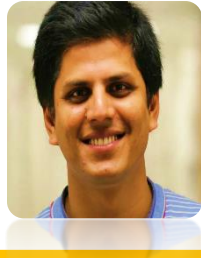


Roshan Kumar, Ph.D.

Assistant Professor
Post-Graduate Department of Zoology
Magadh University
Bodh Gaya: 824234 Bihar

Contact: +91-9212111486
Email: roshanzhc@gmail.com



Research/Teaching Experience Post-Ph.D.

- ✦ **2019-Till now: Assistant Professor (18th September'2019 Onwards)**
P.G. Department of Zoology, Magadh University, Bodh Gaya, Bihar
- ✦ **2018-2019: Land O'lakes Fellow (Postdoctoral Fellow) (12thFebruary'2018- 3rdJuly'2019)**
Department of Veterinary and Biomedical Sciences South Dakota State University, SD, USA
- ✦ **2017-18: Research Associate (12th May'2017-31st January'2018)** Centre for Environment Management of Degraded Ecosystem University of Delhi, Delhi, India
- ✦ **2016: Project Fellow in ICAR-National Bureau of Agriculturally Important Microorganisms Project (10th August 2016- 31st December 2016)**
Department of Zoology, University of Delhi, Delhi, India

Education

Ph.D. (2012-16)

Molecular Biology Laboratory, Department of Zoology, University of Delhi

Role

- ❖ Characterization of novel microorganisms from HCH dumpsite (Int. J. Syst. Evol. Microbiol.65:129-134).
- ❖ Comparative genomic analysis of genera *Sphingobium* and *Novosphingobium* (BMC Genomics. 15:1014; mSystems.00020-17).
- ❖ Enzyme purification (LinA and LinB) and HCH degradation assays (Environmental Science &Technology. 53:8715-8724).

M.Sc. (Zoology) (2010-12)

Specialization in Genomics, metagenomics and epigenetics (Percentage:70.41, Division: I), Department of Zoology, University of Delhi

B.Sc.(H) Zoology (2007-10)

(Percentage:79, Division: I), Zakir Hussain College, University of Delhi

Technical Expertise

Basic Microbiology

- ✓ Able to handle both aerobic and anaerobic bacterial cultures.
- ✓ Isolation and taxonomical characterization of novel bacterial isolates.
- ✓ Antimicrobial sensitive tests, hemolytic assay, bile-tolerance assay, cell toxicity assay, pathogen inhibition assay, biologic assay, gut transit assay.

Molecular Microbiology

- ✓ Plasmid/genomic/metagenomics DNA isolation, RNA isolation, Protein purification, PCR, qPCR, Restriction Digestion, Molecular Cloning, Transformation *etc.*

Other Techniques

- ✓ Sanger sequencing, Agarose gel electrophoresis, SDS-PAGE, Gnotobiotic chicken handling *etc.*

Computational Skills

- ✓ Comparative genomics, metagenomics and meta-transcriptomics analysis
- ✓ Assembler: Ray, ABySS, (Meta)Velvet, (Meta)Spades, SOAPdenovo *etc.*
- ✓ Validation:(Meta) QUAST
- ✓ Construction of population genome bins using METABat, CheckM *etc.*
- ✓ OUT clustering using QIIME2, USEARCH *etc.*
- ✓ Read mapping with Bowtie and BWA.
- ✓ Down-stream analysis using phylogenetic and functional tools.
- ✓ Molecular Dynamics

Research Articles

1. **R.Kumar**, U. Sood, J. Kaur, S. Anand, V. Gupta, KS. Patil, R. Lal. 2021. The rising dominance of microbiology: what to expect in the next 15 years? *Microbial Biotechnology*. <https://doi.org/10.1111/1751-7915.13953>.
2. U. Sood, **R. Kumar**, P. Hira. 2021. Expanding culturomics from gut to extreme environmental settings. *mSystems*. 6 (4):e00848-21.
3. V. Gupta, S. Haider, M. Verma, N. Singhvi, K. Ponnusamy, M. Malik, H. Verma, **R. Kumar**, U. Sood, P. Hira, S. Satija, Y. Singh, and R. Lal. Comparative Genomics and Integrated Network Approach Unveiled Undirected Phylogeny Patterns, Co-mutational Hotspots, Functional Crosstalk and Regulatory Interactions in SARS-CoV-2. *mSystems*.6:e00030-21.

4. **R. Kumar**, K. Register, J. Christopher Hennings, P. Moroni, G. Gioa, N. Garcia Fernandez, J. Nelson, M. Jelinski, I. Lysnyansky, D. Bayles, D. Alt, J. Scaria. 2020. Population genomic analysis of *Mycoplasma bovis* elucidates geographical variations and genes associated with host-types. **Microorganisms**.8: 1561.
5. **R.Kumar**, H. Verma, N. Singhvi, U. Sood, V. Gupta, M. Singh, R. Kumari, P. Hira, S. Nagar, C. Talwar, N. Nayyar, S. Anand, CD Rawat, M. Singh, RK Negi, Y Singh and R Lal. 2020. Comparative Genomic Analysis of Rapidly Evolving SARS-CoV-2 Reveals Mosaic Pattern of Phylogeographical Distribution. **mSystems**. 5:e00505-20.
6. S. Nagar, C. Talwar, S. Haider, A. Puri, K. Ponnusamy, M. Gupta, U. Sood, A. Bajaj, R. Lal and **R. Kumar**. 2020. Phylogenetic relationships and potential functional attributes of the genus *Parapedobacter*: A member of family *Sphingobacteriaceae*. **Frontiers in Microbiology**.11:1725. (Corresponding Author)
7. A. Puri, A. Bajaj, H. Verma, **R. Kumar**, Y. Singh, R. Lal. 2020. Complete genome sequence of *Paracoccus* sp. Strain AK26: Insights into multi-partite genome architecture and methyloptrophy. **Genomics**. 112(3): 2572-2582.
8. C. Talwar, S. Nagar, **R. Kumar**, J. Scaria, R. Lal, RK. Negi. 2020. Defining the Environmental Adaptations of Genus *Devosia*: Insights into its Expansive Short Peptide Transport System and Positively Selected Genes. **Sci. Rep.**10,1151.
9. S. Ghimire, S. Wongkuna, **R. Kumar**, E. Nelson, J. Christopher-Hennings and J. Scaria. 2020. Genome sequence and description of *Blautia brookingsii* SG772 sp. nov., a novel bacterial species isolated from the human feces. **New Microbes New Infect.** 34:100648.
10. V. Gupta, U. Sood, **R. Kumar**, R. Lal and VC. Kalia. 2020. Microbiome: A New Lease to Microbiology. **Indian J Microbiol.** 60(1):1. (Editorial).
11. V. Gupta[†], **R. Kumar**[†], U. Sood[†] and N. Singhvi. 2020. Reconciling Hygiene and Cleanliness: A New Perspective from Human Microbiome. **Indian J Microbiol.** 60(1):37-44. (†=equally contributed).
12. **R. Kumar**[†], U. sood[†], V. Gupta[†], M. Singh, J. Scaria, R. Lal. 2020. Recent Advancements in the Development of Modern Probiotics for Restoring Human Gut Microbiome Dysbiosis. **Indian J Microbiol.** 60(1):12-25. (†=equally contributed).
13. U. sood[†], V. Gupta[†], **R. Kumar**[†], S. Lal, D. Fawcett, S. Rattan, GEJ. Poinern, Lal. R. 2020. Chicken Gut Microbiome and Human Health: Past Scenarios, Current Perspectives, and Futuristic Applications. **Indian J Microbiol.** 60(1):2-11. (†=equally contributed).
14. Y. Liu, L. Wu, P. Kohli, **R. Kumar**, H. Stryhanyuk, I. Nijenhuis, R. Lal and HH. Richnow. 2019. Enantiomer and Carbon Isotope Fractionation of α -Hexachlorocyclohexane by *Sphingobium indicum* Strain B90A and the Corresponding Enzymes. **Environ. Sci.Technol.** 53(15):8715-8724.
15. M. Thomas, S. Wongkuna, S. Ghimire, **R. Kumar**, L. Antony, KC. Doerner, A. Singery, E. Nelson, T. Woyengo, S. Chankhamhaengdecha, T. Janvilisri, J. Scaria. 2019. Gut Microbial dynamics during conventionalization of germfree chicken. **mSphere**. 4(2)e00035-19.
16. U. Sood, P. Hira, **R. Kumar**, A. Bajaj, DLN. Rao, R. Lal, M. Shakarad. 2019. Comparative Genomic, Analyses Reveal Core-Genome Wide Genes Under Positive Selection and Major Regulatory Hubs in Outlier Strains of *Pseudomonas aeruginosa*. **Front.Microbiol.** 6:10:53.
17. U. Sood, A. Bajaj, **R. Kumar**, S. Khurana, VC. Kalia. 2018. Infection and Microbiome: Impact of Tuberculosis on Human Gut Microbiome of Indian Cohort. **Indian J Microbiol.** 58(1):123-125.

18. H. Verma, A. Bajaj, **R. Kumar**, J. Kaur, S. Anand, N. Nayyar, A. Puri, Y. Singh, JP. Khurana, R. Lal. 2017. Genome Organization of *Sphingobium indicum* B90A: An Archetypal Hexachlorocyclohexane (HCH) Degrading Genotype. **Genome biology and evolution**. 9(9),2191-2197.
19. **R. Kumar**, H. Verma, S. Haider, A. Bajaj, U. Sood, K. Ponnusamy, S. Nagar, MN. Shakarad, RK. Negi, Y. Singh, JP. Khurana, JA. Gilbert, R. Lal. 2017. Comparative Genomic Analysis Reveals Habitat-Specific Genes and Regulatory Hubs within the Genus *Novosphingobium*. **mSystems**. 2(3),e00020-17.
20. NK. Mahato, V. Gupta, P. Singh, R. Kumari, H. Verma, C. Tripathi, P. Rani, A. Sharma, N. Singhvi, U. Sood, P. Hira, P. Kohli, N. Nayyar, A. Puri, A. Bajaj, **R. Kumar**, V. Negi, C. Talwar, H. Khurana, S. Nagar, M. Sharma, H. Mishra, AK. Singh, G. Dhingra, RK. Negi, M. Shakarad, Y. Singh, R. Lal. 2017. Microbial taxonomy in the era of OMICS: application of DNA sequences, computational tools and techniques. **Antonievan Leeuwenhoek**. 1-15.
21. V. Dwivedi, K. Kumari, SK. Gupta, R. Kumari, C. Tripathi, P. Lata, N. Niharika, AK. Singh, **R. Kumar**, A. Nigam, N. Garg, R. Lal. 2015. *Thermus parvatiensis* RL^T sp. nov., Isolated from a Hot Water Spring, Located Atop the Himalayan Ranges at Manikaran, India. **Indian J microbiol**. 55(4),357-365.
22. H. Verma, P. Rani, AK. Singh, **R.Kumar**, V. Dwivedi, V. Negi, R. Lal. 2015. *Sphingopyxis flava* sp. nov., isolated from a hexachlorocyclohexane (HCH)-contaminated soil. **Int.J.Syst.Evol.Microbiol**. 65:3720-3726.
23. **R. Kumar**, V. Dwivedi, N. Nayyar, H. Verma, AK. Singh, P. Rani, DLN. Rao, R. Lal. 2015. *Parapedobacter indicus* sp. nov., isolated from hexachlorocyclohexane-contaminated soil. **Int.J.Syst.Evol.Microbiol**. 65:129-134.
24. H. Verma[†], **R. Kumar**[†], P. Oldach, N. Sangwan, JP. Khurana, JA. Gilbert, R. Lal. 2014. Comparative genomic analysis of nine *Sphingobium* strains: insights into their evolution and hexachlorocyclohexane (HCH) degradation pathways. **BMC Genomics**. 15:1014.([†]=equally contributed).
25. N. Nayyar, N. Sangwan, P. Kohli, H. Verma, **R. Kumar**, V. Negi, P. Oldach, NK. Mahato, V. Gupta, R. Lal. 2014. Hexachlorocyclohexane: persistence, toxicity and decontamination. **Rev. Environ. Health**. 29: 49-52.
26. N. Sangwan, H. Verma, **R. Kumar**, V. Negi, S. Lax, P. Khurana, JP. Khurana, JA. Gilbert, R. Lal. 2014. Reconstructing an ancestral genotype of two hexachlorocyclohexane-degrading *Sphingobium* species using metagenomic sequence data. **ISMEJ**. 8:398-408.
27. AK. Singh, N. Garg, P. Lata, **R. Kumar**, V. Negi, S. Vikram, R. Lal. 2014. *Pontibacter indicus* sp. nov., isolated from hexachlorocyclohexane-contaminated soil. **Int.J.Syst. Evol.Microbiol**. 64: 254-259.
28. **R. Kumar**, V. Dwivedi, V. Negi, JP. Khurana, R. Lal. 2013. Draft genome sequence of *Sphingobium lactosutens* strain DS20^T, isolated from a hexachlorocyclohexane dumpsite. **Genome Announc**. 1:e00753-13.
29. U. Mukherjee, **R. Kumar**, NK. Mahato, JP. Khurana, R. Lal. 2013. Draft genome sequence of *Sphingobium* sp. Strain HDIPO4, an avid degrader of hexachlorocyclohexane. **Genome Announc**. 1:e00749-13.
30. AK. Singh, N. Garg, N. Sangwan, V. Negi, **R. Kumar**, S. Vikram, R. Lal. 2013. *Pontibacter ramchanderi* sp. nov., isolated from hexachlorocyclohexane-contaminated pond sediment. **Int. J. Syst. Evol. Microbiol**. 63:2829-2834.
31. V. Negi, **R. Kumar**, H. Verma, N. Sangwan, R. Lal. 2012. Titan Cells: Barriers to Phagocytosis. **Indian J microbial**. 52(3),516-516.

Book

1. **Genetics and Evolution.** A course material for M.Sc. Zoology, under Distance Education Programme for Lalit Narayan Mithila University, Darbhanga. Vikas Publishing House Pvt.Ltd.2019.1-152. ISBN978-93-5338-906-2.

Chapters

1. **R. Kumar**, S. Kumari, PA. Kumar, R. Lal. 2020. Bergey's Manual for genus *Novosphingobium*. Bergey's Manual of Systematic Bacteriology. Published by John Wiley & Sons, Inc., in association with Bergey's Manual Trust. <https://doi.org/10.1002/9781118960608.gbm01408>.
2. **R. Kumar.** 2016. Primer Designing. An Introduction to Biotechnology: A Genetic Manipulation Perspective. I.K. International Publishing House Pvt. Ltd. ISBN:978-93-84588-86-1.
3. **R. Kumar.** 2016. Polymerase Chain Reaction (PCR). An Introduction to Biotechnology: A Genetic Manipulation Perspective. I. K. International Publishing House Pvt. Ltd. ISBN:978-93-84588-86-1.
4. N Garg, **R. Kumar.** Structural Organization of Genome: Comparative Genomics for National Mission on Education Information Communication Technology (NME-ICT) in Zoology under MHRD Project.

Awards and Academic Accomplishments

- ✚ SERB International Research Experience Fellowship (2022-2023) supported by the Science and Engineering Research Board (SERB), Department of Science and Technology, Government of India (SIR/2022/000474). Visiting Researcher at Department of Veterinary and Biomedical Sciences, South Dakota State University, USA.
- ✚ The best interjector prize at Southeast Asian Regional Symposium on Microbial Ecology (SARSME-2020), Pokhara, Nepal (12-14 February,2020).
- ✚ Participated in two days NAAC workshop on "Training of Trainers" at L.N. Mithila University, Kameshwarnagar, Darbhanga (10-11 January,2020).
- ✚ ITS-SERB travel grant for attending the 7th World Congress on Microbiology, Valencia, Spain (File No. ITS/3836/2016-17).
- ✚ DST-DAAD Research stay at Helmholtz Centre for Environmental Research, Leipzig, Germany (June 2015-July 2015). Role:
 - Visiting Research Fellow at Helmholtz Centre for Environmental Research, Leipzig, Germany to study "Carbon stable isotope fractionation of α - hexachlorocyclohexane (HCH) using enzymatic degradation with LinA variants".
- ✚ President of "Evolvera Society" Department of Zoology (April2015-2016).
- ✚ President of first student chapter of "Indian Network for Soil Contamination Research (INSCR)" (October2015-December 2018).
- ✚ Vice President of student chapter of "American Society for Microbiology (ASM)" (November2013-December2015).

- ✦ Vice President of Zoological Society of “Zakir Husain College”, University of Delhi (2009-2010).
- ✦ Qualified National Eligibility Test for Life Science conducted by CSIR-UGC, Center for Scientific and Industrial Research, United Grant Commission, Govt. of India in June 2012.
- ✦ Qualified Graduate Aptitude Test in Engineering (GATE) of Biological Science, conducted by Indian Institute of Technology (IIT) and Human Resource Development (HRD), Govt. of India in 2012.
- ✦ Kumar Shubham Memorial Scholarship (Zakir Hussain College) for securing highest percentage of marks in science stream (2009-10).
- ✦ First Position in 3rd Year in B.Sc.(H) Zoology in College 2010.
- ✦ First Position in 2nd Year in B.Sc. (H) Zoology in College 2009.
- ✦ Certificate of Proficiency, Zakir Husain College (2008-2009).
- ✦ First Position in 1st Year in B.Sc.(H) Zoology in College 2008.

Projects

1. Health Risk Assessment of Coal Mine Workers using Microbial Signatures. Funding Agency: University Grant Commission. Total Amount: INR 10,00,000. (Start Date: 03.12.2021)

Oral Presentation

- ✦ **Roshan Kumar.** 2022. Phylogenetic Relationships and Potential Functional Attributes of the Genus *Parapedobacter*: A Member of Family *Sphingobacteriaceae*. 6th Annual International e-Conference of Indian Network for Soil Contamination Research on “Microbes in Sustainable Development organized in association with 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), Sri Guru Tegh Bahadur Khalsa College (DU), C.M.P. College (AU), PhiXgen Pvt. Ltd., Gurugram, College of Commerce, Arts & Science, Patna from 15th to 18th November 2021.
- ✦ **Roshan Kumar.** 2021. Global population genomic analysis of *Mycoplasma bovis* isolates reveals transcontinental variations and potential virulence genes throughout all clades. 61st Annual International Conference of The Association of Microbiologists of India and Indian Network for Soil Contamination Research (INSCR) in association with The Energy and Resources Institute (TERI), University of Delhi (DU), Indian Agricultural Research Institute (IARI) and Indian National Science Academy (INSA) on February 4, 2021.
- ✦ **Roshan Kumar.** 2020. Comparative Genomic Analysis of SARS-CoV-2 and *Mycoplasma bovis*: Exploring genomic data sets to gain insight into their genomic repertoire. An international symposium on current trends in computational biology and data sciences, organized by Amity University, Gurugram on 4th November 2020.
- ✦ **Roshan Kumar.** 2020. Phylogenetic relationships and potential functional attributes of the genus *Parapedobacter*: A member of family *Sphingobacteriaceae*. INTERNATIONAL E-CONFERENCE ON "Health and Research in Current Scenario: with Special Emphasis on COVID-19 Virus Genomics and Pathogenicity" Sri Venkateswara College, Delhi University 17th July 2020.

- ✦ **Roshan Kumar.** 2020. Comparative Bacterial Genomics: A Tool to Understand Medical and the Environmental Perspective. Southeast Asian Regional Symposium on Microbial Ecology (SARSME-2020), Pokhara, Nepal(12-14February,2020).
- ✦ **Roshan Kumar.** 2018. Culturomics Based Analysis of feral Chicken Gut Microbiota Reveals Uncultured Diversity and Novel Gene Repertoire. NCB-ASM 78th Annual Meeting, held on 28th-29th September, 2018 at Minnesota State University, Mankato, Minnesota, USA.
- ✦ **Roshan Kumar.** 2017. Comparative Bacterial Genomics: An Environmental Perspective. INSCR International Conference-2017 held between 26th -28th September, 2017 at University of Delhi, India.
- ✦ **Roshan Kumar.** 2016. Comparative Genomic Analysis Reveals Environment and Habitat Specific Genes Diversity within Genus *Novosphingobium*. 7th World Congress on Microbiology, held on November 29th 2016 at Melia Palacio DeCongresos at Valencia, Spain.

Poster Presentation

- ✦ P. Singh, K. Aditi, N. Kumari, S. N. P. Yadav Deen, S. K. Singh and **R. Kumar.** Genome profiling and phylogenomics of *Mycobacterium tuberculosis*. Southeast Asian Regional Symposium on Microbial Ecology (SARSME-2020), Pokhara, Nepal (12-14February,2020).
- ✦ S Wongkuna, **R. Kumar**, S Ghimire, L Antony and J Scaria. 2018. Random Assembly of gut microbiota sub-community in gnotobiotic chicken normalizes the gut and excludes *Salmonella enetrica*. NCB-ASM 78th Annual Meeting, held on 28th -29th September,2018 at Minnesota State University, Mankato, Minnesota, USA.
- ✦ **R. Kumar** and R Lal. Comparative genomic analysis reveals environment and habitat specific gene diversity within genus *Novosphingobium*. J Bacteriol Parasitol 2016,7:6(Suppl).
- ✦ **R. Kumar**, S. Nagar, A. Puri, A. Bajaj, V. Gupta, NK. Mahato, U. Sood, R.K. Negi, M. Shakarad, Singh, R Lal. Comparative genomic analysis of genus *Parapedobacter*: Insight into the genetic attributes and characteristic traits” at 57th Annual Conference of Association of Microbiologists of India (AMI) held at Guwahati University, Guwahati, India from November 24-27,2016.
- ✦ **R. Kumar**, P Kohli, L Yaquing, Wu Langping, A Bajaj, HH Richnow, R Lal. Carbon Stable Isotope Fractionation (CSIA) of α -Hexachlorocyclohexane (HCH) During Enzymatic Degradation Using LinA variants. Poster presented in the 56th Annual Conference of Association of Microbiologists of India (AMI-2015) & International Symposium On “Emerging Discoveries In Microbiology” Delhi, India, December 7-10, 2015.
- ✦ H Verma, **R. Kumar**, P Oldach, N Sangwan, JP Khurana, JA Gilbert, R Lal. Comparative genomic analysis of nine *Sphingobium* strains: Insights into their Evolution and Hexachlorocyclohexane (HCH) Degradation Pathway. Poster presented in the 6th FEMS congress, held at MECC Maastricht, Netherlands from June 7-11, 2015.

- ✦ R Kumari, **R. Kumar**, P Singh, U Mukherjee, U Sood, P Hira, R Lal. Comparative genomic analysis of genus *Amycolatopsis*: Revealing their phylogeny, functional attributes and potential to produce variety of secondary metabolites. Poster presented in the World Congress and Expo on Applied Microbiology, held at Frankfurt, Germany from August 18-20, 2015.
- ✦ **R. Kumar**, H Verma, V Dwivedi, R Lal. Gene-targeted metagenomics of Hexachlorocyclohexane (HCH) dehydrochlorinase (*linA*) genes in the environment to reveal extensive diversity and predicting possible sites for site-directed mutagenesis. Poster presented in the 55th Annual Conference of Association of Microbiologists of India (AMI) held at Tamil Nadu Agricultural University, Coimbatore, India from November 12-14, 2014.
- ✦ H Verma, **R. Kumar**, J Kaur, R Lal. Genome insights to *Sphingobium indicum* B90A: A promising Hexachlorocyclohexane (HCH) degrader". Poster presented in the 55th Annual Conference of Association of Microbiologists of India (AMI) held at Tamil Nadu Agricultural University, Coimbatore, India from November 12-14, 2014.
- ✦ **R. Kumar**, H Verma, P Oldach, N Sangwan, V Negi, R Lal. Comparative genomic analysis of ten strains of the genus *Sphingobium*: projecting into their phylogeny, adaptation, and bioremediation of Hexachlorocyclohexane (HCH) dumpsite. Poster presented in the 54th Annual Conference of Association of Microbiologists of India (AMI) held at MDU, Rohtak, Haryana, India from November 17-20, 2013.
- ✦ NK. Mahato, U. Mukherjee, **R. Kumar**, JP. Khurana, R. Lal. Draft genome sequence of Hexachlorocyclohexane degrading bacterium *Sphingobium* sp. Strain HDIPO4. Poster presented in the 54th Annual Conference of Association of Microbiologists of India (AMI) held at MDU, Rohtak, Haryana, India from November 17-20, 2013.
- ✦ V Dwivedi, **R. Kumar**, C Tripathi, P Khurana, JP Khurana, R Lal. Genome sequence and enzymatic application of *Thermus* sp. strain RL, isolated from a hot water spring located atop the Himalayan ranges at Manikaran, India. Poster presented in the 54th Annual Conference of Association of Microbiologists of India (AMI) held at MDU, Rohtak, Haryana, India from November 17-20, 2013.
- ✦ V Dwivedi, **R. Kumar**, N Sangwan, A Nigam, N Garg, N Niharika, P Khurana, JP Khurana, R Lal. Genome Sequence Characterization and Enzymatic Application of *Thermus* sp. Strain RL, isolated from a Hot Water Spring Located atop the Himalayan Ranges at Manikaran, India. Poster presented in the first Indian Network of Soil Contamination Research (INSCR) conference at Amity University, Noida, India on January 15th, 2013.
- ✦ V Dwivedi, **R. Kumar**, N Sangwan, A Nigam, N Garg, N Niharika, P Khurana, JP Khurana, R Lal. Genome Sequence Characterization and Enzymatic Application of *Thermus* sp. Strain RL, isolated from a Hot Water Spring Located atop the Himalayan Ranges at Manikaran, India". Poster presented in the 53rd Annual Conference of Association of Microbiologists of India (AMI) entitled "Microbial World: Recent Innovations and Future Trends" held at KIIT University, Bhubaneswar, India from November 22-25, 2012.

- ✚ Mansi Jangra, Mukul Rohilla, Vishlesh Kotarya, Nilamadhab Senapati, Manisha Pal, **Roshan Kumar**, Nirjara Singhvi, Vipin Gupta, Utkarsh Sood, Rup Lal, Renu Solanki & Shailly Anand*. **“Isolation and Identification of Phenol degrading bacterial isolates from wastewater samples collected from a coal based thermal power plant”**. Poster presented at International Conference entitled "Current Trends in Microbiology and Microbiome Research: A Global Perspective (CTM 2019) organized by Indian Network for Soil Contamination Research and MDU on 11-12 October, 2019 at Maharshi Dayanand University, Rohtak, Haryana. (*Corresponding Author).
- ✚ **FIRST PRIZE** from International Society for Microbial Ecology (ISME). Rupam Kumari, Shallu, Nishi Pant, Vaibhav Saini, Adrija Mohanta, **Roshan Kumar**, Nirjara Singhvi, Vipin Gupta, Utkarsh Sood, Rup Lal, Renu Solanki & Shailly Anand*. **“PCR based detection of Phenol degrading bacteria in wastewater samples collected from a thermal power plant in Bihar”**. Poster presented at International Conference entitled "Current Trends in Microbiology and Microbiome Research: A Global Perspective (CTM 2019) organized by Indian Network for Soil Contamination Research and MDU on 11-12 October, 2019 at Maharshi Dayanand University, Rohtak, Haryana. (*Corresponding Author)

Events Organized

- ❖ **MICROSPHERE 2021: An International Outreach Program** to celebrate the International Microorganism Day under the aegis of Science Foundation, Synapses & INSCR and in collaboration with IIT Roorkee, Acharya Narendra Dev College, Gargi College, Kirori Mal College, Maitreyi College, Ramjas College, Sri Venkateswara College, Magadh University, Allahabad University and our Industry associate - PhiXgen Pvt. Ltd on 17 September 2021
- ❖ **6th Annual International e-Conference of Indian Network for Soil Contamination Research on “Microbes in Sustainable Development”** organized in association with 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), Sri Guru Tegh Bahadur Khalsa College (DU), C.M.P. College (AU), PhiXgen Pvt. Ltd., Gurugram, College of Commerce, Arts & Science, Patna from 15th to 18th November 2021
- ❖ **National Level Skill Enrichment Program (BASIC) on “Bacterial Genomics & Metagenomics”** organized collaboratively by Department of Zoology, Deen Dayal Upadhyaya College (University of Delhi), PG Department of Zoology (Magadh University), Bhaskaracharya College of Applied Sciences (University of Delhi), Kirori Mal College (University of Delhi) & Phixgen Pvt. Ltd., Gurugram, India under the aegis of Synapses and Science
- ❖ **National Level Capability Enhancement Workshop on “Exploring DNA using BioPython”** organized collaboratively by Department of Zoology, Deen Dayal Upadhyaya College (University of Delhi) and PG Department of Zoology (Magadh University) under the aegis of Synapses and Science Foundation, DDUC on 22 January 2022

- ❖ **National Level Skill Enrichment Program (ADVANCED) on “Bacterial Genomics & Metagenomics”** organized collaboratively by Department of Zoology, Deen Dayal Upadhyaya College (University of Delhi), PG Department of Zoology (Magadh University), Bhaskaracharya College of Applied Sciences (University of Delhi), Kirori Mal College (University of Delhi) & Phixgen Pvt. Ltd., Gurugram, India under the aegis of Synapses and Science Foundation, DDUC and Episteme (Life Sciences), KMC from 18 February to 13 March 2022.
- ❖ Member, organizing committee, 61st Annual International Conference of The Association of Microbiologists of India and Indian Network for Soil Contamination Research (INSCR) in association with The Energy and Resources Institute (TERI), University of Delhi (DU), Indian Agricultural Research Institute (IARI) and Indian National Science Academy (INSA) on February 3-5, 2021.
- ❖ Member, Advisory committee, One Week Online Faculty Training Program on "**Pedagogical Training for Effective Online Teaching & Learning**" from 3rd to 10th August, 2020 organized by Deen Dayal Upadhyaya College (University of Delhi) and K.T.H.M. College, Nashik.
- ❖ Treasurer, INTERNATIONAL E-CONFERENCEON" **Health and Research in Current Scenario: with Special Emphasis on COVID-19 Virus Genomics and Pathogenicity**" Sri Venkateswara College, Delhi University 17th July2020.
- ❖ International Conference of INSCR (IIC-2017) on '**Role of Microbe-Plant-Animal Interactions in Human Health**' held between 26th -28th September, 2017 at University of Delhi.
- ❖ "**Bani School Innovation Camp (BaSIC)**", 2016 (Dream School) under University of Delhi-INSA outreach Program and DBT Star College Project, Ramjas College Held on 23rd -24th December 2016 at Bani School, Bani, Himachal Pradesh.
- ❖ Workshop on "**Microbial Genomics and Metagenomics**" Held on 22nd September' 2016 at Department of Zoology, University of Delhi,
- ❖ Workshop on "**Renovating Bacterial Taxonomy with Bioinformatics**" Organized Under the Aegis of Indian Council of Agricultural Research-National Bureau of Agriculturally Important Microorganism (ICAR-NBAIM) and Department of Zoology, University of Delhi, Held on 14th -15th May' 2015 at Department of Zoology, University of Delhi

Resource Person

- ❖ Resource person in computational biology workshop on genomics, metagenomics and proteomics jointly organized by Academy of Microbiological Sciences, Association of Microbiologists of India and ICAR-Indian Council for Agricultural Research on 29th April, 2022.
- ❖ Resource person in two weeks workshop on "Next Generation Bioinformatics Approaches in Infection Biology" organized by Department of Biotechnology at Jaypee Institute of Information and Technology, NOIDA, Sector-62 between the dates 28th March to 8th April 2022.
- ❖ Resource Person in National Workshop on "Applications of Biotechnology, Bioinformatics, and Biostatistics Tools for Science Students" Organized by Zakir Husain Delhi College, University of Delhi under the aegis of DBT-Star College Scheme from December 20-24, 2021

- ❖ Resource Person (Basics of Genomics and Metagenomics) during National Level Skill Enrichment Program (BASIC) on “Bacterial Genomics & Metagenomics” organized collaboratively by Department of Zoology, Deen Dayal Upadhyaya College (University of Delhi), PG Department of Zoology (Magadh University), Bhaskaracharya College of Applied Sciences (University of Delhi), Kirori Mal College (University of Delhi) & Phixgen Pvt. Ltd., Gurugram, India under the aegis of Synapses and Science Foundation, DDUC and Episteme (Life Sciences), KMC from 15 January – 7 February 2022.
- ❖ Resource Person during MICROSPHERE: An International Outreach Program organized under the aegis of Synapses (our Zoological Society), Science Foundation, and Covalence and in collaboration with IIT Roorkee, Acharya Narendra Dev College, Gargi College, Kirori Mal College, Maitreyi College, Ramjas College, Sri Venkateswara College, Magadh University, Allahabad University, and our Industry associate - PhiXgen Pvt. Ltd. on 17th September 2021.
- ❖ Pre-conference workshop on “Hands-on to computational biology for (meta)genomics analysis for beginners” between 1st -2nd February 2021.
- ❖ Add-on course on “Introduction to Bioinformatics and Genomics: Hands on Training Experience on Data Analysis” organized by Gargi College, University of Delhi in association with Phixgen Pvt. Ltd., Gurugram, India between 20th -31st July 2020.
- ❖ Hands-on Pre-Conference Workshop on- Health & Research in Current Scenario: With special emphasis on COVID-19 Genomics and Pathogenicity organized by Sri Venkateswara College, University of Delhi in association with Phixgen Pvt. Ltd. and sponsored by ISME, THE NETHERLANDS between 14th-16th July 2020.
- ❖ Short term summer course for UG students of University of Delhi on "Bioinformatics: An Introduction for Beginners" organized by Miranda House College, University of Delhi on 14th July, 2020.
- ❖ Academia-Industry ONLINE CERTIFICATE COURSE IN (META) GENOMICS & BIOINFORMATICS organized by Maitreyi College and Phixgen Pvt. Ltd. Between 27th June– 18th July’ 2020.
- ❖ Workshop Organized by Phixgen Pvt. Ltd. Genomics and Metagenomics: Hands on Training Experience on Data Analysis. Organized between 1st – 10th July’ 2020

Teaching-Learning- Evaluation Certification

- ✚ **Faculty development Program (FDP)** on “Data Analysis Using R” conducted by Teaching and Learning Centre, Ramanujan College, University of Delhi from 15 - 21 June, 2021.
- ✚ **Faculty development Program (FDP)** on “Effective Ways to Develop e-Content for Teaching and Learning” conducted by Maratha Vidya Prasarak Samaj’s, K.R.T. Arts, B.H. Commerce and A.M. Science (K.T.H.M.) College, Nashik in association with Human Resource Development Centre (UGC-HRDC), Savitribai Phule Pune University, Pune from 21st -30th May 2020 (Duration:10 days).
- ✚ **Orientation Programme (4 Week)** for “Faculty in Universities/Colleges/Institutes of Higher Education” conducted by Teaching and Learning Centre, Ramanujan College, University of Delhi from September 01- September 30, 2020.

Editor

- ✦ Review Editor of Evolutionary and Genomic Microbiology (specialty section of Frontiers in Microbiology, Frontiers in Genetics and Frontiers in Ecology and Evolution).
- ✦ Guest Editor in Frontiers in Microbiology and Frontiers in Genetics, currently editing the topic "Multi-omics profiling of unique niches to reveal the microbial and metabolite composition".
(<https://www.frontiersin.org/research-topics/24758>)
- ✦ Guest Editor Special Issue on Microbiomes. Indian Journal of Microbiology. Volume60, Issue1, March2020.
- ✦ Editor, Magadh University, Bodh-Gaya News Letter: A bilingual quarterly newsletter (Vol.I, No.1, December 2019).

Reviewer in Journals

1. Science of the Total Environment
2. mSystems
3. European Journal of Clinical Microbiology & Infectious Diseases
4. Journal of Biosciences
5. Indian Journal of Microbiology
6. Frontiers in Medicine
7. Gene
8. PLOS One
9. Microbiology Spectrum

Membership

- ✓ Member of Indian Network for Soil Contamination Research (INSCR).
- ✓ Member of Association of Microbiologists of India (AMI).