

Curriculum vitae



First Name: Mohammad Irfan Qureshi
S/o Mr. M. Yusuf



Highest Qualification: Ph.D.
Designation: Associate Professor
Erasmus Plus Teacher

ADDRESS:

Room No. 500 (Lab), 517 (Office)
Proteomics & Bioinformatics Lab, Department of Biotechnology
Faculty of Life Sciences, 500 & 517 - S. Ramanujan Block
Jamia Millia Islamia (Indian Central University), New Delhi-110 025, **INDIA**
Marital Status : Married

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Research Experience: 24 Years (Proteomics, Medicinal Plants/Phytomedicine, and Genetic Engineering of Plants)

Teaching Experience: 18 Years (UG, PG, and Doctoral – OMIC Technologies/Plant Biotechnology)

Languages known: English and Hindi (Highly Proficient), Urdu (Proficient) and Italian (Basic)

Computer Science Skills: Proficient handling of MS Office (PPT/WORD/EXCEL), Biorender, Canva, Referencing Software, Imaging software (Bio-Rad PDQuest/QuantityOne/PS LR, Image Lab, J1. IrfanView, Format converters (OpenBabel), etc.

Protein Modelling, Molecular Docking & Phylogeny: Proficient in handling AutoDock Tools, VINA, PyMol, Chimera, Discovery Studio, MEGA, LigPlot, AlphaFold, Modeller, ADMET analysis, etc.

Hobbies & Interests: Playing Badminton and Soccer, and reading top journals.

Foreign Countries with Academic Assignments/Conferences so far

 AUSTRIA  ITALY  UNITED KINGDOM  GERMANY  POLAND

Awards & Honors

1. INSA-German Science Foundation DFG Visiting Scientist, University of Jena, **Germany (2018-2019)**
2. Erasmus Plus Teacher, Poznan, **Poland (2019)**
3. M Abul Kalam Azad Award of Excellence in Teaching, Shikshak Kalyan Foundation, **India (2020)**
4. DST Travel Award for Cambridge University **(2011)**
5. DST International Travel Award for visiting Rome, Italy, April 2010.
6. IARI-ICP Australia Young Scientist Award **(2010)**
7. DST, Govt. of India, Fast-Track Young Scientist Grant **(2008)**
8. MIUR, Govt. of Italy, Young Researcher Award and Grant **(2006)**
9. CSIR, Govt. of India Research Associate Fellowship, **2005 for Proteomics of Artemisia annua**
10. Co-Chaired a session in a National Seminar organized by the National Environmental Science Academy, INSA, Delhi (21-22 Feb 2015)
11. **Guest of Honor**, Inauguration Session, National Seminar on “Environmental Pollution: Consequences and Management”, Krishna College of Science & Information technology, Bijnor, India. 2013
12. Chaired a session of an International Conference, Rome, Italy (May 2010)
13. **Won the Best Paper** in a National Seminar on “Recent research trends in life sciences”. 2002. University of Kashmir, Srinagar, J&K, India.

14. **Guest of Honor**, Save Loktak Lake Campaign (NECEER, Imphal), Gandhi Darshan, New Delhi on 7 March 2010.
15. **Winner** of Masters Gold-Medalist in the seminar-cum-debate on “Water Resources and Their Management for Human-Welfare”. 1999. Advances in Plant Sciences. India.

Research Grants/Projects

1. Major Research Project (MRP), Funded by UGC, Govt. of India

Title: Large Scale Proteomics Analysis to Fish out N- and S-Responsive Proteins and cDNAs in Indian Mustard.

Duration: 3 Years (2008-2011): 19 Lakh INR

2. Fast Track Research Grant for Young Scientist, SERC-DST, Govt. of India

Title: Mapping the Stress-Induced Proteome of *Arabidopsis thaliana* using 2-D Electrophoresis and MALDI-TOF-MS.

Duration: 3 Years (2008-2011): 20 Lakh

3. Innovative Research Grant (2014), UGC. **Multimiomic analysis of Soybean exposed to mercury stress.**

4. Young Researcher Grant (2005)

Title: Proteomic Response of Plants to Metal Stress.

Duration: 1 Year: EURO15000

5. INSA-German Research Foundation Visiting Faculty Support:

Duration: 2 Months: EURO3200

Professional Experience

Teaching Experience

18 Years (MultiOMICS Technologies & Bioinformatics, Plant Physiology & Biotechnology)

Research Experience

19 Years Post-Ph.D. (Stress Physiology; Cellular & Chloroplast Proteomics)

Interdisciplinary Research Experience

5 years (Secondary Metabolites/Drug Discovery/Molecular Docking)

Education

2004

Ph.D. (Botany/Biotechnology)

Topic: Physiochemical Assessment of the Impact of Oxidative Stress on Growth and Qualitative Traits of Some Medicinal Plants

Department of Botany/Biotechnology, Hamdard University, New Delhi-110 062, India. (Awarded on 7 February 2004)

1999

M.Sc. (Botany)

First Division, CCS University, Meerut, UP, India.

1997

B.Sc. (Botany, Zoology and Chemistry)
 First Division, CCS University, Meerut, UP, India.

Journals with Published Articles: Selective

<i>Journal name</i>	~Impact Factor	Number
<i>Molecular Plant</i>	27.5	01
<i>Environmental Chemistry Letters</i>	13.615	01
<i>Scientific Reports – Springer Nature</i>	4.996	01
<i>Environmental Science and Pollution Research</i>	5.190	01
<i>Frontiers in Plant Science</i>	6.627	02
<i>Environmental Safety and Pollution Research</i>	5.19	01
<i>International Journal of Phytoremediation</i>	3.7	01
<i>Journal of Nanobiotechnology</i>	10.2	01
<i>Plos One</i>	3.752	05
<i>Environmental and Experimental Botany</i>	6.028	02
<i>Journal of Plant Physiology</i>	3.686	02
<i>Protoplasma</i>	3.186	02
<i>Plant Science</i>	5.354	01
<i>BMC Plant Biology</i>	5.260	01
<i>Phytochemistry</i>	4.004	01
<i>Environmental Reviews</i>	5.547	01
<i>Annals of Botany – Plants</i>	5.040	01
<i>Molecular Breeding</i>	3.297	01
<i>Plant Growth Regulation</i>	3.242	01
<i>Plant Physiology and Biochemistry</i>	5.437	02
<i>MDPI Plants</i>	4.658	01
<i>ACS Omega</i>	4.132	02
<i>BioMed Research International</i>	3.246	01
<i>Biologia Plantarum</i>	1.122	01
<i>Appl Biochem Biotechnology</i>	3.094	01
<i>Photosynthetica</i>	2.482	01
<i>Indian J. Agricultural Sciences</i>	0.374	01
<i>Journal of Genetics</i>	1.508	01
<i>Advances in Botanical Research</i>	2.878	01
<i>Physiology and Molecular Biology of Plants</i>	3.023	01
<i>Indian Journal of Biotechnology</i>	0.324	01
<i>3 Biotech</i>	2.893	01
<i>International Journal of Phytoremediation</i>	4.003	01
<i>Agronomy</i>	3.949	01

Patents:

Filed with Title: **Development of Chikungunya Vaccine in Bacterial and Plant Systems**
 Application No. 202411005110 (Complete Patent) filed on January 24, 2024

Gene Accession on NCBI

1. Accession no. HQ909048: CRT/DRE binding factor 3 mRNA
2. Accession no. HQ909049: CRT/DRE binding factor protein mRNA
3. Accession no. FJ416369: C-repeat DRE binding factor 1 (CBF1) gene
4. Accession no. 561591: DREB1-like protein mRNA
5. Accession no. 561592: DREB1A-like protein mRNA
6. Accession no. 806136: DREB1C mRNA

Publication Details

Research Articles

1. Khan, F.N., Asim, M. and Qureshi, M.I., 2024. Überblick und Klassifizierung von auf Schwarmintelligenz basierenden naturinspirierten Rechenalgorithmen und deren Anwendungen in der Krebserkennung und-diagnose. In Von der Natur inspirierte intelligente Datenverarbeitungstechniken in der Bioinformatik (pp. 131-160). Singapore: Springer Nature Singapore.
2. Dar, M. I., Gulya, A., Abass, S., Dev, K., Parveen, R., Ahmad, S., & Qureshi, M. I. (2024). Hallmarks of diabetes mellitus and insights into the therapeutic potential of synergy-based combinations of phytochemicals in reducing oxidative stress-induced diabetic complications. *Natural Product Research*, 1–15. <https://doi.org/10.1080/14786419.2024.2402461>
3. Mohammad Irfan Dar, Armiya Sultan, Sageer Abass, Kapil Dev, Rabea Parveen, Sayeed Ahmad, Mohammad Irfan Qureshi (2024). Exploring the anti-diabetic mechanism of selective phytochemicals identified from *Gymnema sylvestre* using TLC-UPLC-MS, complemented by in silico studies. *Phytomedicine Plus*. 4(3): 100606.
4. F.N. Khan, M. Asim, M.I. Qureshi, Artificial intelligence in the diagnosis and treatment of rheumatoid arthritis: current status and future prospects, in *Artificial Intelligence and Autoimmune Diseases*, ed. by K. Raza, S. Singh. *Studies in Computational Intelligence*, vol 1133 (Springer, 2024)
5. KR Hakeem, HF Alharby, MI Qureshi (2023). Drought-Mediated Modulation in Metabolomic Profiling of *Nigella Sativa* Leaf, Growth, Ecophysiology and Antioxidants. *Phyton* (0031-9457).
6. Naaz, S., Ahmad, N., Jameel, M.R., Al-Huqail, A.A., Khan, F., Qureshi, M.I., 2023. Impact of some toxic metals on important ABC transporters in soybean (*Glycine max* L.). *ACS Omega* 8, 27597–27611. <https://doi.org/10.1021/acsomega.3c03325>
7. Qamar S, Syeda A, Amjad Beg M, **M Irfan Qureshi** (2023). Insights from the molecular docking analysis of gambogic acid with the Chikungunya spike glycoprotein E2. *Bioinformation*. 2023 May 31;19(5):525-530. doi: 10.6026/97320630019525. PMID: 37886138; PMCID: PMC10599661.
8. Naaz S, Ahmad N, Al-Huqail AA, Irfan M, Khan F, **M. Irfan Qureshi**. (2023) Cd and Hg mediated oxidative stress, antioxidative metabolism and molecular changes in soybean (*Glycine max* L.). *Phyton-Int J Exp Bot* 92(6):1725–1742
9. Ahmad J, Khatoon F, **M. Irfan Qureshi**. (2023). Engineered nanomaterials in crop plant salt stress management. In: *Engineered Nanomaterial for Sustainable Agricultural Production, Soil Improvement and Stress Management*. Ed. Azamal Husen. Academic Press. Pp.205-226.
10. Ahmad J, Yasmeen R, Irfan M, Al-Huqail, AA, **M. Irfan Qureshi** (2023) Assessment of health risk, genotoxicity, and thiol compounds in *Trigonella foenum-graecum* (Fenugreek) under arsenic stress. *Environ Sci Pollut Res* 30:884–898
11. Yasmine, R., Ahmad, J., Qamar, S., **M. Irfan Qureshi** (2023). Engineered nanomaterials for sustainable agricultural production, soil improvement, and stress management: An overview. *Eng. Nanomater. Sustain. Agric. Prod. Soil Improv. Stress Manag.* 1–23
12. Dar, **MI, Qureshi, MI**, Zahiruddin S, Abass S, Jan B, Sultan A. (2022). In Silico Analysis of PTP1B Inhibitors and TLC-MS Bioautography-Based Identification of Free Radical Scavenging and α -Amylase Inhibitory Compounds from Heartwood Extract of *Pterocarpus marsupium*. *ACS omega* 7 (50), 46156-46173
13. Khan, FN, Asim, M, **M. Irfan Qureshi**. (2022). Overview and Classification of Swarm Intelligence-Based Nature-Inspired Computing Algorithms and Their Applications in Cancer Detection and Diagnosis. In: *Nature-Inspired Intelligent Computing Techniques in Bioinformatics*. Eds. K. Raza. Springer Link. Pp. 119-145.
14. Jameel MR, Ansari Z, Al-Huqail A, Naaz S, M. Irfan Qureshi. (2022). CRISPR/Cas9-mediated genome editing of soluble starch synthase enzyme in rice for low glycemic index. *Agronomy* 12: 2206.
15. Ahmad J, Beg MA, Ali AA, Al-Huqail A., M. Irfan Qureshi (2022). *Trigonella foenum-graecum* (fenugreek) differentially regulates antioxidant potential, photosynthetic, and metabolic activities under arsenic stress. *Ecotoxicology and Environmental Safety*. 246: 114128
16. Ahmad J, Ali AA, Iqbal M, Ahmad A, M. Irfan Qureshi (2022). Proteomics of mercury-induced

- responses and resilience in plants. *Environmental Chemistry Letters*. 20(5): 3335-3355
17. Ahmad J, Yasmeen R, Irfan M, Al-Huqail AA, M. Irfan Qureshi (2022). Assessment of health risk, genotoxicity, and thiol compounds in *Trigonella foenum-graecum* (Fenugreek) under arsenic stress. *Environmental Science and Pollution Research* <https://doi.org/10.1007/s11356-022-22269-5>
 18. AAA Ali, Ahmad J, Baig MA, Ahmad A, Huqail AA, M. Irfan Qureshi (2022). Impact of ferrous sulfate on thylakoid multiprotein complexes, metabolism and defence of *Brassica juncea* L. under arsenic stress. *Plants* 11:5559
 19. Ahmad J, Ali AA, Al-Huqail AA, M. Irfan Qureshi (2021). Triacntanol attenuates drought-induced oxidative stress in *Brassica juncea* L. by regulating lignification genes, calcium metabolism and the antioxidant system. *Plant Physiology & Biochemistry* – 166: 985-998.
 20. Amna S, Qamar S, Naqvi AAT, Al-Huqail AA, M. Irfan Qureshi (2020). Role of sulfur in combating arsenic stress through upregulation of important proteins, and *in-silico* analysis to study the interaction between phosphate transporter (PHO1), arsenic and phosphate in spinach. *Plant Physiology & Biochemistry* - 157: 348-358.
 21. Ahmad J, Baig A, Amna, Ibrahim, **M. Irfan Qureshi** (2020). *Parthenium hysterophorus* steps up Ca-regulatory pathway in defence against highlight intensities. **Scientific Reports – Nature**, 10, 1-21.
 22. Ahmad J, Qamar S, Khan F, Haq I, Al-Huqail A, **M. Irfan Qureshi** (2020). Differential impact of some metal(loids) on oxidative stress, antioxidant system, sulfur compounds, and protein profile of Indian Mustard (*Brassica juncea*L.). **Protoplasma**, 1-17.
 23. Ansari WA, Atri N, Ahmad J, M. Irfan Qureshi, Singh B, Kumar R, Rai V, Panday S. (2019). Drought mediated physiological and molecular changes in muskmelon (*Cucumis melo* L.). **Plos one** <https://doi.org/10.1371/journal.pone.0222647>
 24. Baig MA, Ahmad J, Bagheri R, Ali AA, M. Irfan Qureshi. (2018). Pb and Hg induced proteomic and ecophysiological changes in soybean (*Glycine max* L.) root nodules. **BMC Plant Biology**, **18:283**.
 25. Pirzadah TB, Malik B, Tahir I, **M. Irfan Qureshi**, Rehman RU (2018) Characterization of mercury-induced stress biomarkers in *Fagopyrum tataricum* plants, *International Journal of Phytoremediation*, 20:3, 225-236, DOI: 10.1080/15226514.2017.1374332
 26. Ahmad J, Bagheri R, Bashir H, Baig A, Huqail A, Ibrahim M, **M. Irfan Qureshi**. (2018). Organ-specific phytochemical profiling and antioxidant analysis of *Parthenium hysterophorus*. *BioMed Research International*. Volume 2018, Article ID 9535232, 10 pages <https://doi.org/10.1155/2018/9535232>
 27. Ahmad J, Bashir H, Bagheri R, Baig A, Huqail A, Ibrahim MM, **M. Irfan Qureshi**. (2017). Drought and salinity induced changes in ecophysiology and proteomic profile of *Parthenium hysterophorus*. **Plos one**. **PONE-D-17-22007**. 12(9), e0185118
 28. Singh M, Khan MMA, Uddin M, Naeem M, **M. Irfan Qureshi**. (2017). Proliferating effect of radiolytically depolymerized carrageenan on physiological attributes, plant water relation parameters, essential oil production and active constituents of *Cymbopogon flexuosus* Steud. under drought stress. **Plos one**. 12(7), e0180129.
 29. Malhotra K, Subramaniyan M, Rawat K, Kalamuddin M, **M. Irfan Qureshi**, Malhotra P, Mohmmmed A, Cornish K, Daniell H, and Kumar S.(2016). Compartmentalized metabolic engineering for artemisinin biosynthesis and effective malaria treatment by oral delivery of plant cells. **Molecular Plant** **9(11)**: 1464-1477.
 30. Al-Huqail AA, Al-Rashed SA, Ibrahim MM, El-Galy GA, **M. Irfan Qureshi** (2017). Arsenic induced eco-physiological changes in Chickpea (*Cicer arietinum*) and protection by gypsum, a source of sulphur and calcium. **Scientia Horticulturae** **217**:226-233.
 31. Bagheri R, Ahmad J, Bashir H, Iqbal M, **M. Irfan Qureshi** (2017). Changes in rubisco, cystein-rich proteins, and antioxidant system of spinach (*Spinacia oleracea* L.) due to sulphur deficiency, cadmium stress and their combinations. **Protoplasma** **254**:1031-1043 <http://dx.doi.org/10.1007/s00709-016-1012-9>
 32. Bagheri R, Bashir H, Ahmad J, M. Iqbal, **M. Irfan Qureshi** (2015). Spinach (*Spinacia oleracea* L.) modulates its proteome differentially in response to salinity, cadmium and their combination stress. **Plant Physiology & Biochemistry** **97**: 235-245.
 33. Nazir M, Pandey R, Siddiqi TO, Ibrahim MM, **M. Irfan Qureshi**, Abraham G, Vengavasi K,

- Ahmad A. (2016). Nitrogen-deficiency stress induces protein expression differentially in low-N tolerant and low-N sensitive maize genotypes. **Frontiers in Plant Science** 7.
34. Ameen S, Ahmad M, Mohsin M, **M. Irfan Qureshi**, Ibrahim MM, Abdin MZ, Ahmad A. (2016). Designing, construction and characterization of genetically encoded FRET-based nanosensor for real time monitoring of lysine flux in living cells. **Journal of Nanobiotechnology**, 14:49.
 35. Yousof PY, Ganie AH, Khan I, **M. Irfan Qureshi**, Ibrahim MM, Sarwat M, Iqbal M, Ahmad A. (2016). Nitrogen-efficient and nitrogen-inefficient Indian mustard cultivars show differential protein expression in response to elevated CO₂ and low nitrogen. **Frontiers in Plant Science** 7:1074.
 36. Afreen S, Shamsi TN, Baig MA, Ahmad N, Fatima S, **Qureshi MI**, Hassan MI, Fatma T. (2017). A novel multicopper oxidase (laccase) from cyanobacteria: Purification, characterization with modulation potential in the decolorization of anthraquinonic dye. **PLoS one**, 12(4): e0175144
 37. Shamsi, T. N., Parveen, R., Amir, M., Baig, M. A., Qureshi, M. I., Ali, S., & Fatima, S. (2016). *Allium sativum* Protease Inhibitor: A novel Kunitz trypsin inhibitor from garlic is a new comrade of the Serpin family. **Plos one**, 11(11), e0165572.
 38. Pirzadah TB, Malik B, Tahir I, **M. Irfan Qureshi**, Rehman RU. (2017). Metabolite fingerprinting and antioxidant potential of tartary Buckwheat – an underutilized pseudocereal crop from Kashmir region. **Free Radicals and Antioxidants** 7: 95-106.
 39. Ahmed J, Ibrahim MM, Baig MA, Ali AA, **M. Irfan Qureshi** (2016). Standardization of DNA extraction from invasive alien weed *Parthenium hysterophorus*. *Afr. J. Biotechnol.* **15**: 1035-1040.
 40. Bashir H, Ibrahim MM, Bagheri R, Ahmad J, Arif IA, Baig MA, **M. Irfan Qureshi**. Modulation of oxidative stress, antioxidant system, phytochelatin content and growth by sulfur deficiency and cadmium stress in Indian mustard. **2015. AoB Plants**7: 1-13.
 41. Bashir H, **M. Irfan Qureshi**, M.M. Ibrahim, Muhammad Iqbal. Chloroplast and photosystems: impact of cadmium and iron-deficiency. **2015. Photosynthetica** **53**: 321-335.
 42. Tabassum H, Waseem M, Parvez S, **M. Irfan Qureshi** (2015). Oxaliplatin-induced oxidative stress provokes toxicity in isolated rat liver mitochondria. *Archives of Medical Research* 46: 597-603. **IF = 2.22**
 43. Akhtar M, Jaiswal A, Ahmad E, Jaiswal JP, **M. Irfan Qureshi**, Tufchi M, Kumar A, Singh NK. 2015. Molecular cloning and characterization of a cold-induced gene encoding DRE-binding transcription factor from cold-arid adapted ecotype of *Lepidium latifolium* L. *Indian Journal of Biotechnology*, 14: 26–32. **IF = 0.45**
 44. Iqbal M, Ahmad A, Ansari MKA, **M. Irfan Qureshi**, Aref IM, Khan PR, Hashim H, Husen A, Hakeem KR. Environmental Reviews Improving the phytoextraction capacity of plants to scavenge metal(loid)-contaminated sites. **2015. Environmental Reviews** **23**: 44-65. **IF = 4.63**
 45. **M. Irfan Qureshi**, Abdin M.Z, Ahmad J, Iqbal M. (2013). Effect of long-term salinity on cellular antioxidants, compatible solute and fatty acid profile of Sweet Annie (*Artemisia annua* L.). **Phytochemistry** **95**: 215-223. **IF = 2.78**
 46. Bashir H, Ahmad J, Bagheri R, Nauman M, **M. Irfan Qureshi** (2013). Limited sulfur resource forces *Arabidopsis thaliana* to shift towards non-sulfur tolerance under cadmium stress. **Environmental & Experimental Botany**, **94**: 19-32. **IF = 3.71**
 47. **M. Irfan Qureshi**, G.M. D'Amici, S. Rinalducci, M. Fagioni, L. Zolla. (2010). Iron stabilizes thylakoid protein-pigment complexes in Indian mustard grown under Cd-stress as revealed by BN-SDS-PAGE and ESI-MS/MS. **J. Plant Physiol.** **167**: 761-770. **IF = 2.97**
 48. Hakeem KR, Mir BA, **M. Irfan Qureshi**, Ahmad A, Iqbal M (2013). Physiological studies and proteomic analysis for differentially expressed proteins and their possible role in the root of N-efficient rice (*Oryza sativa* L.). **Molecular Breeding** **32(4)**: 785-798. **IF = 2.11**
 49. Muneer S, Kim TH, **M. Irfan Qureshi** (2012). Fe modulates Cd-induced oxidative stress and the expression of stress responsive proteins in the nodules of *Vigna radiata*. **Plant Growth Regulation.** **68(3)**: 421-433. **IF = 2.33**
 50. Bashir H, Ahmad J, Bagheri R, Baig A, **M. Irfan Qureshi** (2013). Thylakoidal Pigment-Protein Complexes: Critical requirement of sulphur for proper assemblage and photosynthesis in *Arabidopsis thaliana*. *Journal of Plant Biochem Physiol.* 1:4e110.
 51. Akhtar M, **M. Irfan Qureshi**, Singh NK (2013). Standardization of DNA isolation protocol from *Chenopodium album* and *Lepidium latifolium*. **Bioinfolet** **10(2B)**: 612-615.

52. Bagheri R, Bashir H, Ahmad J, Baig M, **M. Irfan Qureshi** (2013). Effects of cadmium on leaf proteome of *Spincia oleracea* (spinach). *Intl J Agril Food Sci Technol* **4(2)**: 33-36.
53. **M. Irfan Qureshi**, Muhammad Iqbal, M.Z. Abdin(2010). Lead and salinity stress in plants with special reference to *A. annua* L. and *C. angustifolia*Vahl. *In: Medicinal Plants in Changing Environment*. Eds. Ahmad A, Siddiqui TO, Iqbal M. Capital Publishing Co., 107-139.
54. Muneer S, Ahmad J, Bashir H, Moiz S, **M. Irfan Qureshi** (2011). Studies to reveal importance of Fe for Cd-tolerance in *Brassica juncea*. *Int. J. App. Biotech. Biochem.* **1**: 321-338.
55. Hakeem KR, Chandna R, Ahmad A, **M. Irfan Qureshi**, Iqbal M (2012). Proteomic analysis of low and high-nitrogen responsive proteins in the leaves of rice genotypes grown at three nitrogen levels. *Appl BiochemBiotechnol.* **168**: 834-850.
56. Shukla SK, Joshi DC, Srivastava RK, **M. Irfan Qureshi**, Singh US. (2011). Suitability of RAPD and ISSR to complement agro-morphological DUS descriptors for establishing distinctiveness in indigenous local strains of Kalanamak rice (*Oryza sativa*). *Ind. J. Agril Sci.* **81**: 994-1000.
57. Muneer S, Ahmad J, **M. Irfan Qureshi** (2013). Involvement of Fe nutrition in modulating oxidative stress and the expression of stress responsive proteins in leaves of *Vigna radiata* L. *Australian Journal of Crop Science* **7(9)**: 1333-1342.
58. Muneer S, Ahmad J, Bashir H, **M. Irfan Qureshi** (2012). Proteomics of nitrogen fixing nodules under various environmental stress. *Plant Omics Journal* **5(2)**: 167-176. ISSN: 1836-3644.
59. Akhtar M, Jaiswal A, Taj G, Jaiswal JP, **M. Irfan Qureshi**, Singh NK. (2012). DREB1/CBF transcription factors: Their structure, function and role in abiotic stress tolerance in plants. **Journal of Genetics: 91(3): Online.**
60. Akhtar M, Jaiswal A, Jaiswal JP, **M. Irfan Qureshi**, Tufchi M, Singh NK. (2013). Cloning and characterization of cold, salt and drought inducible C-repeat binding factor gene from a highly cold adapted ecotype of *Lepidium latifolium*L. **Physiology and Molecular Biology of Plants**19: 221-230.
61. **M. Irfan Qureshi**, S. Qadir, L. Zolla (2007). Proteomics based dissection of the stress responsive pathways in plants. **J. Plant Physiol.** **164**: 1239-1260. Among top 25 hottest articles on Science Direct (JPP) for two and a half years and top hottest article for six months.
62. **M. Irfan Qureshi**, M. Z. Abdin, S. Qadir, M. Iqbal (2007). Lead-induced oxidative stress and metabolic alterations in *Cassia angustifolia* Vahl. **Biologia Plantarum**51: 121-128.
63. **M. Irfan Qureshi**, M. Z. Andin (2006). Plant environmental proteomics: let proteins speak their jobs under different environments. **J. Plant Biol.**33(1): 1-14.
64. **M. Irfan Qureshi**, M. Israr, M. Z. Abdin, Muhammad Iqbal (2005). Responses of *Artemisia annua* L. to lead and salt-induced oxidative stress. **Environmental&ExperimentalBotany**53:185-193. Among top 25 hottest articles on Science Direct (EEB) for three months.
65. S. Qadir, **M. Irfan Qureshi**, S. Javed, and M.Z. Abdin (2004). Genotypic variation in phytoremediation potential of *Brassica juncea*cultivars exposed to Cd stress. **Plant Science** **167**: 1171-1181. Among top 25 hottest articles on Science Direct (PS) for six months.
66. Salim Khan, **M. Irfan Qureshi**, Kamaluddin and M. Z. Abdin (2006). Protocol for isolation of genomic DNA from dry and fresh root of medicinal plants suitable for RAPD and restriction digestion. **Afr. J. Biotechnol.** **6**: 175-178.

Book Chapters

67. Sheeba Naaz, Nadeem Ahmad, **M Irfan Qureshi**. ATP Binding Cassette (ABC) Transporters in Plant Development and Defense. *In: Molecular and Physiological Insights into Plant Stress Tolerance and Applications in Agriculture-Part 2.* pp.251-269. Bentham Science Publishers. 2024
68. Amna, S. Qamar, **M. Irfan Qureshi**. (2021). Arsenic Phytotoxicity via the Membrane Transporters and Its Mechanism of Action and Detoxification in Plant Cells. *In: Plant-Microbe Dynamics: Recent Advances for Sustainable Agriculture.* TB Pirzadah, B. Malik, K Rehman (Eds.). Boca raton, CRC Press. Pages 268, eISBN: 9781003106784.
69. M. Affan Baig, Qamar S, Ali AA, Ahmad J, **M. Irfan Qureshi** (2020). Heavy metal toxicity and tolerance in crop plants. *In: Contaminants in Agriculture* (Eds. N.M. Ansari and Gill S.). Springer Cham. pp 201-216. https://doi.org/10.1007/978-3-030-41552-5_9

70. Ahmad J, Qamar S, Kausar N, **M. Irfan Qureshi** (2020). Nanoparticles: The magic bullets in mitigating drought stress in plants. *In: Nanobiotechnology in plants*. Eds. Hakeem K, Pirzadah T. Springer, Cham. pp. 335-365. https://doi.org/10.1007/978-3-030-39978-8_8
71. Amna, AlHarby HF, Hakeem K, **M. Irfan Qureshi** (2019). Weed control through herbicide-loaded nanoparticles. *In: Nanomaterial and plant potential*. pp. 507-527. Springer, Cham. https://doi.org/10.1007/978-3-030-05569-1_20
72. M. Affan Baig, Javed Ahmad, Arlene A. Ali, Amna, **M. Irfan Qureshi** (2018). Role of sulfur metabolism in cadmium tolerance. *In: Cadmium tolerance in plants: Agronomic, Molecular, Signaling and omic approaches*. Eds. (Hassanuzzaman, et al.). <https://doi.org/10.1016/B978-0-12-815794-7.00013-8>
73. Javed Ahmad, Arlene A Ali, M. Affan Baig, M. Iqbal, Inamul haq, M. Irfan Qureshi. 2020 Role of phytochelatins in cadmium stress tolerance in plants. *In: Cadmium Toxicity and Tolerance in Plants: From Physiology to Remediation*. Eds. M Hasanuzzaman, MNV Prasad, and M. Fujita. Pp. 185-212. Academic Press ISBN: 978-0-12-814864-8 <https://doi.org/10.1016/B978-0-12-814864-8.00008-5>
74. Singh M, Ali AA, M. Irfan Qureshi (2017). Unraveling the impact of essential mineral nutrients on active constituents of selected medical and aromatic plants. *In: Essential Plant Nutrients*. Springer. pp. 183-209.
75. Pirzadah TB, Malik B, Rehman RU, **M. Irfan Qureshi** (2013). Signaling in response to cold stress. *In: Plant Signaling: Understanding the Molecular Cross Talk*. Hakeem KR, Rehman RU, Tahir I. (Eds.). Springer. pp 193-226.
76. **M. Irfan Qureshi**, Muneer S, Bashir H, Ahmad J, Iqbal M. (2010). Nodule physiology and proteomics of stressed legumes. **Advances in Botanical Research**, (Eds. J-K Kader, M. Delseny) **Vol 56:** 1-48. **IF 1.20**
77. Bagheri R, Bashir H, Ahmad J, Baig A, **M. Irfan Qureshi** (2014). Effects of cadmium stress on plants. *In: Environmental susceptibility: concepts, principles, evidences and innovations*. Mishra GC (Ed). Excellent Publishing House, India. Pp. 271-277. ISBN: 978-93-83083-75-6.
78. Bagheri R, Ahmad J, Bashir H, **M. Irfan Qureshi** (2014). Impact of cadmium, salt and their combination on oxidative stress, chlorophylls and thylakoid structure of *Spinacia oleracea*. *In: Environmental susceptibility: concepts, principles, evidences and innovations*. Mishra GC (Ed). Excellent Publishing House. Pp. 278-283. ISBN: 978-93-83083-75-6.
79. **M. Irfan Qureshi**, M. Z. Abdin, S. Qadir, Kamaluddin, M. Iqbal (2005). Responses of some medicinal plants to heavy metal, salinity and oxidative stress. *In: Traditional System of Medicine*. Abdin MZ, Abrol YP (eds.). Narosa Publishing House, New Delhi, India.
80. M. Israr, **M. Irfan Qureshi**, S. Aquil, R.K. Dwiwedi, M. Z. Abdin (2005). Influence of phytohormones, IAA and GA₃ on artemisinin content in *Artemisia annua* L. *In: Traditional System of Medicine*. Abdin MZ, Abrol YP (eds.). Narosa Publishing House, New Delhi, India.
81. S. Ahmad, A. Jamal, I. S. Fazli, **M. Irfan Qureshi**, M. Iqbal, M.Z. Abdin (2005). Nutritional Approaches for Improved Production of Atrilal (*Ammi majus* L.). *In: Traditional System of Medicine*. Abdin MZ, Abrol YP (eds.). Narosa Publishing House, New Delhi, India. pp. 534-545.
82. Bashir H, **M. Irfan Qureshi**, Muneer S, Ahmad J, Zolla L. (2010). Proteomic approaches to map thylakoid proteins and study differential protein expression under various abiotic stresses. *Proceedings of International Conference of Biology, Biochemistry and Biotechnology (ICBBB)*, World Academy of Science, Engineering & Technology, 28-30 May 2010, Rome, Italy.

Invited Talks/Faculty Induction or Basic Community Talks

1. Biophysics of genome editing tool CRISPR-Cas9. BIOPHYSIKA-2024: National Conference on Interdisciplinary Sciences. Nov. 21, 2024. CIRBSc, JMI, India.
2. Genome Editing to Cure Genetic Diseases. Oct. 24, 2024. Online 2-Week Refresher Course in Basic Sciences. Organized by: UGC-Human Resource Development Centre, JMI, New Delhi.
3. Cloning and Artificial Intelligence. Online June 14, 2024. 2-Week Refresher Course in Basic Sciences. Organized by: UGC-Human Resource Development Centre, JMI, New Delhi.
4. Biodiversity: Changing Paradigms in 21st Century. 11.08.2022. Online 2-Week Refresher

Course in Basic Sciences. Organized by: UGC-Human Resource Development Centre, JMI, New Delhi.

5. Delivered two Lectures (14 & 15 May 2014; i. Molecular Plant Physiology and ii. Biomolecules) as a resource person at Faculty of Education in ‘Ten-day Refresher/Training Program’, JMI, New Delhi
6. Delivered a Plenary Lecture on “Use of advance techniques in environmental risk assessment”, INSA, New Delhi (22 Feb 2015).
7. Delivered a lecture and Chaired a Session in e-session XIV WASET, Rome, Italy. 2010.
8. Delivered a lecture, ‘Basics and Applications of Proteomics’. May 13 2015 at Academic Staff College, JMI, New Delhi in 5th 3 week RC in Basic Sciences.
9. Delivered a lecture on Plant Proteomics: Tools and Applications, AMU, Aligarh, India (2013).
10. Delivered three lectures on different aspects of Proteomics and Bioinformatics in Shere Kashmir University of Agriculture, Science & Technology, Srinagar, JK, India (2013).
11. Delivered a Keynote Lecture on Environmental threats and proteomic markers in Krishna Institute of Science & Technology, Bijnor, India (30 Nov. 2013). Environmental Biotechnology: Basics & Applications
12. Delivered a lecture as Resource Person, DST, Govt. India INSPIRE Camp on Basic concepts in proteomics at Ghaziabad, India (10 Jan. 2014). Topic: Principles and Applications of Proteomics.
13. Delivered a lecture as Resource Person in 1st Phase of Refresher Course at Faculty of Education, Jamia Millia Islamia, New Delhi (December 2013).
14. Delivered an Invited Lecture in Annual Extension Lecture Series of Department of Biosciences, Jamia Millia Islamia, New Delhi (14 Feb. 2008). Topic: Molecular Sociology of the Cell.
15. Delivered an Invited Lecture in Annual Extension Lecture Series of Department of Biosciences, Jamia Millia Islamia, New Delhi (13 March, 2014). Topic: Proteomics and Mass spectrometry: Methodologies and applications.
16. Delivered an Invited Lectures in Annual Extension Lecture Series of Department of Biotechnology, Jamia Millia Islamia, New Delhi (13 March, 2014 & year 2008). Topic: Proteomics and Mass spectrometry: Methodologies and applications and Decoding molecular sociology of cell, respectively.

Conference Paper Presentations: 46

1. 6th International Conference on Biogenesis of Iron Sulphur Proteins and Regulatory Functions. 22-25 August, 2011. Girton College, University of Cambridge, U.K.
2. Antivirals for the Developing World. 10th Annual Symposium of International Consortium on Anti-Virals (ICAV) in collaboration with International Centre for Genetic Engineering & Biotechnology (ICGEB). Feb. 07-10, 2012, New Delhi, India
3. Introducing the Weedomics: Understanding the Tolerance Mechanisms of Weeds. Third International Conference on Parthenium (ICP-2010), Dec. 8-10, 2010; Indian Agricultural Research Institute, New Delhi-110012 & Entomological Society of India at IARI
4. Third International Conference on Parthenium (ICP-2010), Dec. 8-10, 2010; Indian Agricultural Research Institute, New Delhi-110012 & Entomological Society of India at IARI, Proteomic and antioxidant response of *Parthenium hysterophorus* to drought. Javed Ahmad, Sowbiya Muneer, Humayra Bashir, Rita Bagheri, M. Irfan Qureshi
5. International Conference of Biochemistry and Biotechnology (28-30 May 2010), Hotel Royal Santana, Rome, Italy.
6. National Symposium on Genomics and Proteomics, 2010 (4-5 February). Desh Bandhu College, University of Delhi, New Delhi, India.
7. 2nd International Conference on Trends in Cellular and Molecular Biology, School of Life sciences, Jawaharlal Nehru University, New Delhi, 5-7 January, 2008. Variation in nitrogen efficiency of rice genotypes. K.R. Hakeem, A. Ahmad, M. Irfan Qureshi, M. Iqbal
8. 1st National Congress of Italian Proteomic Association (ItPA), Pisa, Italy. 3-5 July, 2006. Proteomic profile of iron-deficient spinach thylakoids by Blue-Native and SDS-PAGE.
9. XVII International Botanical Congress, Vienna, Austria. July 17-July 24, 2005. Impact of long-term salinity and oxidative stress on photosynthesis, growth, cellular antioxidants and

- medicinal quality of *Artemisia annua* L.
10. 3rd International Conference on Natural Products and Bio-Expo-2004. Nanjing, PR China. Oct. 2004. Enhancing Bioactive Molecules in Medicinal Plants through Physiochemical and Biotechnological Approaches.
 11. Hepatoprotective activity of alcoholic extract of Kasni (*Cichorium intybus* L.) against aflatoxin B induced oxidative stress in Swiss albino mice. 2nd International Conference on Recent Advances in Biomedical and Therapeutic Sciences. Jan 6-8, 2005, Jhansi, India.
 12. Impact of abiotic and oxidative stress on growth, cellular antioxidants and quality of medicinal plants. 2004. National Seminar on Plant Physiology, Indian Society for Plant Physiology, Pune, India.
 13. Taming the oxidative stress for improved quality of medicinal herbs. 2004. National workshop on "Institute-Industry Interaction on research in Unani Medicine to Identify Areas of Collaboration". Hamdard University, New Delhi, India.
 14. Response of cellular antioxidant system in *Cassia angustifolia* Vahl. (Indian Senna) under salinity." 2003. National symposium on "Plant biology and biodiversity in changing environment". Hamdard University, New Delhi, India.
 15. Effect of Cd on ultrastructure of chloroplast and mitochondria, protein content, amino acid pool and proteases activity in *Brassica juncea* L. genotypes. 2003. National symposium on "Plant biology and biodiversity in changing environment". Hamdard University, New Delhi, India.
 16. Interactive effects of nitrogen and rhizobia on cadmium extraction efficiency of *Brassica juncea* L. (mustard). 2003. National symposium on "Plant biology and biodiversity in changing environment". Hamdard University, New Delhi, India.
 17. Salinity induces oxidative stress and alters ascorbate-glutathione cycle in *Cassia angustifolia* Vahl". 2003. National seminar on "Recent advances in plant science research". University of Kashmir, Srinagar, India.
 18. Biochemical aspects of Cd-toxicity and protective mechanisms induced in *Brassica juncea* L. genotypes". 2003. National seminar on "Recent advances in plant science research". University of Kashmir, Srinagar, India.
 19. Modulation of photosynthesis and artemisinin content in *Artemisia annua* L. by salinity-induced oxidative stress". 2003. XVI National symposium on "Photobiology in the genomics and post-genomics era". University of Delhi, New Delhi.
 20. Differential responses of *Artemisia annua* L. to NaCl and Pb. 2003. 2nd International Congress of Plant Physiology, IARI, New Delhi, India.
 21. Cadmium induces early senescence in *Brassica juncea* genotypes. 2003. 2nd International Congress of Plant Physiology, IARI, New Delhi, India.
 22. Artemisinin concentration is altered by salt-induced oxidative stress in *Artemisia annua* L. 2002. National Seminar on "Recent research trends in life sciences". University of Kashmir, Srinagar, J&K, India.
 23. Biochemical responses of *Brassica juncea* L. (mustard) cultivars to cadmium stress. 2002. National Seminar on "Recent research trends in life sciences". University of Kashmir, Srinagar, J&K, India.
 24. Photosynthesis and artemisinin biosynthesis in *Artemisia annua* L. as influenced lead-induced oxidative stress. 2001. IIT, New Delhi, India.
 25. Effect of salinity-induced oxidative stress on cellular antioxidants, biomolecules, and lipid composition of cell membrane of *Artemisia annua* L." 2000. National Seminar on "Frontiers of Research and Development in Medicinal Plants". CIMAP, Lucknow, India.

Conferences/Seminars Organized (4 National, 01 International: Organizing Secretary)

Organizing Secretary, University Teachers' Association Multidisciplinary International Conference. Feb. 17-18, 2022. JMI University, New Delhi, India.

Organizing Secretary, National Conference on Biotechnology & Environment (NCOBE-2017). 10-11 April 2017. Department of Biotechnology, JMI University, New Delhi, India.

Convener, Agricultural Science Committee, XXXII Indian Science Congress, Dec 18-22, 2008, Jamia Millia Islamia, New Delhi, India.

Co-convenor, Multidisciplinary Thematic Research Committee, XXXII Indian Science Congress, Dec 18-22, 2008, Jamia Millia Islamia, New Delhi, India.

Convener, Biotalk on All about EBOLA and Bioquiz. October 20, 2014

Editorial Work = Peer reviewed for 21 Journals, ~35 articles including

- i. Journal of Hazardous Materials, Elsevier,
- ii. Journal of Agronomy and Crop Science, Wiley, Berlin, Germany
- iii. Environmental and Experimental Botany, Elsevier, The Netherlands
- iv. Australian Journal of Agricultural Research, CSIRO, Australia
- v. International Journal of Environmental Studies, Taylor & Francis, United Kingdom
- vi. Annals of Applied Biology, Wiley, United Kingdom
- vii. International Journal of Molecular Sciences, Basel, Switzerland
- viii. Regulatory Toxicology and Pharmacology, San Diego, CA, USA
- ix. Afr. Journal of Biotechnology, Academic Journals
- x. Photosynthetica, Springer
- xi. Molecular Biosystems, Royal Society of Chemistry
- xii. Scientia Horticulturae, Elsevier

Membership of National/International Scientific Organizations (Present or Past)

1. The German Society for Proteome Research (Deutsche Gesellschaft für Proteomforschung e. V., DGPF), **Germany**
2. American Electrophoresis Society, **USA**.
3. Association of Biomolecular Resource Facilities (ABRF), **USA**
4. Associate member of The Institute of Nanotechnology, **Scotland**.
5. Indian Biophysical Society (**Life Member**)
6. Governing Council of Zaheer Science Foundation - **Member**
7. Italian Proteomic Association (ItPA), **Italy**, 2006-07.

Supervising & Mentoring Activities

Ph.D Guidance: Main Guide

S.N.	Name of Ph.D Students	Year of Award	Thesis Title
1	Dr. Sowbiya Muneer	2011	Proteomic and biochemical investigation to study the response in <i>Vigna radiata</i> to Fe-deficiency and Cd-stress.
2	Dr. M. Khalid-ul-Rehman Hakeem	2011	Proteomic investigation of NUE rice cultivars under different N levels
3	Dr. Sarvesh K. Shukla	2012	DUS characterization of kala namak rice (<i>Oriza sativa</i> L.) germplasm using morphological and molecular markers
4	Dr. Moin Akhtar	2012	Isolation, cloning and characterization of abiotic stress responsive genes from <i>Lepidium latifolium</i>
5	Dr. Humayra Bashir	2013	Proteomics analysis of <i>Arabidopsis thaliana</i> exposed to S-deficiency and Cd-stress
6	Dr. Javed Ahmad	2014	Metabolomics of <i>Parthenium hysterophorus</i> and its proteomic response to abiotic stress
7	Dr. Rita Bagheri	2014	Proteomic response of spinach to some abiotic stresses using 2-D electrophoresis and mass spectrometry
8	Karan Malhotra	Aug. 2017	Metabolic engineering of tobacco (<i>Nicotiana</i>)

			<i>tabacum</i>) for biosynthesis of dihydroartemisinic acid
9	M. Affan Baig	12 Feb 2018	Genomic, Proteomic and Metabolomic Studies to understand Molecular Mechanism of Metal Toxicity in <i>Glycine max</i> L. (Merr.)
10	Amna	Awarded 2021	Multiomic analysis of Spinach exposed to As stress and S regimes.
11	Arlene A. Ali	Awarded 2022	Multi-omic Response of <i>Brassica juncea</i> to Arsenic and Development of CRISPR/Cas9 Construct against <i>rbcS</i> Gene
12	M Irfan Dar	Awarded Feb 27, 2024	High-throughput screening and metabolomic profiling for antidiabetic compounds from medicinal plants
13	Sadia Qamar	Awarded May 15, 2024	Production of Chikungunya virus envelop protein E2 antigen in <i>Nicotiana tabacum</i>
Ongoing Ph.D Guidance			
14	Fatima Nazish	In Progress	Transcriptional hierarchies in pre-meiotic to meiotic transition in maize anther development
15	Musabur Rehman	In Progress	Development of MPXV vaccine in <i>Nicotiana tabacum</i>
16	Nida	In Progress	Molecular biology of Mustard transcription factors under Cd stress
17	Shagufta Ashrafiya	In Progress	Inhibition of ABC Transporters by plant compounds in breast cancer cell lines.
18	Aasma Saifi	Course Work	
Ph.D Guidance: Co-Guide			
18	M. Khalid-ul-Rehman Hakeem	Awarded March 2011	Proteomic investigation of NUE rice cultivars under different N levels
19	Tanveer Bilal Pirzada	Awarded 2020	Proteomics and Metabolomic response of <i>Fagopyrum spp.</i> To Hg stress
20	Sheeba Naaz	Awarded 2023	Role of ABC Transporter under metal stress in Soybean
21	M Rizwan Jameel	2023	CRISPR/Cas9 mediated deletion in SSS genes for low glycemic index in rice

ORIENTATION PROGRAMS AND WORKSHOPS/TRAININGS

- Two-week hand-on training on “Multi-omics approaches to alleviate abiotic stress in post genomic Era: Methods and application in microbial research (Jan 24, 2014 – Feb 06, 2014), National Institute of Abiotic Stress Management, Maharashtra, India.
- Four-week Orientation Programe (89th OP; Thursday, August 06, 2009 to Friday, September 04, 2009), Academic Staff College (ASC), Jamia Millia Islamia, New Delhi-110 025, India
- Three-week Refresher Course in Basic Sciences, 6-22 May’11. Academic Staff College (ASC), Jamia Millia Islamia, New Delhi-110 025, India
- Group Monitoring Workshop, 11-12 Feb., 2011. Institute of Life Sciences, University of Hyderabad. Organized by DST, Govt. of India.

Post-Doctoral Fellows guided – 06

1. **Dr. Minu Singh** (Dr. Kothari PDF) – Upregulation of citral biosynthesis in lemon grass
2. **Dr. Heena Tabussum** (CSIR PDF) – Liver Mitochondrial Proteomics
3. **Dr. Asha Wadhwa** (Dr. Kothari PDF) – Roles of microRNAs in N-efficient and N-deficient rice varieties.
4. **Dr. Nadeem Hashmi** (SERB DST YS) – Metabolomics and Proteomics of *Curcuma longa*.
5. **Dr. Javed Ahmad – RA, CSIR (2017-2020)**
6. **Dr. Javed Ahmad – Pool Scientist, CSIR (2020-2023)**

Manpower trained: 106 UG & PG students through 6 Months Dissertations

Services to the Institution:

Member of Research Advisory Committee

Member of Institutional Biosafety Committee (2014-2018)

Assistant Director – Internal Quality Assurance Committee (2019-2021)

Course Coordinator – B.Sc. Biotechnology (2011 – till date)

Manager, Faculty Basketball Teams (Men and Women)

Secretary – Jamia Teachers Association (2020-2022)

Conducted Botanical Survey: JMI Central University with identification of nearly 170 plants/trees species on the campus.

Dr. Mohammad Irfan Qureshi
Associate Professor

Date: January 03, 2025

Place: New Delhi, India