

# IRFAN AHMAD GHAZI, PhD.

## Professor

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## Educational Qualifications:

| Exam   | Year | University                    | Subject       |
|--------|------|-------------------------------|---------------|
| Ph.D.* | 2007 | Hamdard University, New Delhi | Biotechnology |
| M.Sc.  | 2000 | H. P. University, Shimla      | Biotechnology |

\*Ph.D. Thesis Title: “Isolation and Characterization of Resistance Gene Analogue sequences from the long arm of chromosome 11 of rice”.

## Teaching and Research Experience:

- Presently, working as **Professor in Department of Plant Sciences, University of Hyderabad (UoH)**, Hyderabad (India). Joined UoH in May 2007. Participating in both teaching and research at MSc, IMSc and PhD level.
- UGC-Raman Postdoctoral Fellow at Department of Bioagricultural Sciences and Pest Management, and Dept. of Environmental & Radiological Health Sciences, Colorado State University, Fort Collins, CO 80523-1177, USA during **September 2013 to September 2014**. Worked on anti-diarrheal properties of Rice Bran.
- Worked as Junior Research Fellow on the project entitled “**Identification of candidate genes for high grain number in rice panicle by combining QTL fine mapping**” at National Research Centre on Plant Biotechnology, Indian Agricultural Research Institute, Pusa, New Delhi from May 2005 to April 2007.
- Worked as Project Fellow on the project entitled “**Indian Initiative on Rice Genome Sequencing Project**” at National Research Centre on Plant Biotechnology, Indian Agricultural Research Institute, Pusa, New Delhi from October 2000 to May 2005. Successfully, participated in the sequencing of Chromosome 11 of rice genome.

## Academic Awards/Achievements:

- **International Travel Grant:** Received from ANRF with Grant no. ITS/2026/001621 to participate in The 8<sup>th</sup> International Conference on Bacterial Blight of Rice (ICBB08) held during June 11-15, 2026 at School of Agriculture and Biology, Shanghai Jiao Tong University, Shanghai, China to give an oral. Got Best Presentation Award during conference.
- **Committee Member:** Constitution of Steering Committee for the review of DBT Funded Agri-Nutrition projects during 2024-26.

- **Collaborative visit to** International Centre for Diarrhoeal Disease Research, Dhaka, Bangladesh (icddr,b) for one week during June 15-22, 2019 for scientific discussion and interaction.
- **Raman Fellowship** for Post Doctoral Research in United States for the year 2013-14 has been awarded under India-US 21<sup>st</sup> Century Knowledge Initiatives by University Grant Commission (UGC), New Delhi, India and visited Colorado State University, USA for one year during 2013-14.
- **Member:** Expert committee at AP State Council of Science & Technology (2011-12).
- **DBT Nominee:** Institutional Biosafety Committee (IBSC) of M/S Sandeep Agrisciences Pvt. Ltd. Mehboobnagar, AP (2008-11).
- Qualified ICAR-NET Exam in 2003.

**Research Interest/Specialization:** Rice functional genomics, R-gene-Avr interactions, therapeutic properties of Rice Bran and Indian medicinal plants.

We are working on allele mining of candidate R-genes in different cultivated and wild rice genotypes. We are looking for novel/superior alleles of important BLB R-genes and studying their expression pattern in BLB resistance germplasms. Understanding of functional differences among alleles will help in deciphering its structure and function and finally facilitate easy identification of superior alleles corresponding to *avr* gene. We are interested in the functional validation of these genes using Omics approaches which would reveal the mechanisms of resistance and support further exploitation to enhance the breadth of resistance in rice against bacterial blight. Our ultimate aim is to introduce the selected R-genes into the most popular cultivated variety(ies) of rice.

Apart from rice functional genomics, my research group is also working on isolation and characterization and understanding of bioactive and therapeutic compounds from Rice Bran for their potential role in prevention of human diseases especially cancer.

### Scientific Publications:

1. Das PP, Bhati K, Bhandari KP, Kumar A, Hakeem KR and **Ghazi IA**. Comparative in silico analysis reveals divergent genomic features of *Xa27* and *Xa23* loci in *indica* and *japonica* subspecies. **Discover Plants** 2026. 3:140. <https://doi.org/10.1007/s44372-026-00586-0>.
2. Das PP, Kumar A, Mohammed M, Bhati K, Babu KR, Bhandari KP, Sundaram RM and **Ghazi IA**. Comparative metabolites analysis of resistant, susceptible and wild rice species in response to bacterial blight disease. **BMC Plant Biology** 2025. 25:178. <https://doi.org/10.1186/s12870-025-06154-0>.
3. Das PP, Bhandari KP, Bhati K, Gireesh C, Laha GS, Sundaram RM and **Ghazi IA**. Analysis of nucleotide diversity among alleles of intronless bacterial blight resistant genes *Xa27* and *Xa23* in rice. **Biocatalysis and Agriculture Biotechnology** 2025. 63:103477. <https://doi.org/10.1016/j.bcab.2024.103477>.
4. Gul MZ, Das PP, Babu KR, Colunga SJ, Weber AM, Yoosuf B, Alex AS, Srivastava RK, Marathi B, Patel S, Ryan EP and **Ghazi IA**. Rice Bran: A comprehensive review of phytochemicals and bioactive components with therapeutic potential and health benefits. **Nutrition Reviews** 2025. doi: 10.1093/nutrit/nuaf147.

5. Bhandari KP, Singh S, Das PP, Bhati K, Babu KR, Sonvanshi PR, **Ghazi IA**. Virtual screening of rice phytochemical scaffolds targeting Peptide Deformylase of *Xanthomonas oryzae* pv. *oryzae* for the control of Bacterial Leaf Blight.: Exploration of rice phytochemicals for the mitigation of bacterial leaf blight disease. **Indian Journal of Biochemistry and Biophysics** 2025. 62:1220-1232.
6. Das PP, Gul MZ, Weber AM, Srivastava RK, Marathi B, Ryan EP and **Ghazi IA**. Rice bran extraction and stabilization methods for nutrient and phytochemical biofortification, nutraceutical development and dietary supplementation. **Nutrition Reviews** 2024. doi: 10.1093/nutrit/nuae174.
7. Tannidi B, Lakshmi VGI, Anantha MS, ..... **Ghazi IA**, ..... Channappa G. Identification of novel sources of bacterial leaf blight resistance in wild species of rice. **Plant Genetic Resources: Characterization and Utilization** 2024. <https://doi.org/10.1017/S1479262124000601>.
8. Sinha P, Kumar TD, Sk Hajira ..... **Ghazi IA**, ..... Mangrauthia SK and Sundaram RM. Fine mapping and sequence analysis reveal a promising candidate gene encoding a novel NB-ARC domain derived from wild rice (*Oryza officinalis*) that confers bacterial blight resistance. **Frontiers in Plant Sciences** 2023. 14:1173063. DOI 10.3389/fpls.2023.1173063.
9. Jena R, Ali A, **Ghazi IA**. Comparative metabolomic analysis of unreleased and released pollen from *Putranjiva roxburghii* Wall. **South African Journal of Botany** 2022. 149: 758-767 <https://doi.org/10.1016/j.sajb.2022.07.017>.
10. Das PP, Singh KRB, Nagpure G, ....., **Ghazi IA**, Kumar A, Singh J. Plant-soil-microbes: A tripartite interaction for nutrient acquisition and better plant growth for sustainable agricultural practices. **Environmental Research** 2022. 214:113821. <https://doi.org/10.1016/j.envres.2022.113821>.
11. Srivastava RK, Satyavathi CT, Mahendrakar MD, ..... **Ghazi IA**. Addressing iron and zinc micronutrient malnutrition through nutrigenomics in Pearl Millet: Advances and Prospects. **Frontiers in Genetics** 12:2021. Doi:10.3389/fgene.2021.723472.
12. Suresh A, Shaik S, Baddam R ,..... **Ghazi IA**, Wieler LH, Ahmed N. Evolutionary dynamics Based on Comparative Genomics of Pathogenic *Escherichia coli* Lineages Harboring Polyketide Synthase (pks) Island. **mBio**. 12(1) DOI:10.1128/mBio 2021.03634-20.
13. Kumar A, Kumar R, Sengupta D..... **Ghazi IA**, Laha GS and Sundaram RM. Deployment of genetic and genomic tools towards gaining a better understanding of rice-*Xanthomonas oryzae* pv. *oryzae* interactions for development of durable bacterial blight resistance rice. **Frontiers in Plant Science** 2020. 11:1152. doi: 10.3389/fpls.2020.01152 .
14. Mujeeb AA, Alam KFB, Alshameri AWF, ..... **Ghazi IA** and Owais M. Chaperone like attributes of biogenic fluorescent gold nanoparticles: Potential to alleviate toxicity induced by intermediate state fibrils against neuroblastoma cells. **Frontiers in Chemistry** 2019; 7:787.
15. Bhat MY, Gul MZ, Husain MK and **Ghazi IA**. *In vitro* Evaluation of Antiproliferative, Lipxygenase and Xanthine Oxidase Inhibitory Activities of *Artemisia nilagirica* (C.B.Clarke) Pamp. Leaf Extracts. **Indian Journal of Pharmaceutical Sciences** 2019; 81(2): 389-395.
16. Bhat MY, Gul MZ, Maurya RS, Khan N, Qureshi IA and **Ghazi IA**. Growth inhibition and apoptosis inducing effects of *Artemisia absinthium* L. fractions on chronic myeloid leukemia (K562) cells. **Journal of Biologically Active Products from Nature** 2018. 8(2):70-89.

17. Gul MZ, Chandrasekaran S, Manjulatha K, Bhat MY, Maurya RS, Qureshi IA and **Ghazi IA**. Antiproliferative and apoptosis-inducing effects of *Abrus precatorius* against human monocytic leukaemia (THP-1) cell line. **Indian Journal of Pharmaceutical Sciences** 2018. 80(2): 307-317.
18. Gul MZ, Bhat MY, Maurya R, Qureshi IA and **Ghazi IA**. *In vitro* evaluation of antioxidant and antiproliferative activities of *Artemisia nilagirica* extracts. **Indian Journal of Pharmaceutical Sciences** 2017; 79(6): 872-884.
19. Bhat MY, Gul MZ, Khan N, Qureshi IA and **Ghazi IA**. Cryoprotective activity and anti-inflammatory properties of *Artemisia nilagirica* (Clarke) extracts – A study with macrophages. **Journal of Biologically Active Products from Nature** 2017 7(3) 228-244.
20. Gul MZ, Chandrasekaran S, Manjulatha K, ....., and **Ghazi IA**. Bioassay-guided fractionation and in vitro antiproliferative effects of fractions of *Artemisia nilagirica* on THP-1 cell line. **Nutrition and Cancer** 2016 68(7): 1210-24.
21. Manjulatha K, Gul MZ, Imam N, **Ghazi IA** and Setty OH. Phytochemical content and antioxidant potential of *Clerodendrum inerme* and its different parts – A comparative study. **Journal of Biologically Active Products from Nature** 2016: 6 (1) 65-77.
22. Kumar A, Bimolata W, Kannan M, Kirti PB, Qureshi IA, **Ghazi IA**. Comparative proteomics reveals differential induction of both biotic and abiotic stress response associated proteins in rice during *Xanthomonas oryzae* pv. *oryzae* infection. **Functional & Integrative Genomics** 2015 15 (4) 425-37.
23. Bimolata W, Kumar A, Kiran S, Sundaram M, Laha GS, Qureshi IA, **Ghazi IA**. Nucleotide diversity analysis of three major bacterial blight resistance genes in rice. **Plos One** 2015 10(3):e0120186. doi: 10.1371/journal.pone.0120186.
24. Kumar A, Gul MZ, Zeeshan A, Bimolata W, Qureshi IA, **Ghazi IA**. Differential antioxidant responses of three different rice genotypes during bacterial blight infection. **Australian Journal of Crop Science** 2013, 7(12): 1893-1900.
25. Bimolata W, Kumar A, Sundaram RM, ..... and **Ghazi IA**. Analysis of nucleotide diversity among alleles of the major bacterial blight resistance gene *Xa27* in cultivars of rice (*Oryza sativa*) and its wild relatives. **Planta** 2013, 238: 293-305.
26. Gul MZ, Ahmed F, Kondapi AK, Qureshi IA and **Ghazi IA**. Antioxidant and antiproliferative activities of *Abrus precatorius* leaf extracts – an in vitro study. **BMC Complementary and Alternative Medicine** 2013, 13:53.
27. Kumar A, Guha A, ....Sundaram RM and **Ghazi IA**. Leaf gas exchange physiology in rice genotypes infected with bacterial blight: An attempt to link photosynthesis with disease severity and rice yield. **Australian Journal of Crop Science** 2013, 7(1):32-39.
28. Gul MZ, Bhakshu LM, .....and **Ghazi IA**. Evaluation of *Abelmoschus moschatus* extracts for antioxidant, free radical scavenging, antimicrobial and antiproliferative activities using in vitro assays. **BMC Complementary and Alternative Medicine** 2011, 11:64.
29. **Ghazi IA**, Srivastava PS, Dalal V, ....., and Mohapatra T. Physical mapping, expression analysis and polymorphism survey of resistance gene analogues on chromosome 11 of rice. **J Biosci.** 2009, 34(2):251-61.

30. Mueller LA, Tanksley SD, Cheng Z, Chen J, Yang X, Sun S, Khurana JP, Tyagi AK, **Ghazi IA**,..... Singh NK, Mohapatra T, Zamir D and others A Snapshot of the emerging Tomato Genome Sequence. **The Plant genome** 2009 2:78-92.
31. Singh NK, Dalal V, Batra K, .....**Ghazi IA**, .....and Gaikwad K, Mohapatra T, Sharma TR. Single copy genes define a conserved order between rice and wheat for understanding differences caused by duplication, deletion and transposition of genes. **Funct Integr Genomic**, 2007; 7:17-35.
32. Kanwar SS, **Ghazi IA**, Chimni SS, ..... and Punj V. Purification and properties of a noble extracellular thermotolerant metalloproteinase of *Bacillus coagulans* MTCC-6375 isolate. **Protein Expr Purif**, 2006; 46(2): 421-428.
33. **International Rice Genome Sequencing Project**: The map-based sequence of the rice genome. **Nature**, 2005; 436: 793-800. (Multi-author paper: I am one of the co-authors).
34. The Rice Chromosome 11 and 12 Sequencing Consortia : The sequence of rice chromosomes 11 and 12, rich in disease resistance genes and recent gene duplications. **BMC Biol**, 2005 Sep 27; 3:20. (Multi-author paper: I am one of the co-authors).
35. Singh NK, Raghuvanshi S, ....., **Ghazi IA**, ....., Khurana Pramjit, Khurana JP, Tyagi AK. Sequence analysis of the long arm of rice chromosome 11 for rice-wheat synteny. **Funct Integr Genomic**, 2004; 4:102-117.

### Book Chapters:

1. Gul MZ, Bhat MY, Ryan EP, **Ghazi IA** (2022). Unraveling Medicinal Plant Chemical Diversity for Novel Drug Discovery Through Biotechnological Interventions. For the Book Entitled Omics of Medicinal Plants, CRC Press, Boca Raton, Florida 33487, USA. DOI: 10.1201/9781003179139-3.
2. Das PP, Rana S, Muthamilarasan M, Kannan M, **Ghazi IA** (2021). Omics approaches for understanding plant defense response. For the Book Entitled “Omics Technologies for Sustainable Agriculture and Global Food Security (Vol-I)”. PP 41-83. Springer (Edition ID: 451755).
3. Singh NK, Dalal V, Batra K, .....**Ghazi IA**, .....and Gaikwad K, Mohapatra T, Sharma TR. Comparative analysis of rice and wheat genomes as a tool for gene discovery. In: Science, Technology and Trade for Peace and Prosperity, 2007. Agarwal PK, Ladha JK, Singh RK, Devakumar C, and Hardy B (eds.), IRRI, Philippines PP. 121-136.

### Present Teaching Subjects (at Masters and Integrated Masters Level):

- |                                    |                                    |
|------------------------------------|------------------------------------|
| 1. Genomics                        | 2. Antibiotic & Chemotherapy       |
| 3. Foundation Biology (Under CBCS) | 4. Introductory Biology (for IMSc) |

### PhD students Supervised:

1. **Dr. Anirudh Kumar 2014:** Thesis Title: Molecular Cloning and functional validation of Bacterial Blight resistance genes in rice. University of Hyderabad, Hyderabad.
2. **Dr. Waikhom Bimolata 2014:** Thesis Title: Elucidating the molecular diversity pattern of major bacterial blight R-genes and identification of candidate bacterial blight resistance genes in rice. University of Hyderabad, Hyderabad.
3. **Dr. Zahoor Gul Mir 2015:** Thesis Title: Phytochemical and Biological studies on selected medicinal plants used in Indian traditional system. University of Hyderabad, Hyderabad.
4. **Dr. Mohd. Yasin Bhat 2018:** Thesis Title: Characterization of active constituents for antiproliferative and anti-inflammatory properties from *Artemisia nilagirica* – a traditional medicinal plant. University of Hyderabad, Hyderabad.
5. **Dr. Rutuparna Jena 2023:** Thesis Title: Understanding dioecy in *Cycas nayagarhensis* and *Putranjiva roxburghii* wall: A Morphological, Biochemical and Omics approach. University of Hyderabad, Hyderabad.
6. **Dr. Prajna Priyadarshini Das 2025:** Thesis Title: Integrative analyses to unravel rice bacterial blight resistance: insights from genomic and metabolomic approaches. University of Hyderabad, Hyderabad

>Presently 4 more students are enrolled for their PhD

**MSc Students Supervised:** More than 25 MSc Students supervised for their dissertation from University of Hyderabad.

**Project Trainees guided from Other Institutions/Colleges:** Supervised 28 trainees in the lab.

**Reviewer of Journals:** Plant Stress, PloS One, BMC Complementary and Alternative Medicine, Current Science, Journal of Plant Biology, Journal of Cleaner Production, European Journal of Plant Pathology, Journal of Medicinal Plant Research, European Journal of Medicinal Plant, Journal of Medicinal Plant Research, Gene Reports, Biomedical Research International, Evidence based Complementary and Alternative Medicine, Proteomics, Oxidative Medicine and Cellular Longevity, Environmental Science and Pollution Research, Acta Physiologiae Plantarum.

### Research Projects:

| Sl. No. | Title of Project                                                                                               | PI/Co-PI               | Funding Agency | Amount (Rs.) | Date of sanction and Duration     |
|---------|----------------------------------------------------------------------------------------------------------------|------------------------|----------------|--------------|-----------------------------------|
| 1.      | Cloning and functional validation of class 5 resistance gene analogues from long arm of chromosome 11 of rice. | Principal Investigator | DBT, India     | 13.671 Lakhs | June 2008 for 3 Years (Completed) |

|     |                                                                                                                                                                                                   |                            |                                               |             |                                                |
|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|-----------------------------------------------|-------------|------------------------------------------------|
| 2.  | Expression analysis of candidate disease resistance genes and allele mining in rice.                                                                                                              | Principal Investigator     | DST, India                                    | 30.84 Lakhs | October 2010 for 3 Years<br><b>(Completed)</b> |
| 3.  | Identification of candidate genes for enhanced water use efficiency in rice through activation tagging and their deployment through genetic engineering. (Network Project)                        | Co- Principal Investigator | DBT, India                                    | 1.64 Crores | October 2010 for 5 Years<br><b>(Completed)</b> |
| 4.  | Identification and characterization of <i>Xa21</i> and <i>xa13</i> alleles conferring disease resistance to <i>Xanthomonas oryza</i> pv. <i>Oryzae</i> from wild rice species <i>Oryza nivara</i> | Principal Investigator     | UGC, India                                    | 7.225 Lakhs | July 2012 for 3 years<br><b>(Completed)</b>    |
| 5.  | Antioxidant, Inhibitory and Apoptosis-inducing Effects of <i>Artemisia nilagirica</i> Extracts on tumor cells.                                                                                    | Principal Investigator     | UPE, University of Hyderabad, India, Phase-II | 3.00 Lakhs  | May 2012 for ONE year<br><b>(Completed)</b>    |
| 6.  | Discovery and exploration of bioactive molecules of plant and microbial organisms for improvement of human health                                                                                 | Co-Principal Investigator  | UPE, University of Hyderabad, India, Phase-II | 35 Lakhs    | Dec 2015 – Dec 2016<br><b>(Completed)</b>      |
| 7.  | Identification of novel alleles of wild rice derived bacterial blight resistance genes and their functional analysis                                                                              | Principal Investigator     | DST-SERB                                      | 29.59 Lakhs | <b>Oct. 2018 (Completed)</b>                   |
| 8.  | Engineering of auxin metabolism pathway Genes for improving ripening traits in tomato                                                                                                             | Co-Principal Investigator  | DBT                                           | 40.83 Lakhs | <b>June 2019 (Completed)</b>                   |
| 9.  | Mapping genomic region associated with Bacterial leaf blight resistance derived from <i>Oryza glaberrima</i>                                                                                      | Co-PI                      | SERB                                          | 11.55 Lakhs | Jan 2021<br><b>(Completed)</b>                 |
| 10. | Deciphering metabolic responses of compatible and incompatible interactions between rice-                                                                                                         | PI                         | CSIR                                          | 15.00 Lakhs | <b>September 2021 (Completed)</b>              |

|     |                                                                                                                                                                                     |    |         |              |                     |
|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|---------|--------------|---------------------|
|     | <i>Xanthomonas oryzae</i> pv. <i>oryzae</i> (Xoo) for developing durable bacterial blight resistance                                                                                |    |         |              |                     |
| 11. | Identification of Differentially Expressed Genes during Rice- <i>Xanthomonas</i> infection                                                                                          | PI | UoH-IOE | 10.00 Lakhs  | <b>October 2024</b> |
| 12. | Deciphering the arms race between Indian <i>Xanthomonas oryzae</i> pv. <i>oryzae</i> and <i>Oryza sativa</i> for durable Bacterial Blight resistant rice: A Genomics based approach | PI | DBT     | 47.252 Lakhs | <b>May 2026</b>     |

### Training Program/Workshop Participated:

1. Workshop Participation: Participated in International Workshop on “**Basic to Advanced Bioinformatics (Linux, Python, R and NGS data analysis)**” conducted by Nextgenhelper, New Delhi during September 17-20, 2020.
2. Participated in Workshop: “**Journals, Publications and Bibliometrics**” organized by IQAC- University of Hyderabad, Hyderabad in collaboration with UGC Cell for Journal Analysis, Centre for Publication Ethics, SP Pune University, Pune on March 22, 2019.
3. Participated in Workshop: “**Online Courses**” at e-Learning centre, University of Hyderabad, Hyderabad on July 16, 2018.
4. Participated in workshop: “**Research Methodology & Biostatistics**” sponsored by Indian Council of Medical Research at National Institute of Nutrition, Hyderabad during June 20-22, 2018.
5. Participated in a two weeks training program on “**Science Administration and Research Management**” sponsored by DST, Govt. of India at Administrative Staff College of India, Hyderabad, during March 12-23, 2018.
6. Participated in workshop: “**STEM Teacher Training Workshop on Research-Based Pedagogical Tools (Level 1)**” held from 26<sup>th</sup> February to 1<sup>st</sup> March 2017 at Indian Institute of Science Education and Research (IISER), Pune.
7. Participated in workshop: “**Elsevier Workshop on Book & Journal Publishing and eBook awareness 2017**” on February 15, 2017 at University of Hyderabad, Hyderabad.
8. Participated in workshop on “Metabolomics for Plant, Human and Animal Health” on 17-18, November 2016 at The Energy and Resources Institute, New Delhi, India.
9. Course Attended: GIAN Sponsored “**Immunologicals in Animal and Human Health**” during July 4-16, 2016 at School of Life Sciences, University of Hyderabad, Hyderabad.
10. Workshop Attended: **Entrepreneurship Development and Technology Commercialization Workshop** on September 26, 2014 at School of Life Sciences, University of Hyderabad, Hyderabad, India.
11. Course attended: “**The Genome Access Course**” during March 31 to April 2, 2014 at Cold Spring Harbor Laboratory, New York, USA.



12. Workshop Attended: Faculty Training Workshop on “**Best Practices in Authorship & Publications**” on March 10, 2014 at LSC, Colorado State University, Fort Collins, CO, USA.
13. Online Training: **Blood-borne Pathogen (BBP) Precautions and Training** on March 6, 2014 at Environmental Health Services Biosafety Division, Colorado State University, Fort Collins, CO, USA.
14. Workshop Attended: Faculty Training Workshop on “**Avoid Allegations of Research Misconduct through Effective Data Management**” on February 10, 2014 at LSC, Colorado State University, Fort Collins, CO, USA .
15. Online Training: **Biosafety BSL1 and BSL2 Online Training** on October 16, 2013 at Colorado State University, Fort Collins, CO, USA.
16. Workshop on “**Frontiers in Biological Sciences**” at School of Life Sciences, University of Hyderabad, Hyderabad, India, during 8-9 April 2013.
17. Workshop Attended: Academia Sinica-University of Hyderabad International Workshop Hyderabad, India October 31<sup>st</sup> 2011.
18. Workshop Attended: **Next Generation Sequencing (NGS) Data analysis workshop** at ICRIAT, Hyderabad, India, during July 21<sup>st</sup> to July 23<sup>rd</sup> 2009.
19. Workshop for DBT nominees and IBSC members for strengthening regulatory compliance by IBSCs, DBT, Govt. of India, Hyderabad, January 24, 2009.
20. UGC-sponsored Refresher Course in Biotechnology, at UGC-Academic Staff College, University of Hyderabad, during September 11, 2008 to October 1<sup>st</sup>, 2008.
21. Training program on “**Identification, Design and Development of Common Hazardous Waste Disposal Facilities**” at Environmental Protection Training and Research Institute (EPTRI), Gachibowli, Hyderabad, India from 26<sup>th</sup> to 30<sup>th</sup> November 2007.
22. Workshop on “**Rice Functional Genomics**” at National Research Centre on Plant Biotechnology, IARI, Pusa, New Delhi (India) May 20-21, 2002.
23. One and half months training on "Production, purification & substrate specificity of lipase from a gram-negative bacterial isolate BTG1-99" at Indian Institute of Technology, New Delhi during 3<sup>rd</sup> January- 14<sup>th</sup> February 2000.
24. One and half months training on "Detection and purification of DNA contamination in therapeutic protein" at National Institute of Immunology, New Delhi between 16<sup>th</sup> March 1998 and 30<sup>th</sup> April 1998.

### **Invited and Popular Lectures at Institutes and Universities:**

1. **Resource Speaker:** Professional Development Program. Conducted Seminar on “Research Excellence through effective Grant Writing” on February 10, 2026 at Internal Quality Assurance Cell (IQAC), Al-Badar Dental College and Hospital Kalaburagi, Karnataka.
2. **Resource Person:** The UGC – Malaviya Mission Teacher Training Centre, Short Term Course on Research Methodology. Conducted Class on “How to Get Funding for Research in Bihar: An Initiative Towards Writing Minor and Major Research Proposals by College and

- University Faculties” on December 13, 2025 at UGC-MMTTC, Patna University, Patna (Online Mode).
3. **Resource Person:** Short Term Course on Research Methodology. Conducted Class on “How to Prepare and Deliver a Research-based Seminar” on December 9, 2025 at UGC – Malaviya Mission Teachers Training Centre, Patna University, Patna (Online Mode).
  4. **Resource Person:** The UGC – Malaviya Mission Teacher Training Centre, 20<sup>th</sup> Faculty Induction Programme 2025. Conducted Class on “How to get funding for research” on November 27, 2025 at UGC-MMTTC, University of Calicut, Calicut, Kerala. (Online mode).
  5. **Invited Lecture:** “High throughput genome sequencing” on October 27, 2025 at Seminar hall, Department of Botany, Telangana University, Nizamabad as part of Popular Lecture Series.
  6. **Resource Person:** 22<sup>nd</sup> NEP Orientation & Sensitization Programme 2025. Conducted Class on “Theme Research and Development: Introduction and Constituents of Research and Theories of Knowledge” on February 18, 2025 at UGC – Malaviya Mission Teachers Training Centre, (Formerly UGC-HRDC), University of Calicut, Calicut, Kerala (Online Mode).
  7. **Resource Person:** 22<sup>nd</sup> NEP Orientation & Sensitization Programme 2025. Conducted Class on “Theme Research and Development: Strengthening Research and its Contributions & UN-Sustainable Development Goal” on February 18, 2025 at UGC – Malaviya Mission Teachers Training Centre, (Formerly UGC-HRDC), University of Calicut, Calicut, Kerala (Online Mode).
  8. **Resource Person:** 8<sup>th</sup> Faculty Induction Program 2024. Conducted Class on “Planning and writing an Impressive Research Proposal to promote Funding opportunities for research in Bihar” on December 9, 2024 at UGC – Malaviya Mission Teachers Training Centre, Patna University, Patna.
  9. **Resource Person:** 8<sup>th</sup> Faculty Induction Program 2024. Conducted Class on “Understanding UGC-2018 Guidelines: A simple method to increase API score for CAS promotion” on December 9, 2024 at UGC – Malaviya Mission Teachers Training Centre, Patna University, Patna.
  10. **Resource Person:** The UGC – Malaviya Mission Teacher Training Centre, 18<sup>th</sup> Faculty Induction Programme 2024. Conducted Class on “Bridging Teaching and Research” on November 20, 2024 at UGC-MMTTC, University of Calicut, Calicut, Kerala. (Online mode).
  11. **Resource Person:** The UGC – Malaviya Mission Teacher Training Centre, 18<sup>th</sup> Faculty Induction Programme 2024. Conducted Class on “Cultivating Interdisciplinary Connections in Higher Education” on November 20, 2024 at UGC-MMTTC, University of Calicut, Calicut, Kerala. (Online mode)
  12. **Resource Person:** 2-Weeks refresher course in Basic Science (Interdisciplinary) 2024. Conducted Class on “Learning lessons from world major Pandemics: From Spanish Flu to Covid-19” on October 28, 2024 at UGC-MMTTC, Jamia Millia Islamia, New Delhi. (Online Mode).
  13. **Invited Lecture:** “Environmental Pollution and Biological Solutions” on October 18, 2024 at Department of Biotechnology, SAFI Institute of Advanced Study (SIAS), Vazhayoor, Malappuram, Kerala.
  14. **Invited Lecture:** “Strategies for Crafting and delivering Scientific Presentation” on October 18, 2024 at Department of Biotechnology, SAFI Institute of Advanced Study (SIAS), Vazhayoor, Malappuram, Kerala.
  15. **Invited Lecture:** “Research and Career Opportunities in Biological Sciences in India and Abroad” on October 17, 2024 at Department of Zoology, Pocker Sahib Memorial Orphanage (PSMO) College, Tirurangadi, Malappuram, Kerala.

16. **Resource Person:** 1<sup>st</sup> Refresher Course in Interdisciplinary Advances in Biological Sciences & Biomedical Sciences 2024. Conducted Class on “From Spanish flu to Covid-19: What we learnt from World major Pandemic Diseases” on October 17, 2024 at UGC – Malaviya Mission Teachers Training Centre, (Formerly UGC-HRDC), University of Calicut, Calicut, Kerala.
17. **Resource Person:** 1<sup>st</sup> Refresher Course in Interdisciplinary Advances in Biological Sciences & Biomedical Sciences 2024. Conducted Class on “Bioremediation and Phytoremediation” on October 17, 2024 at UGC – Malaviya Mission Teachers Training Centre, (Formerly UGC-HRDC), University of Calicut, Calicut, Kerala.
18. **Invited Lecture:** “Whole genome sequencing” on October 16, 2024 at Seminar hall, Department of Biotechnology, Sir Syed Institute for Technical Studies, Taliparamba, Kannur, Kerala.
19. **Invited Lecture:** “Frontiers in Biological Sciences: Exploring Research and Career Opportunities in India and Beyond” on October 16, 2024 at Seminar hall, Department of Botany, Sir Syed College, Taliparamba, Kannur, Kerala.
20. **Resource Person:** Refresher Course in Life Sciences & Biomedical Sciences 2024. Conducted Class on “What we learnt from Global major Pandemic Diseases” on September 25, 2024 at UGC – Malaviya Mission Teachers Training Centre, (Formerly UGC-HRDC), University of Hyderabad, Hyderabad (Offline Mode).
21. **Resource Person:** NEP Orientation & Sensitization Programme 2024. Conducted Class on “Theme Research and Development: Introduction and Constituents of Research and Theories of Knowledge” on September 23, 2024 at UGC – Malaviya Mission Teachers Training Centre, (Formerly UGC-HRDC), University of Calicut, Calicut, Kerala (Online Mode).
22. **Resource Person:** NEP Orientation & Sensitization Programme 2024. Conducted Class on “Theme Research and Development: Strengthening Research and its Contributions” on September 23, 2024 at UGC – Malaviya Mission Teachers Training Centre, (Formerly UGC-HRDC), University of Calicut, Calicut, Kerala (Online Mode).
23. **Invited Lecture by the Alumni:** Reach Meet and Greet Program 2024. Conducted class on “World major Endemic, Epidemic and Pandemic diseases and its Epidemiology” on September 21, 2024 at Department of Biotechnology, Himachal Pradesh University, Shimla (Online Mode).
24. **Resource Person:** 7<sup>th</sup> Faculty Induction Program 2024. Conducted Class on “Understanding UGC-2018 Regulations” on September 7, 2024 at UGC – Malaviya Mission Teachers Training Centre, Patna University, Patna (Online Mode).
25. **Resource Person:** Refresher Course in Life Sciences. Conducted class on “Epidemiology of Infectious Diseases” on September 7, 2024 at UGC-MMTTC, Patna University, Patna.
26. **Resource Person:** NEP Orientation & Sensitization Programme 2024. Conducted Class on “Theme Research and Development: Introduction and Constituents of Research” on August 28, 2024 at UGC – Malaviya Mission Teachers Training Centre, (Formerly UGC-HRDC), University of Calicut, Calicut, Kerala (Online Mode).
27. **Resource Person:** NEP Orientation & Sensitization Programme 2024. Conducted Class on “Theme Research and Development: UN-Sustainable Development Goals” on August 28, 2024 at UGC – Malaviya Mission Teachers Training Centre, (Formerly UGC-HRDC), University of Calicut, Calicut, Kerala (Online Mode).
28. **Resource Person:** Refresher Course in Life Sciences. Conducted class on “Rice Genome” on August 14, 2024 at UGC-MMTTC, Osmania University, Hyderabad.

29. **Invited Lecture:** “Classical approaches for whole genome sequencing of an organism” on July 18, 2024 at Seminar hall, Department of Botany, University of Calicut, Calicut, Kerala.
30. **Resource Person:** The UGC – Malaviya Mission Teacher Training Centre, 17th Faculty Induction Programme 2024. Conducted Class on “How to get Funding for Research: An initiative towards writing Minor and Major Research Proposal” on July 18, 2024 at UGC-MMTTC, University of Calicut, Calicut, Kerala.
31. **Resource Person:** The UGC – Malaviya Mission Teacher Training Centre, 17th Faculty Induction Programme 2024. Conducted Class on “How to prepare and deliver an Academic Seminar” on July 18, 2024 at UGC-MMTTC, University of Calicut, Calicut, Kerala.
32. **Resource Person:** NEP orientation & sensitization programme 2024. Conducted Class on the theme “Research and Development” on June 21, 2024 at UGC – Malaviya Mission Teachers Training Centre, (Formerly UGC-HRDC), Patna University, Patna (Online Mode).
33. **Invited Lecture:** Conducted seminar on the topic “Preparing for a scientific and effective seminar on June 10, 2024 at Skill Development Centre, School of Life Sciences, University of Hyderabad, Hyderabad.
34. **Resource Person:** NEP Orientation & Sensitization Programme 2024. Conducted Class on “Theme Research and Development: Introduction and Constituents of Research” on June 4, 2024 at UGC – Malaviya Mission Teachers Training Centre, (Formerly UGC-HRDC), University of Calicut, Calicut, Kerala (Online Mode).
35. **Resource Person:** NEP Orientation & Sensitization Programme 2024. Conducted Class on “Theme Research and Development: Research Proposal writing, funding, execution and Management of Research” on June 4, 2024 at UGC – Malaviya Mission Teachers Training Centre, (Formerly UGC-HRDC), University of Calicut, Calicut, Kerala (Online Mode).
36. **Resource Person:** NEP orientation & sensitization programme 2024. Conducted Class on “Research and Development” on May 27, 2024 at UGC – Malaviya Mission Teachers Training Centre, (Formerly UGC-HRDC), Patna University, Patna (Online Mode).
37. **Resource Person:** NEP Orientation & Sensitization Programme 2024. Conducted Class on “Theme Research and Development: Introduction and Constituents of Research” on May 24, 2024 at UGC – Malaviya Mission Teachers Training Centre, (Formerly UGC-HRDC), University of Calicut, Calicut, Kerala (Online Mode).
38. **Resource Person:** NEP Orientation & Sensitization Programme 2024. Conducted Class on “Theme Research and Development: Research Proposal writing, funding, execution and Management of Research” on May 24, 2024 at UGC – Malaviya Mission Teachers Training Centre, (Formerly UGC-HRDC), University of Calicut, Calicut, Kerala (Online Mode).
39. **Resource Person:** NEP orientation & sensitization programme 2024. Conducted Class on “Research and Development” on April 22, 2024 at UGC – Malaviya Mission Teachers Training Centre, (Formerly UGC-HRDC), Patna University, Patna (Online Mode).
40. **Resource Person:** 5<sup>th</sup> NEP orientation & sensitization programme 2024. Conducted Class on “Research and Development” on March 18, 2024 at UGC – Malaviya Mission Teachers Training Centre, (Formerly UGC-HRDC), Patna University, Patna (Online Mode).
41. **Resource Person:** NEP orientation & sensitization programme 2024. Conducted Class on “Theme Research and Development: Introduction and Constituents of Research and UN-

- Sustainable Development Goals” on March 7, 2024 at UGC – Malaviya Mission Teachers Training Centre, (Formerly UGC-HRDC), North Eastern Hill University, Shillong (Online Mode).
42. **Resource Person:** NEP orientation & sensitization programme 2024. Conducted Class on “Research and Development” on February 27, 2024 at UGC – Malaviya Mission Teachers Training Centre, (Formerly UGC-HRDC), Patna University, Patna (Online Mode).
  43. **Resource Person:** The UGC – Malaviya Mission Teacher Training Centre, 16th Faculty Induction Programme 2024. Conducted Class on “How to get Funding for Research: An initiative towards writing Minor and Major Research Proposal” on February 23, 2024 at UGC-MMTTC, University of Calicut, Calicut, Kerala (Online Mode).
  44. **Resource Person:** The UGC – Malaviya Mission Teacher Training Centre, 16th Faculty Induction Programme 2024. Conducted Class on “How to prepare and deliver an Academic Seminar” on February 23, 2024 at UGC-MMTTC, University of Calicut, Calicut, Kerala (Online Mode).
  45. **Resource Person:** Refresher Course in Life Sciences 2024. Conducted Class on “Understanding Genomics and Genome Sequencing” on February 12, 2024 at the UGC-Malaviya Mission Teacher Training Centre, Pt. Ravishankar Shukla University, Raipur (Online Mode).
  46. **Resource Person:** 6<sup>th</sup> Faculty Induction Program 2024. Conducted Class on “Understanding UGC-2018 Regulations” on February 7, 2024 at UGC – Malaviya Mission Teachers Training Centre, (Formerly UGC-HRDC), Patna University, Patna (Online Mode).
  47. **Resource Person:** 6<sup>th</sup> Faculty Induction Program 2024. Conducted Class on “CAS Promotion: A simple method to increase the API scores” on February 7, 2024 at UGC – Malaviya Mission Teachers Training Centre, (Formerly UGC-HRDC), Patna University, Patna (Online Mode).
  48. **Resource Person:** 6<sup>th</sup> Faculty Induction Program 2024. Conducted Class on “Writing management and implementation of research proposal” on February 3, 2024 at UGC – Malaviya Mission Teachers Training Centre, (Formerly UGC-HRDC), Patna University, Patna (Online Mode).
  49. **Resource Person:** 6<sup>th</sup> Faculty Induction Program 2024. Conducted Class on “Preparing for an Academic Seminar” on February 3, 2024 at UGC – Malaviya Mission Teachers Training Centre, (Formerly UGC-HRDC), Patna University, Patna (Online Mode).
  50. **Resource Person:** NEP orientation & sensitization programme 2024. Conducted Class on “Theme Research and Development: Introduction and Constituents of Research” on January 31, 2024 at UGC – Malaviya Mission Teachers Training Centre, (Formerly UGC-HRDC), University of Calicut, Calicut, Kerala (Online Mode).
  51. **Resource Person:** NEP orientation & sensitization programme 2024. Conducted Class on “Theme Research and Development: Research Proposal writing, funding, execution and Management of Research” on January 31, 2024 at UGC – Malaviya Mission Teachers Training Centre, (Formerly UGC-HRDC), University of Calicut, Calicut, Kerala (Online Mode).
  52. **Invited Lecture:** “Plants and microbes based solution for environmental Pollution” on January 20, 2024 under “Viksit Bharat @ 2047 Lecture Series” at Department of Botany, Central University of Kashmir, Ganderbal, J&K.
  53. **Invited Lecture:** “Medicinal Plants for anticancer properties” on January 19, 2024 at Department of Biotechnology, St. Francis College for Women, Hyderabad.

54. **Invited Lecture:** “Opportunities in Biotechnology in India and Abroad on January 19, 2024 at Department of Biotechnology, St. Francis College for Women, Hyderabad.
55. **Resource Person:** The UGC – Malaviya Mission Teacher Training Centre, 15th Faculty Induction Programme (Guru Dakshta) 2023. Conducted Class on “How to get Funding for Research: Writing Minor and Major Research Proposal” on November 29, 2023 at UGC-HRDC, University of Calicut, Calicut, Kerala (Online Mode).
56. **Resource Person:** The UGC – Malaviya Mission Teacher Training Centre, 15th Faculty Induction Programme (Guru Dakshta) 2023. Conducted Class on “How to prepare and deliver an Academic Seminar” on November 29, 2023 at UGC-HRDC, University of Calicut, Calicut, Kerala (Online Mode).
57. **Invited Lecture:** “High-throughput genome sequencing” on November 3, 2023 at Seminar hall, Department of Biotechnology, Hamdard University, New Delhi.
58. **Invited Lecture:** An Alumni interaction series 2023. Conducted class on “Microbes in Nature: Our Friend or Foe” on November 2, 2023 at Department of Biochemistry, Sri Venkateswara college, University of Delhi, New Delhi.
59. **Invited Lecture:** “Pollution and Solution” on October 20, 2023 at RBBM College, Muzaffarpur, Bihar.
60. **Invited Lecture:** “Research and Career Opportunities in Science in India and Abroad” on October 19, 2023 at Department of Physics and Department of Botany, Dr. RMLS College, Muzaffarpur, Bihar.
61. **Invited Lecture:** “Bioremediation and Phytoremediation: Scientific approaches for environmental Pollution Control” on October 19, 2023 at Department of Botany, MDDM College, Muzaffarpur, Bihar.
62. **Invited Lecture:** “From Genome Sequence to Agriculture Field: Modern technologies for Crop Improvement” on October 17, 2023 at College of Agricultural Biotechnology, Bihar Agriculture University, Sabaur, Bhagalpur, Bihar.
63. **Resource Person:** 91<sup>st</sup>, 92<sup>nd</sup> and 93<sup>rd</sup> Online Faculty Induction Program 2023. Conducted Class on “Writing major and minor research proposal for funding in Bihar” on September 27, 2023, 2023 at UGC-HRDC, BRA Bihar University, Muzaffarpur.
64. **Resource Person:** 91<sup>st</sup>, 92<sup>nd</sup> and 93<sup>rd</sup> Online Faculty Induction Program 2023. Conducted Class on “Preparation and delivery of an effective seminar” on September 27, 2023, 2023 at UGC-HRDC, BRA Bihar University, Muzaffarpur.
65. **Resource Person:** 5<sup>th</sup> Faculty Induction Program 2023. Conducted Class on “Understanding UGC-2018 Guidelines” on September 9, 2023 at UGC-HRDC, Patna University, Patna (Online Mode).
66. **Resource Person:** 5<sup>th</sup> Faculty Induction Program 2023. Conducted Class on “How to increase API score for CAS promotion” on September 9, 2023 at UGC-HRDC, Patna University, Patna (Online Mode).
67. **Resource Person:** 2-Weeks refresher course in Basic Science 2023. Conducted Class on “Microbes in Nature: Friend or Foe” on August 30, 2023 at UGC-HRDC, Jamia Millia Islamia, New Delhi. (Online Mode).
68. **Resource Person:** 5<sup>th</sup> Faculty Induction Program 2023. Conducted Class on “How to get funding for Research in Bihar: Writing major and minor research proposal” on August 29, 2023 at UGC-HRDC, Patna University, Patna (Online Mode).
69. **Resource Person:** 5<sup>th</sup> Faculty Induction Program 2023. Conducted Class on “How to design and deliver an effective seminar” on August 29, 2023 at UGC-HRDC, Patna University, Patna (Online Mode).

70. **Resource Person:** 13<sup>th</sup> Faculty Induction Program 2023. Conducted Class on “Scientific approaches for Environmental Pollution Control” on July 26, 2023 at UGC-HRDC, Jamia Millia Islamia, New Delhi. (Online Mode).
71. **Invited Popular Lecture:** “Green approaches for environmental pollution control” on June 22, 2023 at Department of Chemistry, BRA Bihar University, Muzaffarpur, Bihar.
72. **Resource Person:** Interaction program for Research Scholars & Post-doctoral Fellows 2023. Conducted Class on “Opportunities for PhD and Post Doc Researchers in India and abroad” on March 13, 2023 at UGC-HRDC, University of Calicut, Calicut, Kerala (Online Mode).
73. **Resource Person:** Interaction program for Research Scholars & Post-doctoral Fellows 2023. Conducted Class on “Scope in Research/Higher Education in India and Abroad” on March 13, 2023 at UGC-HRDC, University of Calicut, Calicut, Kerala (Online Mode).
74. **Resource Person:** Interaction program for Research Scholars & Post-doctoral Fellows 2023. Conducted Class on “How to get Funding for Research: Writing Minor and Major Research Proposal” on March 8, 2023 at UGC-HRDC, University of Calicut, Calicut, Kerala (Online Mode).
75. **Resource Person:** Faculty Induction Program 2023. Conducted Class on “Global Disasters and its Impact” on March 4, 2023 at UGC-HRDC, University of Calicut, Calicut, Kerala (Online Mode).
76. **Resource Person:** Faculty Induction Program 2023. Conducted Class on “Best Practice in Academics and Research” on March 4, 2023 at UGC-HRDC, University of Calicut, Calicut, Kerala (Online Mode).
77. **Resource Person:** 12<sup>th</sup> Faculty Induction Program 2023. Conducted Class on “Microbes in Environment: Friend or Foe” on February 21, 2023 at UGC-HRDC, Jamia Millia Islamia, New Delhi. (Online Mode).
78. **Resource Person:** Faculty Induction Program 2023. Conducted Class on “Microbes in Environment: Friend or Foe” on February 8, 2023 at UGC-HRDC, University of Hyderabad, Hyderabad (Online Mode).
79. **Resource Person:** Faculty Induction Program 2023. Conducted Class on “World major environmental disaster and its impact on Flora and Fauna” on February 8, 2023 at UGC-HRDC, University of Hyderabad, Hyderabad (Online Mode).
80. **Resource Person:** 4<sup>th</sup> Faculty Induction Program 2022. Conducted Class on “How to design and deliver an effective seminar” on November 24, 2022 at UGC-HRDC, Patna University, Patna (Online Mode).
81. **Resource Person:** 11<sup>th</sup> Faculty Induction Program 2022. Conducted Class on “Microbes in Environment: Friend or Foe” on November 22, 2022 at UGC-HRDC, Jamia Millia Islamia, New Delhi. (Online Mode).
82. **Resource Person:** 4<sup>th</sup> Faculty Induction Program 2022. Conducted Class on “How to get funding for Research in Bihar: Writing major and minor research proposal” on November 19, 2022 at UGC-HRDC, Patna University, Patna (Online Mode).
83. **Resource Person:** Delivered a guest lecture on “Opportunities and scope of Biological Sciences in India and abroad” on November 11, 2022 at Patna Women’s College, Patna University, Patna.
84. **Resource Person:** Online Refresher Course in Nanobiochemistry and Bioinformatics. Conducted Class on “Classical roadmap for Genome Sequencing of an organism” on October 15, 2022 at UGC-HRDC, Osmania University, Hyderabad, (Online Mode).

85. **Resource Person:** Online Refresher Course in Nanobiochemistry and Bioinformatics. Conducted Class on “Bioinformatics approaches to understand the Genome Sequence” on October 15, 2022 at UGC-HRDC, Osmania University, Hyderabad, (Online Mode).
86. **Resource Person:** Faculty Induction Program 2022. Conducted Class on “Understanding UGC-2018 Guidelines: How to increase API score for CAS promotion” on September 27, 2022 at UGC-HRDC, University of Hyderabad, Hyderabad (Online Mode).
87. **Resource Person:** Faculty Induction Program 2022. Conducted Class on “How to get funding for Research: An initiative towards writing major and minor research proposal” on September 26, 2022 at UGC-HRDC, University of Hyderabad, Hyderabad (Online Mode).
88. **Invited Lecture:** A webinar on the topic “Natural Therapeutics from Rice Bran: Health promoting activities” given on 31<sup>st</sup> August 2022 at Faculty Development Program on Frontiers and new vistas in Molecular Biology Research at Dept. of Biotechnology, Krishna University, Machilipatnam, AP.
89. **Invited Lecture:** A webinar on the topic “Academic Research Integrity” given on June 25, 2022 at UGC-NEP Online workshop at UGC-HRDC, Patna University, Patna.
90. **Invited Lecture:** Conducted seminar on the topic “Effective preparation and delivering of a scientific talk” on June 20, 2022 at Skill Development Centre, School of Life Sciences, University of Hyderabad, Hyderabad.
91. **Invited Lecture:** A webinar on the topic “University of Hyderabad: A Virtual Tour” given on April 19, 2022 at Tamil Nadu Agriculture University (TNAU), Coimbatore, TN.
92. **Invited Lecture:** “Microbes in Nature: Friend or Foe” on February 10, 2022 at Department of Botany and Food & Nutrition, RBVRR Women’s, Hyderabad. (Online Mode)
93. **Resource Person:** 3<sup>rd</sup> Faculty Induction Program 2022. Conducted Class on “Understanding UGC-2018 Guidelines: How to increase API score for CAS promotion” on February 7, 2022 at UGC-HRDC, Patna University, Patna (Online Mode).
94. **Resource Person:** 3<sup>rd</sup> Faculty Induction Program 2022. Conducted Class on “How to prepare and deliver an academic seminar” on February 7, 2022 at UGC-HRDC, Patna University, Patna (Online Mode).
95. **Resource Person:** 3<sup>rd</sup> Faculty Induction Program 2022. Conducted Class on “How to get funding for Research in Bihar: An initiative towards writing major and minor research proposal” on January 29, 2022 at UGC-HRDC, Patna University, Patna (Online Mode).
96. **Resource Person:** Refresher Course on Life Sciences 2021. Conducted Class on “How to deliver scientific talk” on September 17, 2021 at UGC-HRDC, University of Hyderabad, Hyderabad.
97. **Resource Person:** Webinar on the topic “Functional genomics approaches for disease resistance” on 16<sup>th</sup> August 2021 at Dept. of Botany, SVR NSS College, Vazhoor, Kerala.
98. **Invited Lecture:** “Basics on Genomics” on April 1, 2021 at Department of Botany, Maulana Azad National Urdu University, Hyderabad under PhD course work Program. (Online Mode).
99. **Invited Lecture:** “Genomic Library construction and preparation of Physical Map” on April 1, 2021 at Department of Botany, Maulana Azad National Urdu University, Hyderabad under PhD course work Program. (Online Mode).
100. **Invited Lecture:** “Genome Sequencing of an organism using Clone-by-by approach” on April 2, 2021 at Department of Botany, Maulana Azad National Urdu University, Hyderabad under PhD course work Program. (Online Mode).



101. **Invited Lecture:** “Genomic Annotation” on April 2, 2021 at Department of Botany, Maulana Azad National Urdu University, Hyderabad under PhD course work Program. (Online Mode).
102. **Invited Lecture:** “Primer designing using Online tools” on April 3, 2021 at Department of Botany, Maulana Azad National Urdu University, Hyderabad under PhD course work Program. (Online Mode).
103. **Resource Person:** 2<sup>nd</sup> Faculty Induction Program 2021. Conducted Class on “How to prepare and deliver an academic seminar” on March 6, 2021 at UGC-HRDC, Patna University, Patna (Online Mode).
104. **Resource Person:** 2<sup>nd</sup> Faculty Induction Program 2021. Conducted Class on “How to write major and minor research project for Funding” on March 6, 2021 at UGC-HRDC, Patna University, Patna (Online Mode).
105. **Resource Person:** 1<sup>st</sup> Faculty Induction Program 2021. Conducted Class on “Use of Computer and Internet in Education” on February 22, 2021 at UGC-HRDC, Patna University, Patna (Online Mode).
106. **Resource Person:** 1<sup>st</sup> Faculty Induction Program 2021. Conducted Class on “How to prepare and deliver an academic seminar” on February 22, 2021 at UGC-HRDC, Patna University, Patna (Online Mode).
107. **Resource Person:** 1<sup>st</sup> Faculty Induction Program 2021. Conducted Class on “How to approach funding agency for research in Bihar” on February 4, 2021 at UGC-HRDC, Patna University, Patna (Online Mode).
108. **Invited Lecture:** “Scientific approaches for environmental pollution control” on December 17, 2019 at Department of Botany, Patna Science College, Patna, Bihar.
109. **Invited Lecture:** “Medicinal Plants with anti-cancer properties” on December 17, 2019 at Oriental College, Patna, Bihar.
110. **Resource Person:** 84<sup>th</sup> Orientation Program 2019. Conducted Class on “Global Environmental Disaster and its impact on flora and fauna” on December 13, 2019 at UGC-HRDC, Patna University, Patna.
111. **Resource Person:** 84<sup>th</sup> Orientation Program 2019. Conducted Class on “Microbes in Nature: Friend or Foe ?” on December 13, 2019 at UGC-HRDC, Patna University, Patna.
112. **Resource Person:** 84<sup>th</sup> Orientation Program 2019. Conducted Class on “Organizing and delivering an academic Seminar: A discussion.” on December 12, 2019 at UGC-HRDC, Patna University, Patna.
113. **Resource Person:** 84<sup>th</sup> Orientation Program 2019. Conducted Class on “Writing Research Proposal for funding: to promote higher education and research in Bihar” on December 12, 2019 at UGC-HRDC, Patna University, Patna.
114. **Resource Person:** 83<sup>rd</sup> Orientation Program 2019. Conducted Class on “Global Environmental Disaster and its impact on flora and fauna” on November 13, 2019 at UGC-HRDC, Patna University, Patna.
115. **Resource Person:** 83<sup>rd</sup> Orientation Program 2019. Conducted Class on “Microbes in Nature: Friend or Foe?” on November 13, 2019 at UGC-HRDC, Patna University, Patna.
116. **Resource Person:** 83<sup>rd</sup> Orientation Program 2019. Conducted Class on “Organizing and delivering an academic Seminar: A discussion” on November 12, 2019 at UGC-HRDC, Patna University, Patna.

117. **Resource Person:** 83<sup>rd</sup> Orientation Program 2019. Conducted Class on “Writing Research Proposal for funding: to promote higher education and research in Bihar” on November 12, 2019 at UGC-HRDC, Patna University, Patna.
118. **Resource Person:** Refresher Course in Life Sciences. Conducted class on “Whole Genome Sequencing of an organism with Rice Genome as an example (Structural Genomics)” on September 18, 2019 at UGC-HRDC, Osmania University, Hyderabad.
119. **Resource Person:** Refresher Course in Life Sciences. Conducted class on “Genome Annotation using raw sequence (Functional Genomics)” on September 18, 2019 at UGC-HRDC, Osmania University, Hyderabad.
120. **Resource Person:** 108<sup>th</sup> Orientation Course 2019. Conducted Class on “Microbes: Friend or Foe” on September 6, 2019 at UGC-HRDC, University of Hyderabad, Hyderabad.
121. **Invited Lecture:** “Microbes and plant based solution for environmental water and soil pollution” at Department of Microbiology, Jahangirnagar University, Dhaka, Bangladesh on June 20, 2019.
122. **Invited Lecture:** “Dietary Rice Bran: A hub of anti-diarrhoeal and anti-cancer biomolecules” at Sasakawa Auditorium, International Centre for Diarrhoeal Disease Research, Dhaka, Bangladesh (icddr,b) on June 19, 2019.
123. **Invited Lecture:** “High-throughput genome sequencing of an organism and its functional genomics: Rice genome as an example” at LSSD Seminar room, International Centre for Diarrhoeal Disease Research, Dhaka, Bangladesh (icddr,b) on June 17, 2019.
124. **Resource Person:** Refresher course in Comparative Literature 2019. Conducted Class on “How to design and deliver an academic Seminar?” on March 10, 2019 at UGC-HRDC, Patna University, Patna.
125. **Resource Person:** Refresher course in Comparative Literature 2019. Conducted Class on “How to get funding for Research in Bihar: An initiative towards writing Major and Minor Research Proposal” on March 10, 2019 at UGC-HRDC, Patna University, Patna.
126. **Resource Person:** Special Winter School (2018-19). Conducted Class on “Scope and opportunities in research/higher education in India and abroad” on March 10, 2019 at UGC-HRDC, Patna University, Patna.
127. **Resource Person:** Special Winter School (2018-19). Conducted Class on “Computer and internet application in day-to-day life” on March 10, 2019 at UGC-HRDC, Patna University, Patna.
128. **Resource Person:** Special Winter School (2018-19). Conducted Class on “How to design and deliver an academic Seminar?” on March 9, 2019 at UGC-HRDC, Patna University, Patna.
129. **Resource Person:** Special Winter School (2018-19). Conducted Class on “How to get funding for Research in Bihar: An initiative towards writing Major and Minor Research Proposal” on March 9, 2019 at UGC-HRDC, Patna University, Patna.
130. **Resource Person:** Refresher Course in Life Sciences 2019. Conducted Class on “Bioremediation and Phytoremediation: A Scientific approach for environmental Pollution Control” on March 4, 2019 at UGC-HRDC, Bharathiar University, Coimbatore.
131. **Invited Lecture:** “Clone-by-clone approach for whole genome sequencing of an organism: An example of Rice Genome” on March 4, 2019 at Department of Biotechnology, Bharathiar University, Coimbatore.

132.       **Resource Person:** 105<sup>th</sup> Orientation Course 2019. Conducted Class on “Microbes in Nature: Friend or Foe” on February 26, 2019 at UGC-HRDC, University of Hyderabad, Hyderabad.
133.       **Public lecture:** “How to deliver a Scientific Seminar” on February 4, 2019 for MSc students at Department of Plant Science, SLS, University of Hyderabad, Hyderabad.
134.       **Resource Person:** 82<sup>nd</sup> Orientation Program 2019. Conducted Class on “Remembering World Major Environmental Disaster and its impact” on January 29, 2019 at UGC-HRDC, Patna University, Patna.
135.       **Resource Person:** 82<sup>nd</sup> Orientation Program 2019. Conducted Class on “Are Microorganisms Boon or Curse ?” on January 29, 2019 at UGC-HRDC, Patna University, Patna.
136.       **Resource Person:** 82<sup>nd</sup> Orientation Program 2019. Conducted Class on “How to design and deliver an effective Seminar?” on January 28, 2019 at UGC-HRDC, Patna University, Patna.
137.       **Resource Person:** 82<sup>nd</sup> Orientation Program 2019. Conducted Class on “How to get funding for Research in Bihar: An initiative towards writing Major and Minor Research Proposal” on January 28, 2019 at UGC-HRDC, Patna University, Patna.
138.       **Invited Lecture:** “Whole Genome Sequencing of an Agriculture Crop: Rice” on December 21, 2018 Bihar Agriculture University, Sabaur, Bhagalpur, Bihar.
139.       **Invited Lecture:** “Therapeutic properties of Medicinal Plants of India” on December 20, 2018 at Department of Biotechnology, AN College, Patna, Bihar.
140.       **Invited Lecture:** “Microbiology of waste water treatment” on December 19, 2018 at Department of Physics, MDDM College, Muzaffarpur, Bihar.
141.       **Resource Person:** 81<sup>st</sup> Orientation Course 2018. Conducted Class on “Global Environmental Disaster and its impact on Flora and Fauna” on December 15, 2018 at UGC-HRDC, Patna University, Patna.
142.       **Resource Person:** 81<sup>st</sup> Orientation Course 2018. Conducted Class on “Microbes in Nature: Friend OR Foe” on December 15, 2018 at UGC-HRDC, Patna University, Patna.
143.       **Resource Person:** 81<sup>st</sup> Orientation Course 2018. Conducted Class on “Writing Research Proposal for Funding: to promote higher education and research in Bihar” on December 14, 2018 at UGC-HRDC, Patna University, Patna.
144.       **Resource Person:** 81<sup>st</sup> Orientation Course 2018. Conducted Class on “Organizing and delivering an academic seminar: A discussion” on December 14, 2018 at UGC-HRDC, Patna University, Patna.
145.       **Resource Person:** 104<sup>th</sup> Orientation Course 2018. Conducted Class on “Microbes in Nature: Friend or Foe” on October 3, 2018 at UGC-HRDC, University of Hyderabad, Hyderabad.
146.       **Resource Person:** 80<sup>th</sup> Orientation Course 2018. Conducted Class on “Global Environmental Disaster and its impact on Flora and Fauna” on September 23, 2018 at UGC-HRDC, Patna University, Patna.
147.       **Resource Person:** 80<sup>th</sup> Orientation Course 2018. Conducted Class on “Microbes in Nature: Friend OR Foe” on September 23, 2018 at UGC-HRDC, Patna University, Patna.
148.       **Resource Person:** 80<sup>th</sup> Orientation Course 2018. Conducted Class on “Writing Research Proposal for Funding: to promote higher education and research in Bihar” on September 22, 2018 at UGC-HRDC, Patna University, Patna.

149. **Resource Person:** 80<sup>th</sup> Orientation Course 2018. Conducted Class on “Organizing and delivering an academic seminar: A discussion” on September 22, 2018 at UGC-HRDC, Patna University, Patna.
150. **Resource Person:** 79<sup>th</sup> Orientation Course 2018. Conducted Class on “Global Environmental Disaster and its impact on Flora and Fauna” on July 30, 2018 at UGC-HRDC, Patna University, Patna.
151. **Resource Person:** 79<sup>th</sup> Orientation Course 2018. Conducted Class on “Microbes in Nature: Friend OR Foe” on July 30, 2018 at UGC-HRDC, Patna University, Patna.
152. **Resource Person:** 79<sup>th</sup> Orientation Course 2018. Conducted Class on “Writing Research Proposal for Funding: to promote higher education and research in Bihar” on July 28, 2018 at UGC-HRDC, Patna University, Patna.
153. **Resource Person:** 79<sup>th</sup> Orientation Course 2018. Conducted Class on “Organizing and delivering an academic seminar: A discussion” on July 28, 2018 at UGC-HRDC, Patna University, Patna.
154. **Resource Person:** 103<sup>rd</sup> Orientation Course 2018. Conducted Class on “Microbes in Nature: Friend or Foe” on July 2, 2018 at UGC-HRDC, University of Hyderabad, Hyderabad.
155. **Resource Person:** 102<sup>nd</sup> Orientation Course 2018. Conducted Class on “Microbes in Nature: Friend or Foe” on June 11, 2018 at UGC-HRDC, University of Hyderabad, Hyderabad.
156. **Invited Lecture:** “Highthroughput Genome Sequencing of an Organism” on February 23, 2018 at Department of Biotechnology, Cochin University of Science and Technology, Cochin, Kerala
157. **Invited Lecture:** “Highthroughput Genome Sequencing of an Organism” on February 23, 2018 at Department of Marine Biology, Microbiology and Biochemistry, Lakeside Campus, Cochin University of Science and Technology, Cochin, Kerala
158. **Public Lecture:** “How to deliver a Scientific Seminar” on February 8, 2018 for MSc students at Department of Plant Science, SLS, University of Hyderabad, Hyderabad.
159. **Resource Person:** 78<sup>th</sup> Orientation Course 2018. Conducted Class on “How to design a research proposal as per UGC and DST guidelines” on January 30, 2018 at UGC-HRDC, Patna University, Patna.
160. **Resource Person:** 78<sup>th</sup> Orientation Course 2018. Conducted Class on “How to prepare an academic seminar” on January 30, 2018 at UGC-HRDC, Patna University, Patna.
161. **Invited Lecture:** “Biotechnological based approaches for environmental pollution control” on January 30, 2018 at Biotechnology Program, Centre for Biological Sciences, Central University of South Bihar, Patna.
162. **Invited Lecture:** “Highthroughput genome sequencing of rice” on January 29, 2018 at Department of Agricultural Biotechnology and Molecular Biology, Dr. Rajendra Prasad Central Agricultural University, Pusa, Samastipur, Bihar.
163. **Resource Person:** 78<sup>th</sup> Orientation Course 2018. Conducted Class on “Global Environmental Disasters” on January 27, 2018 at UGC-HRDC, Patna University, Patna.
164. **Resource Person:** 78<sup>th</sup> Orientation Course 2018. Conducted Class on “Scientific approaches for environmental pollution control” on January 27, 2018 at UGC-HRDC, Patna University, Patna.
165. **Invited Lecture:** “Bioremediation and Phytoremediation” on January 27, 2018 at Department of Botany/Biotechnology, Patna University, Patna.

166. **Invited Lecture:** “Plant Based Secondary Metabolites” on December 14, 2017 at Department of Botany, BR Ambedkar Bihar University Muzaffarpur, Bihar.
167. **Resource Person:** 77<sup>th</sup> Orientation Course 2017. Conducted Class on “How to prepare for Academic Seminar” on December 11, 2017 at UGC-HRDC, Patna University, Patna.
168. **Resource Person:** 77<sup>th</sup> Orientation Course 2017. Conducted Class on “Microbes: Friend or Foe” on December 11, 2017 at UGC-HRDC, Patna University, Patna.
169. **Resource Person:** Refresher course in Life Sciences 2017. Conducted Class on “How to deliver a Science Seminar” on November 25, 2017 at UGC-HRDC, University of Hyderabad, Hyderabad.
170. **Resource Person:** Refresher course in Life Sciences 2017. Conducted Class on “Genome Annotation of complete genome sequence of an organism” on November 23, 2017 at UGC-HRDC, University of Hyderabad, Hyderabad.
171. **Resource Person:** Refresher course in Life Sciences 2017. Conducted Class on “Basics of High-throughput Genome Sequencing of an Organism” on November 22, 2017 at UGC-HRDC, University of Hyderabad, Hyderabad.
172. **Public Lecture:** “How to deliver a Scientific Seminar” on October 4, 2017 at School of Life Sciences, University of Hyderabad for the students of PhD course work.
173. **Public Lecture:** “How to deliver a Scientific Seminar” on March 20, 2017 at Department of Biotechnology, Jamia Millia Islamia, New Delhi.
174. **Invited Lecture:** “Complementary and Alternative Medicine” on March 13, 2017 for PG Diploma in Medicinal Botany at Distance and Virtual Learning at Department of Plant Sciences, School of Life Sciences, University of Hyderabad, Hyderabad.
175. **Invited Lecture:** “Microorganisms and its applications” on December 3, 2016 at Refresher Course for TGT (Science) from Bhopal Region, organized at Navodaya Leadership Institute (Navodaya Vidyalaya Samiti, Under Ministry of HRD), JNV, HCU Campus, Hyderabad.
176. **Public Lecture:** “Scope of higher education in India and Abroad” on 20<sup>th</sup> May 2016 at Department of Chemistry, RDS College, Muzaffarpur, Bihar.
177. **Invited Lecture:** Anticancer properties of Indian traditional Medicinal Plants at SS Hospital and Research Centre, Patna, Bihar on 3<sup>rd</sup> June 2015.
178. **Public Lecture:** “Emerging fields in Biological Sciences and Opportunities in research/higher studies in India and Abroad” at Department of Botany and Biotechnology, Commerce College, Patna, Bihar on 29<sup>th</sup> May 2015.
179. **Invited Lecture:** Bioremediation and Phytoremediation: Biotechnological approaches for environmental pollution control at Department of Botany, BRA Bihar University, Muzaffarpur, Bihar on 28<sup>th</sup> May 2015.
180. **Public Lecture:** “Opportunities in research and scope of higher studies in India and abroad” at Department of Botany, BRA Bihar University, Muzaffarpur, Bihar on 28<sup>th</sup> May 2015.
181. **Resource Person:** “Basics of Highthroughput Genome Sequencing: Rice”, Refresher course in Life Sciences, Academic Staff College, University of Hyderabad, November 25, 2014.
182. **Resource Person:** “Genome Sequencing and Genomics”, at Refresher Course on Plant Biotechnology, Agri Biotech Foundation, AGN Ranga Agriculture University Campus, Hyderabad, on 17<sup>th</sup> October 2012.

183. **Resource Person:** “Highthroughput Genome Sequencing and Bioinformatics Software”, Refresher course in Life Sciences, Academic Staff College, University of Hyderabad, December 15, 2010.
184. **Invited Lecture:** “Genome sequencing of an organism”, UOH-AIMSC Bioinformatics Statistical School, School of Life Sciences, University of Hyderabad, on December 29, 2009.
185. **Invited Lecture:** “Genome annotation and genomic analysis”, UOH-AIMSC Bioinformatics Statistical School, School of Life Sciences, University of Hyderabad, on December 29, 2009.
186. **Invited Lecture:** “Genome sequencing, genome annotation and genomic analysis”, UOH-AIMSC Bioinformatics Statistical School, School of Life Sciences, University of Hyderabad, on December 1-2, 2008.
187. **Resource Person:** “Highthroughput Genome Sequencing and Bioinformatics Software”, Refresher course in Life Sciences, Academic Staff College, University of Hyderabad, November 28, 2008.

### Conference Papers, Lectures and Poster Presentations:

1. **Oral Presentation:** Ghazi IA and Das PP. Presented our research work titled “Integrative analysis of allelic diversity and metabolomic signatures of *Xa23* and *Xa27* reveals novel resistance resources in wild *Oryza* for bacterial blight management” at The 8<sup>th</sup> International Conference on Bacterial Blight of Rice (ICBB08) held during June 11-15, 2026 at School of Agriculture and Biology, Shanghai Jiao Tong University, Shanghai, China. **Got Best Presentation Award during conference.**
2. **Invited Speaker:** National Conference on Biological Sciences: Exploring the wonders of Life-Advances in Science, Innovation and Sustainability (BSEWL-2026) at Department of Botany, Bi Bi Raza Degree College for Women, Khaja Bandanawaz University, Kalaburagi, Karnataka. Given talk on “Opportunities and Scope of Biological Sciences in India and Abroad” on February 10, 2026.
3. **Invited Speaker:** ASSET Annual Hybrid Conference 2025 in collaboration with Anwarul Uloom College, Hyderabad. Presented Seminar on “Career Guidance for High School, UG/PG Students” on December 27, 2025.
4. **Poster Presentation:** Bhati K, Solanki M, Saji A, Das PP, Mangrauthia SK, Sundram RM, **Ghazi IA**, Laha GS. Deciphering the arm race between Indian *Xanthomonas oryzae* pv. *oryzae* and *Oryza sativa* for durable bacterial blight resistant rice : A genomics based approach. International conference on Development in Plant Biology and Plant Biotechnology at University of Hyderabad from 29 - 31 January 2025 (**Best Poster Award to my PhD Student Ms. Komal Bhati**).
5. **Poster Presentation:** Das PP, Bhandari KP, Singh K, Gireesh C, Laha GS, Sundaram RM and **Ghazi IA**. Integrative analysis of rice bacterial blight resistance mechanisms: Insights from genetic, bioinformatics, and metabolomic approaches. TSL Summer Conference on Plant-Microbe Interactions for Early Career Researchers, 15th - 26th July 2024, Norwich, United Kingdom.

6. **Poster Presentation:** Das PP, Bhandari K, Bhati K, Girish C, Laha GS, Sundaram RM and **Ghazi IA**. Nucleotide diversity analysis of bacterial blight resistance genes in wild rice species: insights from *Xa27* and *Xa23* alleles at 20<sup>th</sup> International Symposium on Rice Functional Genomics organised by University of Agricultural Sciences, Bangalore during November 3-5, 2023.
7. **Poster Presentation:** Das PP and **Ghazi IA**. Comparative metabolites analysis of resistant and susceptible cultivars against the bacterial blight disease at International Conference on Biochemical and Biotechnological Approaches for Crop Improvement, organized by Society for Plant Biochemistry and Biotechnology and Division of Biochemistry, IARI, Pusa, New Delhi during October 30-November 1, 2023.
8. **Poster Presentation:** Das PP, Bhandari KP, Singh K, Hajira SK, Gireesh C, Laha GS, Sundaram RM and **Ghazi IA**. Identification of novel alleles for bacterial blight-resistance genes *Xa27* and *Xa23* from *Oryza* species land races by allele mining approach. International conference on Current Trends and Future Prospects of Plant Biology & 14<sup>th</sup> Plant Sciences Colloquium at Dept. of Plant Sciences, University of Hyderabad, Hyderabad during February 23-25, 2023.
9. **Poster Presentation:** Bhati K, Das PP, Bhandari KP and **Ghazi IA**. Comparative analysis of the genomic regions flanking two executor gene *Xa27* and *Xa23* locus in *indica* and *japonica* ssp. of rice (*Oryza sativa* L.). International conference on Current Trends and Future Prospects of Plant Biology & 14<sup>th</sup> Plant Sciences Colloquium at Dept. of Plant Sciences, University of Hyderabad, Hyderabad during February 23-25, 2023.
10. **Poster Presentation:** Aryaman, Das PP, Bhati K and **Ghazi IA**. *In silico* analysis of 100kb genomic region flanking *Xa10* gene in *indica* and *japonica* ssp. of *Oryza sativa* L.. International conference on Current Trends and Future Prospects of Plant Biology & 14<sup>th</sup> Plant Sciences Colloquium at Dept. of Plant Sciences, University of Hyderabad, Hyderabad during February 23-25, 2023.
11. Participated in one day National Seminar on “National Credit Framework: Credit Transfer Policy” organized by IoE and HRDC, University of Hyderabad on February 10, 2023.
12. **Invited Lecture:** “Functional Genomics approaches for making rice disease resistance” at one day National webinar on “Current Trends in Biotechnology-2021” on March 17, 2021 on virtual mode at Dept. of Biotechnology, Centurion University of Technology and Management, Odisha.
13. **Invited Lecture:** “Rice Genomics and Bioinformatics for disease resistance” at International Conference- Emerging Trends in Life Sciences (ICETLS-2020) on December 16, 2020 on virtual mode at Dept. of Botany, Telangana University, Nizamabad.
14. Participated in Webinar on “Publishing Ethics in Biomedicine & Life Science Research” organized by Springer Nature in collaboration with DeLCON on September 16, 2020.
15. Participated in “World Food Safety Day; Webinar on Pandemics and Hunger mainstreaming millets for addressing Food and Nutritional Security” on June 8, 2020 from Department of Plant Sciences, School of Life Sciences, University of Hyderabad.
16. **Invited Lecture:** “Therapeutic biomolecules from plants with anticancer properties” at 2<sup>nd</sup> Indo-French Symposium on Plants with Health benefits and Biomolecules of Interest, From the Plantlets to the tablet during November 27-29, 2019 at University of Bordeaux, Bordeaux, France.

17. **Invited Lecture:** “Genome Sequencing of an agricultural crop Rice and genome annotation using bioinformatics approaches” at National level technical symposium – Bioconcorrenza’ 19 and PG Biotechnology Seminar on March 2, 2019 at Centre for Plant Molecular Biology and Biotechnology, Tamil Nadu Agriculture University, Coimbatore.
18. **Invited Lecture:** “Rice Bran Nutraceuticals: Health benefits and Therapeutic” at Indo-French Joint Workshop on Plants with health benefits and biomolecules of interest on February 25, 2019 at Department of Plant Sciences, School of Life Sciences, University of Hyderabad.
19. **Key Note Address:** “Scientific Innovation for Sustainable Development” at National Science Day Celebration on 26<sup>th</sup> February, 2018 at Mar Athanasios College for Advanced Studies Tiruvalla (MACFAST), Thiruvalla, Kerala.
20. **Poster Presentation:** Bhat MY, Gul MZ, Qureshi IA, Maurya RS, Khan N and **Ghazi IA.** “Druggability evaluation and safety analysis of certain isolated and identified compounds from *Artemisia nilagirica* (C. Clarke)”. International Conference on Innovations in Pharma and Biopharma industry at Department of Biotechnology and Bioinformatics, School of Life Sciences, University of Hyderabad, Hyderabad on December 20-22, 2017.
21. **Invited Lecture:** “Bioremediation: A Microbes based approach for Environmental Pollution Control” at Winter School on Understanding Flowering Mechanism and management of bearing in sub-tropical fruits on December 12, 2017 at National Research Centre on Litchi, Muzaffarpur, Bihar.
22. **Invited Lecture:** “Phytoremediation: A Plant based approach for Environmental Pollution Control” at Winter School on Understanding Flowering Mechanism and management of bearing in sub-tropical fruits on December 12, 2017 at National Research Centre on Litchi, Muzaffarpur, Bihar.
23. **Poster Presentation:** Bhat MY, Gul MZ, Maurya RS, Khan N, Qureshi IA and **Ghazi IA.** Antiproliferative and apoptosis promoting activity of *Artemisia absinthium* L. fractions on chronic myeloid leukemia cells - a bioassay guided strategy”. International conference on Biotechnology and Healthcare at Professor Jayashankar Telangana State Agricultural University, Hyderabad on October 26-27, 2017.
24. **Invited Lecture:** “From rice to rice bran: a step towards therapeutics” at National Seminar on “Biotechnology in Health Care: Challenges and Opportunities on during March 18-19, 2017 at Jamia Hamdard, New Delhi.
25. **Invited Lecture:** “Genomics and Proteomics” at National Symposium cum Bioinformatics Workshop on “Current Trends in Proteomics and Bioinformatics” on March 16, 2017 at Aligarh Muslim University, Aligarh, UP.
26. **Invited Lecture:** “Anticancer properties of Indian traditional medicinal plants used in Ayurveda” at One day symposium on Contributions of Interdisciplinary Research in the Development of Molecular Basis for Ayurveda on December 19, 2016 at School of Life Sciences, University of Hyderabad, Hyderabad.
27. **Poster Presentation:** Bhat MY, Gul MZ, Khan N, Qureshi IA and **Ghazi IA.** Bioactive extracts of *Artemisia nilagirica* protect macrophages from oxidative stress mediated cell death and show anti-inflammatory potential at 85<sup>th</sup> annual meeting of Society of Biological Chemists (India) CSIR-CFTRI Mysuru, India during November 21-24, 2016.
28. **Poster Presentation:** **Ghazi IA,** Foster GM, Leach J and Ryan EP. Health benefits and therapeutic properties of Dietary Rice Bran at 3<sup>rd</sup> International Plant Physiology



- Congress on Challenges and Strategies in Plant Biology Research, JNU, New Delhi during December 11-14, 2015.
29. **Invited Lecture:** Biotechnological approaches for pollution control at UGC–Sponsored National Seminar on “Emerging trends in Green Chemistry” at Department of Chemistry, LNT College, Muzaffarpur, Bihar on 19<sup>th</sup> October 2015.
  30. **Public Lecture:** “Emerging fields in Sciences and Opportunities in research and higher education in India and Abroad” at UGC–Sponsored National Seminar on “Emerging trends in Green Chemistry” at Department of Chemistry, LNT College, Muzaffarpur, Bihar on 19<sup>th</sup> October 2015.
  31. Participated: 2015 NextGen Genomics, Biology, Bioinformatics and Technologies (NGBT) Conference, Hyderabad International Convention Centre, Hyderabad, during October 1-3, 2015.
  32. **Poster Presentation:** Bhat MY, Gul MZ, Chandrasekaran S, Maurya R, Qureshi IA and **Ghazi IA**. Medicinal properties and Biological activities of *Artemisia nilagirica*. BioQuest 2015, School of Life Sciences, University of Hyderabad, Hyderabad during September 23-24, 2015.
  33. **Invited Lecture:** “Therapeutic properties and applications of dietary Rice Bran” at Short course training on Quality Improvement, Bio-fortification and Product Development in Rice for Nutritional and Financial Security of Rice Farmers at Indian Institute of Rice Research, Hyderabad on September 7, 2015.
  34. **Poster Presentation:** Gul MZ, Chandrasekaran S, Manjulatha K, Maurya R, Qureshi IA and **Ghazi IA**. Apoptosis inducing activity of active fractions from *Artemisia nilagirica* on human monocytic leukemic (THP-1) cell line. Young Scholar’s Science Café Meet. August 10, 2015, Dr. Reddy’s Institute of Life Sciences, UoH Campus, Hyderabad.
  35. **Invited Lecture:** “Microbiology of waste water treatment” at UGC–Sponsored National Seminar on Recent trends in Microbial Genetics at Govt. Degree College for Women, Osmania University, Hyderabad on 23<sup>rd</sup> July 2015.
  36. **Poster Presentation:** Bimolata W and **Ghazi IA** 'Exploring the wild and landraces: Gateway to a sustainable disease resistance in rice.' 1st National Bioresources and Sustainable Development Summit, February 19-20, 2015, at Institute of Bio-resource and Sustainable Development, Imphal, Manipur, India. (Best Poster Award)
  37. **Key Note Lecture:** "Health Promoting and Disease Protective Properties of Dietary Rice Bran: Applications and Opportunities". 6th Bihar Science Conference, December 23-25, 2014, at Magadh Mahila College, Patna University, Patna, India.
  38. **Oral Presentation:** “Inhibition of *Salmonella* entry into epithelial cells and intracellular replication by rice bran phytochemical extracts”. 5<sup>th</sup> Annual Conference of the American Council for Medicinally Active Plants, June 15-18, 2014 at North Dakota State University, Fargo, ND, USA.
  39. **Poster Presentation:** Bimolata W, Kumar A, Sundaram RM, Laha GS, Qureshi IA, Reddy GA and **Ghazi IA**. “Nucleotide diversity analysis of *Xa27* gene in cultivated and wild species of *Oryza*”. 4<sup>th</sup> International Conference on Bacterial Blight of Rice, December 2-4, 2013 at CSIR-CCMB, Hyderabad.
  40. **Poster Presentation:** Gul MZ, Ahmad F, Kondapi AK, Qureshi IA and **Ghazi IA**. “Leaf extracts of *Abrus precatorius* demonstrate antioxidant potential and antiproliferative

activity against different human cancer cells”. UoH -AS Joint Workshop on Frontiers in Biological Sciences, 8-9, April, 2013 at School of Life Sciences, University of Hyderabad.

41. **Poster Presentation:** Bimolata W, Reddy MSK, Chandra S, Qureshi IA and **Ghazi IA**, Analysis of nucleotide diversity of *xa5*, a bacterial blight resistant gene, EMBO meeting 22-25<sup>th</sup> September 2012 at NICE, France.
42. **Poster Presentation:** Gul MZ, Ahmad F, Kondapi AK, Qureshi IA and **Ghazi IA**. Antioxidant and Antiproliferative effects of *Abrus precatorius*, a possible traditional remedy for human cancers, International Symposium on Chemistry and Chemical Biology of Natural Products August, 2-4, 2012, IICT, Hyderabad.
43. **Poster Presentation:** Kumar A, Gul MZ, Zeeshan A, Bimolata W, Kumar R, Qureshi IA and **Ghazi IA**. “Comparative antioxidative responses of rice genotypes to bacterial blight stress, The International Dialogue on Designer Rice for Future: Perception & Prospects” July 9-10, 2012 at ICRISAT, Hyderabad.
44. **Poster Presentation:** Bimolata W, Qureshi IA and **Ghazi IA**. Allele mining as a new approach for the identification of broad resistance gene against bacterial blight in rice (*Oryza* spp.). 64<sup>th</sup> Indian Phytopathological society Annual Meeting & National Symposium on Biology of infection, immunity and disease control in pathogen-plant interactions. Department of Plant Sciences, University of Hyderabad, 2-4 December 2011.
45. **Poster Presentation:** Gul MZ, Bhakshu LM, Ahmad F, Kondapi AK, Raghavendra AS and **Ghazi IA**. Antioxidant and free radical scavenging and antiproliferative activities of extracts of *A. moschatus* - A potent medicinal plant. World Congress on Biotechnology held on 21-23<sup>rd</sup> March 2011 conducted by Omics group at Hyderabad.
46. **Poster Presentation:** Bimolata W, Kumar A, Laha G S, Sundaram R M and Podile AR and **Ghazi IA**. Screening of bacterial blight resistant genotypes and allele mining of *Xa13* from rice. World Congress on Biotechnology held on 21-23<sup>rd</sup> March 2011 conducted by Omics group at Hyderabad.
47. **Key Note Lecture:** “Use of rice genome sequence information for the identification of Class 5 disease resistance genes from chromosome 11”, at 4<sup>th</sup> Bihar Science Conference February 11-13, 2011, LS College, Muzaffarpur, Bihar.
48. **Poster Presentation:** Anirudh K, Fayaz AB, Bimolata W and **Ghazi IA**. Screening of BAC clones for *NAM* (Nonapical Meristem) genes on chromosome 11 of rice. International Conference on Frontiers in Biological Sciences. Department of Life Sciences, National Institute of Technology, Rourkela, October 1-3, 2010.
49. **Poster Presentation:** Bimolata W, Deep D, Kumar A and **Ghazi IA**. Understanding the role of *Xa5* in the activation *Xa27* by type III effector AvrXa27, International Conference on Frontiers in Biological Science (1-3 Oct 2010), National Institute of Technology, Rourkela, October 1-2, 2010.
50. **Poster Presentation:** Gul MZ, Kumar A, Bimolata W, **Ghazi IA**. National Conference on Biodiversity: Present Status and Future Challenges, University of Kashmir, March 26-28, 2009.
51. **Invited Lecture:** “Use of rice genome sequence information for the identification of resistance gene analogue sequences from chromosome 11”, International Seminar on Plant Biotechnology and Genomics Towards A New Green Revolution (ISPBG 2009), February 6-7, 2009, School of Life science, Yogi Vemana University, Kadapa, AP.

52. **Invited Lecture:** “Scope of Biotechnology and Highthroughput Genome Sequencing”, Biology Session at Science Conclave: A congregation of Nobel Prize Winners, Indian Institute of Information technology, Allahabad, December 15-21, 2008.
53. **Poster Presentation:** **Ghazi IA**, Singh S, Singh A, Yadav M, Pandit P, Dixit R et al. Strategies for gap closure used in the MTP of the long arm of chromosome 11 of rice. 2<sup>nd</sup> International Rice Congress, New Delhi (India). October 9-13, 2006.
54. **Poster Presentation:** **Ghazi I A**, Srivastava PS, Dalal V, Gaikwad K, Singh AK, Sharma TR, Singh NK, Mohapatra T. Synteny, PCR amplification and expression analysis of resistance gene analogue sequences of the long arm of chromosome 11 of rice. 2<sup>nd</sup> International Rice Congress, New Delhi (India). October 9-13, 2006.
55. **Poster Presentation:** Deshmukh R, Anand S, **Ghazi IA**, et al. Search for novel genes controlling high grain number in the rice panicle. 2<sup>nd</sup> International Rice Congress, New Delhi (India). October 9-13, 2006.
56. **Poster Presentation:** Dalal V, Chitra G, Singh A, Yadav M, Dixit R, **Ghazi IA**, et al. ‘Vanshanu Dhan’ – a rice genes database for mapping and cloning of agronomically important genes. 2<sup>nd</sup> International Rice Congress, New Delhi (India). October 9-13, 2006.
57. **Poster Presentation:** **Ghazi IA**, Srivastava PS, et al. Nature, distribution and polymorphism of resistance gene analogues on the chromosome 11 of rice. International symposium on Frontiers in Genetics and Biotechnology-Retrospect and Prospects, Osmania University, Hyderabad (India). January 8-10, 2006.
58. **Poster Presentation:** Singh NK, Dalal V, Pal AK, ..... **Ghazi IA** et al. Highly conserved synteny of single copy rice gene with wheat. International conference on Plant Genomics and Biotechnology: Challenges & Opportunities, IGA Raipur (India). October 26-28, 2005.
59. **Poster Presentation:** Singh NK, Batra K, Chitra G, Dalal V, Singh A, Srivastava SK, **Ghazi IA** et al. ‘Vanshanu Dhan’- a rice gene database for mapping and cloning of genes for agronomic traits. International conference on Plant Genomics and Biotechnology: Challenges & Opportunities, IGA Raipur (India). October 26-28, 2005.
60. **Poster Presentation:** Anand S, Deshmukh R, **Ghazi IA**, et al. Identification of QTLs for grain number in rice using recombinant inbred lines. International conference on Plant Genomics and Biotechnology: Challenges & Opportunities, IGA Raipur (India). October 26-28, 2005.
61. **Poster Presentation:** Singh NK, Dalal V, Pal AK, Singh A, Srivastava SK, **Ghazi IA** et al. ‘VANSHANU DHAN’ a map based rice database useful for mapping and cloning of candidate genes for important trait. International Symposium on Rice: from green revolution to gene revolution, Directorate of Rice Research, Hyderabad (India). October 4-6, 2004.
62. **Poster Presentation:** Raghuvanshi S, Mohanty A, ..... **Ghazi IA**, et al. Indian Initiative on Rice Genome Sequencing. 9<sup>th</sup> National Rice Biotechnology Network meeting at NASS Campus, New Delhi (India). April 15-17, 2004.
63. **Poster Presentation:** Singh NK, Raghuvanshi S, Srivastava SK, Gaur A, Pal AK, Dalal V, Singh A, **Ghazi IA**, et al. Sequence analysis of the long arm of rice chromosome 11 for rice-wheat synteny. 9<sup>th</sup> National Rice Biotechnology Network meeting at NASS Campus, New Delhi (India). April 15-17, 2004.
64. **Poster Presentation:** Singh NK, Ammar MHM, Amravati Y, **Ghazi IA**, et al. Functional Genomics for complex genetic traits in rice using immortal segregating population. 1<sup>st</sup>

International rice Functional Genomics Symposium, Shanghai, China. November 19-21, 2003.

65. **Poster Presentation:** Ghazi IA, Srivastava M, Paul D and Kanwar SS. Partial characterization and effect of chelation (EDTA) on a bacterial lipase. 41<sup>st</sup> Annual Conference of Association of Microbiologists of India, Birla Institute of Scientific Research, Jaipur (India). November 25-27, 2000.
66. **Poster Presentation:** Srivastava M, Ghazi IA, Paul D and Kanwar SS. Assessment of esterase activity of an immobilized bacterial lipase. 41<sup>st</sup> Annual Conference of Association of Microbiologists of India, Birla Institute of Scientific Research, Jaipur (India). Nov. 25-27, 2000.
67. **Poster Presentation:** Ghazi IA, Srivastava M, Kaushal RK, Paul D, Joshi GK and Kanwar SS. Purification, Characterization and restoration of (chelated) lipase activity of a Gram-negative bacteria isolate BTGI-99. International conference on Microbial Biotechnology, Trade & Public Policy. Osmania University, Hyderabad (India). July 15-17, 2000.
68. **Poster Presentation:** Srivastava M, Ghazi IA, Kaushal RK, Joshi GK, and Kanwar SS. Evaluation of methods of immobilization of lipase from a Gram-negative bacterial isolate BTGI-99. International Conference on Microbial Biotechnology, Trade & Public Policy. Osmania University, Hyderabad (India). July 15-17, 2000.
69. **Oral Presentation:** Kanwar SS, Ghazi IA, Joshi GK, Rao GV and Ramlal. Heavy metal ions and pH modulate lipase activity of Gram-negative bacteria isolate BTGI-99. Third Punjab Science Congress & Symposium. Punjab University, Chandigarh (India). December 10-12, 1999.

## Electronic/In Silico Submission of BAC & PAC:

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| AC132003                     | AC133248 | AC114011 | AC134053 | AC134256 |
| AC145306                     | AC134926 | AC135121 | AC135242 | AC135398 |
| AC135568                     | AC135569 | AC135864 | AC136787 | AC136150 |
| AC136378                     | AC136491 | AC136786 | AC137745 | AC136843 |
| AC136956                     | AC137113 | AC137586 | AC136481 | AC137753 |
| AC150654                     | AC120889 | AC133710 | AC150702 | AC137752 |
| AC148759                     | AC150202 | AC137752 |          |          |

## As Corresponding author: 33

FJ938717 FJ827495 GQ202121 GQ367296 GQ398491 GQ381274  
JF304301-JF304303, HQ888852-HQ888857, JN016505-JN016521, JN601064

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