

INDRAKANT K. SINGH
Curriculum Vitae February 2023

IoE Fellow, Delhi School of Public Health, University of Delhi, Delhi, India

Professor, Department of Zoology & Head, DBC *i4* Center,

(I4= Interdisciplinary Idea Innovation Inspire Center)

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[Dr. Singh's Lab](#) | [Google Scholar](#) | [ResearchGate](#) | [ORCID](#) | [Vidwan](#)

Education and Training:

2019-2019	Visiting Scientist	Department of Molecular Ecology, Max-Planck Institute for Chemical Ecology, Max-Planck Institute for Chemical Ecology, Jena, Germany (April 15 to July 15, 2019)
2016-2017	Visiting Faculty	Department of Entomology, University of Kentucky, Lexington, USA
2010-2012	M.Sc. Bioinformatics	Jamia Millia Islamia, New Delhi
2002-2008	Ph.D.	Department of Zoology, (Advance Centre in Zoological Research), University of Delhi, Delhi-110007, India
2000-2001	M.Phil.	Department of Zoology, (Advance Centre in Zoological Research), University of Delhi, Delhi-110007, India.
1998-2000	M.Sc. Zoology	Department of Zoology, (Advance Centre in Zoological Research), University of Delhi, Delhi-110007, India
1995-1998	B.Sc. (Hons) Zoology	Hansraj College, University of Delhi, Delhi, India.

Research Area:

Molecular Biology & Biotechnology (Specialization: Human Health & Plant Protection)

Appointments and Positions:

2022- pres.	Institute of Eminence Fellow, Delhi School of Public Health, University of Delhi, Delhi-110007, India
2019- pres.	Head, DBC <i>i4</i> Center, Deshbandhu College, University of Delhi, New Delhi-110019, India
2022- Pres.	Professor, Department of Zoology, Deshbandhu College, University of Delhi, Kalkaji, New Delhi-110019, India
2019- 2022.	Associate Professor, Department of Zoology, Deshbandhu College, University of Delhi, Kalkaji, New Delhi-110019, India
2009-2019	Assistant Professor, Department of Zoology, Deshbandhu College, University of Delhi, Kalkaji, New Delhi-110019, India

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- 2012-2019 Public Information Officer (PIO), Deshbandhu College, University of Delhi, Kalkaji, New Delhi-110019, India
- 2013-2018. Visiting/Guest Faculty, Department of Computer Science (Bioinformatics) Jamia Millia Islamia, Delhi-110025, India
- 2013-2014 Visiting/Guest Faculty, Department of Biotechnology, NSIT, University of Delhi, Dwarka, New Delhi- 110078, India
- 2008-2008 Assistant Professor (Ad-hoc), Department of Zoology, Zakir Hussain Delhi College, University of Delhi, New Delhi-110002, India
- 2005-2006 Assistant Professor (Ad-hoc), Department of Zoology, Hansraj College, University of Delhi, Delhi-110007, India

Awards/Fellowships:

- 2023 **Long Term ICMR-DHR International Fellowship** for Young Indian Biomedical Scientists, to work at Keck School of Medicine, University of Southern California USA. **(March 29 – Contd.)**
- 2022 **DHR Long Term National Fellowship** for Training in Indian Institute at Translational Health Science and Technology Institute, Faridabad, India.
- 2021 **Excellence Award for Teachers in Service 2021 (under 45 Years Age Category)** from **University of Delhi, India**
- 2019 **Long Term ICMR-DHR International Fellowship** for Young Indian Biomedical Scientists, USC, USA **(Not availed due to Covid-19)**
- 2019 **Max-Planck Society Visiting Post-Doctoral Fellowship** at Department of Molecular Ecology, Max-Planck Institute for Chemical Ecology, Jena, Germany
- 2018 Bharat Ratna Dr. A. P. J. Abdul Kalam Memorial Grace India **"Best Teacher Awards 2018"** for contributions to research by Grace India Educational Charitable Trust, New Delhi, in the award ceremony at Hans Raj College, Delhi, India.
- 2017 **Best Researcher Awards 2017**, from Grace India Educational Charitable Trust, New Delhi, for research contribution in the award ceremony held at Hans Raj College, Delhi, India.
- 2016 **University Grant Commission (UGC)-Raman Post-doctoral Fellowship** to work at University of Kentucky, Lexington, USA
- 2015 Nominated as an **Indian Delegate** for **"International Program on "Reservation and Exploration of Herbal Medicine Resources for Asian Countries"** funded by Ministry of Commerce, People's Republic of China, from August 19, 2015, to September 8, 2015.
- 2013 **Young Scientist Scheme Award** (Start-up Grant), Science and Engineering Research Board (SERB), Department of Science & Technology, Govt. of India, New Delhi

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2008 **Best participant in Life Science Category Prize** (With Honorarium USD200) in IFTF X2 workshops Organized by Institute for the Future, University Avenue, Palo Alto, California, USA held at The Sheraton, New Delhi, India.

Projects/Travel Grants:

2022 Funded by SERB, DST, Govt. of India Govt. of India "*Immunotherapeutic role of Vitamin A (Retinoic acid) in the in vitro model of tuberculosis*" (**Mentor/Principal Investigator [PI]**)

2021 Funded by Indian Council of Medical Research, Ministry of Health & Family Welfare, Govt. of India Govt. of India "*Identification of the molecular mechanism of mechano-transduction pathways that act upstream of Hippo Pathway for treatment of breast cancer*" (**Principal Investigator [PI]**)

2020 Funded by Department of Health Research, Ministry of Health & Family Welfare, Govt. of India "*Design, synthesis and biological evaluation of novel lead compounds for the treatment of Fibrodysplasia Ossificans Progressiva (FOP)*" (**Principal Investigator [PI]**)

2019 Funded by DHR, Govt. of India "*Pharmacophore modeling to design novel inhibitors of MCL-1*" as targeted therapy of human cancer" (**Mentor [PI]**)

2019 Funded by DBT, Govt. of India "*DBT Star College Project- Scheme*" (**Principal Investigator [PI]/ Coordinator**)

2019 Characterizing novel therapeutic inhibitors targeting receptor tyrosine kinase-like orphan receptor 1 (ROR1) in colorectal cancer (**ICMR-DHR International Fellowship**)

2019 A comparative analysis of Jasmonoyl-L-isoleucine turn-over in the QTL mapping population of *Nicotiana attenuata* during *Manduca sexta* infestation (**Max-Planck Visiting Scientist Fellowship**)

2016 Funded by Department of Health Research, Ministry of Health & Family Welfare, Govt. of India "*Design and development of novel inhibitors of AKRIC1 as potential lead candidates in the treatment of breast, cervical & endometrial cancer*" (**Mentor[PI]**)

2015 Funded by, UGC, Govt. of India "*dsRNA-conjugated nanoparticles for gene silencing in Aedes aegypti*" (under **UGC-Raman Post-Doctoral Fellowship**)

2015 Funded by UGC/DU "*The impact of lifestyle change during adolescence on lifestyle chronic Diseases*" (**Principal Investigator [PI]**)

2013 Funded by SERB, DST "*Identification and characterization of genes involved in defense against Spodoptera litura from Maize (Zea mays)*" (**Principal Investigator [PI]**)

2015 **International Travel Grant**, University Grant Commission (UGC), Govt. of India to present a paper in **Plant Biology Conference (Insect-Plant Biology) 2015** at Minnesota, USA.

2012 **International Travel Grant**, SERB Department of Science & Technology (DST), Govt. of India to participate in **Frontiers of Chemical Ecology FCE-12**, Germany.

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- 2012 **International Travel Grant**, University of Delhi to participate in **ICE-12**, Germany.
- 2011 **International Travel Grant**, University Grant Commission (UGC), Govt. of India to present a paper in "**The 7th Indo-Australia Biotechnology Conference**" at Queensland Medical Research Institute (QIMR), Brisbane, Australia.

Patent (2): *Method for identifying multidrug-resistant Mycobacterium tuberculosis strain*
Indian Application No. 201911020282 [2019]

US Patent Application No.: 17512297/4687 [2021].

GenBank submissions: Singh A, Singh IK, and Verma PK **2007**. Molecular responses of *Cicer arietinum* genes in response to insect attack. **64 unique cDNA sequences** isolated by Suppression subtractive Library

Research Guidance Experience:

Postdocs Students:

- Dr. Rajesh Sinha **2017-2018 (Under ICMR Project)**
Dr. Priyanka Verma, **2017-2020 (Under DHR Women Scientist Scheme)**
Dr. Sujata Singh, **2019-Contd. (Under DHR Women Scientist Scheme)**
Dr. Mona Singh **2022- Contd. National Post-Doctoral Fellowship (SERB)**

Doctoral Training Record:

1. Sujata Singh (Ph.D. Awarded 11/19) *Molecular analysis of defense response during Spodoptera litura- Maize interaction.*
2. Sumit Kumar (Ph.D. expected 4/22) *Comparative transcriptome profiling of Spodoptera litura larvae fed on different host plants*
3. Nidhi Goswami (Ph.D. expected 1/23) *Impact of Pharmacological Micromanipulation of Tumor Associated Macrophages in Inhibiting Growth and Metastasis of Glioma Cells*
4. Pooja Mittal (Ph.D. expected 4/23) *Design development and biological evaluation of novel MCL1 inhibitor*
5. Kapil Dangi, (Ph.D. expected 4/24) *To understand the role of CRL5 in apoptosis and resistance to MCL-1 inhibitors to improve combination treatments*
6. Garima Nagar (Ph.D. expected 9/24) *Design, synthesis and biological evaluation of novel lead compounds for the treatment of Fibrodysplasia Ossificans Progressiva.*

Progressive M.Sc./B.Tech Training Record for a major project:

1. Poonam Prajapati (2021) *Molecular docking analysis of anti-cancer agents against BCL-w*
2. Shreya (2018) *Antimicrobial property of Cinnamon, Cinnamomum verum*
3. Onkar Nath (2015) *In-silico novel drug development for treatment of cancer using a novel target.*
4. Bharti Singal (2015) *Functional Annotation and classification of the Hypothetical Proteins of Neisseria meningitidis H44/76*

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- Priya Dulani (2014) *Functional Characterization of Hevein-like preprotein from Cicer arietinum*
- Kirti Singh (2014) *Expression analysis of MAP Kinases in Cicer arietinum during biotic stress*
- Sandhya Saraha Masihi (2011) *Role of angiotnsinogen gene polymorphism in healthy volunteers and patients with essential hypertension in north Indian subjects*

Undergraduate students training for a minor project under DU Innovation Projects: 30

Research Publications:

S. No.	h-index: 18 i10-index: 35 Total citations index: 2239* Cumulative Impact factor: >250 (approx.)	Impact Factor
Human Health		
1	Goswami, N., Singh, A., Bharadwaj, S., Sahoo, A. K., Singh, I. K* . (2023) Targeting Neuroblastoma by Small-Molecule Inhibitors of Human ALYREF Protein: Mechanistic Insights using Molecular Dynamics Simulations. Journal of Biomolecular Structure & Dynamics (Accepted)	5.235
2	Kumar, R.*, Nagar, S., Haider, S., Sood, U., Ponnusamy, K., Gauri, G. D., Anand, S., Dua, A., Singh, M., Kumar, R., Sengar, M., Singh, I. K.* and Lal, R.*, Monkeypox virus: phylogenomics, host-pathogen interactome and mutational cascade. Microbial Genomics DOI 10.1099/mgen.0.000987	4.868
3	Nagar, G., Mittal, P., Gupta, S.R.R., Pahuja, M., Sanger, M., Mishra, R., Singh A., Singh, I. K.* (2022) Multi-omics therapeutic perspective on ACVR1 gene: from genetic alterations to potential targeting. Briefings in Functional Genomics, https://doi.org/10.1093/bfgp/elac026	4.241
4	Goswami, N., Sethi, P., Amarjyoti, Nagar, N., Gupta, S.R.R., Singh, A., Singh, I.K.* (2022) Plant-derived bioactive compounds in Neuroblastoma therapeutics: Current outlook and future perspective. Chemical Biology Letters, 9(4), 400. https://pubs.thesciencein.org/journal/index.php/cbl/article/view/400	6.2 (CS)
5	Choudhury, A., Mohammad, T., Anjum, F., Shafie, A., Singh, I.K. , Abdullaev, B., Pasupuleti, V.P., Adnan, M., Yadav, D.K., Hassan M.I.* (2022) Comparative analysis of web-based programs for single amino acid substitutions of proteins. <i>Plos one</i> 17, 5, e0267084. https://doi.org/10.1371/journal.pone.0267084 .	3.750
6	Rustagi, V., Bajaj, M., Tanvi, Singh, P., Aggarwal, R., AlAjmi, M. F., Hussain, A., Hassan, M. I., Singh, A., & Singh, I. K* . (2022). Analyzing the Effect of Vaccination Over COVID Cases and Deaths in Asian Countries Using Machine Learning Models. Frontiers in Cellular and Infection Microbiology, 11. https://doi.org/10.3389/fcimb.2021.806265 .	5.293
7	Mittal, P., Singh, S., Sinha, R., Shrivastava, A., Singh, A., & Singh, I. K* . (2021). Myeloid cell leukemia 1 (MCL-1): Structural characteristics and application in cancer therapy. International Journal of Biological Macromolecules, 187, 999–1018. https://doi.org/10.1016/j.ijbiomac.2021.07.166	8.025
8	Sharma, P. P., Kumar, S., Kaushik, K., Singh, A., Singh, I. K. , Grishina, M., Pandey, K. C., Singh, P., Potemkin, V., Poonam, Singh, G., & Rathi, B. (2021). In silico validation of novel inhibitors of malarial aspartyl protease, plasmepsin V and antimalarial efficacy prediction. Journal of Biomolecular Structure and Dynamics, 1–13. https://doi.org/10.1080/07391102.2021.1911855 .	5.235
9	Verma, P., Hassan, M. I., Singh, A., & Singh, I. K*. (2021). Design and development of novel inhibitors of aldo-ketoreductase 1C1 as potential lead molecules in treatment of breast cancer. Molecular and Cellular Biochemistry, 476(8), 2975–2987. https://doi.org/10.1007/s11010-021-04134-0 .	3.842

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10	Tomar, R., Godhara, M., Lalji, R. S. K., Kumar, S., Singh, I. K* , & Shankar, B. (2021). Efficient synthesis and antibacterial activity of N-(o - benzyloxy/hydroxyphenyl) benzohydroxamic acids. Synthetic Communications, 51(21), 3299–3307. https://doi.org/10.1080/00397911.2021.1968906 .	2.007
11	Mittal, P., Sinha, R., Kumar, A., Singh, P., Ngasainao, M. R., Singh, A., & Singh, I. K* . (2020). Focusing on DNA Repair and Damage Tolerance Mechanisms in Mycobacterium tuberculosis: An Emerging Therapeutic Theme. Current Topics in Medicinal Chemistry, 20(5), 390–408. https://doi.org/10.2174/1568026620666200110114322 .	3.570
12	Verma, P., Mittal, P., Singh, A., & Singh, I. K* . (2019). New Entrants into Clinical Trials for Targeted Therapy of Breast Cancer: An Insight. Anti-Cancer Agents in Medicinal Chemistry, 19. https://doi.org/10.2174/1871520619666191018172926 .	2.505
13	Kumari, P., Singh, A., Ngasainao, M. R., Shakeel, I., Kumar, S., Lal, S., Singhal, A., Sohal, S. S., Singh, I. K* , & Hassan, M. I. (2020). Potential diagnostics and therapeutic approaches in COVID-19. Clinica Chimica Acta, 510(August), 488–497. https://doi.org/10.1016/j.cca.2020.08.013	6.314
14	Singh, I. K. , Kumari, P., Mittal, P., Kumar, A., Singal, B., Hasan, G. M., Aggarwal, R., Kamal, M. A., Singh, A., & Hassan, M. I. (2021). Emerging Therapeutic Approaches to COVID-19. Current Pharmaceutical Design, 27(31), 3370–3388. https://doi.org/10.2174/1381612827666210125160703 .	2.208
15	Mittal, P., Singh, S., Singh, A., & Singh, I. K* . (2020). Current advances in drug delivery systems for treatment of Triple negative breast cancer (TNBC). Chemical Biology Letters, 7(1), 1–12. http://pubs.iscience.in/journal/index.php/cbl/article/view/941	6.2 (CS)
16	Naqvi, A. A. T., Fatima, K., Mohammad, T., Fatima, U., Singh, I. K* , Singh, A., Atif, S. M., Hariprasad, G., Hasan, G. M., & Hassan, M. I. (2020). Insights into SARS-CoV-2 genome, structure, evolution, pathogenesis and therapies: Structural genomics approach. Biochimica et Biophysica Acta (BBA) - Molecular Basis of Disease, 1866(10), 165878. https://doi.org/10.1016/j.bbadis.2020.165878 .	6.633
17	Arora, R., Kumar, A., Singh, I. K* , & Singh, A. (2019). Pathogenesis related proteins: A defensin for plants but an allergen for humans. International Journal of Biological Macromolecules. https://doi.org/10.1016/j.ijbiomac.2019.11.223 .	8.025
18	Sinha, R., Singh, P., Nath, O., Mangangcha, I. R., Kumar, A., & Singh, I. K* . (2018). Structural and functional insights into putative TAG accumulating hydrolase protein (Rv1179c) of Mycobacterium tuberculosis H37Rv. Gene Reports, 13, 66–71. https://doi.org/10.1016/j.genrep.2018.08.006 .	1.6(CS)
19	Nath, O., Singh, A., & Singh, I. K* . (2017). In-Silico Drug discovery approach targeting receptor tyrosine kinase-like orphan receptor 1 for cancer treatment. Scientific Reports, 7(1), 1029. https://doi.org/10.1038/s41598-017-01254-w .	4.380
20	Singh, A., Singal, B., Nath, O., & Singh, I. K* (2015). Functional Annotation and Classification of the Hypothetical Proteins of Neisseria meningitidis H44/76. American Journal of Bioscience and Bioengineering, 3(5), 57. https://doi.org/10.11648/j.bio.20150305.16 .	2.894
21	Mangangcha, I. R., Rathore, V. S., Singh, I. K. , Bidyarani, O., Parameswaran, S., Dubey, V. K., & Patra, S. (2011). Metabolic Characteristics of Polycystic Ovarian Syndrome and its Associated Genetic Polymorphisms in Indian Women Population Potential Inhibitors of Ldlip3 Lipase Targeting Pathogens Lipid Metabolism to Combat Leishmaniasis Mesenchymal Stem Cells Stimulat. Journal of Natural Science, Biology and Medicine, 2(2 (Suppl)), 138–139.	0.672

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Plant Protection		
1	Naidu, S., Pandey, J., Mishra, L. C., Chakraborty, A., Roy, A., Singh, I. K., Singh*, A. (2023). Silicon nanoparticles: Synthesis, uptake and their role in mitigation of biotic stress. <i>Ecotoxicology and Environmental Safety</i> 255, 114783, https://doi.org/10.1016/j.ecoenv.2023.114783	7.129
2	Negi, H., Saxena, H., Singh, I. K., and Singh, A. (2023) Herbivory-inducible lipid-transfer proteins (LTPs) of <i>Cicer arietinum</i> as potential human allergens, <i>Journal of Biomolecular Structure and Dynamics</i> , DOI: 10.1080/07391102.2023.2169353	5.235
3	Kumari, M., Naidu, S., Singh, I. K.* , Singh, A. (2023) Comparative transcriptome analysis of <i>Zea mays</i> upon mechanical wounding. <i>Molecular Biology Reports</i> (Accepted)	3.742
4	Kajla, M., Roy, A., Singh, I. K., Singh, A. (2023) Regulation of the regulators: Transcription factors controlling biosynthesis of plant secondary metabolites during biotic stresses and their regulation by miRNAs. <i>Frontiers in Plant Science</i> , 14, DOI= 10.3389/fpls.2023.1126567	6.627
5	Yadav, M., Singh, I. K.*, Singh, A. (2023) Dhurrin: A naturally occurring phytochemical as a weapon against insect herbivores, <i>Phytochemistry</i> , 205, 113483. https://doi.org/10.1016/j.phytochem.2022.113483	4.004
6	Singh, A., Jain, D., Pandey, J., Yadav, M., Bansal, K. C., & Singh, I. K. (2022). Deciphering the role of miRNA in reprogramming plant responses to drought stress. <i>Critical Reviews in Biotechnology</i> , https://doi.org/10.1080/07388551.2022.2047880	9.062
7	Singh, A., Mehta, S., Yadav, S., Nagar, G., Ghosh, R., Roy, A., Chakraborty, A., & Singh, I. K. (2022). How to Cope with the Challenges of Environmental Stresses in the Era of Global Climate Change: An Update on ROS Scavenging in Plants. <i>International Journal of Molecular Sciences</i> , 23(4), 1995. https://doi.org/10.3390/ijms23041995 .	6.208
8	Yadav, M., Pandey, J., Chakraborty, A., Hassan, M. I., Kundu, J. K., Roy, A., Singh, I. K., & Singh, A. (2022). A Comprehensive Analysis of Calmodulin-Like Proteins of <i>Glycine max</i> Indicates Their Role in Calcium Signaling and Plant Defense Against Insect Attack. <i>Frontiers in Plant Science</i> , 13. https://doi.org/10.3389/fpls.2022.817950 .	6.627
9	Singh, S., Singh, A., Baweja, V., Roy, A., Chakraborty, A., & Singh, I. K. (2021). Molecular Rationale of Insect-Microbes Symbiosis—From Insect Behaviour to Mechanism. <i>Microorganisms</i> , 9(12), 2422. https://doi.org/10.3390/microorganisms9122422 .	4.926
10	Singh, A., Singh, S., Singh, R., Kumar, S., Singh, S. K., & Singh, I. K. (2021). Dynamics of <i>Zea mays</i> transcriptome in response to a polyphagous herbivore, <i>Spodoptera litura</i> . <i>Functional & Integrative Genomics</i> , 21(5–6), 571–592. https://doi.org/10.1007/s10142-021-00796-7 .	3.674
11	Keshan, R., Ragini, Singh, I. K., & Singh, A. (2021). Genome wide investigation of MAPKKs from <i>Cicer arietinum</i> and their involvement in plant defense against <i>Helicoverpa armigera</i> . <i>Physiological and Molecular Plant Pathology</i> , 115, 101685. https://doi.org/10.1016/j.pmpp.2021.101685 .	2.741
12	Mehta, S., Chakraborty, A., Roy, A., Singh, I. K., & Singh, A. (2021). Fight Hard or Die Trying: Current Status of Lipid Signaling during Plant–Pathogen Interaction. <i>Plants</i> , 10(6), 1098. https://doi.org/10.3390/plants10061098 .	4.658
13	Singh, A., Tiwari, S., Pandey, J., Lata, C., & Singh, I. K. (2021). Role of nanoparticles in crop improvement and abiotic stress management. <i>Journal of Biotechnology</i> , 337, 57–70. https://doi.org/10.1016/j.jbiotec.2021.06.022	3.595

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14	Singh, A., Panwar, R., Mittal, P., Hassan, M. I., & Singh, I. K. (2021). Plant cytochrome P450s: Role in stress tolerance and potential applications for human welfare. <i>International Journal of Biological Macromolecules</i> , 184, 874–886. https://doi.org/10.1016/j.ijbiomac.2021.06.125 .	8.025
15	Singh, A., Kumar, A., Hartley, S., & Singh, I. K. (2020). Silicon: its ameliorative effect on plant defense against herbivory. <i>Journal of Experimental Botany</i> , 71(21), 6730–6743. https://doi.org/10.1093/jxb/eraa300 .	7.298
16	Singh, S., Tyagi, C., Rather, I. A., Sabir, J. S. M., Hassan, M. I., Singh, A., & Singh, I. K. (2020). Molecular Modeling of Chemosensory Protein 3 from <i>Spodoptera litura</i> and Its Binding Property with Plant Defensive Metabolites. <i>International Journal of Molecular Sciences</i> , 21(11), 4073. https://doi.org/10.3390/ijms21114073 .	6.208
17	Agrawal, P., Kumar, S., Singh, A., Raghava, G. P. S., & Singh, I. K. (2019). NeuroPIpred: a tool to predict, design and scan insect neuropeptides. <i>Scientific Reports</i> , 9(1), 5129. https://doi.org/10.1038/s41598-019-41538-x .	4.380
18	Singh, A., Kumar, A., Yadav, S., & Singh, I. K. (2019). Reactive oxygen species-mediated signaling during abiotic stress. <i>Plant Gene</i> , 18, 100173. https://doi.org/10.1016/j.plgene.2019.100173 .	3.2(CS)
19	Singh, S., Singh, A., Kumar, S., Mittal, P., & Singh, I. K. (2020). Protease inhibitors: recent advancement in its usage as a potential biocontrol agent for insect pest management. <i>Insect Science</i> , 27(2), 186–201. https://doi.org/10.1111/1744-7917.12641 .	3.605
20	Singh, A., Jain, D., Tyagi, C., Singh, S., Kumar, S., & Singh, I. K. (2018). In silico prediction of active site and in vitro DNase and RNase activities of Helicoverpa-inducible pathogenesis related-4 protein from <i>Cicer arietinum</i> . <i>International Journal of Biological Macromolecules</i> , 113, 869–880. https://doi.org/10.1016/j.ijbiomac.2018.03.027 .	8.025
21	Singh, A., Tyagi, C., Nath, O., & Singh, I. K. (2018). Helicoverpa-inducible Thioredoxin h from <i>Cicer arietinum</i> : structural modeling and potential targets. <i>International Journal of Biological Macromolecules</i> , 109, 231–243. https://doi.org/10.1016/j.ijbiomac.2017.12.079 .	8.025
22	Singh, A., Nath, O., Singh, S., Kumar, S., & Singh, I. K. (2018). Genome-wide identification of the MAPK gene family in chickpea and expression analysis during development and stress response. <i>Plant Gene</i> , 13, 25–35. https://doi.org/10.1016/j.plgene.2017.12.001 .	3.2(CS)
23	Singh, I. K., Singh, S., Mogilicherla, K., Shukla, J. N., & Palli, S. R. (2017). Comparative analysis of double-stranded RNA degradation and processing in insects. <i>Scientific Reports</i> , 7(1), 17059. https://doi.org/10.1038/s41598-017-17134-2 .	4.380
24	Singh, I. K., Kumar, S., Singh, S., & Singh, A. (2017). Expression profiling of mitogen-activated protein kinase genes from chickpea (<i>Cicer arietinum</i> L.) in response to <i>Helicoverpa armigera</i> , wounding and signaling compounds. <i>Journal of Asia-Pacific Entomology</i> , 20(3), 942–948. https://doi.org/10.1016/j.aspen.2017.07.003 .	1.58
25	Tyagi, C., Singh, A., & Singh, I. K. (2016). Mechanistic insights into mode of action of rice allene oxide synthase on hydroxyperoxides: An intermediate step in herbivory-induced jasmonate pathway. <i>Computational Biology and Chemistry</i> , 64, 227–236. https://doi.org/10.1016/j.compbiolchem.2016.07.002 .	3.737
26	Singh, A., Singh, S., & Singh, I. K. (2016). Recent insights into the molecular mechanism of jasmonate signaling during insect-plant interaction. <i>Australasian Plant Pathology</i> , 45(2), 123–133. https://doi.org/10.1007/s13313-015-0392-1 .	1.400
27	Singh, I. K., Ragesh, P., Ganta, S., & Singh, A. K. (2015). Oviposition behaviour of tobacco caterpillar, <i>Spodoptera litura</i> (Fabricius) (Lepidoptera: Noctuidae) on	-

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	different host plants. Journal of Entomology and Zoology Studies, 3(3), 40–44. https://www.entomoljournal.com/vol3Issue3/pdf/3-3-115.1.pdf	
28	Ragesh, P., Ganta, S., Singh, I. K., & Singh, A. K. (2015). Attraction of neonate <i>Helicoverpa armigera</i> (Hübner) (Lepidoptera: Noctuidae) larvae to different host plant volatiles. Journal of Entomology and Zoology Studies, 3(3), 94–97. https://www.entomoljournal.com/vol3Issue3/pdf/3-3-116.1.pdf	-
29	Singh, I. K., Singh, A., Rai, P., & Mangangcha, I. R. (2011). Role of mitochondrial antioxidants in tolerance against radiation stress in plants. Journal of Natural Science, Biology and Medicine, 2(1), 156.	0.672
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2	Singh, I. K. and Singh, A. (eds.) (2022) "Essentials of Immunology Laboratory Manual" published by Prestige Publishers ISBN 978-81-958057-4-7	
3	Singh, I. K. and Singh, A. (eds.) (2021) " <i>Plants-Pest interactions: From molecular Mechanism to chemical ecology</i> " published from Springer-Nature doi:10.1007/978-981-15-2467-7; ISBN: 978-981-15-2466-0	-
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23	Singh, I. K. (2016). <i>e-lesson</i> in Molecular Cell Biology (P-15) on cell cycle part-I (Mitosis) in epg pathshala Zoology by UGC, under an MHRD project (NME-ICT)	-
24	Singh, I. K. & Singh, A. (2014). " <i>Evolution</i> " (Unit 5) in the text book of XII for new CBSE-international (CBSE-i) which is available online for CBSE-i schools only"	-
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27	Kapinder & Singh, I. K. (2013). co-authored <i>e-lesson</i> on " <i>Ecosystem Development</i> " for ILL, University of Delhi (available online)	-
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1	Nagar, G., Goswami, N., Mittal, P., Gupta, S. R. R., Singh, A, Singh, I. K. (2022) " <i>Omics approach for screening, analysis, and predictional elucidation of deleterious missense mutation of ACVR1 gene</i> " in "2 nd International RMBPD Colloquium" held on February, 24-25, 2022 organized by Department of Zoology, University of Delhi.	
2	Goswami, N., Nagar, G., Gupta, S. R. R., Mittal, P., Singh, A, Singh, I. K. (2022) " <i>Computational screening and in vitro analysis of therapeutic potential of phytochemicals in neuroblastoma disease</i> " in "2 nd International RMBPD Colloquium" held on February, 24-25, 2022 organized by Department of Zoology, University of Delhi.	
3	Mittal, P., Gupta, S. R. R., Goswami, N., Nagar, G., Singh, A, Singh, I. K. (2022) " <i>Identification of Novel Myeloid Cell Leukemia 1 (MCL-1) Inhibitors: An Omics Perspective</i> " in "2 nd International RMBPD Colloquium" held on February, 24-25, 2022 organized by Department of Zoology, University of Delhi.	
4	Gupta, S. R. R., Mittal, P., Nagar, G., Goswami, N., Singh, A., Singh, I. K. (2022) " <i>Using Microarray Data, Found Novel Link In the Hippo Pathway And Identified Cancer- Specific microRNAs To Cure Breast Cancer</i> " in "2 nd International RMBPD	

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	Colloquium” held on February, 24-25, 2022 organized by Department of Zoology, University of Delhi.	
5	Singh, I. K. (2021) <i>Bugs: A Nutritious and Ecologically Sustainable Alternative</i> in ECOFEST 2021 held on December 10-13, 2021 organized by Department of Biotechnology (DBT).	
6	Rustagi, V., Mittal, P., Nagar, G., Singh, A., Singh, I. K. (2021) <i>Distinct prognostic values of BCL-2 anti-apoptotic members in lung cancer: an in-silico analysis COVID-19 DEATH PREDICTION MODEL BASED UPON VACCINATION DOSES AND UPCOMING CASES</i> in “ 21st BIOMAT International Symposium on Mathematical and Computational Biology ” held on November 1-5, 2021 organized by International Institute for Interdisciplinary Sciences.	
7	Nagar, G., Goswami, N., Mittal, P., Gupta, S. R. R., Singh, A., Singh, I. K. (2021) “ <i>IN SILICO ANALYSIS OF MISSENSE SNPS OF ACVR1 AND ITS ASSOCIATION WITH DIPG (DIFFUSE INTRINSIC PONTINE GLIOMA) AND ENDOMETRIAL CANCER</i> ” in “ HEALTH 2021 “Cancer Biology: Advances and Challenges International Conference ” held on November 11-13, 2021 organized by Department of Zoology, Deshbandhu College, University of Delhi, India.	
8	Goswami, N., Nagar, G., Gupta, S. R. R., Mittal, P., Singh, A., Singh, I. K. (2021) “ <i>In silico screening of phytochemicals and assessing their chemotherapeutic potential using the in vitro assays</i> ” in “ HEALTH 2021 “Cancer Biology: Advances and Challenges International Conference ” held on November 11-13, 2021 organized by Department of Zoology, Deshbandhu College, University of Delhi, India.	
9	Gupta. S.R.R., Mittal. P., Nagar G., Goswami. N., Singh. A., Singh, I. K. (2021) “ <i>Identification of cancer-specific differentially expressed microRNA and its target using text mining and microarray data</i> ” in “ HEALTH 2021 “Cancer Biology: Advances and Challenges International Conference ” held on November 11-13, 2021 organized by Department of Zoology, Deshbandhu College, University of Delhi, India.	
10	Mittal, P., Gupta, S. R. R., Goswami, N., Nagar, G., Singh, A., Singh, I. K. (2021) “ <i>In silico analysis of the prognostic signature of mRNA expression of bcl2 family members in breast cancer</i> ” in “ HEALTH 2021 “Cancer Biology: Advances and Challenges International Conference ” held on November 11-13, 2021 organized by Department of Zoology, Deshbandhu College, University of Delhi, India.	
11	Singh, I. K. (2021) <i>Basics of Research, Problem Identification and Designing a Research Plan</i> in ONLINE HANDS ON CONFERENCE held on April 2-4, 2021 organized by Deshbandhu College, University of Delhi.	
12	Singh, I. K., Mittal, P., Nagar, G., Singh, A. (2021) “ <i>Gut microbiome, obesity, and colorectal cancer: A tripartite connection</i> ” in “ 61th Annual conference of Association of microbiologists of India ” held on February 3-5, 2021 organized by University of Delhi and IARI, India.	
13	Keshan, R., Ragini, Singh, I. K., Singh, A. (2020) “ <i>Identification and characterization of MAPKKs from Cicer arietinum and their involvement in plant defense against Helicoverpa armigera</i> ” in a National Virtual Conference on Current Trends and Challenges in Plant Biochemistry and Biotechnology (CTCPBB 2020) held on 20-21 November 2020 organized by BITS Pilani, K. K. Birla Goa Campus and The Society for Plant Biochemistry and Biotechnology, India	
14	Ragini, Singh, I. K., Singh, A. (2020) “ <i>Differential expression of antioxidative enzymes during Arsenic toxicity in Allium cepa</i> ” in National Virtual Conference on Current Trends and Challenges in Plant Biochemistry and	

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	Biotechnology (CTCPBB 2020) held on 20-21 November 2020 organized by BITS Pilani, K. K. Birla Goa Campus and The Society for Plant Biochemistry and Biotechnology, India	
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16	Nagar, G., Mittal, P., Singh, A., Singh, I. K. (2020) " <i>Application of artificial intelligence for Drug Repositioning in Rare Human Disease</i> " in First national e-conference on Application of Mathematical Tools in Social sciences and Sciences held on October 17-18, 2020 organized by Zakir Husain Delhi College, University of Delhi.	
17	Mittal, P., Nagar, G., Singh, A., Singh, I. K. (2020) " <i>Application of Mathematical models in cancer: Drug delivery, treatment, and prognosis</i> " in First national e-conference on Application of Mathematical Tools in Social sciences and Sciences held on October 17-18, 2020 organized by Zakir Husain Delhi College, University of Delhi, New Delhi,	
18	Mittal. P., Singh, A., Singh, I. K. (2020) " <i>Analysis of Myeloid cell leukemia 1 (MCL1) in Cancer: Genomic alterations, molecular mechanisms and regulation</i> " in International E- Conference and Hands on workshop on Health and Research in Current Scenario: With special emphasis on COVID-19 Virus Genomics and Pathogenicity from July 14-17, 2020.	
19	Guria, V. R., Singh, A., Singh, I. K.* (2020) " <i>Effect of Natural Products on the Regulation of the Hippo Pathway</i> " in International Conference on Natural Products and Human Health – 2020 (ICNPHH-2020) held on February 27-29, 2020 at Conference Centre, University of Delhi, New Delhi	
20	Mittal, P., Singh, S., Singh, A., Singh, I. K. (2020) " <i>Drug Delivery Systems for Triple-negative breast cancer (TNBC): treatment and current advances</i> " in International Conference on Natural Products and Human Health – 2020 (ICNPHH-2020) held at Conference Centre, University of Delhi, New Delhi February 27-29, 2020.	
21	Singh, S., Singh, A., Kumar, S., Mittal, P., Singh, I.K. (2019) " <i>Mapping of Larval Midgut Response of Spodoptera litura upon Feeding Zea mays</i> " in National Conference on Insect-Plant Biology in 21st Century held on November 4-5, 2019 at Deshbandhu College, University of Delhi, New Delhi.	
22	Kumar, S., Agarwal, P., Singh, A., Raghava, G. P. S. Singh, I.K.* (2019) " <i>A Computational Tool for Predicting, Designing and Scanning Insect Neuropeptide</i> " in National Conference on Insect-Plant Biology in 21st Century held on November 4-5, 2019 at Deshbandhu College, University of Delhi, New Delhi.	
23	Kumar, A., Singh, I. K. , Singh, A. (2019) " <i>Genome-wide Identification, Characterization and Expression Analysis of Calmodulin-like (CML) Protein from Glycine max</i> " in National Conference on Insect-Plant Biology in 21st Century held on November 4-5, 2019 at Deshbandhu College, University of Delhi, New Delhi.	
24	Keshan, R., Singh, I. K. , Singh, A. (2019) " <i>Pathogenesis Related Protein-4: A Defensin for plants but an allergen for humans</i> " in National Conference on Insect-Plant Biology in 21st Century held on November 4-5, 2019 at Deshbandhu College, University of Delhi, New Delhi.	
25	Panwar, R., Kumar, A., Singh, I. K. , Singh, A. (2019) " <i>Functional characterization of Cytochrome P450 proteins from Glycine max involved in jasmonate turn over during Spodoptera litura infestation</i> " in National Conference on Insect-Plant Biology in 21st Century held on November 4-5, 2019 at Deshbandhu College, University of Delhi, New Delhi.	

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26	Singh, S., Kumar, S., Singh, A., Singh, I. K. (2019) " <i>Neonicotinoids- A milestone of agrochemical research with deadly impact on human health</i> " in 1st International conference on Integrative Chemistry, Biology and Translational Medicine (ICBTM-2019) held on February 25-26, 2019 organized by Centre for Global Health, Hansraj College, University of Delhi and Loyola University Chicago Stritch School of Medicine, USA.	
27	Verma, P., Mittal, P., Singh, I. K.* (2019) " <i>New Entrants into targeted therapy of breast cancer: An insight</i> " in 1st International conference on Integrative Chemistry, Biology and Translational Medicine (ICBTM-2019) held on February 25-26, 2019 organized by Centre for Global Health, Hansraj College, University of Delhi and Loyola University Chicago Stritch School of Medicine, USA.	
28	Tanwar, D., Mittal, P., Singh, I. K., Kumar, U.* (2019) " <i>Schiff's base (O, N, S donor) ligated Nickel (II) complexes as bio-activator for sustainable antibacterial activity</i> " in 1st International conference on Integrative Chemistry, Biology and Translational Medicine (ICBTM-2019) held on February 25-26, 2019 organized by Centre for Global Health, Hansraj College, University of Delhi and Loyola University Chicago Stritch School of Medicine, USA.	
29	Mittal, P., Singh, S., Kumar, S., Singh, I.K.* (2018) " <i>Laccases: Blue Enzymes As An Evolving Green Technological Initiative For Biotechnological Advancements</i> " in 4th National Symposium on Environment: Green Technology for Environmental Sustainability held on September 25, 2018 organized by Deshbandhu College, University of Delhi, New Delhi.	
30	Pallee, S., Kumar, M., Singh, D. K., Singh, I. K. (2018) " <i>Environmental Preservation in Vedas</i> " in National Conference on Ancient Indian Knowledge: Science and Technology held on July 17-19, 2018 organized by the Department of Education in Science and Mathematics, NCERT, New Delhi.	
31	Garg, N., Goel, S., Singh, I. K. (2018) " <i>Sushruta: The guru of plastic Surgery and progenitor of Rhinoplasty</i> " in National Conference on Ancient Indian Knowledge: Science and Technology held on July 17-19, 2018 organized by the Department of Education in Science and Mathematics, NCERT, New Delhi, India.	
32	Singh, I. K., Nath, O., Singh, A. (2018) " <i>In-Silico Drug Discovery Approach for Cancer Treatment</i> " in National Conference on Disease and Drugs: Emerging Trends and Challenges held on January 31- February 1, 2018 organized by Zakir Husain Delhi College, University of Delhi, New Delhi.	
33	Singh, I. K., Jain, D., Tyagi, C., Singh, S., Kumar, S., Singh, A. (2017) " <i>In-silico prediction of active site of Pathogenesis Related-4 protein from Cicer arietinum displaying RNase and DNase activities</i> " in National Conference on Protein Structure and Dynamics in Health and Agriculture held on November 3-4, 2017 organized by Jamia Millia Islamia, New Delhi.	
34	Singh, A., Tyagi, C., Nath, O., Mangangcha, I. R., Singh, I. K. (2017) " <i>Structural and Functional characterization of Helicoverpa-inducible Thioredoxin h from Cicer arietinum</i> " in National Conference on Protein Structure and Dynamics in Health and Agriculture held on November 3-4, 2017 organized by Jamia Millia Islamia, New Delhi.	
35	Mangangcha, I. R., Singh, P., Singh, I. K., Sinha, R. (2017) " <i>Mycobacterium tuberculosis stress induced proteins as drug targets against Tuberculosis</i> " in National Conference on Protein Structure and Dynamics in Health and Agriculture held on November 3-4, 2017 organized by Jamia Millia Islamia, New Delhi.	
36	Singh, I. K., Singh, A., Singh, S., Kumar, S. (2017) " <i>Genome-wide expression profiling of Maize in response to polyphagous herbivore Spodoptera litura</i> " in Maize Genetics Conference held on March 9-12, 2017 at St. Louise, Missouri, USA.	

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37	Singh, A., Singh, I. K. , Kumar, S., Singh, S. (2017) " <i>Microarray analysis of Maize's early response to mechanical wounding and its comparison to Insect attack</i> " in Maize Genetics Conference held on March 9-12, 2017 at St. Louise, Missouri, USA.	
38	Singh, I. K. , Singh, A., Singh, S., Kumar, S. (2017) " <i>Expression profiling of Mitogen-activated Protein Kinase (MAPK) genes from Cicer arietinum in response to Helicoverpa armigera, wounding and signaling compounds</i> " in American Society of Plant Biologists (Annual Meeting), Midwestern Section' held on February 4 – 5, 2017 at Purdue Memorial Union, Purdue University, West Lafayette, Indiana, USA.	
39	Singh, A., Singh, I. K. , Nath, O., Kumar, S., Singh, S. (2017) " <i>Genome-wide identification of MAPK gene family in chickpea and expression analysis during development and stress response</i> " in American Society of Plant Biologists (Annual Meeting), Midwestern Section held on February 4–5, 2017 at Purdue Memorial Union, Purdue University, West Lafayette, Indiana. USA.	
40	Singal, B., Singh, A., Singh, S., Nath, O., Sanjay, Singh, I. K. (2015) Functional annotation of the hypothetical proteins of <i>Neisseria meningitidis</i> H44/76. In: Proc. International Conference on Mathematical and Computational Biology IIT, Kanpur pp. 34-35.	
41	Nath, O., Singh, A., Singh, S., Singal, B., Sanjay, Singh, I. K. (2015) " <i>Structural Homology modeling of Aspartate transaminase [Bacillus Halodurans c-125]</i> " in Proc. International Conference on Mathematical and Computational Biology IIT, Kanpur pp. 44-45.	
42	Singh, I. K. , Nath, O, Singh, A., Singal, B., Singh S., Sanjay (2015) " <i>Identification of probable lead compounds for inhibition of CRY protein in Pisum sativum by structure modeling and pharmacophore designing</i> " in Journal of Proteins and Proteomics 6(1):24. [ISSN: 0975-8151] .	
43	Singh, A., Singh, I. K. , Jain, D. (2015) " <i>Functional characterization of Helicoverpa-inducible pathogenesis-related protein 4A (PR-4A) from chickpea</i> " in Plant Biology 2015 (The Annual Meeting of the American Society of Plant Biologists) held from July 26 -30, 2015 at the Minneapolis Convention Center in Minneapolis, Minnesota USA.	
44	Singh, I. K. , Tyagi, C., Singh, A. (2015) " <i>Mechanistic insights into mode of action of rice allene oxide synthase on hydroxyperoxides: an intermediate step in herbivory-induced jasmonate pathway</i> " in Plant biology 2015 (The Annual Meeting of the American Society of Plant Biologists) held on July 26 -30, 2015 at the Minneapolis Convention Center in Minneapolis, Minnesota, USA.	
45	Sanjay*, Singh, S., Nath, O., Singal B., Singh I.K (2015) " <i>Development of Resistance in Malarial Vector</i> " in National Symposium on Vector Biology and Vector Management held on February 12, 2015 at Deshbandhu College, New Delhi, India.	
46	Shefali, Singh, I. K. (2014) " <i>Mobile Phones, Mini Radiators affecting Human Health</i> " in International Conference on Radiation Biology 2014 held on from November 11-13, 2014 organized by Indian Society for Radiation Biology, and hosted by Institute of Nuclear Medicine and Allied Sciences (INMAS), Delhi.	
47	Singh, I. K. , Sanjay, Arora, A. K. (2014) " <i>Emergence of Nanotherapeutic agents in Cancer</i> " in Proc. of T-NANO Ahmedabad University, pp.172-175.	
48	Singh, I. K. , Singh, A. (2012) " <i>Induced Plant defense in Cicer arietinum L. in Response to a Chewing Insect Helicoverpa armigera</i> " in International Conference on Chemical Ecology 2012 held on December 7-8, 2012 at Max Planck Institute of Chemical Ecology, Jena, Germany.	
49	Singh, I. K. , Nath, O. (2011) " <i>In Silico Structural and Functional Analysis of Pyruvate Dehydrogenase from Brugia pahangi</i> " in I-ISC 2011 Bioinformatics: An Interface between Computer Science and Biology held on November 15-17, 2011 organized by CIRBS, Jamia Millia Islamia, New Delhi, India.	

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50	Singh, I. K., Singh, A., Singh, A. K. (2010) "Structural and functional analysis of Hevein-like Protein in Chickpea" presented in The 7th Indo-Australia Biotechnology Conference held on October 25–27, 2010 at Queensland Medical Research Institute (QIMR), Brisbane, Australia.	
51	Singh, A., Singh, I. K. , Kwatra, V. K., Chandrasekharan, H. (2010) " <i>Genome wide analysis of Ankyrin repeat proteins in Arabidopsis and Rice</i> " in The 7th Indo-Australia Biotechnology Conference held on October 25–27, 2010 at Queensland Medical Research Institute (QIMR), Brisbane, Australia.	
52	Singh, I. K., Singh, A. (2009) "In silico structure and function prediction of Hevein-like Protein of Arabidopsis thaliana" in Proc. Natl. Conf. Biodiversity & Agribiotechnology held on April 25, 2009 at Jaypee Institute of Information Technology (JIIT) University, Noida.	
53	Singh, I. K., Singh, A. (2008) "The Sourthern Green Stink Bug, Nezara viridula (L.): A Polyphagous Pest".	
54	Singh, I. K. (2003) "Deleterious effects of Karanj leaves on the development and survival of Spodoptera litura" in "National Symposium on Frontier Area of Entomological Research" at Indian Agricultural Research Institute, New Delhi.	
55	Singh, I. K., Singh, A. K. (2003) "Deleterious effects of karanj leave on the development and survival of Spodoptera litura" in Proc. Natl. Symp. Fron. Areas Entomol. IARI New Delhi. pp. 587-588.	

Platform Invited Presentations at International Conferences/Meetings:

1. **Feb 27, 2020:** 1st International Conference on Natural Products and Human Health 2020, University of Delhi, Delhi, India
2. **Feb 22, 2020:** 4th International conference Biosangam 2020, Prayagraj, UP, India
3. **Mar 11, 2017:** Maize Genetics International Conference, St. Louise, Missouri, USA
4. **Feb 4, 2017:** American Society of Plant Biologists (Annual Meeting), Purdue University, Indiana. USA
5. **Dec 4-8, 2015:** Young Scientists Conference as a part of the India International Science Festival
6. **July 27, 2015:** "PLANT BIOLOGY 2015" (The Annual Meeting of the American Society of Plant Biologists) held at the Minneapolis Convention Center in Minneapolis, Minnesota USA
7. **Dec 16, 2014:** International Conference on Translational Nanomedicine, Ahmedabad, Gujarat, India
8. **Dec 08, 2012:** International Course on Chemical Ecology- 2012, Max-Planck Institute of Chemical Ecology, Jena, Germany
9. **Feb 9-11, 2011:** Indo -Swiss Collaboration in Biotechnology [ISCB] International Conference, University of Delhi
10. **Oct 26, 2010:** 7th Indo-Australia Biotechnology Conference, QIMR, Brisbane, Australia.

Profession Training/ Workshops/International Courses:

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1. **Successfully completed** *“One-week online Faculty Development Programme on “Development and Delivery of MOOC’s and E-Content”* jointly organized by Central of University of Haryana, Mahendragarh under the aegis of Pandit Madan Mohan Malviya National Mission on teachers and Teaching (PMMMNTT) and IQAC, Deshbandhu College, University of Delhi, New Delhi, from June 26 - July 1, 2020.
2. **Successfully completed** *“One-week Faculty Development Programme on Open-Source Tools for Research”* sponsored by Ministry of Human Resource Development Pandit Madan Mohan Malviya National Mission on Teachers and Teaching held at Teaching-learning Centre Ramanujan College, University of Delhi from June 8-14,2020
3. **Successfully completed** *“One Week Faculty Development Program on Multimedia enriched e-Content Development”* jointly organized by Guru Anand Dev Teaching Learning Centre Khalsa College, University of Delhi under the Pandit Mohan Malviya National Mission on teachers and Teaching (PMMMNTT) of MHRD from May 21-26, 2020.
4. **Successfully completed** *“Two weeks Faculty Development Program-2018 on Entrepreneurship”* sponsored by Department of Science and Technology, Government of India, jointly organized by Deshbandhu college, University of Delhi and ABES Engineering College Ghaziabad in association with Teaching Learning Centre, Under PMMMNTT Scheme of MHRD, Govt. of India, Ramanujan College held at Deshbandhu college, University of Delhi, New Delhi from December 13-27, 2018.
5. **Successfully completed** *“UGC Sponsored Refresher Course in Life Sciences & Biotechnology”* held at Human Resource Development Centre at Jawaharlal Nehru University, New Delhi, India from October 08 -November 02, 2018.
6. **Successfully completed** workshop on *“The Essential Skills for Next Generation Sequencing and Data Analysis”* conducted by University of Kentucky and Bluegrass Community & Technical College, sponsored by the Kentucky Biomedical Research Infrastructure Network on July 10-14, 2017.
7. **Successfully completed** the *“Pest Control Short Course”* organized by College of Agriculture, Food and Environment, University of Kentucky, Lexington held on November 8-10, 2016.
8. **Successfully completed** training program on *“Biosafety, Autoclave, Hazardous Waste and Chemical Hygiene Plan”* held at College of Agriculture, Food and Environment, University of Kentucky, Lexington, USA from July 18-22, 2016.

Participation (Conference/workshop)

1. **Participated in** *“2nd International RMBPD Colloquium”*, Department of Zoology, University of Delhi, February, 24-25, 2022.
2. **Participated in** webinar series Alumni Association of JNU (AAJ) on *“Global Research Perspective to Pandemic Covid-19”* on June13, 2020.
3. **Participated in** *BIOMEDCON 2018: National conference on recent advances in biomedical science: Diagnosis & research and 4th annual scholar science meet of SBMLS”* held at Seminar Hall, Kirori Mal College, University of Delhi, Delhi on December 28, 2018.
4. **Participated in** *“International Right to Information Day and Convention”* held at India International Centre, New Delhi on September 28 and N.D Tiwari Bhawan, New Delhi on September 29, 2018.

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5. **Participated in** *“Fourth National Symposium on Environment: Green Technology for Environmental Sustainability”* held at Deshbandhu College, University of Delhi, Delhi on September 25, 2018.
6. **Participated in** the session *“Environmental Preservation in Vedas: Perspective for better future”* in National conference organized by Department of Education in Science and Mathematics, NCERT, New Delhi on July 19, 2018.
7. **Participated in** *“Group Monitoring Workshop”* for INSPIRE
8. Internship Science Camp Organizers, Organized by University of Science & Technology, Meghalaya held at Techno City, 9th Mile, Meghalaya on June 25-26, 2018.
9. **Participated in** workshop on *“Skill Development to Build a Clean India”* organized by Deshbandhu College in collaboration with CSR, Oil and Natural Gas Corporation Ltd., New Delhi held at Deshbandhu College Kalkaji, New Delhi on June 7 and 8, 2018
10. **Participated in** *“National Right to Information Summit 2018”* held at Naraindutt Tiwary Bhawan, New Delhi on March 15 and Gandhi peace foundation, New Delhi on March 16, 2018.
11. **Participated in** workshop on *“Technical Terminology in Science Teaching”* Deshbandhu College, University of Delhi from October 26-27, 2017.
12. **Participated in** workshop for *“Organizer of DST-INPIRE Internship Camps”* held at Goa University from March 12-13, 2016
13. **Participated in** workshop for *“Undergraduate science teachers”* organized under DBT Star College Scheme at Department of Zoology, Miranda House, University of Delhi on February 24-25, 2016
14. **Participated in** Conference entitled *“Training Program on Reservation and Exploration of Herbal Medicine Resources for Asian Countries”* at Beijing, P.R. China from August 19th to September 8, 2015
15. **Participated in** *“1st Plant Proteomics Workshop/ Training Program”* organized by Department of Botany, University of Delhi, New Delhi, India on December 26-30, 2013
16. **Participated in** *“International course on Chemical Ecology “ICE-12”* at Max-Planck Institute of Chemical Ecology, Jena, Germany held from November 20 -December 7, 2012.
17. **Participated in** *“UGC Sponsored Refresher Course in Interdisciplinary Science”* held at UGC Academic Staff College, Jamia Millia Islamia, New Delhi, India from May 03 to May 23, 2012
18. **Participated in** *“UGC Sponsored Orientation Programme”* held at UGC Academic Staff College, Jamia Millia Islamia, New Delhi, India from September 30 to November 01, 2011.
19. **Participated in** workshop on *“Fundamental of Bioinformatics for Faculty of Life Sciences”* jointly organized by Institute of Life Long Learning (ILLL) and Ramjas College, University of Delhi from September 26-30, 2011.
20. **Participated in** workshop on *“Food, Nutrition and Health (Course code-LSPP 203) B.Sc. (Programme) Life Science Ist year”* at Lady Irwin College from February 10-12, 2011.
21. **Participated in** workshop attended on *“Basic Training Workshop in Drosophila Genetics”* held at Department of Zoology, University of Delhi from November 13-14, 2010.

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22. **Participated in** workshop entitled “*Bioinformatics: Unravelling Genes and Proteins*” organized by DS Kothari Centre for Research and Innovation in Science Education, Miranda House, University of Delhi from May 10-15, 2010.
23. **Participated in** workshop entitled “*Introduction to Bioinformatics*” at Biomedical Informatics Centre, Department of Biophysics, All India Institute of Medical Science from April 21-23, 2010.
24. **Participated in** “*National Training Program on Genomics, Proteomics, Drug Design, and High Performance Computing*” held at Supercomputing Facility for Bioinformatics (SCFBio), Indian Institute of Technology (IIT) Delhi from September 30, 2009 to October 06, 2009.
25. **Participated in** workshop on “*Easy Now – 2: A Workshop on Multimedia Content Development*” organized by Acharya Narendra Dev College and Commonwealth Educational Media Centre for Asia at Acharya Narendra Dev College, University of Delhi from April 20-25, 2009.
26. **Participated in** workshop on “*Development of online quizzes in Life Science*” at Institute of Lifelong Learning on April 16, 2009.
27. **Participated in** workshop on “*Learning of Content (LAC)-42- Workshop on Open Educational Resources*” organized by University of Delhi South Campus and Acharya Narendra Dev College University of Delhi South Campus with Support from Commonwealth of Learning, Vancouver, CANADA held from April 13-17, 2009
28. **Participated in** workshop on “*Science and Technology trends in India*” organized by the Institute for the Future (ITFF) at Sheraton Hotel in Saket and has been judged as a “Best participant in the life science” category and has been awarded an Honorarium of US\$200 on June 12, 2008.
29. **Participated in** workshop cum training on “*Bioinformatics Application in Agricultural Research*” sponsored by the Department of Biotechnology, Government of India, from February 25-27, 2008.
30. **Participated in** workshop for practical training on “*Genetics, Genomics and Biotechnology*” organized by Department of Zoology, University of Delhi, Delhi from August 10-12, 2006.
31. **Participated in** Summer training for six months in a project on “*Functional genomics of chickpea- Helicoverpa interaction*” from June 1 to July 15, 2006.
32. **Participated in** workshop on “*Lecture workshop in Molecular Endocrinology & Gamete Biology*” from October 3-4, 2005.
33. **Participated in** “*National Workshop in Bioinformatics and Computational Biology*” organized by Department of Biochemistry, Sri Venkateswara College held from April, 18-22, 2005
34. **Participated in** “*Workshop on Biotechniques*” organized at Centre for Biochemical technology {CSIR} from January 11-13, 2002.

OUTREACH

Significant Outcomes of Research Projects:

- Under the Maize-Spodoptera project, I have explored the molecular mechanism behind maize tolerance against *S. litura*, using a microarray-based genome wide expression analysis. Applying this natural phenomenon of the integrated approach of defense and tolerance in integrated pest management will be a superior insect pest management strategy.

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- Under the AKR1C1 project, we have identified compounds that may be exploited in hit-to-lead development for treatment of breast, endometrial and cervical cancer. Though the current study focused on the role of AKR1C1 as an emerging cancer target, other functions of this enzyme (both catalytic and non-catalytic) are also becoming evident, including the role of AKR1C1 in pre-term birth.
- Under the innovation project “The impact of lifestyle changes during adolescence on lifestyle chronic Diseases”, I was able to assess the major factors that lead to chronic diseases in adolescents. This study helped us to establish smoking and alcohol consumption emerged as major contributors to disease burden among adolescents.
- Designed a computational tool - NeuroPIpred that can predict, design and scan insect neuropeptides. Insect neuropeptides can act as potential targets for pest control.
- Published several research papers, book chapters and edited four books, including ‘**Molecular aspects of plant-pathogen interaction**’ and ‘**Plant-Pest Interactions: From Molecular Mechanisms to Chemical Ecology**’ by Springer-Nature.

Significant Contribution at School Level

- Coordinator for DST INSPIRE Internship program where almost 1400 students have participated in the span of seven years.
- Selected/nominated as Mentor by INSA among the 2000 researchers to inculcate scientific temper and provide guidance to students in top 1% in CBSE class 10 across India.
- Also, delivered more than 20 talks as Mentor in Inspire-Internship Program at various other Science camps across India.
- Member of Course Curriculum Development Team of Biotechnology for higher secondary stage class XI & XII at NCERT.
- Co-authored textbooks on ‘Evolution’, ‘Molecular Basis of Inheritance’ and ‘Heredity and Variation’ for class XII for new CBSE international.

Significant Contribution at College/University Level:

- **Head, DBC I4 Center and Coordinator for DBT STAR COLLEGE** scheme & **DBT-NII Science SETU** at Deshbandhu College.
- Served as **Public Information Officer** (2012-19), Organizer and Organizing Committee Member for various National and International Conferences.
- **Member of** Departmental Research Committee (DRC), Central Evaluation Centre-DBC, Committee of Courses for UG and PG, Zoology, CBCS Syllabus Committee, College NAAC Committee, College IQAC Assessment Committee, and Science Research and Innovation Committee, among others.
- **Member of Course Design Committee** for B.Sc. Zoology (BZYET – 141 IMMUNOLOGY for BLOCK 1,2,3,4)-IGNOU, New Delhi
- **Member of Course Editor** for B.Sc. Zoology (BZYET – 141 IMMUNOLOGY BLOCK 1,2,3) - IGNOU, New Delhi
- **Member of Block Preparation Team (Author)** for B.Sc. Zoology (BZYET – 141 IMMUNOLOGY BLOCK 4) -IGNOU, New Delhi
- **Member of Course Design Committee** for B.Sc. Zoology (BZYET – 142 IMMUNOLOGY: LABORATORY) -IGNOU, New Delhi
- **Member of Course Editor** for B.Sc. Zoology (BZYET – 142 IMMUNOLOGY: LABORATORY) -IGNOU, New Delhi

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Resource Person:

1. Invited as a **Resource person** in “International Conference on Advances in Chemical Sciences and Nanocomposites – ACSN 2022”, organized by Zakir Husain Delhi College & ISAS on April 1 & 2, 2022.
2. Invited as a **Resource person** in “Two Weeks Online Inter-Disciplinary Refresher Course in Environment on the theme “Environment and Human Health”, organized by the Department of Environmental Studies and TLC, Ramanujan College (under PMMMNMTT scheme), University of Delhi from March 4 – 18, 2022.
3. Invited as a **Resource person** in “*Development of modules : Application of Recombinant DNA technology, Introduction of Bioinformatics, Protein informatics and chemo-informatics*” organized by Department of Education in Science and Mathematics, NIE, NCERT, New Delhi, from March 12, 2022.
4. Invited as a **Resource person** in “*Orientation of teachers on the newly developed textbook of biotechnology for higher secondary stage*” organized by DESM, NCERT, NIE campus, New Delhi from March 8-12, 2021.
5. Invited as a **Resource person** in “Three Days Capacity Building Workshop” organized by the Department of Biochemistry, Botany and Zoology, Deshbandhu College, University of Delhi, from December 22-24, 2021.
6. Invited as a **Resource person** in “Two Weeks Online Refresher Course in Environmental Stud organized by the Department of Environmental Studies and TLC, Ramanujan College (under PMMMNMTT scheme), University of Delhi from July 15-29, 2021.
7. Invited as a **Resource person** in editing and reviewing “*Biotechnology Textbooks and Laboratory Manuals for class XI and XII*”, from December 2017 to March 2021.
8. Invited as a **Resource person** in the “One-Week Online Faculty Development Programme () on Entrepreneurship, Incubation and Innovation” organized by Antha Prerna Cell (Software Development Cell), Ramanujan College in collaboration with Teaching Learning Centre, Ramanujan College (under PMMMNMTT scheme) from June 23-29, 2020.
9. Invited as a **Resource person** in “*Development of the syllabus and laboratory Manual of Biotechnology for higher secondary stage*” organized by DESM, NCERT, New Delhi from March 1-5, 2020.
10. Invited as a **Resource person** in “*Two weeks Faculty Development Program-2018 on Entrepreneurship*” sponsored by Department of Science and Technology, Government of India, jointly organized by Kalindi College and Mahatama Hansraj Faculty Development Centre (MHRFDC) Hansraj College, University of Delhi under PMMMNMTT Scheme of MHRD, Govt. of India, from December 17-23, 2019.
11. Invited as a **Resource person** in “*Development of textbook in Biotechnology for higher secondary stage*” organized by Department of Education in Science and Mathematics, NIE, NCERT, New Delhi, from March 17- 19, 2019.

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12. Invited as a **Resource Person** in "*Science camp under Inspire internship program*" organized by DST held at Shri Ram Murti Smarak College of Engineering and Technology, Bareilly from January 18 -22, 2019.
13. Invited as a **Resource person** in "*Development of syllabus and textbook of Biotechnology for higher secondary stage class XII*" organized by DESM, NCERT, New Delhi from January 2-6, 2019.
14. Invited as a **Resource person** in "*45th Jawaharlal Nehru National Science, Mathematics and Environment Exhibition 2018*" organized by School Education Department Gujrat and NCERT New Delhi, at Ahmedabad, Gujrat from November 23-27, 2018.
15. Invited as a **Resource person** in "*Development of syllabus and textbooks of Biotechnology for higher secondary stage*" organized by DESM, NCERT, NIE campus New Delhi from September 29-October 2, 2018.
16. Invited as a **Resource person** in "*Development of a video guide on the use of upper primary science kit*" in the division of educational kits developed by *DEK, NCERT*" at Division of Educational kits, NCERT, New Delhi from September 10-14, 2018.
17. Invited as a **Resource person** in "*Development of syllabus and textbooks of Biotechnology for higher secondary stage*" organized by DESM, NCERT, NIE campus, New Delhi from August 27-31, 2018.
18. Invited as a **Resource person** in "*Development of syllabus and textbooks of Biotechnology for higher secondary stage*" organized by DESM, NCERT, NIE campus, New Delhi from July 04-07, 2018.
19. Invited as a **Resource person** in "*Development of textbook in Biotechnology for higher secondary stage*" organized by Department of Education in Science and Mathematics, NIE, NCERT, New Delhi, from June 9-14 , 2018.
20. Invited as a **Resource person** in "*Development of syllabus and textbooks of Biotechnology for Higher secondary stage*" organized by DESM, NCERT, NIE campus, New Delhi from February 17-21, 2018.
21. Invited as a **Resource person** in "*Development of syllabus and textbooks of Biotechnology for higher secondary stage*" organized by DESM, NCERT, NIE campus, New Delhi from December 13-17, 2017.
22. Invited as a **Resource Person** in "*Development of E-resources in biology for higher secondary stage*" organized by DESM, NCERT, NIE campus, New Delhi from November 23-27, 2017.
23. Invited as a **Resource person** in "*44th Jawaharlal Nehru National Science, Mathematics and Environment Exhibition 2017*" organized by School Education Department, Madhya Pradesh and NCERT New Delhi at Bhopal (M.P.), India from October 10-16, 2017.

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24. Invited as a **Resource person** in "*Orientation of key resource persons in biology at higher secondary stage*" organized by DESM, NCERT, NIE campus, New Delhi from February 1-5, 2016.
25. Invited as a **Resource Person** in "*Inspire Internship Program*" held at Shri Ram Murti Smarak Women College of Engineering & Technology, Bareilly (U.P.), on November 27, 2015.
26. Invited as a **Resource Person** in "*6th workshop on field trial and finalization of training package in biology at higher secondary stage*" organized by DESM, NCERT, NIE campus, New Delhi from March 26-30, 2015.
27. Invited as a **Resource Person** in the workshop entitled "*Field trial and finalization of training package in biology at higher secondary stage*" organized by Division of Educational Kits, NCERT, NIE campus, New Delhi from February 2-10, 2015.
28. Invited as a **Resource Person** in "*Inspire Internship Program*" held at Shri Ram Murti Smarak Women's College of Engineering & Technology, Bareilly (U.P.) on November 29, 2014.
29. Invited as a **Resource Person** in "*Design and development of biology kits for higher secondary stage*" at Division of Educational kits, NCERT, New Delhi on February 2, 2015.
30. Invited as a **Resource Person** in "*Field trial and finalization of the training package in biology at higher secondary stage*" conducted at DESM, NCERT, NIE Campus, New Delhi from December 3-5, 2014.
31. Invited as a **Resource Person** in "*Field trial and finalization of the training package in biology at higher secondary stage*" conducted at DESM, NCERT, NIE Campus, New Delhi from December 11-13, 2014.
32. Invited as **Resource Person** in '*Critical appraisal and training on recent advances in life sciences*' organized by CPDHE, University of Delhi, New Delhi on June 4, 2005.

Jury Member / Guest of Honor:

1. **Session chair** in International Conference on Infections and Immunity (ICII- 2021) held from October 8-10, 2021.
2. **Guest of Honor and Jury** in EXPRESSIONS 2021 events "SCIENCE CONCLAVE-MYTH & MYTHYA" organized by Army Public School Shankar Vihar, Delhi Cantt. New Delhi-110010 held on August 06, 2021.
3. **Member jury** in "*International Conference on Natural Products and Human Health-2020 (ICNPHH-2020)*" organized by Department of Zoology, Deshbandhu College, University of Delhi, New Delhi from February 27-29, 2020.
4. **Guest of Honor and keynote speaker** in "*National conference seminar on Bioinformatics: Concepts, Applications & Skill Development*" organized by Department of Botany, Multanimal Modi College. Modinagar, Ghaziabad on February 8, 2020.

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5. **Guest of Honor** in “*Inter-School Science Festival*” held at The Indian School, New Delhi, on August 19, 2019.
6. **Chairperson** in “*Biomedicon-2018*” held at Kirori Mal College, University of Delhi, Delhi, India.
7. **Member jury** in poster presentation session of “*Fourth National Symposium on Environment: Green Technology for Environmental Sustainability*” held at Deshbandhu College, University of Delhi, New Delhi from September 25, 2018.
8. **Judge** in “*33rd Annual Kentucky American Water- Fayette County Public Schools District Science Fair*” held at Bryan Station High School, Lexington, Kentucky, USA on February 11, 2017
9. **Member Jury** for INSPIRE Award in “*National level Exhibition and Project Competition (NLEPC)-2015*” held at IIT Delhi, organized by Department of Science & Technology, Govt. of India from December 7-8, 2015.
10. **Member jury** for INSPIRE Award in “*National level Exhibition and Project Competition (NLEPC)-2014*” by Department of Science & Technology, Govt. of India held at Pragati Maidan New Delhi Organized from October 6-8, 2014.
11. **Guest of Honor** in “*Inter-school Disciplinary Symposium – Pratidhwani*” at St. Marks School, Safdarjung Enclave, New Delhi on August 22, 2014.
12. **Member Jury** for INSPIRE Award “*National level Exhibition and Project Competition (NLEPC)-2013*” Organized by Department of Science & Technology, Govt. of India held at Pragati Maidan New Delhi from October 8-10, 2013.
13. **Member Jury** in “*10th CBSE Regional Level Science Exhibition 2013*” held at The Indian School, New Delhi on August 29-31, 2013.
14. **Guest of Honor** in annual program ‘*Sankalan-2012-2013-Genesis-O-Metric*’ held at Kalka Public School, Alaknanda, New Delhi, on December 15, 2012.
15. **Member Jury** in “*9th CBSE National Science Exhibition 2012*” held at St. Xavier's School, Raj Nivas Marg, New Delhi on October 31, 2012
16. **Member Jury** for INSPIRE AWARD in “*National level Exhibition and Project Competition (NLEPC)-2012*” organized by DST Govt. of India. Pragati Maidan New Delhi from October 21-23, 2012.

Invited Speaker:

1. **Delivered a talk** on “*Brainstorming Science*” organized by ABES Engineering College, sponsored by NCSTC, Department of Science and Technology, Government of India. April 7, 2022.
2. **Delivered a talk** on “*Environment, Human health and Zoonosis: A tripartite linkage*”

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organized by Ramanujan College March 28-April 11, 2022

3. **Delivered a talk** on "Research Methodology: Tools and Techniques" organized by Daulat Ram College, University of Delhi, August 31, 2021
4. **Delivered a talk** on "Path to a Career in Life Sciences and Biology" in the "*Let's Talk – An online lecture series for students*" organized by Department of Zoology, Cotton University August 28, 2021
5. **Delivered a talk** on "*Indigenous Research: Need of the hour*" in the "*Science Week August 6-13, 2021*" organized by The Indian School, New Delhi, on August 13, 2021.
6. **Delivered a talk** on "*Tackling human disposal challenges during COVID-19*" in International conference on challenges and strategies in reproductive and environment health with special reference to COVID-19 (ISSRF-2021) held on February 19-21,2021
7. **Delivered a talk on** "*RNA interference & omics-based methods in IPM*" in IPM: Effective, Economical, and Eco- friendly ways of keeping insect pests at bay organized by Hindu College, University of Delhi, and Cotton University, Assam from September 26-November 28, 2020.
8. **Delivered a talk** on "*COVID-19 Treatment and vaccine candidates: Gearing up for Global Recovery*" online in "Inter- School Science Festival" held at The Indian School, New Delhi, on August 10, 2020.
9. **Delivered a talk** on "*Potential of gene silencing and omics in IPM*" held at Daunagar College, Aurangabad (Bihar) (Magadh University, Bodhgaya) from July 23- 24, 2020.
10. **Delivered a talk** on "*Crafting insect-specific tools for IPM using RNA interference & omics techniques*" in an International Conference on Natural Products and Human Health (ICNPHH-2020) held at Deshbandhu College, University of Delhi, New Delhi from February 27-29, 2020.
11. **Delivered a talk** on "*Potential of omics technologies and RNAi in Insect Pest Management*" in International conference-Bio Sangam 2020 held at MNIT, Allahabad on February 22, 2020.
12. **Delivered a talk** on "*In the era translational research: Insight into the role of In silico techniques in biology in facets of research in biology*" held at Swami Shraddhanand College, University of Delhi, New Delhi on February 20, 2020.
13. **Delivered a talk** on "*In the era of translational research – Insights into the role of In silico techniques in an add-on course*" held at Swami Shraddhanand College, University of Delhi, New Delhi on February 13, 2020.
14. **Delivered a talk** in National Seminar on "*Bioinformatics: Concepts, Applications and Skill Development*" held at Department of Botany Multanimal Modi College Motinagar Gaziabad (U.P) on February 8, 2020.
15. **Delivered a talk** on "*Era of translational research: Insights into the role of In silico techniques*" organized by ABESEC startups lab (Business incubator supported by ABES-EC

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& Meity, Govt. of India) at IFTM University, Moradabad, Uttar Pradesh, India from January 13-25, 2020.

16. **Delivered a talk** on "*Research & Development for Innovation and New Startups*" in two week Faculty development programme on Entrepreneurship at IFTM University, Moradabad from January 13-25, 2020.
17. **Delivered a talk** on "*Application of basic biostatistics in the field of biomedical sciences*" in FDP on recent trends in research methodology held at Kalindi College, University of Delhi, New Delhi on December 23, 2019.
18. **Delivered a talk** on "*Computer-aided drug designing (CADD): a breakthrough in the field of medicine*" held at The Indian School, New Delhi on August 19, 2019
19. **Delivered a talk** on "*How to get published research paper in right journals*" held at Hansraj college, University of Delhi, New Delhi on October 27, 2018
20. **Delivered a talk** on "*How DNA has changed our lives?*" held at The Indian school on August 13, 2018.
21. **Delivered a talk** on "*Diseases and drugs: Emerging trends and challenges*" " held at Department of Zoology Zakir Husain, University of Delhi, New Delhi on January 31-February 1, 2018.
22. **Delivered a talk** on "*Towards achieving creativity, style and structure in scientific writing*" held at Zakir Husain Delhi College, University of Delhi, New Delhi on July 16, 2018.
23. **Delivered a talk** on "*RNAi concept and its application in insect-plant management*" in an add on course "Biotechcellence: Insights & Innovations, Gargi college, New Delhi on January 20, 2018.
24. **Delivered a talk** on "*Present scenario of Bioinformatics or Biotechnology in India*" Inspire Internship Program held at SRM University Ghaziabad, U.P. on June 9, 2016.
25. **Delivered a talk** on "*Present Scenario of Bioinformatics or Biotechnology in India*" n DST- Inspire Internship Science Camp held at SRM University, Ghaziabad, U.P. on June 6, 2016.
26. **Delivered a talk** on "*Important concepts & Hard Spot in Biology with exemplar problems*" in orientation of key resource person in biology at Hr. Secondary stage held at NIE Campus, NCERT, New Delhi on February 5, 2016.
27. **Delivered a talk** on "*Identification of probable lead compounds for inhibition of CRY protein in Pisum sativum by structure modeling and pharmacophore designing*" in National Symposium on Biophysics held at Jamia Millia Islamia, New Delhi on February 17, 2015.
28. **Delivered a talk** on "*RNAi Application in agriculture pest management*" in Inspire Internship Program held at Shri Ram Murti Smarak Women College of Engineering & Technology, Bareilly (U.P.), on December 1, 2015.

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29. **Delivered a talk** on "*Application of gene silencing in insect pest management*" in Inspire Internship Program held at Hi-Tech Institute of Technology, Ghaziabad from November 24-28, 2015.
30. **Delivered a talk** on "*IPM – current status and challenges*" Inspire Internship Program held at Hi-Tech Institute of Technology, Ghaziabad on July 21, 2015.
31. **Delivered a talk** on "*Functional annotation of hypothetical proteins of Neisseria meningitidis H44/76*" in International Conference on Mathematical and Computational Biology (ICMCB) held at IIT Kanpur from February 28- March 3, 2015
32. **Delivered a talk** on "*How model organism helpful to study human disease*" in Inspire Internship Program held at Hi-Tech Institute of Technology, Ghaziabad on February 24, 2015.
33. **Delivered a talk** on "*Computational biology and molecular docking*" in Innovision 2014 at Netaji Subhash Institute of Technology, New Delhi on February 16, 2015.
34. **Delivered a talk** on "*Bioinformatics and its application in present scenario*" in Inspire Internship Program held at College of Basic Sciences, CSK HP Krishi Vishvavidyalaya, Palampur (H.P.) on December 30, 2014.
35. **Delivered a talk** in "*Using molecular biology technique in disease diagnosis*" in Inspire internship by DST held at Shri Ram Murti Smarak College of Engineering & Technology, Bareilly (U.P.) on November 27, 2014.
36. **Delivered a talk** on "*Drosophila: A Model Organism*" in the DST Inspire Program held at Hi-Tech Institute of Technology, Ghaziabad on November 21, 2014.
37. **Delivered a talk** on "*Social insects and honeybee communication*" in DST inspire program held at Hi-Tech Institute of Technology, Ghaziabad on August 28, 2014.
38. **Delivered a talk** on "*Ecological sampling within campus*" at Hr Secondary stage at DSEM, NCERT, NIE Campus, New Delhi on August 13, 2014.
39. **Delivered a talk** on "*A deeper look into the Human genome project*" Inspire Internship Program held at Raj Kumar Goel Institute of Technology for Women Ghaziabad on August 3, 2014.
40. **Delivered a talk** on "*Application of computer Science in Modern Biology*" held at KIIT College of Engineering, Gurgaon on August 1, 2014.
41. **Delivered a talk** on "*Plant and insects: Friends or foes?*" in DST Inspire Internship Program held at Hi-Tech Institute of Technology Ghaziabad on June 18, 2014.
42. **Delivered a talk** on "*Innovations in research and developments in Zoology*" in Inspire Internship Program held at Hi-Tech Institute of Technology, Ghaziabad on January 8, 2014.

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43. **Delivered a talk** on "*Career opportunities in Life Sciences*" in Inspire Internship Program held at Hi-Tech Institute of Technology, Ghaziabad on November 6, 2013.
44. **Delivered a talk** on "*Application of Bioinformatics in Biological Sciences Research*" in Science Camp Inspire Internship Scheme by DST held at Raj Kumar Goel Institute of Technology, Ghaziabad on July 11, 2013.
45. **Delivered a talk** in "*Computational approaches to decipher novel targets in Cancer*" at Netaji Subhash Institute of Technology (NSIT) Dwarka, New Delhi on February 16, 2014.
46. **Delivered a talk** on "*Bioinformatics: Introduction and its application in present scenario*" in Science camp sponsored by DST at Delhi College of Technology and Management, Palwal, Haryana on August 12, 2012.
47. **Delivered a talk** on "*Recent innovations and career perspective in Earth sciences*" in Inspire internship summer camp –2011 held at Department of Pharmaceutical Sciences, Saurashtra University, Rajkot on May 4, 2011.
48. **Delivered a talk** on "*An Introduction to Biological Data Mining*" in National workshop-cum-training at Indian Agricultural Research Institute (IARI), New Delhi on March 23, 2011
49. **Delivered a talk** on "*Application of Computational biology in drug designing*" in Inspire internship summer camp –2011 held at Department of Pharmaceutical Sciences, Saurashtra University, Rajkot on May 4, 2011
50. **Delivered a talk** on "*Omics approaches in Health Sciences*" in Science Camps for CPFS Interns under the DST-INSPIRE Scheme held at Centre for Philosophy and Foundations of Science (CPFS), New Delhi on November 4, 2010
51. **Delivered a talk** on "*Genomics Concepts and Applications*" in National workshop-cum-training held at Indian Agricultural Research Institute (IARI), New Delhi on December 21, 2009
52. **Delivered a talk** on "*Application of Bioinformatics*" in Training Program for Kabul University Faculty member in Biology held at Hans Raj College University of Delhi, New Delhi on June 10, 2008.

Program Organization/Coordinator:

1. **Expert member in** "*Vigyan Prasar Maithili Core Committee*" held at Vigyan Prasar, New Delhi on June 1, 2022.
2. **Member of Organizing Committee** in "*Recent Advancements in Chemical Sciences: Health, Environment and Society (ICRACS- 2022)*" held at Deshbandhu College, University of Delhi from April 8-9, 2022.
3. **Peer review committee member** for "*Three projects in DIPAS*" held at Defence Institute of Physiology and Allied Sciences, New Delhi on November 18, 2021.
4. **Convener** of the "One Weeks FDP on "Computational Approach to Drug Discovery", jointly organized by Deshbandhu College (Under the aegis of DBT Star College Scheme & DBC i4 Centre) and Center for Bioinformatics, Computational and Systems Biology (PRTF) in

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collaboration with Mahatma Hansraj Faculty Development Centre, Hansraj College (under PMMMNMTT Scheme) University of Delhi, from August 2-7, 2021.

5. **Member of Organizing Committee** in "*ICNPHH-2020 (International Conference in Natural Products and Human Health)*" held at University of Delhi from February 27-29, 2020.
6. **Member of Organizing Committee** in "*National Seminar on Bioinformatics: Concepts, Applications and Skill Development*" organized by Department of Botany Multanial Modi College Motinagar Ghaziabad (U.P) held on February 8, 2020.
7. **Organizer** of National conference on "Pharmacovigilance: Advancements in Safe Drug Development" held at Deshbandhu College, University of Delhi on January 16-17, 2020.
8. **Coordinator** of "*Inspire Internship- 2019*" sponsored by DST, Government of India at Deshbandhu College, University of Delhi from December 17-21, 2019.
9. **Organizing Secretary** of "*National Conference on Insect-Plant Biology*" Sponsored by UGC, DBT, Government of India and IQAC Deshbandhu College, University of Delhi from November 4-5, 2019.
10. **Member of Advisory Committee** in "*1st International Conference on Integrative Chemistry, Biology and Translation Medicine*" organized by the Centre for Global Health, Hansraj College, University of Delhi and Loyola University Chicago Stritch School of Medicine, USA from February 25-26, 2019.
11. **Coordinator** of DST sponsored "*Two weeks Faculty Development Program- 2018*" organized by Deshbandhu College, University of Delhi and ABES Engineering College, Ghaziabad in association with Teaching Learning Centre, Under PMMMNMTT Scheme of MHRD, Govt. of India at Ramanujan College, Delhi from December 13-27, 2018.
12. **Conducted** activity "*DNA extraction from cheek cells*" conducted during the 45th JNNSMEE at Bhopal from November 23-27, 2018.
13. **Organizing Secretary** of "*Fourth National Symposium on Environment: Green Technology for Environmental Sustainability*" held at Deshbandhu College, University of Delhi, Delhi on September 25, 2018
14. **Coordinator** of "*Inspire Internship science camp under the Inspire internship component of INSPIRE program*" at Deshbandhu College, University of Delhi during 2017-2018.
15. **Coordinator** of "*Inspire Internship 2017*" sponsored by DST, Government of India at Deshbandhu College, University of Delhi from December 18-22, 2017.
16. **Coordinator** of Science Ambassador Program by Bio-Rad Laboratories (India) and organizes its launch program "**1st Science Ambassador Program 2017**" in association with Deshbandhu College, DU at St. Thomas Sr, Sec. Girls School, New Delhi on October 6, 2017.
17. **Member of Organizing Committee** in "*Proceedings of National Symposium on Environment: Challenges Generation Next*" on March 31, 2017
18. **Member of Organizing Committee** in "*2nd National Symposium on Environment: Greener future & awareness*" held at Deshbandhu College, New Delhi on March 19, 2016.

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19. **Member of Organizing Committee** in "*National Symposium on Reproductive Health in India: Concerns and Awareness*" held at Deshbandhu College on February 12, 2016
20. **Organizer** of a workshop on "*DNA Fingerprinting*" held on January 22, 2016
21. **Coordinator**, organized an Invited talk under edges of **SCIENCE-SETU** title "*Green Engines of Change: Plants that Influenced India and the World*" by Dr. S. Natesh, Consultant Advisor, National Institute of Immunology, New Delhi on January 25, 2016.
22. **Coordinator** of "*Inspire Internship- 2015*" sponsored by DST, Government of India at Deshbandhu College, University of Delhi from December 14-18, 2015.
23. **Member of Expertise Committee** in "*Finalizing the key of National Talent Search Examination*" at Zakhir Hussain Block, NCERT on July 15, 2015.
24. **Member of Organizing Committee** in "*National symposium on Vector Biology and Vector Management*" held at Deshbandhu College on February 12, 2015.
25. **Member of Organizing Committee** in "*National Symposium on Environment: Challenges and Awareness*" held at Deshbandhu College, University of Delhi on November 5, 2014.
26. **Coordinator** of "*Inspire Internship- 2014*" sponsored by DST, Government of India at Deshbandhu College, University of Delhi from October 8-12, 2014.
27. **Organizing member** of "*Inspire Internship Camps – 2014*" sponsored by DST Government of India at KIIT University, Bhubaneshwar from May 29-30, 2014.
28. **Coordinator** of "*National workshop on Applied Genomics and Proteomics*" organized by Deshbandhu College, University of Delhi from March 12-14, 2014.
29. **Coordinator** of "*Inspire Internship- 2013*" sponsored by DST Government of India at Deshbandhu College, University of Delhi from December 16-20, 2013.
30. **Dy. Coordinator** in "*Inspire Internship- 2013*" sponsored by DST, Government of India at Kirori Mal College, University of Delhi from December 21-25, 2013.
31. **Organizer** of "*DST Inspire – Interns Science Camps*" conducted by Pondicherry University, Brookashabad campus and DST New Delhi, Government of India at Port Blair, A & N Islands from April 11-12, 2013
32. **Dy. Coordinator** of "*Inspire Internship- 2012*" sponsored by DST Government of India at Hans Raj College, University of Delhi from December 17-21, 2012.
33. **Coordinator** of "*Inspire Internship- 2012*" sponsored by DST Government of India at Deshbandhu College, University of Delhi from October 1-5, 2012.

Special Recognitions

1. Member of Internal Assessment Monitoring Committee of the College consisting for the academic year 2020-2021
2. Member of Quality Improvement Programme Cell, NSIT, Delhi for selecting candidates for Ph.D. Admission. 2016-2018.
3. Referee for the grant proposals from Science for Equity Empowerment and Development

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Division, Department of Science & Technology, Govt. of India.

4. Member of the Standing committee for Implementation' Scholarship for Higher Education (SHE) component of INSPIRE, Department of Science & Technology, Govt. of India. (2016-2019)
5. Member of committee for M.Sc. Bioinformatics Major Project Evaluation and Examination, Department of Computer Science, Jamia Millia Islamia, New Delhi. (2013-2016)
6. Member course-committee UG and PG up to December 2019.
7. Member Departmental Research committee 2018- 2020.

National/International Scientific Services: Membership Scientific Body:

- Life Member of British Society of Immunology
- Member, Royal Society of Biology, UK
- Fellow & Life Member of Entomological Society of India.
- Life Member Indian Immunological Society.
- Life Member of Indian Biophysical Society.
- Life Member of Association of Indian Microbiologists of India.
- Life Member of Bioinformatics and Drug Discovery Society
- American Mosquito Control Association (AMCA) 2016-Onwards.

Reviewers for the following international journals:

- Computational Biology and Chemistry (Elsevier).
- Gene (Elsevier).
- Plant Physiology and Biochemistry (Elsevier).
- Chemistry and Biodiversity (Wiley).
- International Journal of Plant Production – (Springer).
- Journal of Food Composition and Analysis (Elsevier).
- Insect Science (Wiley).
- Journal of Chemical Information and Modeling (ACS).
- Anti-Cancer Agents in Medicinal Chemistry (Bentham Science).
- Current Bioinformatics (Bentham Science).
- American Journal of Bioscience and Bioengineering (Science PG).
- IJKT (CSIR- NISCAIR)

Editorial Board member of the following journals:

- Scientific Reports (Springer-Nature)
- Chemical Biology Letter (CBL)
- International Journal of Biotechnology & Biochemistry (IJBB)
- Journal of Computational Intelligence in Bioinformatics (JCIB)
- International Journal of Environmental Research and Development (IJERD)

Invited Panelist/Expert on DUCR FM Radio:

- Discussion **panelist** on "Plant – Insect Interaction" at **DUCR FM 90.4** (Broadcasted on air in March 2012) in the program "VIGYAN HAMARE AAS PAS" Sponsored by DST, Govt. of India.

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- Discussion **panelist** on Topic- "*Bt* crop: Say Yes or No" at **DUCR FM 90.4** (Broadcasted on air in April 2012) in the program "VIGYAN HAMARE AAS PAS" Sponsored by DST, Govt. of India.
- Co-Discussion **panelist** on Topic- "*Nanotechnology and its applications*" at **DUCR FM 90.4** (Broadcasted on air in June 2012) in the program "VIGYAN HAMARE AAS PAS" Sponsored by DST, Govt. of India.

Corporate life contribution at University/Department Level:

- *Member*, Departmental Research Committee (DRC), Zoology, Delhi University: **(2018-20)**
- *Member*, Committee of Courses for UG and PG, Zoology: **(2017-19)**
- *Member*, CBCS Syllabus Committee: **(FYUP 2015 & CBCS 2019)**
- *Dy. Cordinator*, Cental Evaluation Centre-DBC: **(2016 & 2018)**

College/Department Level:

- *Convener*, Development Fund Committee: **(2021-22, 2022-23)**
- *Member* of IQAC Committee: **(2021-22, 2022-23)**
- *Member*, College NAAC Committee: **(2014-20, 2022-23)**
- *Member*, College IQAC Assessment Committee: **(2018-21, 2022-23)**
- *Member*, Science Research and Innovation Committee: **(2018-contd.)**
- *Member*, Development Fund Committee: **(2013-14, 2017-19)**
- *Member*, Prospectus Committee: **(2012-13, 2014-15, 2016-17, 2018-19)**
- *Convenor*, Purchase Committee: **(2013-15)**
- *Convenor*, Proctorial Committee: **(2017-19)**
- *Member*, College Internal Assessment Committee: **(2008-12, 2019- contd.)**
- *Member*, Proctorial Committee: **(2009-10, 2013-14, 2017-18)**
- *Member*, Student Union Election Committee: **(2009-14, 2015-19)**
- *Member*, Annual Day Celebration Committee: **(2009-12, 2013-14, 2015-18)**
- *Member*, Student Grievances Committee-Admission: **(2014-16, 2017-18)**
- *Member*, Canteen Committee: **(2014-15)**
- *Member*, Purchase Committee: **(2011-13, 2015-16)**
- *Member*, Building and Furniture Maintenance Committee: **(2011-13, 2015-16)**
- *Member*, Cultural Committee: **(2008-13)**
- *Member*, IT Infrastructure Development Committee: **(2017-18)**
- *Member*, Bachelor's degree core course committee IGNOU: **(2019-contd.)**
- *Member*, Library stock verification Committee: **(2017-18, 2022-23)**
- *External Examiners, Internal Examiners, Invigilation's duties*: **(2009-contd.)**
- *Paper Setting (Examiner) and Paper Evaluations:* **(2009-contd.)**

-Dr. Indrakant K Singh