

Dr Mishi Wasson

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TEACHING PROFILE

- Teaching undergraduate as well as post graduate students since July 2018.
- Courses taught include Human Physiology, Clinical Biochemistry, Medical Laboratory Technology, Genetics, Biostatistics, Bioinformatics, and Immunology
- Conducting regular lecture and practical sessions for the mentioned courses.
- Supervised research students and master students in their dissertation.

SCIENTIFIC PROFILE

My research interests are exploring biomarkers for breast cancer prognosis and therapeutics. Focused research area is exploring biomarkers in tamoxifen resistant and triple negative breast cancers along with investigating their downstream pathways in vitro systems and using bioinformatic tools. My expertise is advanced statistically analysis of transcriptome and SNP based data.

I have published the same in high-ranking international journals like Tumor Biology, PloS One, Mutation research, BMC Medical genetics, Genetic Testing and Biomarker Discovery, Diseases of Esophagus, DNA Cell Biology, Scientific Reports, Materials Science & Engineering C, Angewandte Chemie, Frontiers in Immunology and International Journal of cancer.

PRESENT POSITION

Assistant Professor

Biomedical Science Department

Shaheed Rajguru College of Applied Sciences for Women,
University of Delhi (June 2023-Present)

PROFESSIONAL EXPERIENCES

IGNOU Councillor

Institute of Home Economics, University of Delhi

Resource Person (Physiology)

Vivekanand College, University of Delhi

Assistant Professor (Adhoc against leave vacancy)

Lady Irwin College, University of Delhi
(26th Dec 2022 to 20th April 2023)

Assistant Professor

Amity University, Sector 125, Noida
9th July 2018 to 25th Dec 2022

Post-Doctoral Fellowship

DST SERB NPDF 12th April 2016- 11th April 2018, Indian Institute of Technology (IIT), Delhi

Mentor: Dr Vivekanandan Perumal, Professor, IIT, Delhi

Post-Doctoral Fellowship

ICMR POST-DOCTORAL Fellowship 30th Dec 2013 - 30th Dec 2015, National Institute of Pathology, ICMR, New Delhi,
Mentor: Dr Sunita Saxena, Director NIOP, ICMR

EDUCATIONAL QUALIFICATION

Ph.D.

Birla Institute of Technology and Science, Pilani
Thesis title: Contribution of putative susceptibility genes and genomic alterations in the occurrence of Breast Cancer (Awarded in 2014)

Master of Science

M.Sc. (Biochemistry), 2003-2005, Jamia Hamdard, New Delhi, INDIA,

Bachelor of Science

B.Sc. (Zoology), 2000-2003, Deshbandhu College, Delhi University, New Delhi,

Extramural Research Funding Received:

Title of Project & duration	Funding Agencies	Level of Participation
Unveiling the role of Estrogen Related Receptor Gamma (ESRRG) in relation to clinical profile, therapeutic response and survival outcomes in breast cancer patients from India.	ICMR	PI

ACADEMIC AND RESEARCH PROFILE

A. Articles published in National/International Journals: 20

Total Impact factor: **68.4**

Total Citations: **728**

H Index: **15**

i10-Index: **18**

B. National/International Conferences Attended: 19

C. Abstracts Published in National/International Conferences: 18

D. Workshops attended: 3

E. Awards

- i. Awarded Best Poster in presentation in “27th annual convention of Indian Association for Cancer Research” from Feb. 6 – 9, 2008**
- ii. Awarded ICMR Post-Doctoral Fellowship in 2013**
- iii. Awarded DBT Research Associateship in 2015**
- iv. Awarded DST SERB National Post-doctoral fellowship in 2016**
- v. Awarded Best Poster Award NPDF Online Poster Competition 2017-2018**

List of Publications

- 1 Lectin complement pathway components as risk factors for rheumatic heart disease in Assam, India. Neha Sharma, **Mishi Wasson**, Lokajeet Baro, Mriganka S.Chaliha, Devinder Toor. **Human Gene**, Volume 34, December 2022. **(I.F 1.55)**
- 2 Roshan Kumar Roy, Rakhi Yadav, Uttam Sharma, **Mishi Kaushal Wasson**, Ashok Sharma, Pranay Tanwar, Aklank Jain, Hridayesh Prakash Impact of non-coding RNAs on cancer directed immune therapies: Now then and forever. 30 April 2022 <https://doi.org/10.1002/ijc.34060> **Int. J of Cancer (I.F. 7.396)**
- 3 Roshan Roy, Uttam Sharma, **Mishi Kaushal Wasson**, Aklank Jain, and Hridayesh Prakash. Macrophage activation syndrome and COVID 19: Impact of MAPK driven Immune - Epigenetic programming by SARS-Cov-2. (Accepted) **Front. Immunol. 2021 (I.F 8.78)**
- 4 Pritam Mahawar,[†] **Mishi Kaushal Wasson**,[†] Mahendra Kumar Sharma, Chandan Kumar Jha, Goutam Mukherjee, Perumal Vivekanandan, and Selvarajan Nagendran, A Prelude to Biogermylene Chemistry, **Angewandte Chemie 59, 2020 (equal authorship) (IF 16.6)**
- 5 Deepak Patil, **Mishi Kaushal Wasson**, S. Aravindan, Vivekanandan P., P. V. Rao, Antibacterial and Cytocompatibility Study of Modified Ti6Al4V Surfaces Through Thermal Annealing,. **Materials Science & Engineering C 2019 (IF 8.04, citation 15)**
- 6 Devinder Toor, **Mishi Kaushal Wasson**, Prashant Kumar, G. Karthikeyan, Naveen Kumar Kaushik, Chhavi Goel, Sandhya Singh, Anil Kumar and Hridayesh Prakash Dysbiosis Disrupts Gut Immune Homeostasis and Promotes Gastric Diseases. **Int. J. Mol. Sci. 2019, 20, 2432, (IF 5.6, citation 15) (equal authorship)**
- 7 D Patil, **M K Wasson**, S Aravindan, V Perumal and P V Rao, “Fabrication of silver nanoparticles-embedded antibacterial polymer surface through thermal annealing and soft molding technique”, **Materials Research Express, Vol. 6(4), 2019 (IF 2.02, citation 8)**
- 8 **Wasson MK**, Borkakoti J, Kumar A, Biswas B, Vivekanandan P. The CpG dinucleotide content of the HIV-1 envelope gene may predict disease progression. **Sci Rep 2017. (IF 4.6, citation 2)**
- 9 Patil D, Aravindan S, **Wasson MK**, Vivekanandan P, Rao P V. Fast fabrication of superhydrophobic titanium alloy as antibacterial surface using nanosecond laser texturing. **J Micro Nano-Manufacturing 2017. (IF 1.81, citation 28)**
- 10 **Wasson MK**, Chauhan PS, Singh LC, *et al.* Association of DNA repair and cell cycle gene variations with breast cancer risk in Northeast Indian population: A multiple interaction analysis. **Tumor Biol 2014. (IF 3.65, citation 10)**
- 11 **Kaushal M**, Mishra AK, Sharma J, *et al.* Genomic alterations in breast cancer patients in betel quid and non betel quid chewers. **PLoS One 2012. (IF 3.7, citation 16)**
- 12 **Kaushal M**, Mishra AK, Raju BS, *et al.* Betel quid chewing as an environmental risk factor for breast cancer. **Mutat Res - Genet Toxicol Environ Mutagen 2010. (IF 2.75, citation 22)**
- 13 **Kaushal M**, Chattopadhyay I, Phukan R, *et al.* Contribution of germ line BRCA2 sequence alterations to risk of familial esophageal cancer in a high-risk area of India. **Dis Esophagus 2010. (IF 2.6, citation 8)**
- 14 Ihsan R, Chauhan PS, Mishra AK, DS Yadav, **Mishi Kaushal**, *et al.* Multiple analytical approaches reveal distinct gene-environment interactions in smokers and non smokers in lung cancer. **PLoS One 2011. (IF 3.7, citation 53)**
- 15 Thoudam RD, Yadav DS, Mishra AK, **Mishi Kaushal**, *et al.* Genes Polymorphisms in North East Indians :A potential Report. **Genet Test Mol Biomarkers 2010. (IF 1.4, citation 10)**
- 16 Yadav DS, Devi TR, Ihsan R, Mishra AK, **Mishi Kaushal** *et al.* Polymorphisms of Glutathione- S - Transferase Genes and the Risk of Aerodigestive Tract Cancers in the Northeast Indian Population. **Genet Test Mol Biomarkers 2010. (IF 1.4, citation 48)**
- 17 Chauhan PS, Ihsan R, Yadav DS, Mishra AK, Bhushan B, Soni A, **Mishi Kaushal** *et al.* Association

- of Glutathione S -Transferase, *EPHX*, and *p53* codon 72 Gene Polymorphisms with Adult Acute Myeloid Leukemia. *DNA Cell Biol* 2011. (IF 3.55, citation 18)
- 18 Saxena S, Chakraborty A, **Kaushal M**, *et al.* Contribution of germline BRCA1 and BRCA2 sequence alterations to breast cancer in Northern India. *BMC Med Genet* 2006. (IF 2.19, citation 69)
 - 19 Vij U, Kumar A, Sharma K, **Kaushal M**, Mehra R. Effect of mifepristone on steroid receptor expression and biotransformation of oestrogen and progesterone in rat uterus and deciduoma. *Natl Med J India* 2006. (IF 0.59, citation 10)
 - 20 Saxena S, **Kaushal M**. *et al.* Genomic alterations in breast cancer patients from Northeast India using 10K SNP arrays. (Abstract) *Genome Biol* 2010. (IF 11.9, citation 3)

Book Chapters

1. **Mishi Wasson**, Sonia Kapoor, Manoj Garg, Sandhya Singh and Hridayesh Prakash, Macrophage Polarization Is Decisive for Chronic Bacterial Infection-Induced Carcinogenesis, Macrophage Activation - Biology and Disease, October 28th 2019 DOI: 10.5772/intechopen.88171
2. Patil D., **Wasson M.K.**, Perumal V., Aravindan S., Rao P.V. (2019) Bactericidal Nanostructured Titanium Surface Through Thermal Annealing. In: Shunmugam M., Kanthababu M. (eds) Advances in Micro and Nano Manufacturing and Surface Engineering. Lecture Notes on Multidisciplinary Industrial Engineering. Springer, Singapore. https://doi.org/10.1007/978-981-32-9425-7_7

Conferences Attended

1. 2nd International Conference on Integrative Chemistry, Biology & Translational Medicine, December 6-8, 2022, Delhi University
2. Virtual International Conference HEALTH 2021 on “CANCER BIOLOGY: Advances and Challenges” Organized by Department of Zoology, Deshbandhu College, University of Delhi in collaboration with Indian Council of Medical Research (ICMR, Govt. of India) and National Institute of Pharmaceutical Education and Research (NIPER Hyderabad, Govt. of India) from 11th – 13th November 2021.
3. “5-day online FDP on Universal Human Values for DEEKSHARAMBH (Student Induction Program)” organized by NIT Patna during 21 - 25 September 2020
4. One-week online Faculty Development Programme, “Moodle Learning Management System” organized by Amity Institute of Information Technology, Amity University Lucknow Campus in association with IIT Bombay Spoken Tutorial (an MHRD, Government of India initiative) 23rd June’2020 to 27th June’ 2020.
5. San Antonio Breast Cancer Symposium® (SABCS®) and the Rajiv Gandhi Cancer Institute & Research Centre and the Oncology Forum, Best of SABCS® INDIA 7th and 8th March 2020, New Delhi
6. San Antonio Breast Cancer Symposium® (SABCS®) and the Rajiv Gandhi Cancer Institute & Research Centre and the Oncology Forum, Best of SABCS® INDIA Best of SABCS 2019, 06th - 07th April 2019, New Delhi
7. Fabrication of Nano-structured Surfaces and Their Effect on Bacterial Attachment, Proceedings of 17th International Conference on Precision Engineering (ICPE 17), November 12-16, 2018, Kamakura, Japan.
8. Bactericidal Nanostructured Titanium Surface through Thermal Annealing, 7th International & 28th All India Manufacturing Technology, Design and Research (AIMTDR) Conference 2018 December 13th-15th 2018, College of Engineering Guindy, Anna University, Chennai, India.
9. Betel Quid Chewing A Risk Factor For Breast Cancer: Study Of Genomic Alterations Thirteenth Human Genome Meeting (HUGO) 2012,
10. Chromosomal copy-number alterations in breast cancer significantly affect gene modules involved

- in cancer progression. AACR's New Horizons in Cancer Research conference 2012, Gurgaon
11. Genomic alterations in breast cancer patients from using 10K SNP arrays 'Beyond the Genome: The true gene count, human evolution and disease genomics' at Harvard Medical School, Boston, USA on 11-13 October 2010
 12. Advanced Methodological Approach in understanding Higher Order Interaction towards susceptibility of Breast Cancer. 28th Annual Conference of Indian Society for Medical Statistics (ISMS) held jointly by National
 13. Institute of Health and Family Welfare (NIHFW) and National Institute of Medical Statistics (NIMS), Indian Council of Medical Research (ICMR), held at NIHFW from 11th-13th November, 2010
 14. Genome-wide analysis of DNA copy number variations in Indian breast cancer patients using high-density SNP arrays 20th Asia Pacific Cancer Conference
 15. Genome-wide analysis of genetic alterations in breast cancer patients from using 10K SNP arrays Organisation for Oncology and Translational Research (OOTR) 6th Annual Conference,
 16. "Significance of TP53 codon 72 polymorphism in lung and breast cancer showing different xenobiotic potential". Thirteenth Human Genome Meeting (HUGO) 2008,
 17. "Assessment of Breast cancer risk: Genotype polymorphism in estrogen synthesizing and metabolizing genes and their contribution in breast cancer susceptibility. "27th annual convention of indian association for cancer research", from Feb. 6 – 9 , 2008
 18. "Study of Interactions between Glutathione-S-Transferase Metabolic Enzymes and Smoking in Lung Cancer" IACRCON-2008 and 27th Annual Convention of Indian Association For Cancer Research.
 19. Role of high and low penetrance genes in susceptibility to breast cancer in patients from International Symposium on Cancer Biology November 14-16, 2007

Scientific Workshops Attended

1. International Workshop on Advance Statistical Data Analysis Using SPSS, Science Tech Institute, Lucknow, Sept 21-27, 2021
2. National workshop on NGS Data Analysis Feb 26th – 1st March 2018 National Institute of pathology, New Delhi
3. Workshop on Genetic Epidemiological Methods for dissection of complex human traits 23-28 February 2009, TCG-ISI Center for population genomics, Kolkatta, India
4. National workshop on Microarray technology 16-18 April 2007 National Institute of pathology, New Delhi

Faculty development programs Attended

1. Online Faculty Development Program On Universal Human Values For Deeksharambh (Student Induction Program) 21 – 25 September 2020 Organised By Department Of Mechanical Engineering National Institute Of Technology Patna
2. Faculty Development Programme from 2020-06-23 to 2020-06-27 on Moodle Learning Management System organized by Amity University, Lucknow and IT Bombay, funded by the National Mission on Education through ICT, MHRD, Govt. of India

Experimental Techniques: Very proficient with microarray technology Affymetrix platform both gene expression and copy number array with data analysis, Cell Culture, MTT Assay, immunohistochemistry, Real-Time PCR, DNA Sequencing, PCR, RFLP, Denaturing High Pressure Liquid Chromatography (DHPLC),

Statistical Analysis: Very proficient in EXCEL, High order statistical analysis for SNP association studies using MDR, CART software, Microarray analysis using DCHIP, Chipster, AltAnalyze, Data mining using DAVID and Ingenuity Pathway, Basic Statistical software like SPSS, STATA, Graph pad. Adept in epidemiological studies, proforma filling, data entry and its analysis. Meta-analysis using RevMan, Prometa5.

REFERENCES

1. Dr Varsha Mehra

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3. Dr Vivekanandan Perumal

Professor
Kusuma School of Biological Sciences
Indian Institute of Technology (IIT), Delhi 110016

4. Dr. Usha Agrawal

Vice Chancellor
Asian Institute of Public Health
Ex-Director
National Institute of pathology, (ICMR) Safdarjung Hospital Campus
New Delhi 110029
Email: uburra@gmail.com

DECLARATION

I hereby solemnly affirm that all details provided above are true to the best of my knowledge and belief and that all the time, I shall carry myself in a manner that lends dignity to the organization and worthy enough of the person.



Dr. Mishi Wasson