RINKOO D GUPTA, Ph.D.

Associate Professor Faculty of Life Sciences and Biotechnology South Asian University Rajpur Road, Maidan Garhi New Delhi-110068, India

E-mail: rdgupta@sau.ac.in rinkoodgupta@gmail.com

Research Interest

My research group in the <u>Protein Science Laboratory</u> is dedicated to designing and producing novel therapeutic agents by applying different rational protein designing approaches. Protein Engineering is a valuable tool for designing new or enhanced quality proteins for numerous industrial applications. It has enormous potential to provide new diagnostic and therapeutic proteins for medical applications in the form of antibodies, vaccines, and enzymes. Currently, we are focusing on the following goals-

- ✓ Designing and production of Monoclonal Antibodies (scFv and humanized) against the envelope protein of Dengue virus
- ✓ Development of Short-Peptide Vaccine against Dengue virus for enhanced immunogenicity and low antibody-dependent enhancement (ADE)
- ✓ Redesigning human Lactonases (PONs and SMP30) for organophosphate degradation and anti-biofilm property
- Characterization of bacterial and human Chitinases for enhanced anti-fungal, and anticancer properties

S.	Institution/Place	Degree	Year	Field of Study
No.		Awarded		
1.	MMV, Banaras Hindu University,	B.Sc.	1999	Botany, Chemistry, and Zoology
	Varanasi			(Hons.)
2.	Department of Zoology, Banaras	M.Sc.	2001	Zoology (Molecular, Applied,
	Hindu University, Varanasi			and Clinical Genetics)
3.	Department of Zoology, Banaras	Ph.D.	2005	Zoology (Histopathology and
	Hindu University, Varanasi			Environmental Toxicology)

Education

Professional/Research Experiences

Sl	Institution/Place	Position	From (Date)	To (date)
No.				
1.	South Asian University, New Delhi	Associate Professor	June, 2019	Cont.
2.	South Asian University, New Delhi	Assistant Professor (Senior Grade)	June, 2016	June 2019
3.	South Asian University, New Delhi	Assistant Professor	June, 2011	June 2016
4.	Institute of Genomics and Integrative Biology, New Delhi	Research Associate	June, 2010	June, 2011

5.	Weizmann Institute of	Post-Doctoral Fellow	January, 2006	February,
	Sciences, Israel			2009
6.	Department of Zoology,	Junior/ Senior	January, 2002	January, 2006
	BHU, Varanasi	Research Fellow		

Honors/Awards

- 1. Young Scientist Award for the presentation in 6th Annual conference by Society for Mitochondrial Research and Medicine, India (2017)
- 2. DST's FAST track scheme for young scientists in Chemical Sciences (2012)
- 3. DST's FAST track scheme for young scientists in Life Sciences (2011)
- 4. CSIR-Research Associate (2010)
- 5. Post-Doctoral Fellowship from Weizmann Institute of Science, Israel (2005)
- 6. CSIR-Senior Research Fellowship (2004)
- 7. CSIR –Junior Research Fellowship (2002)
- 8. UGC-Lecturer-ship (2001)

Patents

- 1. **Rinkoo D. Gupta**, Animesh Sarker, Abhishek S Rathore "*An Antibody or An Antigen Binding Fragment Thereof Against Dengue*" Indian patent Application No.: 202111017607 filed on 15th April 2021, and published on 24th February, 2023.
- Dan S Tawfik, Rinkoo D Gupta, Moshe Goldsmith, Yaacov Ashani, Israel silman, Ben-David, Joel Sussman (2011) "Isolated PON1 Polypeptides, Polynucleotides Encoding Same and Uses Thereof in Treating or Preventing Organophosphate Exposure Associated Damage". Ref. No: WO/ 2011/033506 /A2, Year: 03/2011

Publications (66)

- Shrivastava A, Goel M, Khalid MF, Sharma G, Khandelwal A, Sharma D, and Gupta RD*. Evaluation
 of the recombinant bacterial chitinases as anti-proliferative and anti-migratory agents for the human breast
 cancer cell line, MCF-7. *Applied Biochemistry and Biotechnology*, Published online February 23, 2024.
 doi:10.1007/s12010-024-04888-5.
- Yadav P, Goel M, Gupta RD*. Anti-biofilm Potential of Human Senescence Marker Protein 30 against Mycobacterium smegmatis. *World Journal of Microbiology and Biotechnology*, December 2023. Accepted, 40-45 (1-13). doi: 10.1007/s11274-023-03843-6
- 3. Sarker A, Dhama N, **Gupta RD***. Dengue virus neutralizing antibody: a review of targets, crossreactivity, and antibody-dependent enhancement. *Front Immunol*. 2023 Jun 2;14:1200195. doi: 10.3389/fimmu.2023.1200195. PMID: 37334355.
- 4. Mukherjee S, Dutta RK, **Gupta RD***. The Multifaceted Role of Senescence Marker Protein-30 in Health and Diseases. *Defence Life Science Journal*. Vol. 8, No. 2, April 2023, pp. 151-161, doi: 10.14429/dlsj.8.18117
- Chaturvedi M, Joy S, Gupta RD, Pandey S, Sharma S. Endocrine Disrupting Chemicals (EDCs): Chemical fate, Distribution, Analytical methods and Promising Remediation Strategies - A Critical Review. *Environmental Technology Reviews*. 2023, 12(1): 286-315, doi: <u>10.1080/21622515.2023.2205026</u>

- 6. Batra N, Agarwal D, Wadi I, Tekuri CS, **Gupta RD**, Nath M. Synthesis and antimalarial activity of 7chloroquinoline-tethered sulfonamides and their [1,2,3]-triazole hybrids. *Future Med Chem*. 2022 Dec;14(23):1725-1739. doi: 10.4155/fmc-2022-0187, PMID: 36453182.
- 7. Parween F, Sarker A, **Gupta RD***. Chlorpyrifos and parathion regulate oxidative stress differentially through the expression of paraoxonase 2 in human neuroblastoma cell. *Neurotoxicology*. 2022 Sep 1;93:60-70. doi: 10.1016/j.neuro.2022.08.016. PMID: 36058312.
- 8. Parween F, Yadav P, Singh K, **Gupta RD***. Production of highly soluble native human paraoxonase 2 with potential anti-biofilm property. *Prep Biochem Biotechnol*. 2022 Jul 20:1-10. doi: 10.1080/10826068.2022.2101000.
- Sarker A, Rathore AS, Khalid MF, Gupta RD*. Structure-guided affinity maturation of a single-chain variable fragment antibody against the Fu-bc epitope of the dengue virus envelope protein. *The Journal* of *Biological Chemistry*. 2022 Feb 23:101772. doi: 10.1016/j.jbc.2022.101772. PMID: 35218775
- 10. Parween F, **Gupta RD***. Insights into the role of paraoxonase 2 in human pathophysiology. *Journal of Biosciences*. 2021; 46:4. PMID: 34987135.
- Parween F, Hossain MS, Singh KP, Gupta RD*. Association between human paraoxonase 2 protein and efficacy of acetylcholinesterase inhibiting drugs used against Alzheimer's disease. *PLoS One*. 2021 Oct 29; 16(10):e0258879. doi: 10.1371/journal.pone.0258879. PMID: 34714861
- Chaubey KK, Gupta RD, Singh SV, Bhatia AK, Gupta S, Kumar N, Rathore AS, Singh M, Stephen BJ & Dhama K. Cloning and expression of cultural filtrate proteins from novel and native strains of *Mycobacterium avium* subspecies paratuberculosis and their application in ELISA based sero-diagnosis of Johne's disease. *Indian Journal of Experimental Biology* Vol. 58, April 2021, pp. 219-229.
- 13. Deswal N, Shrivastava A, Hossain MS, Gahlyan P, Bawa R, **Gupta RD** and Kumar R. Design, Synthesis, Evaluation and Molecular Docking Studies of Novel Triazole Linked 1,4-Dihydropyridineisatin Scaffolds as Potent Anticancer Agents. January 2021, *ChemistrySelect* 6(4):717-725
- 14. Mukherjee S, Gupta RD*. Organophosphorus Nerve Agents: Types, Toxicity, and Treatments. *J Toxicol*. 2020 Sep 22; 2020:3007984. doi: 10.1155/2020/3007984. PMID: 33029136
- 15. Hossain MS, Dutta RK, Muralidhar K, **Gupta RD**^{*}. Decreased ascorbic acid biosynthesis in response to PMSG in the pre-pubertal female rat ovary. Res Vet Sci. 2020 Apr 4;131:15-20. PMID: 32278959.
- 16. Rathore AS, Sarker A, **Gupta RD**^{*}. Production and immunogenicity of Fubc subunit protein redesigned from DENV envelope protein. *Appl Microbiol Biotechnol*. 2020 Mar 30. PMID: 32232529.
- 17. Batra N, Rajendran V, Wadi I, Lathwal A, Dutta RK, Ghosh PC, **Gupta RD** and Nath M. Synthesis, characterization, and antiplasmodial efficacy of sulfonamide-appended [1,2,3]-triazoles. *Journal of Heterocyclic Chemistry*, Jan 2020, 3888; 1-12.
- Agarwal D, Singh S, Gupta RD, Awasthi SK. In vitro synergistic interaction of potent 4aminoquinolines in combination with dihydroartemisinin against chloroquine-resistant *Plasmodium falciparum*. Acta Trop. 2019 Jul 24:105109. PMID: 31351071.
- Dutta RK, Parween F, Hossain MS, Dhama N, Pandey P, Gupta RD*. Comparative analysis of the metaldependent structural and functional properties of Mouse and Human SMP30. *PLoS One. 2019*, Jun 20;14(6):e0218629. doi: 10.1371/journal.pone.0218629. PMID: 31220150.

- 20. Sarker A, Rathore AS, **Gupta RD**^{*}. Evaluation of scFv protein recovery from *E. coli* by *in vitro* refolding and mild solubilization process. *Microbial Cell Factories*. 2019 Jan 14;18(1):5. PMID: 30642336.
- Rathore AS, Sarker A, Gupta RD*. Designing antibody against highly conserved region of dengue envelope protein by in silico screening of scFv mutant library. *PLoS One*. 2019 Jan 10; 14(1):e0209576. PMID: 30629625.
- 22. Batra N, Rajendran V, Agarwal D, Wadi I, Ghosh PC, **Gupta RD** and Nath M. Synthesis and Antimalarial Evaluation of [1, 2,3]-Triazole-Tethered Sulfonamide-Berberine Hybrids. *Chemistry Select*, 2018, 3 (34): 9790-9793. DOI: 10.1039/C8TC03929A.
- 23. Chaubey KK, Kumaresan G, **Gupta RD**, Singh SV, Bhatia AK, Rathore AS, Gupta S, and Singh M. Molecular Diversity and Homology in Six CFPs Genes in the Novel Bio-Type, 'Indian Bison Type' of *Mycobacterium avium* subspecies paratuberculosis of Goat Origin vs other Biotypes. *Mycobacterial Diseases*, 2018, 8(3): 1000267.
- 24. Rathore AS, Sarker A, **Gupta RD**^{*}. Recent developments toward antibody engineering and affinity maturation. *Protein and Peptide Letters*, 2018, 25 (10): 886-896. PMID: 30255742.
- 25. Chaubey KK, Singh SV, Bhatia AK, **Gupta RD**, Gupta S, Varshney A, Singh M, Singh MK, Hemati Z and Rathore AS. Detection Limits of Recombinant Secretary Proteins versus Semi-purified Protoplasmic Antigens for the Diagnosis of Spontaneous Cases of *Mycobacterium avium* subspecies paratuberculosis Infection in Domestic Ruminants. *Journal of Veterinary Science and Technology*, 2018, 9(4). ISSN: 2157-7579.
- 26. Rai R, Dutta RK, Singh S, Yadav DK, Kumari S, Singh H, **Gupta RD**^{*}, Pratap R^{*}. Synthesis, biological evaluation and molecular docking study of 1-amino-2-aroylnaphthalenes against prostate cancer. *Bioorganic Medicinal Chemistry Letters* 2018, 28(9): 1574-1580. PMID: 29606573.
- 27. Yadav N, Agarwal D, Kumar S, Dixit AK, **Gupta RD**, Awasthi SK. In vitro antiplasmodial efficacy of synthetic coumarin-triazole analogs. *European Journal of Medicinal Chemistry*, 2018,145:735-745. PMID: 29366931.
- 28. Chhatwal M, Mittal R, Gupta RD, and Awasthi SK. Sensing Ensembles for Nitroaromatics. *Journal of Materials Chemistry C*, 2018, 6: 12142-12158. DOI: 10.1039/C8TC03929A.
- 29. Mathew BP, Tandon R, Batra N, Agarwal D, Bose M, **Gupta RD** & Nath M. Environmentally benign synthesis and anti-mycobacterial evaluation of 9,10-dihydro-4-methyl-chromeno[8,7-e][1,3]oxazin-2(8H)-one derivatives. *Indian Journal of Chemistry* Dec. 2017, Vol. 56B, pp 1237-1242.
- 30. Agarwal D, **Gupta RD** and Awasthi SK. Antimalarial hybrid molecules: a close reality or a distant dream? *Antimicrobial Agents Chemotherapy*. 2017. pii: AAC.00249-17. PMID: 28289029.
- 31. Singh S, Agarwal D, Sharma K, Sharma M, Nielsen MA, Alifrangis M, Singh AK, Gupta RD, Awasthi SK. 4-Aminoquinoline derivatives: Synthesis, in vitro and in vivo antiplasmodial activity against chloroquine-resistant parasites. *European Journal of Medicinal Chemistry*, 2016 Oct 21;122:394-407. PubMed PMID: 27394399.
- 32. Kant R, Kumar D, Agarwal D, **Gupta RD**, Tilak R, Awasthi SK, Agarwal A. Synthesis of newer 1,2,3triazole linked chalcone and flavone hybrid compounds and evaluation of their antimicrobial and cytotoxic activities. *European Journal of Medicinal Chemistry*, 2016 May 4;113:34-49. PubMed PMID: 26922227.02/2016; 4(1).

- 33. Chhatwal, M, Kumar, A, **Gupta, RD** and Awasthi, SK. A pyrene-based electropolymerized film as a solid-state platform for multi-bit memory storage and fluorescent sensing of nitroaromatics in aqueous solutions, *Journal of Materials Chemistry C*. April 2016. 4(19). DOI: 10.1039/C6TC00899B.
- 34. Singh V, Sharma K, Shankar B, Awasthi SK, **Gupta RD**^{*}. Heteroleptic Cu(II)-polypyridyl complexes as photonucleases. *New Journal of Chemistry*, 2016, (40) 5906.
- 35. Chhatwal M, Kumar A, Awasthi SK and **Gupta RD**^{*} An Electroactive Metallo-Polypyrene Film As A Molecular Scaffold for Multi-State Volatile Memory Devices. *The Journal of Physical Chemistry C*, 2016, 120(4).
- 36. Vilvamani N, Chhatwal M, Bhawmick I, **Gupta RD** and Awasthi SK (2016) Gold nanocomposite assemblies using functionalized Ru(II)-polypyridyl complexes. *RSC Advances*, 2016, 6(60).
- 37. **Gupta RD** (2016) Recent Advances in Enzyme Promiscuity. *Sustainable Chemical Processes*, 02/2016; 4(1).
- Chaubey KK, Gupta RD, Gupta S, Singh SV, Bhatia AK, Jayaraman S, Kumar N, Goel A, Rathore AS, Sahzad, Sohal JS, Stephen BJ, Singh M, Goyal M, Dhama K, Derakhshandeh A. Trends and advances in the diagnosis and control of paratuberculosis in domestic livestock. *Veterinary Quarterly*. 2016 Jun 29:1-25. PubMed PMID: 27356470.
- 39. Rathore AS, **Gupta RD**^{*} (2015) Chitinases from Bacteria to Human: Properties, Applications, and Future Perspectives. *Enzyme Research*, 2015(2):1-8.
- 40. Neelam, Singh V, Shankara, B, Shanmugamc R, Awasthi SK and **Gupta RD**^{*}. Molecular logic operations based on optical detection of sulfur mustard simulant using pyridine appended Mg-porphyrazine complex. *Sensors and Actuators B Chemical*, December 2015, 227. DOI: 10.1016/j.snb.2015.12.035.
- 41. Kumar A, Chhatwal M, Gupta RD and Awasthi SK. Chemically-driven "molecular logic circuit" based on osmium chromophore with resettable multiple readout. *RSC Advances*, 2015, *Vol 5: pp 5217-5220*.
- 42. Vilvamani N, **Gupta RD**, and Awasthi SK. Ru(II)–polypyridyl complex-grafted silica nanohybrids: versatile hybrid materials for Raman spectroscopy and photocatalysis. *RSC Advances*, 2015 Vol 5(18): pp 13451-13461.
- 43. Srivastava S, Chaudhary S, Thukral L, Shi C, **Gupta RD**, Gupta R, Priyadarshan K, Vats A, Haque AS, Sankaranarayanan R, Natarajan VT, Sharma R, Aldrich CC, Gokhale RS (2015) Unsaturated Lipid Assimilation by Mycobacteria Requires Auxiliary cis-trans Enoyl CoA Isomerase. *Chemistry & Biology* 11/2015; 22(12).
- 44. Agarwal D, Sharma M, Dixit SK, Dutta RK, Singh AK, **Gupta RD** and Awasthi SK. In vitro synergistic effect of fluoroquinolone analogues in combination with artemisinin against Plasmodium falciparum; their antiplasmodial action in rodent malaria model. *Malaria Journal*, 2015, 14: 48.
- 45. Chhatwal M, Kumar A, Singh V, **Gupta RD** and Awasthi SK. Addressing of Multiple-Metal Ions on a Single Platform. *Coordination Chemistry Reviews*.2015, *Vol* 292: pp 30–55.
- 46. Kumar A, Chhatwal C, Cristaldi DA, Awasthi SK, **Gupta RD** and Gulino A. Chromogenic Homo-Dinuclear Ruthenium(II) Monolayer as a Tunable Molecular Memory Module for Multibit Information Storage. *The Journal of Physical Chemistry C*. 2015, Vol119 (9): pp 5138–5145.

- 47. Chhatwal M, Kumar A, **Gupta RD** and Awasthi SK. A pyrene-based optical probe capable of molecular computation using chemical input strings. *RSC Advances*. 2015, Vol 5: pp 51678-51681.
- 48. Singh V, Mondal PC, Kumar A, Jeyachandran YL, Awasthi SK, **Gupta RD** and Zharnikov M. Surface confined heteroleptic copper (II)-polypyridyl complexes for photo-nuclease activity. *Chemical Communications*, 2014, 9;50(78):11484-7.
- 49. Vilvamani N, Gupta T, **Gupta RD** and Awasthi SK. Bottom-up molecular-assembly of Ru(II)polypyridyl complex-based hybrid nanostructures decorated with silver nanoparticles: effect of Ag nitrate concentration. *RSC Advances*, 2014, 4:20024.
- 50. Kumar A, Chhatwal M, Mondal PC, Singh V, Singh AK, Cristaldi DA, **Gupta RD** and Gulino A. A ternary memory module using low-voltage control over optical properties of metal-polypyridyl monolayers. *Chemical Communications*, 2014, 50(29):3783-5.
- 51. Kumar A, **Gupta RD** and Gupta T. Highly selective optical monitoring of O₂ via multiple-channels. *RSC Advances*, 2013 (3) 390-393.
- 52. Gupta HK, **Gupta RD**, Singh A, Chauhan NS and Sharma R. Genome Sequence of Rheinheimera sp. Strain A13L, Isolated from Pangong Lake, India. *Journal of Bacteriology*, 07/2011; 193(20): 5873-4.
- 53. Gupta RD, Sharma R (2011) *Metagenomics for environmental and industrial microbiology*. Science and culture 01/2011; 77.
- 54. **Gupta RD**, Goldsmith M, Ashani Y, Simo Y, Mullokandov G, Bar H, Ben-David M, Leader H, Margalit R, Silman I, Sussman JL and Tawfik DS (2011) Directed evolution of hydrolases for prevention of G-type nerve agent intoxication. *Nature Chemical Biology* 02/2011; 7(2):120-5.
- 55. Ashani Y, **Gupta RD**, Goldsmith M, Silman I, Sussman JL, Tawfik DS and Leader H. Stereo-specific synthesis of analogs of nerve agents and their utilization for selection and characterization of paraoxonase (PON1) catalytic scavengers. *Chemico-biological Interactions* 03/2010; 187(1-3): 362-9.
- 56. **Gupta RD** and Tawfik DS. Directed enzyme evolution via small and effective neutral drift libraries. *Nature Methods* 11/2008; 5(11):939-42.
- 57. Gupta T, Gupta RD, Fatma T and Baranwal BP. Dinuclear, mixed-ligand cobalt(II) complexes of mercaptocarboxylic acids and fatty acids, *Inorganic Chemistry: An Indian Journal*, 2008 3, 5.
- 58. Amitai G, **Gupta RD** and Tawfik DS. Latent evolutionary potentials under the neutral mutational drift of an enzyme. *HFSP Journal*, 2007, 1, 67-78.
- 59. Baranwal BP, Fatma T, Gupta RD and Gupta T. Stepwise substitution of oxo-centered, trinuclear chromium (III) carboxylates with Schiff base. *Transition Metal Chemistry*, 2007, 32, 501-506.
- 60. **Rinkoo Devi** and Banerjee TK. Haematological disturbances due to ammonia toxicity in the air-breathing fish *Channa striata* (Bloch). *Biochemical and Cellular Archives*, 2007, 7(2), 217-223.
- 61. **Rinkoo Devi** and Banerjee TK. Estimation of the sublethal toxicity of lead nitrate in the air-breathing fish *Channa striata* employing certain haematological parameters. *Biochemical and Cellular Archives*, (2007), 7(2), 185-191.

- 62. **Rinkoo Devi** and Banerjee TK. Toxicopathological impact of sub-lethal concentration of lead nitrate on the aerial respiratory organs of 'Murrel' *Channa striata* (Bloch, pisces). *Iranian Journal of Environmental Health Science & Engineering*, 2007, 4(4), 249-256.
- 63. **Rinkoo Devi** and Banerjee TK. Analyses of the toxicity rendered by lead nitrate on the skin (an accessory water breathing organ) of the air-breathing "murrel" *Channa striata* (Bloch.). *Biochemical and Cellular Archives*, (2006), 6(2), 189-199.
- 64. Gupta T, Baranwal BP, **Rinkoo Devi**. Synthesis, Characterization and Phosphodiester Bond Cleavage Studies of the Dinuclear, Thioacetatocobalt(II) of 3-methylsulfanylpropionic Acid Complex. *Transition Metal Chemistry*, 2006, 31, 123-128.
- 65. **Rinkoo Devi** and Banerjee TK. Estimation of Toxicity of Ammonium Sulphate by Certain Biochemical Analyses of Fish (*Channa striata*, Bloch.) Respiratory Organs. Journal of Experimental Zoology, 2006, India.
- 66. **Rinkoo Devi** and Banerjee TK. Histopathological analyses of the respiratory organs of the air-breathing 'murrel' Channa striata (Bloch.) under the toxic impact of the inorganic fertilizer, ammonium sulphate. Proceeding of the 21st Symposium of SRBCE (2003). BHU, Varanasi, India. pp. 339-355.

Funding/Grants as Principal Investigator

- 1. Gupta, RD (PI) 'Redesigning of bacterial endochitinase for enhanced antifungal activity', *Science Engineering Research Board (EMR/2016/007246)*, Government of India, 10th July 2018-9th Jan 2022.
- 2. Gupta, RD (PI) 'Development of v-type nerve agent hydrolyzing enzyme', *Life Science Research Board, Defense Research and Development Organization* (LSRB-297/BTB/2017), Government of India, 07th July 2017-6th July 2020 (Completed).
- 3. Gupta, RD (PI) 'Association between catalytic activities of lactonase and organophosphate hydrolase: Dissection of an enzyme "human senescence marker protein 30'. *Start-up fund, South Asian University, New Delhi,* September 2013-September-2016, (Completed).
- 4. Gupta RD (PI) 'Monolayer-based detection of organophosphorus and organosulphur pollutants' *FAST TRACK Young Scientist's grant* (*Life Sciences*), *SERB*, *DST*, *India*, July 2012-December-2015 (Completed).
- 5. Gupta RD (PI) 'Directed Evolution of glutathione s transferase for the detoxification of organophosphate nerve agents' FAST TRACK Young Scientist's grant (<u>Chemical Sciences</u>), SERB, DST, India (Approved in 2012)

Course Development and Teaching Experiences

M.Sc. Biotechnology

- Biochemistry (Credits: 3)
- Environmental Biotechnology (Credits: 2)
- Protein Engineering (Credits: 2)
- Laboratory Techniques (Credit: 8)
- Research Methodology (Credit: 4)

Ph.D. Biotechnology

- Advances in Protein Engineering (Credit: 2)
- Research Methodology (Credit: 4)

Research Guidance

Ph. D. Guidance as Supervisor:

- 1. Barnali Halder, Ph.D. work on 'Designing of short peptide vaccine against Dengue Virus' (2023 Batch, ongoing).
- 2. Satyajit Podder, Ph.D. work on 'Antibody engineering against Dengue virus' (2023 Batch ongoing).
- 3. Manik Goel, Ph.D. work on '*Redesigning Human Lactonases for Efficient Organophosphate degradation*' (2021 Batch, ongoing)
- 4. Md Fahim Khalid, Ph.D. work on 'Designing humanized antibody against the conserved regions of Dengue virus envelope protein' (2020 Batch, ongoing)
- 5. Priyamedha Yadav, Ph.D. work on 'Biochemical and Cellular Characterization of Human Senescence Marker protein30' (2019 Batch, ongoing)
- 6. Nidhi Dhama, Ph.D. work on 'Engineering Short Peptides for Higher Immunogenicity Against DENV' (2018 batch, Ph.D. Thesis submitted)
- 7. Ankita Srivastava, Ph.D. work on '*Exploring the Role of Chitinase and Chitinase-like Proteins on Cancer Progression*', awarded in January 2024
- 8. Animesh Sarker, Ph.D. work on 'Affinity Maturation of Single Chain Variable Fragment Antibody Specific to Dengue Virus Envelope Protein', awarded in 2022
- 9. Fauzia Parween, Ph.D. work on 'Exploring the Physiological Functions of Human Paraoxonase 2', awarded in 2022
- 10. Md. Summon Hossain, Ph.D. thesis on 'Studies on a Long-Acting Recombinant Buffalo Pituitary Follicle Stimulating Hormone', awarded in 2021
- 11. Roshan Kumar Dutta, Ph.D. thesis on 'Investigation of the Physiological and Promiscuous Functions of Mammalian Senescence Marker Protein (SMP30)', awarded in 2020
- 12. Abhishek Singh Rathore, Ph.D. thesis on '*Engineering scFv antibody against conserved regions of Dengue virus envelope proteins*', awarded in 2018

Ph.D. Guidance as Co-supervisor:

13. Drishti Agarwal Ph.D. thesis on 'Evaluation of the Antimalarial Potential of Novel Synthetic Small Molecules', awarded in 2020

M. Phil. Guidance:

- 1. Animesh Sarker, M.Phil. Thesis on 'Development of Single-chain variable Fragment (scFv) Antibody against FuBC loop of Dengue Envelope protein' awarded in 2018
- 2. Ankita Srivastava, M.Phil. Thesis on 'To Study the Effect of Chitinase on Cancer Progression' awarded in 2019

JRF/Visiting Students Supervised

- 1. Sudisha Mukherjee, JRF, worked on project entitled 'Development of v-type nerve agent hydrolyzing enzyme', funded by Life Science Research Board, Defense Research and Development Organization (LSRB-297/BTB/2017), 2018-2020
- 2. Devyani Sharma, JRF, worked on project entitled '*Redesigning of bacterial endochitinase for enhanced antifungal activity*', funded by Science Engineering Research Board (EMR/2016/007246), 2019
- 3. Preeti Ranjan, JRF, worked on project entitled '*Redesigning of bacterial endochitinase for enhanced antifungal activity*', Science Engineering Research Board (EMR/2016/007246), 2019

- 4. Mrinmoy Sarkar, vising student from Dhaka University, worked on the project '*Studying the bacterial chitinolytic machinery' in* 2015
- 5. Drishti Agarwal, JRF, worked on DST funded project entitled 'Monolayer-based detection of organophosphorus and organosulphur pollutants' 2014
- 6. Ritesh Verma, JRF, worked on DST funded project entitled 'Monolayer-based detection of organophosphorus and organosulphur pollutants' 2013

M.Sc. Students Supervised (34)

- 1. Budha Singh Thapa, M.Sc. dissertation on "Designing and development of single domain antibody (sdAb) against DENV" 2024, ongoing.
- 2. Anvitha Dharmeshwar, M.Sc. dissertation on "Enhancing the binding affinity of an scFv antibody fragment" 2024, ongoing.
- 3. Aditi Tripathi, M.Sc. dissertation on "*Exploring the anti-biofilm property of human PON3*" 2024, ongoing.
- 4. Udit Kumar Sirohi, M.Sc. dissertation on "Solubility Controlling Peptide Tag For
- 5. Enhancement of Immune Response" submitted in 2023.
- 6. Pulkita Pandey M.Sc. dissertation on "Engineering of Human Paraoxonase-1 for the hydrolysis of V-type Nerve Agent" submitted in 2023.
- 7. Neha Roy Choudhury M.Sc. dissertation on "Mutational Analysis of Human Senescence Marker Protein 30 for Organophosphate hydrolysis" submitted in 2023.
- 8. Ayush Khandelwal, M.Sc. dissertation on '*Exploring the effect of mammalian chitinase* (*CHI3L1*) on cancer cell proliferation' submitted in 2022.
- 9. Kalyani, M.Sc. dissertation on '*Elucidating Paraoxonase and Lactonase activity of Human PON1 and PON2*' submitted in 2022
- 10. Lashika Batra, M.Sc. dissertation on 'Comparative Analysis of metal-dependent activity of Wild Type SMP30 and its mutants' submitted in 2022
- 11. Shivani Vohra, M.Sc. dissertation on '*Epitope analysis and construction of potential scFv against Dengue virus envelope protein'* submitted in 2021
- 12. Manik Goel, M.Sc. dissertation on '*Redesigning of Human SMP30 for the hydrolysis of V-Type Nerve Agent*' submitted in 2021
- 13. Disha Sharma, M.Sc. dissertation on 'Studying the effect of exochitinase ChiB on proliferation and migration of MCF-7 cells' submitted in 2021
- 14. Suroj Maharaj, M.Sc. dissertation on 'To study the role of endochitinase in breast cancer progression' submitted in 2020
- 15. Kanchan, M.Sc. dissertation on 'Determination of Endogenous SMP30 expression and its effects on cell proliferation' submitted in 2020
- 16. Md. Ismail, M.Sc. dissertation on 'Deciphering the role of different divalent cations on the prolyl aminopeptidase activity' submitted in 2020
- 17. Md. Fahim Khalid, M.Sc. dissertation on '*Redesigning bacterial endochitinase for higher chitinolytic and antifungal activity*' submitted in 2019
- 18. Dipra Nath, M.Sc. dissertation on 'Site directed mutagenesis of mouse PON1 to enhance the organophosphorus hydrolysis' submitted in 2019
- 19. Hemraj Purnue, M.Sc. dissertation on '*Recombinant expression of a urease (Hp Ure) and screening of urease inhibitors*' submitted in 2019
- 20. Nidhi Dhama, M.Sc. dissertation on '*Exploring the physiological & Promiscuous activities of mouse and human SMP30*' submitted in 2018
- 21. Poornima Shankar, M.Sc. dissertation on 'Engineering scFv antibody for affinity maturation against Dengue envelope protein FuBC loop' submitted in 2018
- 22. Junaid Hussain Yetoo, M.Sc. dissertation on 'Biochemical Characterization of PON1 and PON3' submitted in 2017
- 23. Md. Ebrahim Khalil, M.Sc. dissertation on 'Metal dependent promiscuity of bacterial Prolyl Aminopeptidase' submitted in 2017
- 24. Mehboob Yaqoob, M.Sc. dissertation on 'Bacterial chitinase C engineering to enhance chitin degradation' submitted in 2017

- 25. Madhab K. Karn, M.Sc. dissertation on '*Role of Mammalian Enzyme PON2 in Cell Proliferation and Apoptosis*' submitted in 2016
- 26. Akanksha Sankrityayan, M.Sc. dissertation on 'Engineering Prolyl aminopeptidase for OP degradation' submitted in 2016
- 27. Samjhana Awasthi, M.Sc. dissertation on 'Designing bacterial chitinases for enhanced antifungal activity' submitted in 2016
- 28. Nerina Shahi, M.Sc. dissertation on '*Role of carbohydrate in structure and function of follicle stimulating hormone beta-subunit*' submitted in 2016 (Co-supervision)
- 29. Deepti Subedi, M.Sc. dissertation on '*Role of carbohydrate in structure and function of follicle stimulating hormone alpha-subunit*' submitted in 2016 (Co-supervision)
- 30. Saurav Ranjitkar, M.Sc. dissertation on 'Immunological study of pregnant mare serum gonadotropin (PMSG) and development of ELISA for assay of PMSG' submitted in 2016 (Co-supervision)
- 31. Geetika Sharma, M.Sc. dissertation on 'Studying Synergistic effect of Chitinase C and Chitinase B on Chitinolytic activity' submitted in 2015
- 32. Rohan Arora, M.Sc. dissertation on '*Exploring the Promiscuous Activities of Mammalian PON1*' submitted in 2015
- 33. Pallavi Prasad M.Sc. dissertation on 'To contemplate the promiscuous Activity of Prolyl Aminopeptidase' submitted in 2015
- 34. Roshan K. Dutta, M.Sc. dissertation on 'Metal-based Enzyme promiscuity of Senescence marker Protein 30' submitted in 2014
- 35. Bhanuja Tripathi, M.Sc. dissertation on '*Deciphering the Catalytic Promiscuity of Bacterial Prolidase*' submitted in 2014
- 36. Shishir Kumar Pandey, M.Sc. dissertation on 'Characterization and Comparison of Bacterial and Mammalian Prolidase' submitted in 2013
- 37. Ghulam Reza Hazara, M.Sc. dissertation on 'Designing of GST-sfGFP fusion construct for the screening of soluble mammalian proteins' submitted in 2013
- 38. Parmanand Pandey, M.Sc. dissertation on 'Designing of SMP30-sfGFP fusion construct for the Screening of Soluble Protein Expression' submitted in 2013

Organization of academic events like conferences, workshops, and symposia

- 1. Organized an International Seminar on 23rd February, 2024.
- 2. Organized an International Seminar on 23rd May, 2023.
- 3. Organized an International Webinar on 26th August, 2021.
- 4. Organized International Hand-on workshop on *"Recombinant Protein Expression and Purification Techniques"* at South Asian University, December 11-13, 2019
- 5. Organized "SAARC Charter Day" at South Asian University, on December 9, 2019
- 6. Co-organized National Conference on "Recent Trends and Advancements in Chemical Sciences" University of Delhi, March 29-31, 2019
- 7. Organized South Asian Biotechnology Conference (SABC-2019) "Empowering lives through Biotechnology" at South Asian University, contributed as co-convener, March 14-16, 2019
- 8. Organized Annual Science Day "BioZest: Art and Science" at South Asian University, Convener, December 6, 2018
- 9. Organized International Hands-on Workshop on "Chromatography Based Protein Purification and Characterization Techniques" at South Asian University, Convener, July 11-13, 2018
- 10. Organized "Scientific Interactive workshop" at South Asian University, June 27, 2018
- 11. Organized International Hands-on Workshop on "Gene Cloning and Expression of Recombinant Protein" at South Asian University, December 12-15, 2017
- 12. Organized FLSB's "Open House" Event South Asian University, November 11, 2017
- 13. Organized International Hands-on Workshop *on "Gene Expression Analysis by Real Time PCR"* at South Asian University, December 14-16, 2016
- 14. Co-organized International Conference on *"Materials Science & Technology,* Conference Centre, University of Delhi, March 1- 4, 2016

- 15. Organized International Hands-on Workshop on *"Gene Expression Analysis by Real Time PCR"* South Asian University, December 9-11, 2015
- 16. Organized International Hands-on Workshop on "Protein Expression and Purification Techniques" at South Asian University, July 13-17, 2015
- 17. Co-organized South Asian Biotechnology Conference (SABC-2019) at South Asian University, February 12-14, 2015
- 18. Co-organized National Conference on "*Emerging Trends in Development of Drugs and Devices*" Department of Chemistry, University of Delhi, January 21-23, 2013

Invited Talks/Oral presentations

- 1. Invited talk on "*Designing and Production of Affinity-Matured Monoclonal Antibody*" in the CME program organized by the Department of Biotechnology, Sri Ramachandra Institute of Higher Education and Research, Chennai on 6 October, 2023.
- 2. Invited talk on *"Engineering Monoclonal Antibody for Therapeutic Applications"* in the online Refresher Course on Interdisciplinary Sciences organized by UGC-Human Resource Development Centre, and Department of Zoology, Guru Ghasidas Central University, Bilaspur, Chhattisgarh, on 4 July, 2023.
- 3. Invited talk on "*Scope of Enzyme Promiscuity in the Designing of Novel Biocatalysts*" in the online Refresher Course on Interdisciplinary Sciences organized by UGC-Human Resource Development Centre, and Department of Zoology, Guru Ghasidas Central University, Bilaspur, Chhattisgarh, on 13 July, 2023.
- 4. Oral Presentation on "*Designing and Production of Therapeutic Monoclonal Antibody*" in the 14th Asian Federation of Biotechnology (AFOB) Regional Symposium (ARS 2023) organized in Regional Centre for Biotechnology, Faridabad, India from April 27th to 29th, 2023.
- 5. Invited Talk on *'Protein Engineering to Fight the Foe'* on National Science Day organized at School of Studies in Biotechnology Pt. Ravishankar Shukla University, 14 May 2022.
- 6. Invited talk on '*Designing and Production of Therapeutic Monoclonal Antibody*' Online Refresher Course in Biotechnology organized by Human Resource Development Centre, Pt. Ravishankar Shukla University, Raipur, CG, 13-28 Dec 2021.
- Invited Talk on "Engineering Antibody and Peptide Vaccine to Combat Viral Diseases" Online Refresher Course in Life Sciences: Synthetic Biology organized by Human Resource Development Centre at Pt. Ravishankar Shukla University, Raipur, CG 14th -28th December, 2020
- Invited Talk on "Antibody Engineering to Combat Viral Disease" E-Colloquium on "Emerging Trends in Health and Disease Research" ETHDR-2020 Amity University, Gurugram, 20th October, 2020
- Oral presentation on "Designing and Development of scFv Antibody against DENV" at international conference on Biomaterial-based Therapeutic Engineering and Regenerative Medicine 'BioTERM', IIT Kanpur from 28 November to 1 December 2019
- Invited Talk on "Development of Single Chain Variable Fragment Antibody Against Dengue Virus Envelope Protein" National Conference on Recent Trends and Advancements in Chemical Sciences, University of Delhi, 29th to 31st March, 2019
- 11. Invited Talk on "Engineering scFv Antibody Against a Highly Conserved Region of Dengue Virus Envelope Protein" 5th South Asian Biotechnology Conference (SABC-2019) South Asian University, New Delhi from 14th to 16th March 2019
- 12. Invited Talk on "Development of Single Chain Variable Fragment (scFv) Antibody Against a Highly Conserved Region of Dengue Envelope Protein" 6th world congress on Nanomedical Sciences-ISNSCON-2018", "Chemistry-Biology Interface 2019", organized by Delhi University and Jamia Hamdard, New Delhi from 7 to 10 January 2019
- Oral Presentation on "Metal Dependent Promiscuous Functions of Enzymes" Asian Federation of Biotechnology (AFOB) Regional Symposium organized by A-STAR Bioprocessing Technology Institute, Singapore from 23rd to 25th January 2019

- 14. Invited Talk on "Anti-apoptotic role of mammalian PON2" 4th International South Asian Biotechnology Conference, Colombo, Sri Lanka, 28-30 March, 2018
- 15. Invited Talk on "Metal-Based Enzyme Promiscuity of Bacterial Prolyl Aminopeptidase" 3rd International South Asian Biotechnology Conference, Kathmandu, Nepal, 16-18 March 2017
- 16. Invited Talk on "Anti-apoptotic function of mitochondrial Paraoxonase (PON2) in cancerous cells" 6th Annual Conference of Society for Mitochondrial Research and Medicine-India: International Conference on Mitochondria in Health and Disease, JNU, New Delhi, 10-11 February 2017
- 17. Oral Presentation on '*Redesigning Bacterial Chitinases for Greater Antifungal Activity' at* 2nd South Asian Biotechnology Conference, Dhaka University, Dhaka, Bangladesh, February 5-6, 2016.
- 18. Invited talk on '*Directed Evolution of Enzymes*' at South Asian Biotechnology Conference organized by South Asian University, February 12-14, 2015.
- 19. Oral presentation on *'Metal-based Enzyme Promiscuity of Human Senescence Marker Protein -30'*, at 6th World Congress on Biotechnology, Delhi, organized by OMICS group, October 5-7, 2015.
- 20. Invited talk on "Neutral Mutational Drifts: Promoters of Enzyme Evolution" Faculty of Life Sciences and Biotechnology, South Asian University, Special Talk on Friday Seminar Series; 6th September, 2013

<u>Poster presentation/Abstract submission and Participation in</u> <u>Seminars/Conferences/Workshops:</u>

- Goel M, Yadav P, Gupta RD, "Evaluating the anti-biofilm efficacy of Human Senescence Marker Protein30 against Mycobacterium smegmatis" at the 3rd International Conference on Antimicrobial Resistance, Novel Drug Discovery, and Vaccine Development: Challenges and Opportunities organized by SRM University Delhi-NCR, Sonepat, India Habitat Centre, Delhi, 18-20 March 2024
- Yadav P, Goel M, Gupta RD, "Human Senescence Marker protein-30 (HuSMP30) displaying Antibiofilm property against *Mycobacterium smegmatis*" at 15th Annual PEGS Europe Protein &Antibody Engineering Summit, Lisbon Congress Center, Lisbon, Portugal, 14-16 November 2023.
- 3. Ankita, Gupta RD "Bacterial Endochitinase Inhibits Breast Cancer Cell Proliferation and Migration" at the 37th Annual Symposium of The Protein Society, organized in Boston, Massachusetts, USA, on July 13, 2023.
- 4. Dhama N, Gupta RD "Demonstration and Characterization of scfv Antibodies Generated from the Fubc Immunized Mice" at the 14th AFOB Regional Symposium (ARS 2023) organized in Regional Centre for Biotechnology, Faridabad, India from April 27th to 29th, 2023.
- 5. Yadav P, Parween F, Gupta RD "Human Paraoxonase-2 as a Potential Anti-Biofilm Agent" at the 14th AFOB Regional Symposium (ARS 2023) organized in Regional Centre for Biotechnology, Faridabad, India from April 27th to 29th, 2023.
- Khalid MF, Sarker A, Gupta RD "Designing of a Single-Chain Variable Fragment Antibody Against Dengue Virus Envelope Protein" at the 14th AFOB Regional Symposium (ARS 2023) organized in Regional Centre for Biotechnology, Faridabad, India from April 27th to 29th, 2023.
- Yadav P, Parween F, and Gupta RD 'Highly soluble refolded human paraoxonase-2 exhibiting potential anti-biofilm property' at Recent Advances in Nano Medical Sciences (RANMS 2022), University of Delhi, 22 -23 June, 2022.
- Shrivastava A, Deswal N, Kumar R, Gupta RD 'A novel triazole-linked 1,4-dihydropyridine-isatin scaffold induces apoptosis and cell cycle arrest in hepatocellular carcinoma' at Recent Advances in Nano Medical Sciences (RANMS 2022), University of Delhi, 22 -23 June, 2022.
- 9. Dhama N, Sarker A, Rathore AS and Gupta RD 'Highly Immunogenic Short Peptide Redesigned from the Dengue Virus Envelope Protein' at Recent Advances in Nano Medical Sciences (RANMS 2022), University of Delhi, 22 -23 June, 2022.
- 10. Parween F, Hossain M S, and Gupta RD, 'Human paraoxonase 2 gene polymorphism affects the efficacy of acetylcholinesterase inhibiting drugs used to cure Alzheimer's disease' at DBT-sponsored International Virtual Conference on Biological Innovations and Computational Exploration for Pandemic Challenges (BICPAC'22) at Department of Biotechnology & Bioinformatics, Bishop Heber College, e-Poster, 24-25 February, 2022

- Parween F, Hossain M S, Singh K, and Gupta RD, 'Exploring the association of Human Paraoxonase 2 with AchE inhibiting drug metabolism' at 35th Annual Symposium of The Protein Society, e-Poster, 7-14 July, 2021
- Dhama N, Sarker A, Rathore AS and Gupta RD, 'Designing of a Short Peptide Vaccine Against Dengue Virus' E-Colloquium on "Emerging Trends in Health and Disease Research" ETHDR-2020 Amity University, Gurugram, e-Poster, 20th October, 2020
- 13. Ankita, Maharaj S and Gupta RD, 'Effect of Chitinase on Cell Proliferation and Migration of MCF-7 Cells', BioZest 2019, South Asian University, 7 December 2019
- 14. Dutta RK and Gupta RD, 'Cofactor promiscuity of Mammalian senescence Marker Protein 30 (SMP30)' at PEGS Europe Summit 2019, Lisbon, Portugal, 18-22 November 2019.
- 15. Dutta RK and Gupta RD, 'Structural and functional characterization of mouse and human SMP30: A comparative study based on divalent metals' at International Youth Conference on Science, Technology and Innovation, Kathmandu, Nepal, 21-23 October, 2019.
- Ankita, Khalid F and Gupta RD, 'Effect of Chitinase on the Anticancerous Property of Certain Drugs" National Conference on Recent Trends and Advancements in Chemical Sciences' University of Delhi, 29-31 March 2019.
- Khalid F, Ankita and Gupta RD, 'Effect of Recombinantly Expressed and Purified Chitinase on Cancerous Cell Proliferation and Migration' 5th South Asian Biotechnology Conference (SABC-2019), South Asian University, 14-16 March 2019
- Ranjan P, Gobinath, AKR and Gupta RD, 'Recombinant expression and purification of Human Beta Defensin and its effect on the Cell Proliferation', 5th South Asian Biotechnology Conference (SABC-2019), South Asian University, 14-16 March 2019
- Sarker A, Rathore AS and Gupta RD "Single Chain Variable Fragment (scFv) Antibody Engineering Against a Highly Conserved Region of DENV Envelope Protein" Biological Engineering Society Conference (BESCON-2018), IIT Bombay, Mumbai, India, 26-27 October, 2018.
- Sarker A, Rathore AS and Gupta RD "Pre-clinical development of FuBC peptide vaccine to prevent recurrence of dengue infection" 45th Annual meeting of Indian Immunology Society, Immunocon-2018, THSTI, Faridabad, November 1-3, 2018.
- 21. Mukherjee S and Gupta RD "Exploring the Promiscuous Activities of Mammalian PON1" BioZest-2018, FLSB, SAU, New Delhi, December 6, 2018.
- 22. Khalid FM and Gupta RD "Enhanced Antifungal Activity of Designed Bacterial Endochitinase" BioZest-2018, FLSB, SAU, New Delhi, December 6, 2018.
- Dutta RK and Gupta, R.D., 'Promiscuous Activity of SMP30/Regucalcin in the Presence of Different Divalent Metal Cations', 3rd International South Asian Biotechnology Conference, Kathmandu, Nepal, 16-18 March, 2017.
- 24. Sarker A, Rathore AS and Gupta, R.D., 'Successful Refolding of Dengue Virus Specific Single Chain Variable Fragment Antibody (scFv)', 'Protein Structure and Dynamics in Health and Agriculture' organized by the Department of Biosciences and Centre for Interdisciplinary Research in Basic Sciences, Jamia Millia Islamia, New Delhi, 3-4 November, 2017.
- 25. Dutta RK and Gupta, R.D., 'Metal-dependent enzyme promiscuity of Senescence Marker Protein', 'BioZest', SAU, New Delhi, November 10, 2017.
- 26. Gupta R. D., 'Role of Mammalian Enzyme PON2 in Cell Proliferation and Apoptosis of Tumor Cells' at 12th International conference of the Asian Clinical Oncology Society; Theme: Cancer in Asia: Bridging the gap, New Delhi, April 8-10, 2016.
- 27. Sohal J. S., Jayaraman S., Chauabey K. K., JainM., Gupta R. D., Aseri G. K., Singh S. V., Gupta S., Datta M., Jain M., Yadav P., Khare N., 'Optimization of marker assay for diagnosing the immune response due to vaccination and natural infection' at 13th International Colloquium on Paratuberculosis, Nantes, France, 20-24 June.
- 28. Jayaraman S., Chaubey K. K., Gupta R. D., Singh M., Jain M., Stephen B. J., Gupta S., Singh S. V., Aseri G. K., Datta M., Jain N., Yadav P., Khare N., Sohal J. S. '*Performance of serological assay* using specific proteins of Mycobacterium avium subspecies paratuberculosis for the diagnosis of Johne's disease in large ruminants' at 13th International Colloquium on Paratuberculosis, Nantes, France, 20-24 June.

- Dutta R. K. and Gupta R. D., 'Enzyme promiscuity of Senescence Marker Protein30 in the presence of different divalent cations', at International Seminar on Interdisciplinary Approaches to Biological Sciences organized by Central Department of Biotechnology, Tribhuwan University and Society for Biological applications, Nepal, July 1, 2016.
- 30. Rothore A. S. and Gupta R. D. 'Engineering scFv Based Antibody Against Conserved Regions of Dengue Envelope Protein for a Broad Spectrum Antibody at PEGS KoreaProtein Engineering' at PEGS Korea The Essential Protein Engineering Summit organized by Cambridge Healthtech Instutute, JW Marriott Seoul, Seoul, Korea, September 20-22, 2016
- Arora, R., Dutta, R. K. and Gupta, R.D., '*Exploring the promiscuous activity of the mammalian lactonases*', Poster presentation, South Asian Biotechnology Conference organized by South Asian University, February 12-14, 2015.
- 32. Rathore, A. S., Sharma, G. and Gupta, R.D., 'Antifungal activity of designed bacterial chitinase', Poster presentation at South Asian Biotechnology Conference organized by South Asian University, February 12-14, 2015.
- 33. Gupta R.D. attended a conference on "Genomics & Proteomics Research" organized by Select Biosciences from June 12-13, 2014, New Delhi
- 34. Singh A., Rathore A. S. and Gupta R. D. Bioinformatic Analysis for Redesigning of Endochitinase 'ChiC' as a Potential Biopesticide, International Congress on Agriculture, Food Engineering and Environmental Sciences-Sustainable Approaches organized by Krishi Sanskriti, Jawaharlal Nehru University, March 29-30, 2014, New Delhi.
- Dutta R. K., Agarwal D. and Gupta R. D. Metal Based Specificity Of Mouse Senescence Marker Protein-30, 9th annual symposium in Frontiers in Biomedical Research (FBR - 2014) organized by B. R. Ambedkar Center for Biomedical Research, University of Delhi, April 14-16, 2014, Delhi.
- 36. Agarwal D., Dutta R. K. and Gupta R. D. Anticarcinogenic property of ruthenium (II) polypyridyl complex, World Congress on Stem Cell Research, Cancer Biology and Applied Biotechnology (Biotech-2014) Organized by Krishi Sanskriti, Jawaharlal Nehru University, May 3-4, 2014, New Delhi.
- 37. Gupta R. D. attended 'Scientific Writing and Publishing workshop' organized by Macmillan Science Communication, an exclusive partner of Nature Publishing Group in association with Jawaharlal Nehru University, Jawaharlal Nehru University, New Delhi, November 29, 2013.
- Gupta R.D. attended a conference on 'Asian Congress on Biotechnology-2013- *Bioprocessing for* Sustainable Development' organized by Asian Federation of Biotechnology and IIT, Delhi, India Habitat Centre, New Delhi, December 15-19, 2013.
- 39. Gupta RD attended 'Advances in Human healthcare systems' organized by Asian Polymer Association International Congress, IIT Delhi and Jamia Hamdard, New Delhi, February 20-23, 2012
- 40. Gupta RD attended 'International interdisciplinary Science Conference (I-ISC-2012) on Protein Folding and Diseases' organized by Jamia Milia Islamia, New Delhi, December 8-10, 2012
- 41. Gupta RD attended 'Bio-World 2012: Proteins in Disease and Disorder' organized by the Kusuma School of Biological Sciences IIT Delhi, New Delhi, December 10-12, 2012

Webpages

http://www.sau.int/faculty/faculty-profile.html?staff_id=18 https://orcid.org/0000-0003-1156-9596 https://pubmed.ncbi.nlm.nih.gov/?term=Gupta+Rinkoo+D https://www.researchgate.net/profile/Rinkoo-Gupta/research