delhi, India from 10th - 11th March, 2011.

WORKSHOPS:

1. Attended skill enhancement workshop on 'Sericulture: Advances and its role in Women Empowerment and Sustainable livelihood, on 14 February, 2022 at Shivaji College.
2. Resource person in Inter College Laboratory Skill Training Programme for Assistants in Chemical and Life Science Laboratories organised by Shivaji College, University of Delhi under the aegis of DBT Star College Scheme, held at Shivaji College from September 14-20, 2021.
3. Resource person in Intra College Laboratory Skill Training Programme for Assistants in Chemical and Life Science Laboratories organised by Shivaji College, University of Delhi under the aegis of DBT Star College Scheme, held at Shivaji College from August 11-17, 2021.
4. Resource person in Inter College Laboratory Skill Training Programme for Assistants in Chemical and Life Science Laboratories organised by Shivaji College, University of Delhi under the aegis of DBT Star College Scheme, held at Shivaji College from February 8-15, 2021.
5. Two day National Workshop on "Skill Development to Build A Clean India" at Deshbandhu College, University of Delhi on 7th -8th June, 2018.
6. Workshop for Laboratory staff in Chemical and Life Sciences' from May 31st - 03rd, June, 2016 in Shivaji college, University of Delhi
7. Sharing Science, Rising Together - An Interdisciplinary Workshop for the Faculty of Science Departments of Shivaji College organized on 24th September and October 1, 2016
8. **Workshop** 'Kisan Jagrukta Karyashala' in Najafgarh area on September 28, 2016 to create awareness among farmers and educate them about use of pesticides.
9. One day workshop on "Biochemistry of Metabolic Processes" held on 2nd February, 2015 at Kirori Mal College, University of Delhi, Delhi-110007.
10. ASM Virtual Workshop On 'The Art Of Science Communication' held on November 13, 2014 at Tamil Nadu Agricultural University, Coimbatore, Tamil Nadu
11. Workshop, "Ankuran" organized by Eco-Club on 29th January, 2015 in Shivaji College

WEBINARS ATTENDED:

1. "Constructive Living and Education in the times of Corona Crisis" on May 13, 2020 on the Zoom Cloud organised by Shivaji College.
2. "Zebrafish Model System" on May 8, 2020, Friday between 3:00-5:00 PM on the Zoom Cloud platform organised by Department of Biochemistry under aegis of IQAC, Shivaji College.
3. WDC WEBINAR (Under the Aegis of IQAC) on 'Psychological Well-Being and COVID19: An Internal Journey' on May 7, 2020, Thursday from 3:00-5:00 PM on Zoom Cloud platform.
4. Webinar organised by Department of Zoology under aegis of IQAC 'Biosafety Measures & Biocontainment of pathogens in research' by Dr. Manpreet Kaur, Scientist, Biosafety &

Biocontainment, Biosafety Support unit of Department of Biotechnology, Govt. of India & Regional Centre for Biotechnology on April 29, 2020.

Research Guidance (*Supervision of Doctoral Thesis/Dissertations*)

Nil

Awards and Distinctions

- Awarded the '**Certificate of Most Significant Societal Impact**' for the project 'Comparative analysis of heavy metal toxicity and pesticide contamination in vegetables collected from local sites and organic stores in Delhi during the Research Display at the Convocation Ceremony on 19th November, 2016.
- The **Best Speaker Award** for paper presentation at the International Conference on "Public Health: Issues, Challenges and Opportunities, Prevention, Awareness (Public Health, 2016)" organized by Daulat Ram College, University of Delhi on 15-16 January, 2016
- Awarded **Young Scientist Award** by Association of Microbiologists of India on 13 November, 2014 (<http://people.du.ac.in/~rlal/Recent.htm>.)
- Awarded the '**Best performance in Quiz**' in ASM Virtual Workshop On 'The Art Of Science Communication' held on 13 November, 2014 at Tamil Nadu Agricultural University, Coimbatore, Tamil Nadu
- **2007- 2009** Awarded **JRF** (Junior Research fellowship) sponsored by **CSIR Govt. of India**
- **2009- 2011** Awarded **SRF** (Senior Research fellow) sponsored by **CSIR Govt. of India**
- Awarded **certificate of excellence** for scoring the highest marks in post graduation, Miranda House, University of Delhi, India (2007)
- Awarded **certificate of excellence** for scoring the highest marks in graduation, Miranda House, University of Delhi, India (2005)
- Won a number of paper presentations and quizzes during graduation

Memberships/Editorial

- Member of American Society for Microbiology (Member ID- 56763477)
- Life Member of Association of Microbiologists of India.
- Editor, Microsphere, INCSR

Other Academic Activities

31. Resource person, workshop, 'Workshop for Laboratory assistant /attendants of Chemical and Life Sciences' from 16- 18, July, 2014.
32. Resource person, workshop, Ankuran' organized by Eco-Club on 29th January, 2015 in Shivaji College
33. Resource person, Workshop for the Laboratory Staff of Chemical and Life Sciences organized from May 31st – June 3rd, 2016
34. Resource person, INSPIRE Science Camp, organized by Shivaji College, funded by the Department of Science and Technology, December 14th – 18th, 2016
35. **Organiser, Workshop** Kisan Jagrukta Karyashala' in Najafgarh area on 28 September, 2016 to create awareness among farmers and educate them about use of pesticides.
36. Resource Person, 'Sharing Science, Rising Together' - An Interdisciplinary Workshop for the Faculty of Science Departments of Shivaji College organized on 24th September and 1st October, 2016
37. Resource person, Intra-college laboratory skill training programme as a resource person for the topic "Preparation of media & aseptic conditions in Microbiology laboratory" sponsored by DBT Star College Scheme on 22nd May, 2019 in Shivaji College.
38. Resource person, Summer Training programme conducted by Department of Zoology, Shivaji College under the DBT Star College Scheme
39. Member, Organising team for Health Camp during admissions 2019 sponsored by DBT Star College Scheme in July, 2019
40. Member, Organising Committee of National Seminar on "Recent Trends in Biological Research and Career Prospects" organised at Shivaji College, University of Delhi, under the auspices of the DBT Star College Scheme Program on September 27, 2019.
41. Member, Organizing Committee (Women Development Cell), International Conference on 'Women's Leadership for Global Peace and Prosperity', sponsored by University Grants Commission (UGC) from January 9-10, 2020 at Shivaji College.
42. Resource person, "Online Guidance Program Regarding Entrance Examinations for Higher Studies & Scholarships in Biological Sciences" on 16th June, 2020 on Zoom Online Platform organized by Department of Zoology, Shivaji College
43. Resource person, Summer Training programme 'COVID-19: Epidemiology & Impacts' conducted by Department of Zoology, Shivaji College under the DBT Star College Scheme.
44. Resource person, Summer Training programme "Current Diagnostics and Therapeutic Modalities for COVID 19' from 28th June- 10th July, 2021 under the DBT Star College Scheme

45. Resource person, Intra-college laboratory skill training programme as a resource person for the topic "Preparation of media & aseptic conditions in Microbiology laboratory" sponsored by DBT Star College Scheme from 11th -17th August, 2021.
46. Resource person, Inter-college laboratory skill training programme as a resource person for the topic "Preparation of media & aseptic conditions in Microbiology laboratory" sponsored by DBT Star College Scheme from -20th September, 2021
47. Resource person, Summer Training programme " Current Diagnostics and Therapeutic Modalities for COVID 19' from 28th June- 10th July, 2021 under the DBT Star College Scheme
48. Resource person, Summer Training programme 'Tools and Techniques in Biological research' under the DBT Star College Scheme from 28th June- 11th July, 2022.
49. Resource person, Summer Training programme 'Assessment of Physical and Mental Wellness: Clinical Relevance and Remedial Measure' under the DBT Star College Scheme from 27th June- 5th July, 2023.
50. Organised several educational trips to department of Geology, Anthropology, Sultanpur Sanctuary, Okhla bird Sanctuary, Sunder Nursery and Delhi Zoological Park over the years.

ORAL AND POSTER PRESENTATIONS:

51. Presented poster: Dua, A. & **Nigam, A.** "Progress of Women in Science & Health: Change is the only Constant" at the International Conference on "Women's Leadership for Global Peace and Prosperity" at Shivaji College, University of Delhi on January 9-10, 2020
52. Presented poster '**Radiation Pollution: The Silent Killer**' at Two day National Workshop on "Skill Development to Build A Clean India" at Deshbandhu College, University of Delhi on June 7 -8, 2018.
53. Oral presentation on 'Effect of Heavy Metals on Reproductive Health of women: Health Alarm' at 4th International Conference on Science and Arts of Holistic Health: Issues, Challenges, Opportunities, prevention, Awareness (Holistic Health: 2017) on 25th February, 2017.
54. Poster presented for the project 'Comparative analysis of heavy metal toxicity and pesticide contamination in vegetables collected from local sites and organic stores in Delhi during the Research Display at the Convocation Ceremony on 19th November, 2016.
55. **Aeshna Nigam** and Ankita Dua. From Health to Disease: Effect of Lifestyle Choices and Environment on Reproductive Health. Poster presented at 2nd International Conference on Public Health: Issues, Challenges, Opportunities, Prevention, Awareness (Public Health: 2016) organized by Krishi Sanskriti in Jawaharlal Nehru University, on 21st May, 2016.
56. Kiran Bamel, **Aeshna Nigam** and Shashi Nijhawan. Toxic effects of heavy metals on reproductive health. Poster presented in National Seminar on Air and Water Quality in Urban Ecosystem organized by Eco Club of Shivaji College, University of Delhi on 22nd March, 2016.
57. Oral presentation on 'Toxic Effect of Heavy Metals on Reproductive Health of Women' at Environmental Concerns of 21st Century: Indian and Global Context' organized by Zakir Hussain Delhi College (Evening) on 21-22 March, 2016.
58. Kiran Bamel, **Aeshna Nigam** and Shashi Nijhawan ' Heavy metal contamination leading to lifestyle disorder'. Poster presented in National Symposium on Lifestyle Disorders (NSLD):

Understanding the Molecular Mechanism held in Shivaji College, University of Delhi on 28th January 2016.

59. Awarded The **Best Speaker Award** for oral presentation ‘Heavy metal contamination in vegetables: Source of Nutrition or Health Hazard?’ at the International Conference on “Public Health: Issues, Challenges and Opportunities, Prevention, Awareness (Public Health, 2016)” organized by Daulat Ram College, University of Delhi on 15-16 January, 2016
60. As a **Young Scientist Awardee** made an oral presentation on ‘Modification of Rifamycin Polyketide Backbone Leads to Improved Drug Activity Against Rifampicin-Resistant *Mycobacterium tuberculosis*’ at 55th annual conference of Association of Microbiologists of India ‘Empowering Mankind with Microbial Technologies’ on 14 November, 2014 at Tamil Nadu Agricultural University, Coimbatore, Tamil Nadu
61. **Aeshna Nigam**, Anjali Saxena and Rup Lal. “Genetic manipulation of polyketide synthase (PKS) gene cluster of *Amycolatopsis mediterranei* S699 to produce rifamycin B analog”. Poster presented in the 52nd Annual Conference of the Association of Microbiologists of India entitled ‘International Conference on Microbial Biotechnology for Sustainable Development’ held at Panjab University, Chandigarh, Punjab from 3-6 November, 2011.
62. Hansi Bisht, Swati Jindal, Devi Lal, Simran Jit, **Aeshna Nigam**, Pooja Sharma, Kirti Kumari and Rup Lal. “Bacterial diversity and Real time PCR based assessment of *linA* (dehydrochlorinase) and *linB* (haloalkane dehalogenase) gene distribution at hexachlorocyclohexane (HCH) contaminated sites”. Poster presented at International conference on “Recent trends in Developing Bioremediation Strategies for Hexachlorocyclohexane (HCH) & Other Chlorinated Contaminants” organized by Indo-Swiss collaboration in Biotechnology (ISCB) held at University of Delhi, Delhi from 9 -11 February, 2011.
63. **Aeshna Nigam** and Rup Lal. “Genetic manipulation of polyketide synthase (PKS) gene cluster of *Amycolatopsis mediterranei* S699 to produce rifamycin B analog”. Poster presented in the 51st Annual Conference of the Association of Microbiologists of India entitled “International Symposium on Recent advances in Cross-disciplinary Microbiology: Avenues & Challenges [AMI 2010-CMAC]” held at Birla Institute of Technology, Mesra, Ranchi, Jharkhand from 14-17 December, 2010.
64. **Aeshna Nigam**, Naseer Sangwan, Nidhi Garg, Neha Niharika, Mansi Verma, Jaspreet Kaur, Paramjit Khurana, Jitendra P. Khurana, R. Rajagopal, and Rup Lal “Assembly and targeted genome sequencing of *Thermos manikarensis* RLM”. Poster presented in 51st Annual Conference of Association of Microbiologists of India & International Symposium on Recent advances in Cross disciplinary Microbiology: Avenues and Challenges [AMI 2010-CMAC] held at Birla Institute of Technology, Mesra, Ranchi, Jharkhand from December 14- 17, 2010.
65. **Aeshna Nigam**, Simran Jit and Rup Lal. “Taxonomical Characterization of *Sphingomonas histidinilytica* sp. nov., isolated from Hexachlorocyclohexane (HCH) dumpsite, India.” Poster presented in the 49th Annual Conference of the Association of Microbiologists of India entitled “International Symposium on Microbial Biotechnology: Diversity, Genomics and Metagenomics” held at University of Delhi, Delhi from November 18 -20, 2008.

66. Simran Jit, **Aeshna Nigam** and Rup Lal. "A study on vertical distribution of linA and linB and community structure in Hexachlorocyclohexane (HCH) contaminated soil" Poster presented in the 49th Annual Conference of the Association of Microbiologists of India entitled "International Symposium on Microbial Biotechnology: Diversity, Genomics and Metagenomics" held at University of Delhi, Delhi from November 18 -20, 2008.
67. **Aeshna Nigam**, Richa Sharma and Shradha Sharma. "Interplay of miRNA and SNP- A New Light in Medicine?" Poster presented in the 30th All India Cell Biology Conference & Symposium entitled 'Molecules to Compartments: Cross Talks and Network' held at University of Delhi, Delhi from November 2-4, 2007.
68. Presented a paper and was awarded the **first prize** on 'Photodynamic therapy: A New light in medicine' in Zoological fest of Hans Raj College, University of Delhi, Delhi held in 2004.
69. Participated in declamation competition 'GM Food: Boon or Bane' in the science fest entitled 'Celebrating Science' organized by Sri Guru Tegh Bahadur Khalsa college and Heart Care Foundation of India on February 18, 2004.

Cultural/Extracurricular Activities

- Member, Organizing team, annual Zoology fest 'Oyster, 2012' of Shivaji college as well as conducted the entire programme on stage.
- Member, Organizing team, Bioconvergence', 26-27 march, 2014, the combined annual academic festival of Biochemistry, Botany and Zoology departments of Shivaji college.
- Member, Organizing team, Annual Academic Festival, Vivente 2017
- Member, Organizing team, Annual Academic Festival of Life Science Society ,,Verve 2017.
- Member, Organising team, Annual Academic Festival 'Oyster, 2023' of Shivaji College held on February, 8, 2023.
- Member, Placement Cell, Shivaji College, 2018-2023.
- Member, E-learning Cell, Shivaji College, 2020-2021.
- Coordinator, Peer Study Program for Department of Zoology, Remedial Cell, Shivaji College 2022-2023.
- Member, Cultural Committee, Shivaji College, 2022-till present
- Member, Rashtriyabhasha Cell, Shivaji College, 2023-till present

Signature of Faculty Member