




## Faculty Details proforma for DU College Web-site



|   |  |            |                |           |                         |   |
|---|--|------------|----------------|-----------|-------------------------|---|
| Title   | <b>Dr.</b>   | First Name | <b>Monisha</b> | Last Name | <b>Khanna<br/>Kapur</b> | Photograph  |
| Designation   | Professor  |            |                |           |                         |  |
| Address   | Acharya Narendra Dev College, University of Delhi,<br>Govindpuri, Kalkaji, New Delhi 110 019, India  |            |                |           |                         |   |
| Phone No<br>Office  | 011-26293224   |            |                |           |                         |   |
| Residence   |  |            |                |           |                         |   |
| Mobile  | +91 9810763211   |            |                |           |                         |   |
| Email/<br>Web-Page  | monishakhanna@andc.du.ac.in<br>monishaandc@gmail.com<br>monisha_khanna@hotmail.com<br>https://www.andcollege.du.ac.in/<br>ORCID: 0000-0002-1797-7198 |            |                |           |                         |   |
| Educational Qualifications  |  |            |                |           |                         |   |
| Degree  | Institution  |            |                |           | Year                    |   |
| B.Sc. (H)<br>Zoology  | S.G.T.B Khalsa College, University of Delhi  |            |                |           | 1990                    |   |
| M.Sc.<br>Zoology  | Department of Zoology, University of Delhi   |            |                |           | 1992                    |   |
| Ph.D.   | Department of Zoology, University of Delhi   |            |                |           | 1996                    |   |
| Career Profile  |  |            |                |           |                         |   |
| <p>I am an Professor in Zoology at Acharya Narendra Dev College, University of Delhi. My field of specialization is Microbiology and Molecular Biology. I head the Microbial Technology Research Lab at College. This laboratory is a facility for sustaining teaching and research programs of the University. I have been the Investigator of two research projects supported by grants from government funding agencies (MOEF, UGC). Two Innovation projects for undergraduate students funded by the University of Delhi also had been undertaken. The main objectives of these interdisciplinary projects were to make use of the techniques that students are learning at their undergraduate level in papers from Zoology, Chemistry, Physical science etc. I am the first researcher from my College and among the few from different Colleges of University who trained a student from Mongolian Academy of Sciences, Institute of General and Experimental Biology, Mongolia with the collaboration of NAM S&amp;T centre of DST under the scheme RTF-DCS. The BRS (Science) of the University of Delhi has recognized me as a Supervisor to guide Ph.D. students of the University in Zoology. Two students Dr. Renu Solanki (2013) and Dr. Payal Das (2017) have completed their Ph.D. under my supervision. Currently, Dr. Solanki is placed as Assistant Professor in the University of Delhi. At present, two students</p> |  |            |                |           |                         |   |

Mr. Prateek Kumar and Mr. Munendra Kumar are pursuing their Ph.D. under my supervision. I have actively published my research in several national and international peer-reviewed journals. Also, I have several Conference publications, the contribution of chapters in books and lab manuals. I had provided Summer Training Workshops for undergraduate and postgraduate students of the University of Delhi and other Universities. Apart from these, many training workshops had been conducted for College Teachers of DU and School Teachers.

| Name of Institution                               | Position Held | From                        | To                          |
|---|---------------|-----------------------------|-----------------------------|
| Daulat Ram College, University of Delhi           | Temporary     | 9 <sup>th</sup> August 1996 | 30 <sup>th</sup> April 1997 |
| Acharya Narendra Dev College, University of Delhi | Ad-Hoc        | 16 <sup>th</sup> July 1997  | 12 <sup>th</sup> March 2003 |
| Acharya Narendra Dev College, University of Delhi | Permanent     | 13 <sup>th</sup> March 2003 | Till date                   |

### Teaching experience

#### Administrative Assignments

##### College level

- Member of the **Institutional Biosafety Committee (IBSC)** (2018 - Till date)
- **Teacher-In-Charge (2016-2018)** of Department of Zoology
- **Teacher-In –Charge** (2004-2006) of two Departments: **Zoology** and **Sericulture**
- **Convener of Admissions** for the entire College, for the academic years 2005-2007
- **In-Charge** (2004-05 and 2007 onwards) of an **UGC funded Instrumentation Laboratory** in the College to facilitate Higher Learning for the student community and to promote Research Activities among the faculty members.
- **Joint Secretary** (2003) of the Inter-Departmental team involved in **organizing a National symposium** on “**Biotechnology: Expanding Horizons**” held at the Indian National Science Academy, Bahadur Shah Zafar Marg, New Delhi 110 002, October 17, 18 2003.
- **Convener of Biomedical Sciences** for the academic year 1998-1999
- College Development Committee (2018-20)
- Fellowship Programs and Awards Committee (2018-20)
- Academic profile on **Vidwan**, an expert database and National Researcher’s network funded by National mission on Education through ICT.
- Academic profile on **ResearchGate, Google Scholar, ORCID** and **LinkedIn**.
- **IT committee** (2015-16)

- **Finance committee** (for one semester)
- **Student fellowship** committee (2015-16)
- **Time Table and Work-Load** Committee (2004-06)
- **Asset Management** Committee (2004-06)
- **Proctorial Committee** (2006-08)
- The Hindi National Newspaper “Hindustan” had interviewed me (in the capacity of Head of Sericulture Department), to give information to the student community regarding Job-Oriented Degree Courses, like Sericulture, that are being offered by Delhi University Colleges. The said interview was published in its Delhi City Education Times Supplement (dated 16<sup>th</sup> June 2005). Such type of wide publicity to a course being run exclusively by ANDC and that too just before the annual Admission process ensures a good turn out of students seeking admission to this course.
- Actively participated in the **Immunization Program for slum children in the Najafgarh area during the Pulse Polio Campaign** (Oct. 1999; Jan.2000) with students of ANDC.
- Participated in the **Anti – AIDS Campaign** of the Rotary Club (Dec. 2000).
- **Debating Society**
- **Environmental Club**
- **Gardening Committee**
- Women Students Affairs Committee “**SASHAKT**” 2001-2002
- Member of the **Asset Management** Committee for the year 2007-08
- Member of the **College Development Committee** for the years 2008-10
- Involved in the organization of “**Oikos**” 2008, the Annual Function of the **Zoological Society** “**Niche**” in September 2008.

#### **University level**

- **Member of the Committee “Genetics, Genomics and Biotechnology”** for framing syllabus for B.Sc. (Hons.) Zoology. Also, a member of the Committee “**Cell and Molecular Biology**” for B.Sc. (Gen.) and a Co-Convenor of the Committee “**Applied Zoology**” also for B.Sc. (Gen.) courses. Several such committees were formed by the Department of Zoology, Delhi University, and all these have been involved **in revising and updating the syllabus of B.Sc. (Hons, Gen, and Subsid) Courses in Zoology**, that have been implemented in a phased manner (2004-2006)

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| <ul style="list-style-type: none"> <li>➤ Involved in <b>restructuring the syllabus for B.Sc. Applied Life Sciences (Sericulture)</b> Parts II and III, implemented from the academic year (2006-08)</li> <li>➤ Member of the Working Committee involved in framing of revised syllabi for the <b>Semester courses in Zoology and B.Sc. Program in Life Sciences introduced at the Undergraduate level in 2010</b>. I was involved in syllabus modification for the following papers: <ul style="list-style-type: none"> <li>(i) Genetics and Genomics: Two papers</li> <li>(ii) Animal Diversity (Chordates): Two papers</li> <li>(iii) Biotechnology: One paper</li> <li>(iv) Animal Diversity for Life Sciences: One paper</li> <li>(v) Genetics and Genomics for Life Sciences: One paper</li> <li>(vi) Applied Biology and Biotechnology: One paper</li> </ul> </li> </ul> |
| <b>Areas of Interest / Specialization</b>  |
| Microbiology, Molecular Biology, Genetics & Genomics, Waste degradation  |
| <b>Subjects Taught</b>   |
| <p><b>1997-Till date</b></p> <ul style="list-style-type: none"> <li>➤ Chordata</li> <li>➤ Genetics &amp; Evolution</li> <li>➤ Genetics</li> <li>➤ Genomics &amp; Biotechnology</li> <li>➤ Medical Zoology</li> <li>➤ Biophysics &amp; Human Genetics</li> <li>➤ Cell Biology</li> <li>➤ Genetics &amp; Genomics</li> <li>➤ Immunology and Biochemistry</li> </ul>  |
| <b>Research Guidance</b>   |
| <p><b>Recognized as registered guide to supervise Ph.D. students by University of Delhi.</b></p> <ul style="list-style-type: none"> <li>➤ <b>Ph.D. completed</b> - 03</li> <li>➤ <b>Ongoing Ph.D.</b> - 01</li> <li>➤ Guided undergraduate students under <b>Innovation Projects</b> funded by University of Delhi (ANDC-105, ANDC-302).</li> </ul> <p><b>Recognized as supervisor at NAM S&amp;T Centre of DST under the scheme RTF-DCS to train International students from developing countries.</b></p> <ul style="list-style-type: none"> <li>➤ <b>International students Trained</b> – 01</li> </ul>   |

**Research Papers/Review Articles in peer-reviewed journals**

- P. Kumar, A. Chauhan, M. Kumar, B.K. Kuanr, A. Kundu, R. Solanki, **M.K. Kapur** (2021). In vitro and in silico anticancer potential analysis of *Streptomyces* sp. extract against human lung cancer cell line, A549. *3 Biotech*. <https://doi.org/10.1007/s13205-021-02812-w>
- M. Kumar, P. Kumar, P. Das, R. Solanki, **M.K. Kapur** (2021). Proactive role of *Streptomyces* spp. in plant growth stimulation and management of chemical pesticides and fertilizers. *International Journal of Environmental Science and Technology*. DOI : 10.1007/s13762-021-03473-1
- P. Kumar, A. Chauhan, M. Kumar, B.K. Kuanr, R. Solanki, **M.K. Kapur** (2020). Draft genome and secondary metabolite biosynthetic gene clusters of *Streptomyces* sp. strain 196. *Molecular Biology Reports*. <https://doi.org/10.1007/s11033-020-05731-w>
- M. Kumar, P. Kumar, P. Das, R. Solanki, **M.K. Kapur** (2020). Protection of surplus food from fungal spoilage using *Streptomyces* spp.: a green approach. *Archives of Microbiology*. <https://doi.org/10.1007/s00203-020-02087-4>
- M. Kumar, P. Kumar, P. Das, R. Solanki, **M.K. Kapur** (2020). Potential applications of extracellular enzymes from *Streptomyces* spp. in various industries. *Archives of Microbiology*. <https://doi.org/10.1007/s00203-020-01898-9>
- P. Kumar, A. Kundu, M. Kumar, R. Solanki, **M.K. Kapur** (2019). Exploitation of potential bioactive compounds from two soil derived actinomycetes, *Streptomyces* sp. strain 196 and RI.24. *Microbiological Research*. doi: 10.1016/j.micres.2019.126312
- M. Kumar, P. Kumar, P. Das, **M.K. Kapur** (2019). Draft genome of *Streptomyces* sp. strain 130 and functional analysis of extracellular enzyme producing genes. *Molecular Biology Reports*. [doi.org/10.1007/s11033-019-04960-y](https://doi.org/10.1007/s11033-019-04960-y)
- P. Das, P. Kumar, M. Kumar, R. Solanki, **M.K. Kapur** (2018). Molecular characterization of chitinolytic strains isolated from terrestrial habitat. *International Journal of Pharmacy and Biological Sciences*, 8(4): 239-253.
- **M.K. Kapur**, P. Das, P. Kumar, M. Kumar, R. Solanki (2018). Role of Microbial extracellular enzymes in biodegradation of wastes. *Journal of Pharmaceutical, Chemical and Biological Sciences*. 6(3): 237-249.
- **M.K. Kapur**, R Solanki, P Das, M Kumar and P Kumar (2018). Antimicrobial activity analysis of bioactive compounds from soil actinomycetes. *Journal of Pharmaceutical, Chemical and Biological Sciences* Vol 6(3): 178-187.

- P. Das, P. Kumar, M. Kumar, R. Solanki and **M.K. Kapur** (2017). Purification and molecular characterization of chitinases from soil actinomycetes. *African Journal of Microbiology Research* Vol 11(27): 1086-1102.
- P. Das, P. Kumar, M. Kumar, R. Solanki and **M.K. Kapur** (2017). Bioprospecting xylanase enzymes from diverse ecological habitats. *International Research Journal of Natural and Applied Sciences* Vol 4(12): 328-362.
- R Solanki, A. Kundu, P Das and **M Khanna** (2015) Chemical profiling of antimicrobial compounds from *Streptomyces* sp. *European Journal of Pharmaceutical and Medical Research* Vol 2 (6) :147-152.
- P Das, R Solanki and **M Khanna** (2015) Characterization of Extra Cellular Enzymes from Soil Actinomycetes: A Molecular Approach. *International Journal of Biotech Trends and Technology* Vol 10(2): 20-32.
- R Solanki, A.Kundu, P Das and **M Khanna** (2015) Characterization of antimicrobial compounds from *Streptomyces* sp. *World Journal of Pharmaceutical Research* Vol 4(7):1626-1641.
- P Das, R Solanki and **M Khanna** (2014) Isolation and screening of cellulolytic actinomycetes from diverse habitats. *International Journal of Advanced Biotechnology and Research* Vol 45(3) 438-451.
- R Solanki, P Das and **M Khanna** (2013) Metabolic profiling of actinomycetes having antimicrobial properties. *International Journal of Advanced Biotechnology and Research* Vol 4 (4) 444-459.
- **M Khanna** and R Solanki (2012) *Streptomyces antibioticalis*, a Novel Species from a Sanitary Landfill Soil. *Indian Journal of Microbiology* 52 (4) 605-611.
- **M Khanna**, R Solanki and R Lal (2011) Selective isolation of rare actinomycetes producing novel antimicrobial compounds. *International Journal of advanced Biotechnology and Research* Vol 2 (3) 357-375.
- **M Khanna**, R Solanki and R Lal (2011) Bioactive compounds from soil actinomycetes. Proceedings of symposium “Biodiversity, Biotechnology and Man Interdependence and Future Challenges” held at Lansdowne 92-108
- R Solanki, R Lal and **M Khanna** (2011) Antimicrobial activities of actinomycetes from diverse ecological habitats in Delhi and its adjoining states, India. *Journal of Microbial World* Vol 13 (2) 233-240
- R Solanki, **M Khanna** and R Lal (2008) Review article entitled “Bioactive compounds from marine actinomycetes”. *Indian Journal of Microbiology* December 48: 410-431

- O Prakash, M Verma, P Sharma, M Kumar, K Kumari, A Singh, H Kumari, S Jit, S K Gupta, **M Khanna** and R. Lal (2007) Polyphasic approach of bacterial classification- An overview of recent advances. *Indian Journal of Microbiology* Vol 47, 98-108
- R Lal, S Jit, M Verma, M Dadhwal, A Singh, O Prakash, P Sharma and **M Khanna** (2006) Research News “Nanoorganisms: Smallest form of life got smaller”. *Indian Journal of Microbiology* Vol 46, No. 4.
- D Tuteja, M Dua, R Khanna, N Dhingra, **M Khanna**, H Kaur, D M Saxena, and R Lal. (2000). The importance of homologous recombination in the generation of large deletions in hybrid plasmids in *Amycolatopsis mediterranei*. *Plasmid*. 43(1): 1-11.
- **M Khanna**, M Dua, and R Lal. (1998). Selection of suitable marker genes for the development of cloning vectors and electroporation in different strains of *Amycolatopsis mediterranei*. *Microbiological Research*. 153: 205-211.
- R Lal, R Khanna, N Dhingra, **M Khanna**, and S. Lal. (1998). Development of an improved cloning vector and transformation system in *Amycolatopsis mediterranei* (*Nocardia mediterranei*). *Journal of Antibiotics* 51: 161-169.
- R Lal, R Khanna, H Kaur, **M Khanna**, N Dhingra, S Lal, K H Gartemann, R Eichenlaub, and P K Ghosh. (1996). Engineering antibiotic producers to overcome the limitations of classical strain improvement programs. *Critical Reviews in Microbiology*. 22: 201-255.
- R Lal, **M Khanna**, H Kaur, N Srivastava, K K Tripathi, and S Lal. (1995). Rifamycins: strain improvement program. *Critical Reviews in Microbiology*. 21: 19-30.

#### Research papers in E- Books/Books chapters

- P. Kumar, A. Kundu, R. Solanki, M. Kumar, **M.K. Kapur** (2020) Metabolic Profiling of *Streptomyces* sp. Strain 51 for Detection of Bioactive Compounds in A Closer Look at Actinomycetes, Nova Science Publishers, ISBN 978-1-53617-046-7.
- P. Das, R. Solanki, **M. Khanna** (2016) Chapter on Screening, quantification and purification of cellulases from soil actinomycetes in *Microbial Biotechnology: Technological Challenges and Developmental Trends*, Apple Academic Press, ISBN 9781771883320.
- **M. Khanna** (2016) Chapter in Laboratory manual for School Teachers for Science Pedagogy: Laboratory Learning to Classroom teaching, in Rajatotsav as a part of 25 years celebration of college (1991-2016) from January 20-21st 2016 in Acharya Narendra Dev College.



- **M. Khanna** (2008) Chapters in Biology Laboratory Course Manual for developing technical skills in practical exercises of B.Sc. Program Life Sciences Part III, from Oct 21st-24th 2008 in Acharya Narendra Dev College.

a) (i) Useful Bioinformatics sites on internet for gene and protein databases, genome and organism specific databases and perform multiple sequence alignment. (ii) Nucleic acid database - Homology search (Using 16SrRNA gene sequence. (iii) Construction of Phylogenetic trees.

b) Transformation of Escherichia coli by calcium chloride-heat shock method

- Chapter 6 Bioactive compounds from soil Actinomycetes, pg 92-108, published by Biotech Books, New Delhi in proceedings of National symposium “Biodiversity, Biotechnology and Man: Interdependence and future challenges”.
- **M. Khanna** (2008) Authored a Book Chapter on “Amphibia” in the E-Book “Animal Diversity-II Chordates” for NISCAIR (dc.identifier.uri-<http://hdl.handle.net/123456789/463> and dc.date.accessioned - 2008-01-04T09:02:44Z).

#### Conference / Presentations /Workshops

##### Conference Publications

- **Monisha Khanna Kapur**, Munendra Kumar, Prateek Kumar (2020). Analysis of chitinase producing genes and antifungal compounds produced by *Streptomyces* sp. Oral presentation in International Conference on Natural Products and Human Health-2020, organized by Deshbandhu College, University of Delhi, New Delhi, 27-29 February 2020.
- **Monisha Khanna Kapur**, Prateek Kumar, Anjali Chauhan, Munendra Kumar, Bijoy K. Kuanr, Aditi Kundu, Renu Solanki (2020). Exploitation of natural products from *Streptomyces* sp. for the potential application in lung cancer treatment. Poster presented in International Conference on Natural Products and Human Health-2020, organized by Deshbandhu College, University of Delhi, New Delhi, 27-29 February, 2020.
- **Monisha Khanna Kapur**, Prateek Kumar, Munendra Kumar, Aditi Kundu, Renu Solanki (2019). Extraction, identification and structure elucidation of bioactive compounds from a soil actinomycetes. Poster presented in INSCR International Conference (CTM-2019) on Current Trends in Microbiology and Microbiome Research: A Global Prospective organized by Department of Microbiology, Maharshi Dayanand University, Rohtak, 11-12 October, 2019.
- **Monisha Khanna Kapur**, Munendra Kumar, Prateek Kumar, Payal Das (2019). Functional analysis and protein structure prediction of chitinases and xylanases from *Streptomyces* sp. strain 130. Poster presented in INSCR International Conference (CTM-2019) on Current Trends in Microbiology and Microbiome Research: A Global Prospective organized by Department of Microbiology, Maharshi Dayanand University,



Rohtak, 11-12 October, 2019.

- **Monisha Khanna Kapur**, Prateek Kumar, Munendra Kumar, Aditi Kundu, Renu Solanki (2019). Purification and structure elucidation of bioactive compounds from a potent soil derived actinobacterium. Poster presented in 60<sup>th</sup> Annual Conference of Association of Microbiologists of India (AMI- 2019) on Microbial Technologies in Sustainable Development of Energy, Environment, Agriculture and Health organized by Central University of Haryana, Mahendragarh, Haryana, India, 15-18 November, 2019.
- **Monisha Khanna Kapur**, Munendra Kumar, Prateek Kumar, Payal Das (2019). Functional analysis protein structure prediction and molecular docking of chitinases produced from *Streptomyces* sp. strain 130. Poster presented in 60<sup>th</sup> Annual Conference of Association of Microbiologists of India (AMI- 2019) on Microbial Technologies in Sustainable Development of Energy, Environment, Agriculture and Health organized by Central University of Haryana, Mahendragarh, Haryana, India, 15-18 November, 2019
- **Monisha Khanna Kapur**, Prateek Kumar, Payal Das, Munendra Kumar and Renu Solanki (2017) “Phylogenetic characterization of antibiotic producing actinomycete strains from diverse ecological habitats” presented at INSCR International Conference, held at Conference Centre, University of Delhi, September 26-28, 2017.
- **Monisha Khanna Kapur**, Munendra Kumar, Payal Das, Prateek Kumar and Renu Solanki (2017) “Taxonomic study of extracellular enzyme producing actinomycetes from varied ecological habitats” presented at INSCR International Conference, held at Conference Centre, University of Delhi, September 26-28, 2017.
- **Monisha Khanna Kapur**, Payal Das, Prateek Kumar, Munendra Kumar and Renu Solanki (2017) “Screening and molecular characterization of extracellular chitinase from *Streptomyces* sp.” presented at International Conference on Recent Trends in Biotechnology and Biodiversity Conservation for Sustainable Development, held at Le Meridien, Kota Kinabalu, Malaysia, September 26-29, 2017.
- **Monisha Khanna**, Payal Das, Prateek Kumar and Renu Solanki (2016) “Purification and characterization of extracellular xylanases from *Streptomyces* sp.” presented at XL All India Cell Biology Conference & International Symposium on Functional Genomics and Epigenomics, organized by Jiwaji University, November 17-19, 2016.
- **Monisha Khanna**, Prateek Kumar, Payal Das and Renu Solanki (2016) “Role of microbial extracellular enzymes in the bioremediation of wastes” presented at XL All India Cell Biology Conference & International Symposium on Functional Genomics and Epigenomics, organized by Jiwaji University, November 17-19, 2016.
- Chanchal, Pooja, Ankit, Kajal, Akriti Gupta, Ankit, Gayatri, Lisha, Sakshi, Urvashi, Aakriti Kataria, **Monisha Khanna**, Sunita Hooda, Ravinder K Sagar (2016) “Biodegradation of wastes by microbial extracellular enzymes”. Poster presented in *National Symposium on Trends in Research and Innovations in Life Sciences at Undergraduate Level* organized by Department of Zoology Deen Dayal Upadhyaya

College, March 30th, 2016.

- **Monisha Khanna**, Renu Solanki and Payal Das (2016) Screening and Characterization of Chitinase and Xylanase Producing Soil actinomycetes presented in Academic & Cultural Festival event, Rajatotsav 2016 organized by Acharya Narendra Dev College, February 6-8, 2016.
- Chanchal, Pooja, Ankit, Kajal, Akriti Gupta, Ankit, Gayatri, Lisha, Sakshi, Urvashi, Aakriti Kataria, **Monisha Khanna**, Sunita Hooda, Ravinder K Sagar (2016) “Biodegradation of wastes by microbial extracellular enzymes”. Poster depicting the work done by students in the Project has been presented in Academic & Cultural Festival event, Rajatotsav 2016 organized by Acharya Narendra Dev College, February 6-8, 2016.
- **Monisha Khanna**, Renu Solanki and Payal Das (2015) Antimicrobial Compounds from Soil Actinomycete presented at 56<sup>th</sup> Annual conference of AMI, held at Convention Center, Jawaharlal Nehru University, New Delhi December 7-10, 2015.
- **Monisha Khanna**, Renu Solanki and Payal Das (2015) Screening and Characterization of Chitinase and Xylanase Producing Soil actinomycetes presented at 56<sup>th</sup> Annual conference of AMI, held at Convention Center, Jawaharlal Nehru University, New Delhi December 7-10, 2015.
- **Monisha Khanna**, Payal Das and Renu Solanki (2015) Screening, Quantification and Purification of extracellular enzymes from soil actinomycetes presented at National conference on Recent Trends in Microbial Biotechnology, organized by Department of Microbiology, Osmania University, Hyderabad, February, 26-28, 2015.
- **Monisha Khanna**, Renu Solanki and Payal Das (2013) Structure elucidation of antimicrobial compounds from actinomycetes presented in 54<sup>th</sup> Annual conference of AMI, held at MDU, Rohtak, Haryana. November 17-20, 2013.
- **Monisha Khanna**, Payal Das and Renu Solanki (2013) Extracellular enzymes from soil actinomycetes presented in 54<sup>th</sup> Annual conference of AMI, held at MDU, Rohtak, Haryana. November 17-20, 2013.
- **Monisha Khanna**, Ravi Toteja, Vikrant Kumar, Veer , Kiran, Pooja, Munendra, Jyoti, Radha, Manav, Arpita, Megha and Khemchand (2013) Exploring useful bacteria from soil, presented at National conference on Redefining Science Teaching: Future of Education, held at University of Delhi, South Campus, organized by Acharya Narendra Dev College, March 7-9, 2013
- **Monisha Khanna**, Ravi Toteja, Vikrant Kumar, Veer, Kiran, Pooja, Munendra, Jyoti, Radha, Khemchand, Manav, Arpita and Megha (2013) Exploring useful bacteria from soil, presented at Antardhwani 2013, held at Rugby Stadium, University of Delhi, February 22-24, 2013

- **Monisha Khanna**, Renu Solanki and Rup Lal (2012) Antimicrobial compounds from soil actinomycetes presented in National symposium on Microbes in health and agriculture, held at School of Life Sciences, Jawaharlal Nehru University, Delhi, March 12-13, 2012
- **Monisha Khanna**, Renu Solanki and Rup Lal (2011) Metabolic profiling of antibiotic producing soil actinomycetes submitted in 52<sup>nd</sup> Annual Conference of Association of Microbiologists of India (AMI) International Conference on Microbial Biotechnology for sustainable development, November 3-6, 2011.
- Renu Solanki, **Monisha Khanna** and Rup Lal (2011) Polyphasic characterization of actinomycetes and analysis of their antimicrobial potential, presented at the International conference on “Biotechnology for Better Tomorrow” 2011, at Department of Microbiology, Dr. Babasaheb Ambedkar Marathwada University, Sub-campus, Osmanabad, Maharashtra, India, February 6-9, 2011.
- **Monisha Khanna**, Renu Solanki and Rup Lal (2011) Novel streptomycetes from a sanitary landfill soil, presented at the International conference on “Biotechnology for Better Tomorrow” 2011, at Department of Microbiology, Dr. Babasaheb Ambedkar Marathwada University, Sub-campus, Osmanabad, Maharashtra, India, February 6-9, 2011.
- Renu Solanki, **Monisha Khanna** and Rup Lal (2010) Antimicrobial activities of an actinomycete isolated from pesticide contaminated site in Lucknow, India presented at the 51<sup>st</sup> Annual Conference of AMI “International symposium on recent advances in cross disciplinary Microbiology: Avenues & Challenges” at Birla Institute of Technology, Mesra, Ranchi, December 14-17, 2010.
- **Monisha Khanna**, Renu Solanki and Rup Lal (2010) Two novel species of *Streptomyces* isolated from a sanitary landfill soil. National Symposium on “Biotechnology” during October 29-30, 2010 organized by Delhi Technological University, India.
- **Monisha Khanna**, Renu Solanki and Rup Lal (2010) Bioactive compounds from soil actinomycetes. National Symposium on “Biodiversity, Biotechnology and Man: Interdependence and future challenges” held at Lansdowne, Uttarakhand, March 26-28, 2010.
- **Monisha Khanna**, Renu Solanki and Rup Lal (2010) *Streptomyces chromogiensis* and *Streptomyces antibiotiensis* spp. nov; two novel species from a sanitary landfill site. National Symposium on “Biodiversity, Biotechnology and Man: Interdependence and future challenges” held at Lansdowne, Uttarakhand, March 26-28, 2010.
- Renu Solanki and **Monisha Khanna** (2010) Screening of soil actinomycetes for antimicrobial compounds. National Symposium on “Chemistry in Biology: The Future of Life Sciences” held at India International Centre, New Delhi from February 12-13, 2010.

## Workshops Conducted

I was the resource person and/or the Co-ordinator for the following workshops:

- Co-ordinator and Resource Person for workshop on “**Experimental Procedures of Cell and Molecular Biology**” for Botany Teachers held at Zoology Department A.N.D.C on 9<sup>th</sup> September, 2011.
- Co-ordinator and Resource Person for the Summer Training Workshop for students on “**Isolation of antimicrobial compounds from soil actinomycetes**” held at A.N.D.C from 22<sup>nd</sup> June to 19<sup>th</sup> July, 2011.
- Convenor for the two day Hands-on-Training on “**Molecular Phylogenetics: Understanding Evolutionary Histories**” organized by Acharya Narendra Dev College, University of Delhi, held on June 15-16, 2011.
- Attended the “**Basic training workshop in *Drosophila* genetics**” held from 13<sup>th</sup> to 14<sup>th</sup> November, 2010 at Drosophila Stock Center, Department of Zoology, University of Delhi.
- I was the Co-ordinator and Resource Person for the Summer Training Workshop for students on “**Polyphasic characterization of actinomycetes and analysis of their antimicrobial potential**” held at A.N.D.C from May 15<sup>th</sup> to August 10<sup>th</sup> 2010.
- I was the Co-ordinator and Resource Person for the Summer Training Workshop for B.Sc (H) Zoology Parts II & III students on “**Biology and Biotechnology of Actinomycetes**” held at A.N.D.C from June 8<sup>th</sup> to 30<sup>th</sup> June 2009.
- Organized a four day Workshop for College Teachers for **imparting technical skills in practical exercises of B.Sc Program Life Sciences Part III**, from Oct 21<sup>st</sup>-24<sup>th</sup> 2008 in Acharya Narendra Dev College.
- I was the Co-ordinator and Resource Person for the Summer Training Workshop for B.Sc (H) Zoology Part III students on “**Basic Techniques in Molecular Biology**” held at A.N.D.C from June 1<sup>st</sup> to 30<sup>th</sup> 2008.
- Conducted the ANDC Series of Science Lectures: National symposium on “**Biotechnology: Expanding Horizons**” held at Auditorium, Indian National Science Academy, Bahadur Shah Zafar Marg, New Delhi 110 002, October 17, 18 2003.
- Short-term scientist training course on “**Genetic Manipulations of Antibiotic Producing Gram Positive Bacteria**” (Sept 1996 - Oct 1996), sponsored by Department of Biotechnology DBT, Government of India.
- Development and Higher Workshop in “**Recombinant DNA Technology**” for Delhi University Lecturers (Feb 1995), sponsored by Center for Professional Education (CPDHE), Delhi University. India.

- Short-term training course on “**Techniques in Recombinant DNA Technology**” (July 1994 - Oct 1994). Sponsored by Department of Biotechnology (DBT), Government of India.

#### Research Projects (Major Grants/Research Collaboration)

##### Completed following research projects

- ✓ **Co-Investigator for the Research Project** entitled “Isolation and characterization of actinomycetes and analysis of their antibacterial potential” funded by the Ministry of Environment and Forests (MOEF). This was a joint project between Acharya Narendra Dev College and the Department of Zoology, University of Delhi. The three-year project, initiated with effect from 14th August 2006, terminated on 13th December 2009.
- ✓ **Principal Investigator for Innovation Project (ANDC-105)** entitled “Exploring useful bacteria from soil” for undergraduate students funded by University of Delhi. The one year project, initiated with effect from 15th May 2012, terminated on 15th May 2013.
- ✓ **Principal Investigator for project entitled** “Extraction and activity analyses of extracellular enzymes from soil Actinomycetes” funded by University Grants Commission (UGC). The tenure of three year project was from July 1, 2012- June 30, 2015.
- ✓ **Principal Investigator for Innovation Project (ANDC-302)** entitled “Biodegradation of wastes by microbial extracellular enzymes” for undergraduate students funded by University of Delhi (September 2015- August 2016).
- ✓ **Research Training Fellowship for Developing Country scientist (RTF-DCS) Program 2015-16 sponsored by NAM S&T Centre of DST.** Under this program, Ms Pagmadulam Baldroj from Department of Biotechnology, Institute of General and Experimental Biology, Mongolian Academy of Sciences, pursued her training under my supervision in research project entitled “Molecular Biodiversity of micro-organisms isolated from Mongolia and screening of effective and industrially important strains (yeast and bacteria)” at Microbial Technology Lab, Acharya Narendra Dev College, University of Delhi from 18th January, 2016 to 4th July, 2016.

#### Awards and Distinctions

- **Best Poster Presentation Award** for paper presented on “Exploitation of natural products from *Streptomyces* sp. for the potential application in lung cancer treatment” in International Conference on Natural Products and Human Health – 2020 organized by Deshbandhu College, University of Delhi, New Delhi, India, 27<sup>th</sup> -29<sup>th</sup> February, 2020.

- **Third Prize in poster presentation** for paper presented on “Extraction, identification, and structure elucidation of bioactive compounds from a soil actinomycetes” in INSCR International Conference (CTM-2019) on Current Trends in Microbiology and Microbiome Research: A Global Prospective organized by Department of Microbiology, Maharshi Dayanand University, Rohtak, India, 11<sup>th</sup> -12<sup>th</sup> October, 2019.
- **Awarded International Travel Grant by University Grants Commission (UGC), Government of India for participating in International Conference** on “Recent Trends in Biotechnology and Biodiversity Conservation for Sustainable Development”, held at LE MERIDIEN Jalan Tun Fuad Stephens Sinsuran, Kota Kinabalu, Malaysia, 26<sup>th</sup> -29<sup>th</sup> September 2017.
- **Inclusion of the Microbial Technology Lab of Acharya Narendra Dev College in the research labs panel of NAM S&T Centre sponsored RTF-DCS program.** Under this program, Ms Pagmadulam Baldroj from Department of Biotechnology, Institute of General and Experimental Biology, Mongolian Academy of Sciences, is going to pursue her training in Microbial Technology Lab from 18<sup>th</sup> January, 2016 till 4<sup>th</sup> July, 2016.
- **Best oral presentation awarded** for paper presented on “Screening, Quantification and Purification of extracellular enzymes from soil actinomycetes” in National Conference on ‘Recent trends in microbial technology’ held at Department of Microbiology, Osmania University, Hyderabad, February 26-28, 2015.
- **Encouragement award for paper presented** on ‘Screening of soil Actinomycetes for antimicrobial compounds’ in National conference on ‘Redefining Science teaching: Future of Education’ held at University of Delhi, South campus, March 7-9, 2013.
- AMI (Association of Microbiologists of India) presented the **Best Poster Award** for the research paper-“Rifamycins: Strain Improvement Program” (Nov.1994).
- CSIR awarded the **JRFship** for pursuing Ph.D (Aug.1992) and **SRFship** from Aug. 1994 till completion of Ph D in Dec.1996.
- SGTB Khalsa College awarded a prize for **standing 1<sup>st</sup> in MSc** in the College (Oct.1992).

#### Association With Professional Bodies

##### Membership of following professional bodies

- Life member of Association of Microbiologists of India (AMI).
- Member of the Working Committee involved in framing of Zoology E-Books for the Undergraduate Curriculum. This 45 crores National Project of setting up a National Science Digital Library (NSDL) had been launched by the National Institute of Science Communication and Information Resources (NISCAIR) CSIR.
- Life member of Journal of Microbial World.
- Life member of Association of Teachers in Biological Sciences.
- Life member of Indian Network for Soil Contamination Research (INSCR).



- Inclusion of the Microbial Technology Lab of Acharya Narendra Dev College in the research labs panel of NAM S&T Centre sponsored RTF-DCS program.

#### **Reviewer of following journals**

- Scientific Reports
- Frontiers in Microbiology
- Molecular Biology Reports
- Archives of Microbiology
- Indian Journal of Microbiology
- African Journal of Microbiology Research (AJMR)
- Biosciences Biotechnology Research Asia

#### **Other Activities**

##### **Conferences/Seminars/Lectures/Refresher/Orientation Courses/Workshops attended**

- Attended a seminar on “**Safety Measures and Lab Ethics**, held on February 21-22, 2018 at Acharya Narendra Dev College under the aegis of DBT Star College Scheme.
- Attended a seminar on ‘**IPR and Social Insects**’, held on September 5, 2017 at Acharya Narendra Dev College under the aegis of DBT Star College Scheme.
- Participated in three days **International Research Workshop through video conferencing** on ‘SPSS Essentials-Statistical Analysis Made Easy’, organized by Research Center for Training & Development (RCTD), 16-17 June, 2015.
- Participated in one day workshop on “**Intellectual Property Rights & Patents**”, held at S.P. Jain Auditorium, at South Campus, University of Delhi, January 19, 2015.
- Participated in **National Conference** on “Recent trends on Microbial Biotechnology”, held at Department of Microbiology, Osmania University, Hyderabad, February 26-28, 2015.
- Participated in **International conference on Emerging Trends of Nanotechnology in Drug Discovery**, organized by Sri Venkateswara College, University of Delhi and Department of Biochemistry, UDSC India in association with CQM, University of Madeira, Portugal, held at University of Delhi, South Campus, May 26-27, 2014.
- Participated in **National conference on Redefining Science Teaching: Future of Education**, held at University of Delhi, South Campus, organized by Acharya Narendra Dev College, March 7-9, 2013.
- Participated in **Antardhwani 2013**, held at Rugby Stadium, University of Delhi, February 22-24, 2013.
- Participated in National symposium on **Microbes in health and agriculture**, held at School of Life Sciences, Jawaharlal Nehru University, Delhi, March 12-13, 2012.
- Participated in the **6<sup>th</sup> CMS Vatavaran Environment & Wildlife Film Festival and Forum**, held at Convention Centre, Jai Singh Road (Opp Jantar Mantar), New Delhi, December 06-10, 2011.



- Participated in 52<sup>nd</sup> Annual Conference of Association of Microbiologists of India (AMI) International Conference on **Microbial Biotechnology for sustainable development** , November 3-6, 2011.
- Participated in the **International conference on “Recent trends in developing bioremediation strategies for hexachlorocyclohexane (HCH) and other chlorinated contaminants”** held at Department of Zoology, University of Delhi February 9-11, 2011.
- Participated in the **International conference on “Biotechnology for Better Tomorrow” 2011**, held at Department of Microbiology, Dr. Babasaheb Ambedkar Marathwada University, Sub-campus, Osmanabad, Maharashtra, India February 6-9, 2011.
- Participated in the 51<sup>st</sup> Annual Conference of AMI **“International symposium on recent advances in cross disciplinary Microbiology: Avenues & Challenges”** held at Birla Institute of Technology, Mesra, Ranchi December 14-17, 2010.
- Participated in the National Symposium on **“Biotechnology”** during October 29-30, 2010 organized by Delhi Technological University, India.
- Participated in the National Symposium on **“Biodiversity, Biotechnology and Man: Interdependence and future challenges”** held at Lansdowne, Uttarakhand from 26<sup>th</sup> to 28<sup>th</sup> March, 2010.
- Participated in the National Symposium on **“Chemistry in Biology: The future of Life Sciences”** held at India International Centre, New Delhi from 12<sup>th</sup> to 13<sup>th</sup> February 2010.
- Attended 50<sup>th</sup> Annual Conference of Association of Microbiologists of India **“Third Golden Era of Microbiology”** held at Pune, December 15-18<sup>th</sup>, 2009.
- Attended the Nineteenth Dr. C.P. Alexander Memorial Lecture on **“The critical role of taxonomy and reference collections in bioprotection and biodiversity”** held on 18<sup>th</sup> December at Department of Zoology, University of Delhi
- Participated in the **“National Summer School on Molecular Cell Biology”** held from 11<sup>th</sup> – 16<sup>th</sup> May 2009 at Sri Venkateswara College, University of Delhi.
- Attended the **“WikiED09-Workshop on Open Educational Resources”** held from 9<sup>th</sup> – 13<sup>th</sup> January 2009 at Acharya Narendra Dev College.
- Attended 49<sup>th</sup> Annual Microbiological Conference **“International symposium on Microbial biotechnology: Diversity, Genomics and Metagenomics”** held at the Department of Zoology, University of Delhi from Nov 18<sup>th</sup>-20<sup>th</sup> 2008.
- Attended the workshop on **“Biology Laboratory Course (LS-206), B.Sc. Program in Life Sciences II Year”** held at Miranda House, University of Delhi, from September 24-26 2008.
- Actively participated in the **“Delhi State Level Symposium on Forensic Science”** held at S.G.T.B.Khalsa College, University of Delhi on February 14, 2008.
- **“Use of Resources and www in teaching and research”** organized by Delhi University on February 4, 2008, in the Lady Sri Ram College for Women, New Delhi.

- Lecture on **“Bacterial biosensors for pollutant measurements”** By Prof Van der Meer, Department of Fundamental Microbiology, University of Lausanne, Switzerland, February 14, 2007, held at the Department of Zoology, University of Delhi.
- Lecture on **“The computation of navigational trajectories: Hippocampus path neurons and homing behavior in pigeons”** By Prof Verner Peter Bingman, Department of Psychology, Ohio, USA, March 8, 2007, held at the Department of Zoology, University of Delhi.
- Participated in the International symposium on ciliate biology: **“Biodiversity, ultrastructure, development, genome, parasitism”** February 6-7, 2007 organized by SGTB Khalsa College, University of Delhi.
- Attended 30<sup>th</sup> All India Cell Biology Conference and Symposium on **“Molecules to compartments: Cross talks and networks”** February 2-4, 2007, held at the Department of Zoology, University of Delhi.
- Seminar on **“Molecular interactions between erythroblasts and macrophages during red cell differentiation”** By Manjit Hanspal, Associate Professor of Medicine, Tufts University School of Medicine, Boston, January 9, 2007, held at the Department of Zoology, University of Delhi.
- Participated in the **2<sup>nd</sup> Asean-India Bioinformatics HRD Program supported by the Ministry of Science and Technology, and ASEAN Secretariat**, and organized by Sri Venkateswara College, University of Delhi held from December 14-16, 2006 at New Delhi.
- 8<sup>th</sup> Professor M.L.Bhatia Memorial Lecture **“Gene therapy to combat metabolic disorders, obesity, diabetes and cardiovascular diseases”** by Prof. S.P.Kalra (Department of Neurosciences, University of Florida, USA) November 14, 2006.
- Workshop on **“Genetics, Genomics and Biotechnology”** (For Zoology Teachers of Delhi University), August 10-12 2006 held at the Department of Zoology, University of Delhi.
- Seminar-cum-Workshop on **“Comparative endocrinology and reproductive physiology”** October 4-13, 2006 held at the Department of Zoology, University of Delhi.
- Participated in the 3-day workshop on **“Basic Techniques in Immunology”** conducted by Department of Zoology, University of Delhi, August 27-29, 2005.
- Participated in a national seminar on **“Recent Trends in Chemistry”** organized by Maitreyi College, University of Delhi, from September 22-24, 2004.
- Participated in the **5<sup>th</sup> Annual symposium on Frontiers in Biomedical Research** held at Dr. B. R. Ambedkar Center for Biomedical Research, from April 14-16, 2004.
- Participated in **Biohorizon 2004**: The sixth National Symposium on Biochemical Engineering and Biotechnology from IIT Delhi, in March 2004.
- Participated in the 4 week 64<sup>th</sup> **Orientation Programme** from Academic Staff College, Jamia Millia Islamia, New Delhi from 16 February-17 March 2004.

- Participated in the two-day conference on “**Microbes For The Future**” held at Gargi College, University of Delhi, December 22, 24, 2003.
- Conducted the ANDC Series of Science Lectures: National symposium on “**Biotechnology: Expanding Horizons**” held at Auditorium, Indian National Science Academy, Bahadur Shah Zafar Marg, New Delhi 110 002, October 17, 18 2003.
- Attended the Indo-Swiss Collaborative: Two-day Mini-Symposium on “**Recent Trends In Bioremediation**” held at Department of Zoology, University of Delhi, October 7- 8, 2002.
- Participated in the three week **Refresher Course in Biotechnology** from Department of Zoology, University of Delhi, conducted by the Center For Professional Development In Higher Education–CPDHE (April 12–May 2, 2001).
- Participated in the four week **Refresher Course in Environmental Sciences** from Jawaharlal Nehru University (Feb.26<sup>th</sup> - March 23<sup>th</sup> 2001).
- **Certificate Course in MS Office and Internet** from Informatics Computer Institute, Preet Vihar, Delhi 92 (April-May 2000).
- Visited the “**2<sup>nd</sup> Biotechnology India 2000 – International Exhibition and Conference**” at the National Science Center, Pragati Maidan (Dec. 2000) along with students of ANDC.
- Visited the “**Genetics Exhibition**” organized by Department of Biotechnology at Teen Murti Bhavan, along with students of ANDC (Nov. 1998).
- **Participated in the Science Exhibition** “Communicating and Exploring Science: Experience of Delhi University Colleges”, along with students of Daulat Ram College organized during the 84<sup>th</sup> session of Indian Science Congress (Jan 1997).
- Short-term scientist training course on “**Genetic Manipulations of Antibiotic Producing Gram Positive Bacteria**” (Sept 1996 - Oct 1996), sponsored by Department of Biotechnology DBT, Government of India.
- Development and Higher Workshop in “**Recombinant DNA Technology**” for Delhi University Lecturers (Feb 1995), sponsored by Center for Professional Education (CPDHE), Delhi University. India.
- Short-term training course on “**Techniques in Recombinant DNA Technology**” (July 1994 - Oct 1994). Sponsored by Department of Biotechnology (DBT), Government of India.

*Monisha Khanna*

Signature of Faculty Member