Dr. Gauri Misra

Senior Scientist

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Senior scientist and a group leader with a vision to successful implementation of projects. Capable of managing multiple priorities with a positive attitude. Willingness to take on added responsibilities to meet team goals.

Work History

2019-May - Present

Scientist-II and Head (Molecular Diagnostic Lab & COVID-19 Kit Testing Laboratory, Sample Receipt and Report Dispatch Unit)

National Institute of Biologicals, Noida, India

- Since 02 May 2019 until date.
- In present Institute worked as ***Head of WHO-Collaborating Centre and NABL accredited Immunodiagnostic kits and Molecular Diagnostic lab***.
- In addition, worked as Head of Enzymes and Hormones Laboratory, administrative and scientific responsibilities provide the opportunity to contribute towards fulfilling Government's mandate of "Healthy India.".
- Journey that has given tremendous experience in various domains of research, regulation and administration.

2012-Oct- 2019-May

Assistant Professor

Amity University, Noida, India

- Since 29 Oct. 2012 until 01 May 2019.

2011-Sep - 2012-Oct

Assistant Professor

HYGIA Institute of Pharmaceutical Education and Research, Lucknow, Uttar Pradesh

2009-Oct- 2010-Feb

Research Scientist

Biotech Park, Lucknow, India

- Since 01 Oct. 2009 until 01 March 2010

Education

2009-Dec **Ph.D.: Structural Biology**

Central Drug Research Institute (CDRI), Lucknow – Lucknow affiliated to JNU, New Delhi

Structural and functional characterization of proteins involved in transit peptide pathway proteins from P. falciparum*.** This was the first report that focused on the biophysical characterization of the individual domains of PfHsp70-1 in the protein's function and stability with implications in cytoprotection of the parasite. The results supported the strategy of disrupting the interactions of the C-terminal tail of the protein for the development of novel antimalarials. It also established that the first evidence for functional interactions between the PfHsp70-1 and *P. falciparum* Hsp40 (Pfj1). These research efforts in the field of malaria align with the national mission of ***"Healthy India" The doctoral research received global recognition and was awarded the ***Eli-Lilly Asia Outstanding Thesis Award, 2009 (first prize)***.

2002-Dec **M.Sc.: Biochemistry**

Dr. B.R.A. University - Agra

Project work carried out at National Jalma Institute for Leprosy & Other Mycobacterial Diseases (ICMR), Agra. ***Topper*** of the batch.

2000-Dec **B.Ed.: Science** as teaching subject. ***Gold medalist***

1999-Dec **B.Sc.: Science**

Dr. B.R.A. University – Agra

2010-Mar - 2011-Jul **Postdoctoral**

CHUL Research Centre - Canada

Structural, functional and cellular studies of proteins involved in the growth and proliferation of breast cancer, specifically the role of nuclear androgen receptors.

Accomplishments

Honors and Awards:

2018

Travel grant from Wellcome Trust to attend Parasite database resources course in Malaysia.

2018

Best Scientific Presentation Award (Young Scientist) in International Conference on "Trends in Biochemical and Biomedical Research", Banaras Hindu University, Banaras, India.

2017

Travel grant from Tata Education and Development Trust, Mumbai to attend the Wellcome trust advanced course on Proteins interactions and networks at Wellcome genome campus, Hinxton, Cambridge, UK.

2014

Selected as visiting scientist under ***INSA-Bilateral Exchange Programme,*** to visit The Israel Structural Proteomics Center situated at Weizmann Institute of Science, Rehovot, Israel

2009

Eli-Lilly Asia Outstanding Thesis Award, (First prize).

2008

Best ***oral presentation award*** at the "National seminar on Crystallography-37" Jadavpur University, Kolkata, 6-8th February.

2003

Qualified ***GATE***, March.

2002

Awarded ***CSIR fellowship*** in National Eligibility Test, December.

2002

Topped ***in Master of Science*** (Biochemistry), Dr. B. R. A. University, Agra.

2000

Gold medalist in "Bachelor of Education".

Salient Research Achievements:

1. **RESEARCH PROJECT:** "Evaluating the potential of new chromone derivatives against human Great wall kinase for cancer therapy using comparative cell based andproteomics investigations"**, Budget: 66.65 lakhs, 2019-2022**

- **PATENT:** Patent file no. 201811039753, Title: Anticancer compounds targeting human cell cycle regulating kinase (published).

- Identification of **new inhibitors both from natural and chemical sources** against an important cell cycle regulating kinase, which is the human orthologue of Greatwall (Gwl) kinase known as microtubule-associated serine/threonine kinase-like protein, MASTL". The protein is not much explored in spite of it being an important therapeutic target in various cancers. The identified compounds showed good inhibitory potential in cell-based studies with implications in cancer prevention. These **compounds were patented and extramural project is sanctioned by ICMR to establish their biological mechanism of action.**

2. **RESEARCH PROJECT:** "Harmonization of COVID-19 RT-PCR Kits Efficiency Data towards Enhancing their Specificity and Sensitivity for Different Strains of SARS-Cov-2", **Budget: 26.62 lakhs, 2021-24**

Salient Academic Achievements:

- **Ph.D. Guided**: 01 as supervisor, 01 as co supervisor (in process)
- **Supervisor**:01 (ICMR RA)
- Development of comprehensive resource materials for interactive learning.
- Research training to students by engaging them in research work, organizing short courses, seminars and workshops to provide them a better perspective of science and possibilities for future exploration.
- Introduction of a 3D interactive academic programme "*Proteopedia*" for improvising UG and PG courses in the domain of biological sciences with practical approach that will not only provide thorough knowledge of the biological concepts but will also ignite the creativity of the students so that they can publish their ideas on the International platform using *Proteopedia*.
- In the capacity of Assistant Professor, part of the following committees: Library, Admission. Also, an active member of Environmental Club, mentoring weak students, organizing committee member of workshops, conferences etc.
- QCI accredited Functional Area Expert in Ecology & Biodiversity, Water Pollution Monitoring, and Prevention & Control.
- *Ph.D. committee panel member of the University of Cagliari, Italy in March 2018*.

International Visits

1. Participated in Wellcome Trust course of Parasite Database Resources at Bander Sunway, **Malaysia**, Oct. 2018.

2. Chairman of Ph.D. panel as external examiner for Ph.D. viva of eight doctoral students at University of Cagliari, Italy, March 2018.

3. Participated in Wellcome Trust Advanced Courses titled "Protein Interactions and Networks" scheduled from 09 Oct 2017 - 17 Oct 2017 at Wellcome Genome Campus, **Cambridge, Hinxton, UK.**

4. Poster presentation at International Conference on Structural Genomics 2015 – Deep Sequencing Meets Structural Biology – (ICSG2015-DSMSB) organized by **Weizmann Institute of Science campus in Rehovot, Israel** from 07-11th Jun. 2015.

5. Advanced Workshop on Structural Biology: using Synchrotron Radiation to Visualise Biological Molecules organized by the **Abdus Salam International Centre for Theoretical Physics (ICTP)of UNESCO and the IAEA, Strada Costeira 11, 34151 Trieste, Italy** from 15-19th Dec. 2014.

6. Visiting Scientist under INSA-Bilateral Exchange Programme 2014 to Weizmann **Institute of Science campus in Rehovot, Israel** from 03-21th Jun. 2014.

7. Postdoctoral fellow at CHUL Research Centre, **Quebec, Canada** from March 2010-July 2011.

Salient Invited Lectures

1. Invited lecture title "Structural hierarchy in proteins as rational to drug design" in Webinar on Coronavirus and COVID-19 pandemic: Victory beyond defeat, organized by Lucknow University on 31 May 2020.
2. Invited lecture title "AGC kinases as drug targets in cancer" at 8th International Translational Cancer Research Conference: Role of Inflammation and Immune System for Cancer Prevention and Treatment SCHEDULED FROM Feb.13-16, 2020 at BHU, Varanasi.
3. Invited lecture title "Metabolic mapping and structural studies implicated in C3 pathway of Pisum sativum using insilico approaches" National Conference on Current Scenario and future trends in Biotechnology: BIOFUTURITY organized by Department of Biotechnology Engineering, Institute of Engineering and Technology, Bundelkhand University, Jhansi, sponsored by U.P. Higher Education Commission from March 27th-28th, 2018.
4. Invited lecture title "Structure based drug discovery approaches against head and neck squamous cell carcinoma (HNSCC)" in International Conference on "Trends in Biochemical and Biomedical Research", Banaras Hindu University, Banaras, India Feb. 13th-15th, 2018.
5. Invited lecture in National Seminar on Crystallography-45 held at IIT (BHU), Varanasi from 9th-12th July 2017.
6. National Conference on "Development and Advancement in Conservation, Propagation and Sustainable Utilization of Medicinal Plants" held on 20-21 January 2017 at School of Biotechnology, Gautam Buddha University, Greater Noida, sponsored by the National Medicinal Plants Board, Government of India, Ministry of AYUSH.
7. "Computational Modeling to Drug Discovery and Development" delivered at DBT sponsored workshop on "Chemo-informatics and Computational Drug Design" held at Biotech Park, Lucknow from 27-29th Feb. 2012.
8. Series of lectures on Molecular Biology and Biotechnology at Biotech Park, Lucknowscheduled during 6-9 th Aug. 2012.
9. Invited lecture title "Protein modelling and rational drug design" in DBT sponsored workshop Chemo-informatics and Computational Drug Design" held at Biotech Park,Lucknow from 21-22 June, 2012.

PUBLICATIONS (All publications are Scopus Indexed)

1. Pal R, Kumar A, Misra G* (Corresponding author). Exploring TEAD2 as a drug target for therapeutic intervention of cancer: A multi-computational case study. Briefings in Bioinformatics. 2021 Feb 22, Impact factor: 11, citations: 3
2. Jyotika Rajawat#, Gauri Misra*, Ratnesh K Sharma, Anup K Anvikar, Benedetta Era (Corresponding author). Oxidative stress targeted approaches in Covid-19. Current Pharmaceutical Biotechnology, Impact factor: 2.837
3. Exposure of androgen mimicking environmental chemicals enhances

proliferation of prostate cancer (LNCaP) cells by inducing AR expression and epigenetic modifications VK Singh, R Pal, P Srivastava, G Misra, Y Shukla, PK Sharma Environmental Pollution 272, 116397, 2021, Impact factor: 9.6,citations:2

4. Ummi Ammarah, Amit Kumar, Rajesh Pal, Naresh C. Bal, Gauri Misra* (Corresponding author). Identification of new inhibitors against human great wall kinase using in silico approaches. Nature Scientific reports, volume 8, Article number: 4894(2018) Impact factor: 4.011, ISSN:2045-2322, citations: 20,
5. Gauri Misra*, Shipra Gupta, Neetu Jabalia. Understanding the Interactions of High- Mobility Group of Protein Domain B1 with DNA Adducts Generated by Platinum Anticancer Molecules Using In Silico Approaches. Interdiscip Sci Comput Life Sci, 2016, volume 10 (3): 476-485 * corresponding author. Impact factor: 1.418, ISSN: 1913-2751, citations:2
6. Gauri Misra and Ravishankar Ramachandran. Exploring the positional importance of aromatic residues and lysine in the interactions of peptides with the Plasmodium falciparum Hsp70-1. BBA: Proteins and Proteomics, 2010, 1804:2146-2152, Impact factor: 2.773, ISSN: 1570-9639. citations: 10,
7. Gauri Misra and Ravishankar Ramachandran. Hsp70-1 from Plasmodium falciparum: Protein stability, domain analysis and chaperone activity. Biophysical Chemistry, 2009, 142:55-64, Impact factor: 2.402, ISSN. 0301-4622, citations: 48
8. Gauri Misra, Anita Aggarwal, Divya Dube, Mohd S. Zaman, Yogendra Singh & Ravishankar Ramachandran. Crystal structure of the Bacillus anthracis nucleoside diphosphate kinase and its characterization reveals an enzyme adapted to perform under stress conditions. Proteins: Structure, Functions and Bioinformatics, 2009, 76:496 506, Impact factor: 2.499, ISSN: 1097-0134, citations: 15
9. Gauri Misra, Anita Aggarwal, Soniya Mittal, Yogendra Singh and Ravishankar Ramachandran. Purification, crystallization and preliminary structural analysis of Nucleoside diphosphate kinase from Bacillus anthracis. Acta Cryst Sec. F, 2007, 63:1084-1086, Impact factor: 0.647, ISSN no. 2053-230X, citations: 02
10. Shipra Gupta, Gauri Misra, Mohan C. Pant, Prahlad K. Seth. Prediction of a new surface binding pocket and evaluation of inhibitors against Huntingtin interacting protein 14: an insight using docking studies. Journal of Molecular Modelling, 2011, 17(12):3047-56), Impact factor: 1.425, ISSN no. 1610-2940, citations: 15
11. Shipra Gupta, Gauri Misra, Mohan C. Pant, Prahlad K. Seth. Targeting the epidermal growth factor receptor: exploring the potential of novel inhibitor-(3-Ethynylphenyl)-6, 7- bis (2-ethoxyethoxy) quinolin-4-amine using docking and molecular dynamics simulation. Protein and peptide letters 2012, 19(9):955-68, Impact factor: 0.964, citations: 12
12. Shipra Gupta#, Gauri Misra#, Mohan C. Pant, Prahlad K. Seth. Identification of a new potent inhibitor against Bcl-xL anti-apoptotic protein using docking studies. Protein and peptide letters, 2012, 19(12):1302-17 # Co first

authors , Impact factor: 0.964,ISSN no. 0929-8665., citations: 12

13. Amit Kumar, Harapriya Chakravarty, Naresh C. Bal, Tuniki Balaraju, Nivedita Jena, Gauri Misra, Chandralata Bal, Enrico Pieroni, Muthu Periasamy, and Ashoke Sharon. Identification of Calcium binding sites on calsequestrin 1 and its implications to polymerization. Molecular BioSystems, 2013, 9:1949-57, Impact factor: 2.92, ISSN no. 1742206X, citations: 23
14. Shipra Gupta#, Gauri Misra#, S. M. Paul Khurana. Bioinformatics: Promises and Progress. International Journal of Bioinformatics Research and Applications, 2015,11(5):462-7 # Co first authors, ISSN no. 1744-5485, citations: 01
15. Wanhong He, Gauri Misra, Tang Li; Ruixuan Wang, S X Lin. Current knowledge of the multifunctional 17-beta-hydroxysteroid dehydrogenase type 1. Gene, 2016, 588(1): 54-61. Impact factor: 2.319, ISSN no. 0378-1119, citations: 44
16. Kabita Tripathy, Vandana Rai, Balwant Singh, Gauri Misra, Nagendra Singh. A database of Oryza rufipogon species complex wild rice germplasm collected from different agro-climatic zones of India. Database, 2018, doi.org/10.1093/database/bay058. Impact factor: 3.683, ISSN no. 0378-1119, citations: 06
17. Swati Sharma, Iti Garg, Gauri Mishra, Babita Kumari, Lilly Ganju and Bhuvnesh Kumar. Association of Toll-like receptor 2, 4, and 9 gene polymorphism with high altitude induced thrombosis patients in Indian population. Insights in Clinical and Cellular Immunology, 2019, pp: 7-15. Impact factor: 2.06, ISSN no.2640-2793,
18. Kabita Tripathy, Vandana Rai, Balwant Singh, Gauri Misra, Nagendra Singh. Identification, distribution and comparative analysis of microsatellites in the chloroplast genome of Oryza species. Indian J. Genet., 79(3), 2019. Impact factor: 0.465, ISSN no. 0019-5200, citations: 02
19. Rajesh Pal, Gauri Misra*, Puniti Mathur. "In silico screening of small molecule modulators of Zika virus proteins," 2017 7th International Conference on Cloud Computing, Data Science & Engineering - Confluence, Noida, 2017, pp. 381-386. doi: 10.1109/CONFLUENCE.2017.7943179 * Corresponding author, citations: 02
20. P. Srivastava, R. Pal, G. Misra*. Comparative modelling and virtual screening to discover potential competitive inhibitors targeting the 30s ribosomal subunit S2 and S9 in Acinetobacter baumannii, 2018 International Conference on Bioinformatics and Systems Biology (BSB), Allahabad, India, 2018, pp. 40-43. Doi: 10.1109/BSB.2018.8770603., citations: 03

Books (ALL INTERNATIONAL PEER REVIEWED)

1. Editor of International book titled "Introduction to Biomolecular Structure and Biophysics" published by Springer Nature (ISBN no. 978-981-10-4967-5), 2017, citations: 08
2. Editor of International book on "Omics approaches, Technologies And applications" for Springer Nature (ISBN no. 978-981-13-2924-1), 2019, citations: 09

3. .Editor of International book on "Data processing handbook for complex biological data sources" for Elsevier (ISBN no. 978-012-816-548-5), 2019. citations: 05
4. Editor of International book on "Molecular Advancements in Tropical Diseases Drug Discovery" for Elsevier (ISBN no. 9780128212028), 2019.
5. Editor of International book on "Protocol Handbook for Cancer Biology" for Elsevier (ISBN no. 9780323900065) Published Date: 1st May 2021, Page Count: 250), 2021.

Book Chapters: (in International peer reviewed books)

1. "Protein Structure and function" in the book "Introduction to Biomolecular Structure and Biophysics" published by Springer Nature (ISBN no. 978-981-10-4967-5), 2017.
2. Misra, G., 2018. Microscopic Perspectives on "Macromolecular Interactions: Proteins and Nucleic Acids". Elsevier, Reference Module in Chemistry, Molecular Sciences and Chemical Engineering Module in Chemistry, Molecular Sciences and Chemical Engineering.
3. Misra, G., 2019. "Fluorescence spectroscopy" in the book "Data processing handbook for complex biological data sources" for Elsevier.
4. Md. Tashfeen, Gauri M., Bhaswati B. 2019. "Circular Dichroism" in the book "Data processing handbook for complex biological data sources" for Elsevier, citations: 05
5. Leonardo Vazquez and Gauri Misra 2019. "Nuclear Magnetic Resonance" in the book "Data processing handbook for complex biological data sources" for Elsevier. citations: 02
6. Misra, G., Neetu J.,2019. "In silico Modeling and Drug Designing" in the book Cutting Edge Techniques in Biophysics, Biochemistry and Cell Biology: From Principle to Applications' for Bentham Sciences.

Workshops/ Seminars/ FDP'S

1. Training completed on "Effective Implementation and Internal Audit of ISO/ IEC 17025:2017 Laboratory Management System (LMS) & NABL Criteria" held at NIB, Noida from May 20-23, 2019.
2. Contribution towards Six days Residential training programme on "Training of Trainers for Strengthening of Blood Services" under National Health Mission in Collaboration with National Institute of Biologicals, NOIDA for blood bank officials, Medical Officers & Laboratory Technicians from MP in IDK&MDL laboratory, NIB, Noida from 12-14th June, 2019.
3. Participated in Wellcome Trust course of Parasite Database Resources at BanderSunway, Malaysia, Oct. 2018.

4. Oral presentation in Young Scientist category in International conference titled "Trends in Biochemical and Biomedical Research: Advances and Challenges" (TBBR-18) scheduled from 13 Feb. 2018- 15 Feb. 2018 at Institute of Science, Banaras Hindu University (BHU), Varanasi.
5. Participated in workshop on "Grant writing & Management" at JNU, New Delhi from 26-28 November, New Delhi, sponsored by Maxplanck organization and University of Cologne.
6. Instructor in DBT sponsored short term training course on 'Application of Metagenomic Tools for Bioremediation towards Environmental Restoration' conducted from 14 Nov 2017 – 29 Nov 2017 at Amity Institute of Biotechnology, Amity University,Noida.
7. Participated in Wellcome Trust Advanced Courses titled "Protein Interactions and Networks" scheduled from 09 Oct 2017 - 17 Oct 2017 at Wellcome Genome Campus, Hinxton.
8. Participated in workshop cum training on "Application of Bioinformatics Tools in Agriculture" scheduled at AKMU, ICAR-IARI, Pusa Campus, New Delhi from 06-08 March 2017.
9. Organizing committee member of workshop on 'Computer aided Drug and Biologics Discovery' in association with Schrodinger held at Amity University, Noida from 23-24rdNov. 2015.
10. Poster presentation at International Conference on Structural Genomics 2015 – Deep Sequencing Meets Structural Biology – (ICSG2015-DSMSB) organized by Weizmann Institute of Science campus in Rehovot, Israel from 07-11th Jun. 2015.
11. Participated in the Advanced Workshop on Structural Biology: using Synchrotron Radiation to Visualise Biological Molecules organized by the Abdus Salam International Centre for Theoretical Physics (ICTP) of UNESCO and the IAEA, Strada Costeira 11, 34151 Trieste, Italy from 15-19th Dec. 2014.
12. Oral presentation on "Crystal structure of nucleoside diphosphate kinase from *Bacillus anthracis*" in 37th National Seminar on Crystallography at Jadavpur University, Kolkata from 6-8th Feb. 2008.
13. 7th International Symposium of the International Society for the Development of Natural products jointly with 6th National Symposium of the National Society of Ethnopharmacology, India and 1st International Symposium of Phytochemical
14. Society of Asia on Recent Advances in Natural Products held at Amity University, Uttar Pradesh, Noida from Nov. 15-17th, 2012.
15. Member of organizing committee in International Symposium on "Frontiers in Cancer Research: Prevention to Therapeutics" organized by Amity University, Noida from Nov. 15-16th, 2013.

16. Faculty Development Programme (two weeks) on 'Training the Trainers on Entrepreneurial Skills' organized by National Science and Technology Entrepreneurship Development Board, Department of Science and Technology held at Amity University, Uttar Pradesh, Noida from 19-30th Nov. 2012.
17. Faculty Development Programme on IPR: Creation to Commercialization organized by Amity Academic Staff College in association with Amity Institute of Biotechnology held at Amity University, Uttar Pradesh, Noida on 10th Dec. 2012.
18. INSA – CAS workshop on structural biology held in IISC Bangalore from 21-23rd Dec. 2007.

Membership of Learned Society/Professional Association:

- Life member of Indian Biophysical Society.
- Life Member of Indian Science Congress Association.
- Life member of Indian Crystallographic association.

Languages

English, Hindi

Additional Information

Personal Dossier

Date of birth: April 22, 1981
Sex: Female
Marital Status: Unmarried
Nationality: Indian
Languages known: English, Hindi
Correspondance address: D-49, Second floor, Sec-40, Noida- 201301 (India)
Permanent address: C/O Mr. Munna Lal Sharma Moh. JaijayRam, badiholi, Kasganj-207123 (U.P.)
Passport no. & validity: P5533101 & valid up to 13 February 2027