

**5<sup>th</sup> INTERNATIONAL CONFERENCE ON  
BIOLOGICAL RESEARCH & APPLIED SCIENCE**

**January 29 – February 01, 2025**



**JINNAH UNIVERSITY FOR WOMEN  
KARACHI, PAKISTAN**



## ABOUT CONFERENCE

The Jinnah University for Women, Karachi, Pakistan, proudly presents the 5<sup>th</sup> International Conference on Biological Research and Applied Science (IBRAS-2025). The conference is scheduled to take place on January 29 – February 01, 2025, in a hybrid format, allowing both virtual and in-person participation. With a long-standing tradition of organizing high-impact conferences, seminars, and symposiums, Jinnah University for Women has significantly contributed to advancing scientific knowledge and fostering collaboration among academia, research institutions, and industry. Among these esteemed events, IBRAS has risen to prominence as a premier annual conference, attracting leading experts, researchers, and industry professionals across the dynamic fields of Biological, Chemical, and Physical Sciences. Since its inception in 2021, IBRAS has annually showcased groundbreaking research in both basic and applied sciences, reinforcing its status as a cornerstone of scientific discourse and advancement. Building on the successes of its previous editions, IBRAS-2025 features a diverse range of technical tracks, encompassing the disciplines of Botany, Biochemistry, Biotechnology, Chemistry, Computer Science, Food Science, Microbiology, Mathematics and Zoology. Attendees can look forward to a rich program, including keynote speeches by internationally renowned scientists, invited talks, oral and poster presentations, as well as hands-on workshops and tutorials. Detailed proceedings and highlights from past events are available on the website at <https://ibras.juw.edu.pk/>.

### Relevance and Scientific Significance

This three-day international conference is designed to foster collaboration and knowledge exchange among researchers, academicians, and industry professionals. By providing a platform for interdisciplinary dialogue, IBRAS-2025 aims to accelerate scientific discovery and innovation, ultimately contributing to regional and global development. By participating in IBRAS-2025, attendees will have the opportunity to expand their professional networks, explore innovative methodologies, and gain valuable insights that will drive the future of Biological, Chemical and Physical Sciences.

### Conference Tracks

IBRAS-2025 invites submissions of original, unpublished research in the form of extended abstracts or poster presentations. We welcome contributions across a broad spectrum of topics within the Biological and Applied Sciences, including:

- 1. Revolutionary Approaches in Biochemistry**  
Metabolomics, Proteomics and Protein Engineering, CRISPR and Next-Generation Genome Editing, Epigenetics and Regulation of Gene Expression, Bioinformatics, Diagnostic Biomarkers, Drug Discovery, Precision Medicine and Nutraceuticals, Neurosciences, Enzyme Technology, Nanotechnology and Biomaterials.
- 2. Research and Innovation in Biotechnology**  
Bioinformatics and Biocomputing, Stem Cells and Cancer Research, Tissue Engineering, Protein Engineering, Nanobiotechnology, Biofuels and Bio-refineries, Bioremediation, Transgenic Technology, Cell Signaling Technology.
- 3. Impact of Climate Change on Agricultural Production**  
Climate variability, Yield reduction, Elevated temperature, Adaptation, Climate and crop modeling, Sustainable production and Climate-smart agriculture.
- 4. Innovation in Chemical Sciences**  
Nanotechnology and Forensic Sciences, Recent Advances in Thermodynamics, Environmental Sustainability, Catalyst and Synthesis, Waste Water Treatment, Computational Chemistry, Natural Products and Medicinal Chemistry.
- 5. Current Practices in Food Sustainability, Security & Health**  
Dietary Interventions for Chronic Disease Management, Food Fraud and Challenges, Climate Change and Food Systems, Novel Preservation and Packaging Technology, Artificial Intelligence (AI) in the food industry.

6. **Emerging Infections and Natural Therapeutics**  
Natural Antimicrobial Agents, Microbial Pathogenesis and Host Response, Trends in Antimicrobial Resistance, Molecular Basis of Infectious Disease Progression.
7. **Recent Advances in Pure and Applied Mathematics**  
Algebra, Analysis, Real, Complex, Functional, Applied Mathematics, Biomathematics, Business Mathematics, Graph Theory, Lie Theory, Numerical Analysis, ODE & PDE, Differential Geometry, Actuarial Mathematics, Statistics & Probability Theory.
8. **Emerging Trends in Computing**  
Data Science, Block Chain Technology, Smart Cities, Human-centered Computing, Computer Vision, Augmented Reality, Natural Language Processing, Deep Learning, Cyber-physical Systems.
9. **Zooniverse 2025: Exploring the Technology and Advances in Fauna**  
Marine Zoology, Aquaculture and Fisheries, Entomology, Parasitology, Hematology, Animal Ecology, Wildlife, Agricultural techniques.

## **Professional Training Modules**

As part of the professional training modules for IBRAS-2025, a series of highly specialized tutorials and hands-on workshops have been meticulously curated to provide participants with cutting-edge knowledge and practical expertise essential for advancing research and professional practices in the biological sciences. These sessions are designed to offer targeted learning experiences, providing invaluable insights into emerging fields and techniques that are shaping the future of applied and biological research. Each activity offers a unique opportunity for researchers, students, and professionals to enhance their skills and deepen their understanding of both theoretical concepts and applied methodologies.

## **Tutorials**

### **1. Nutritional Therapies for Weight Management**

This tutorial will explore the latest research on nutritional interventions aimed at weight management. The focus will be on scientifically backed dietary approaches, personalized nutrition, and the role of metabolism. This tutorial is ideal for nutritionists, healthcare professionals, and researchers interested in the intersection of nutrition and health, offering insights into practical therapies that can be applied in clinical settings.

### **2. Foundations of AI for Biological Research**

This tutorial will provide a foundational understanding of how Artificial Intelligence (AI) is revolutionizing biological research. Participants will learn about AI tools and techniques applicable to various biological datasets, including genomics, proteomics, and clinical data analysis. This session is crucial for researchers aiming to incorporate AI into their work, enhancing their ability to analyze complex biological systems efficiently.

## **Hands-on Workshops**

### **1. Practical Applications of ELISA in Clinical and Research Settings**

This hands-on workshop offers in-depth training on the Enzyme-Linked Immunosorbent Assay (ELISA) technique, which is widely used in clinical diagnostics and research for detecting and quantifying substances such as proteins, hormones, and antibodies. Attendees will gain practical experience in setting up ELISA experiments, interpreting results, and applying this technique to both research and clinical environments. This is an essential workshop for those seeking to refine their laboratory skills in immunoassay methods.

**2. Plant Cell and Tissue Culture Technique**

This workshop focuses on plant cell and tissue culture techniques, which are integral to biotechnology research and applications in agriculture and environmental science. Participants will be guided through the processes of plant tissue culture, micro-propagation, and genetic modification, providing them with the practical knowledge necessary for advancing research in plant biology and sustainable agriculture.

**3. Training Strategies of Biorisk Management in Biological and Applied Research**

This hands-on workshop aims to equip participants with essential skills and strategies for effectively managing biorisks in biological and applied research environments. The session will cover critical aspects of biosafety and biosecurity, emphasizing risk assessment, mitigation, and management techniques. Participants will engage in interactive exercises and simulations designed to enhance their understanding of laboratory safety protocols, emergency response planning, and the implementation of international biorisk standards. By the end of the workshop, attendees will be well-prepared to apply these strategies in research and clinical settings, ensuring compliance with global best practices.

# CONFERENCE PROGRAM

## DAY 1 (JANUARY 29, 2025)

TIMINGS / VENUE	SESSIONS
<b>Muhammad Uzair Auditorium</b>	<b>INAUGURAL SESSION OF THE CONFERENCE</b>
10:00 am	Arrival of Guests
10:15 am - 10:30 am	Tilawat-e-Quran National Anthem of Pakistan
10:30 am - 10:35 am	<b>Welcome Address</b>
10:35 am - 10:40 am	<b>Address: Mr. Wajeehuddin Ahmed</b> Chancellor, Jinnah University for Women, Karachi
10:40 am - 11:05 am	<b>Plenary Lecture 1: “Genetic Landscape of Retinal Dystrophies in Pakistani Families”</b> Prof. Dr. Muhammad Ansar Professor, Department of Biochemistry, Quaid-i-Azam University, Islamabad, Pakistan
11:05 am - 11:30 am	<b>Plenary Lecture 2: “Artificial neural networks driven Nanoinformatics approach for Precision Medicine using Engineered Silver Nanoparticles”</b> Dr. Muhammad Naveed Associate Professor and Chairperson, Department of Biotechnology, University of Central Punjab, Lahore
11:30 am – 11:45 am	<b>Address by Chief Guest</b>
11:45 am – 12:00 pm	Shields Distribution
12:00 pm	Poster Session Visit
<b>Muhammad Uzair Auditorium</b>	<b>SESSION I: RESEARCH AND INNOVATION IN BIOTECHNOLOGY</b>  <i>Organized by Department of Biotechnology</i>  <b>Chair: Dr. Rukhsana Nawaz</b> Department of Clinical Psychology, College of Medicine and Health Sciences United Arab Emirates University, UAE  <b>Co-Chair: Dr. Ayisha Aman Ullah</b> Chairperson, Department of Biotechnology Jinnah University for Women, Karachi, Pakistan
12:00 pm – 12:05 pm	<b>Welcome Address: Dr. Ayisha Aman Ullah</b> Chairperson, Department of Biotechnology Jinnah University for Women, Karachi, Pakistan
12:05 pm – 12:30 pm	<b>Keynote Lecture: “Biotechnological Research and Innovations: Use of Agriculture”</b> Dr. Mithat Direk Associate Professor, Bioeconomy Department of Selçuk University, Turkey
12:30 pm – 12:50 pm	<b>Invited Talk: “Research &amp; Innovation in Biotechnology: A Global and Southeast Asian Perspective”</b> Dr. Snehal P Ghayal Tenured Scientist, UpSkillRx, Limited Liability Company, New Jersey, USA
12:50 pm – 1:10 pm	<b>Invited Talk: “Stem Cell Biology and Tissue Engineering to promote Diabetic Wound Healing and Skin Tissue Regeneration”</b>

	Dr. Hussain M. Wahedi Associate Professor and Head of Biomedicine Department, Atta Ur Rahman School of Applied Biosciences, NUST, Islamabad
1:10 pm – 1:20 pm	<b>“Advancing Biological and Chemical Sciences: Prospects at Sesame for Pakistani Scientists.”</b> Dr. Intikhab Ulfat University of Karachi, Karachi, Pakistan
1:20 pm – 1:30 pm	<b>“In Silico Structural and Functional SNP Analysis of Rabbit Melanophilin Protein”</b> Muhammad Faraz Sohail Salim Habib University, Karachi, Pakistan
1:30 pm – 1:40 pm	<b>“Screening of Microorganisms Isolated from Fruits, Vegetables, And Mangroves of Makran Coast (Balochistan) For Laccase Production”</b> Ariba Hasan University of Karachi, Karachi, Pakistan
1:40 pm-1:50 pm	<b>“Unveiling the Colors of Nature: Isolation and Characterization of Biopigment from Bacterial Source”</b> Shagufta Noreen Jinnah University for Women, Karachi, Pakistan
1:50 pm -2:00 pm	<b>“Media Optimization of Amylase produced by Bacillus species isolated from soil sample”</b> Umme Hani Khan University of Karachi, Karachi, Pakistan

2:00 pm

Lunch

## **SESSION II: EMERGING TRENDS IN COMPUTING**

*Organized by Department of Computer Science and Software Engineering*

**Audio/Visual Room  
(A-6)**

**Chair: Dr. Abdullah Raza Lakhan**

Assistant Professor, Dawood University of Engineering and Technology, Karachi, Pakistan

**Co-Chair: Dr. Sikander Rahu**

Assistant Professor, Department of Computer Science and Software Engineering, Jinnah University for Women, Karachi, Pakistan

12:00 pm – 12:05 pm

**Welcome Address: Dr. Sadia Javed**

Chairperson, Department of Computer Science and Software Engineering  
Jinnah University for Women

12:05 pm – 12:30 pm

**Keynote Speech: “Generative AI and Higher Education”**

Dr. Farha Lakhani

Lecturer, Queen Mary University of London, England, United Kingdom

12:30 pm – 12:55 pm

**Keynote Speech: “Technology Integration towards Agricultural Productivity Optimization & in the Medical Field”**

Dr. Muhammad Hussain Mughal

Assistant Professor, Department of Computer Science, Sukkur IBA University, Sukkur, Pakistan

12:55 pm – 1:05 pm

**“Human emotion classification using Resnet-50 with custom dilated convolution and modified channel attention”**

Monaza Saqlain

University of Sargodha, Pakistan

1:05 pm – 1:15 pm

**“Improving Public Safety: Through Real-Time Anomaly Detection in Surveillance”**

**“Videos using 3D CNN and SpatioTemporal Autoencoder”**

Aiman Zia Satti

Bahria University, Karachi, Pakistan

1:15 pm – 1:25 pm

**“OLDVOY-A Framework for Autonomy and Remote Health Monitoring in Older Adults”**

Amna Khanani

Jinnah University for Women, Karachi, Pakistan.

1:25 pm – 1:35 pm	<p><b>“AI and Data Analytics in Workforce Management: A Strategic Approach to Modern Organizational Challenges”</b>  Amna Hussain  Bahria University, Karachi, Pakistan</p>
1:35 pm – 1:45 pm	<p><b>“Exploiting Machine Learning for IOT Attacks”</b>  Tooba Ali  Jinnah University for Women, Karachi, Pakistan</p>
1:45 pm – 1:55 pm	<p><b>“AI-Powered Home Design: Integrating Graph Networks and GANs for Linguistic-Based 3D Model”</b>  Mahgul Wahid  Bahria University, Karachi, Pakistan</p>
2:00 pm – 2:30 pm	Lunch
2:30 pm – 2:40 pm	<p><b>Usability &amp; Accessibility of Education Websites</b>  Hudaibia Feroz  Jinnah University for Women, Karachi, Pakistan</p>
2:40 pm – 2:55 pm	Q/A Session
<b>DAY 2 (JANUARY 30, 2025)</b>	
<b>SESSION III: REVOLUTIONARY APPROACHES IN BIOCHEMISTRY</b>	
<i>Organized by Department of Biochemistry</i>	
<b>Audio/Visual Room (A-6)</b>	<p><b>Chair: Prof. Dr. Farah Jabeen</b>  Department of Biochemistry,  Jinnah University for Women, Karachi, Pakistan</p> <p><b>Co-Chair: Dr. Saima Jalil Imran</b>  Department of Cardiac Thoracic and Vascular Sciences and Public Health,  University of Padua Medical School, Italy</p>
10:00 am - 10:05 am	<p><b>Welcome Address: Dr. Aliya Riaz</b>  Chairperson, Department of Biochemistry,  Jinnah University for Women, Karachi, Pakistan</p>
10:05 am - 10:30 am	<p><b>Keynote Speech: “Molecular and Clinical Indicators of Cancer Management: Current knowledge on Noncoding RNAs and Future Prospect”</b>  Dr. Ihtisham Bukhari  Associate Professor/ Principal Investigator  Fifth Affiliated Hospital of Zhengzhou University, China</p>
10:30 am - 10:55 am	<p><b>Keynote Speech: “Innovative, Culturally Attuned Digital Solutions for Global Non-Communicable Disease Prevention”</b>  Dr. Balakrishnan Nair  Research Manager, Co-Investigator, Faculty – Clinical Sciences  National Institute for Stroke and Applied Neurosciences  University of Technology, Auckland, New Zealand</p>
10:55 am - 11:15 am	<p><b>Invited Talk: “Improving Cardiac Regeneration of Rat Bone Marrow-derived Mesenchymal Stem Cells: Tissue Engineering Strategies”</b>  Prof. Dr. Asmat Salim  International Centre for Chemical and Biological Sciences (ICCBS)  Karachi, Pakistan</p>
11:15 am - 11:35 am	<p><b>Invited Talk: Centratherum Anthelminticum could be a Magical Nutraceutical for Type 2 Diabetes in Future</b>  Prof. Dr. Shamim A. Qureshi  Department of Biochemistry, University of Karachi, Karachi, Pakistan</p>

11:35 am - 11:50 am	<p><b>Invited Talk: “Natural Alternative Remedies as Adjuvant Therapies for Managing Depression and Anxiety: From Preclinical Studies to Clinical Trials”</b></p> <p>Dr. Saara Muddasir Associate Professor, Department of Biological and Biomedical Sciences The Aga Khan University, Karachi, Pakistan</p>
11:50 am - 12:05 pm	<p><b>Invited Talk: “Enhancement of radiation-induced cancer cell death combined with gold nanoparticles and nanorods”</b></p> <p>Dr. Mati Ur Rehman Assistant Professor, Department of Biological and Biomedical Sciences The Aga Khan University, Karachi, Pakistan</p>
12:05 pm - 12:15 pm	<p><b>“Preconditioned Mesenchymal Stem Cells Reverse Neuronal Damage in a Rat Cerebral Ischemia Model”</b></p> <p>Aisha Ishaque College of Molecular Medicine, Ziauddin University, Karachi, Pakistan</p>
12:15 pm – 12:25 pm	<p><b>“Neuro-protective and anti-neuroinflammatory potential of moringa oleifera seed extract against haloperidol-induced catalepsy in rats”</b></p> <p>Dr. Ali Asgher Shuja Salim Habib University, Karachi, Pakistan</p>
12:25 pm – 12:35 pm	<p><b>“The Role of Reprogrammed Somatic and Mesenchymal Stem Cells through Wnt Signaling Pathway Modulators in Cardiac Regeneration”</b></p> <p>Bilal Saleh Dr. Panjwani Center for Molecular Medicine &amp; Drug Research, University of Karachi, Pakistan</p>
12:35 pm – 12:45 pm	<p><b>“Sustainable Synthesis of Silver Nanoparticles via Barbardensis extract with Antioxidant potential”</b></p> <p>Iqra Zafar Jinnah University for Women, Karachi, Pakistan</p>
12:45 pm – 12:55 pm	<p><b>“Functional Enrichment Analysis and Antimicrobial resistance identification of protozoan Naegleria Genome through Insilco approach (Karachi strain NF001)”</b></p> <p>Rabia Faizan Sir Syed University of Engineering and Technology, Karachi, Pakistan</p>
12:55 pm – 1:05 pm	<p><b>“Targeting ASYN in Parkinson’s disease treatment: Identification of Effective inhibitors of Alpha-Synuclein aggregation through In Silico methods”</b></p> <p>Hibah Rehan Salim Habib University, Karachi, Pakistan</p>
1:05 pm – 1:15 pm	<p><b>“Enhanced Healing Potential of Stem Cells and <math>\alpha</math>-Terpineol Loaded Hydrogel in Full Thickness Acid Burn Wounds: A Step Toward Advanced Wound Care Solutions”</b></p> <p>Fatima Jameel Dr. Panjwani Center for Molecular Medicine &amp; Drug Research, Karachi, Pakistan</p>
1:15 pm – 1:25 pm	<p><b>“Molecular Insights into GH6 Family Cellobiohydrolase Activity on Lignocellulosic Substrates”</b></p> <p>Shabir Ahmad State University of Campinas (UNICAMP), Brazil</p>
1:25 pm – 1:35 pm	<p><b>“Safety evaluation of geraniol through three different routes of administration: Acute toxicity profile following single and 14-day repeated dosing in rats”</b></p> <p>Asad Ullah Faiz Ghalib. HEJ Research Institute of Chemistry, University of Karachi, Pakistan.</p>
1:35 pm – 1:45 pm	<p><b>“Role of Oxidative Stress in Migraine”</b></p> <p>Dr. Aimen Gull Bahria University Health Sciences Campus, Karachi, Pakistan</p>
1:45 pm – 1:55 pm	<p><b>“Harnessing Human Umbilical Cord-Derived Hydrogel and MSCs for Effective Hypoxic Wound Treatment”</b></p> <p>Iqra Sahibdad Dr. Panjwani Center for Molecular Medicine and Drug Research, Karachi, Pakistan</p>
2:00 pm	Lunch



<b>SESSION IV: CURRENT PRACTICES IN FOOD SUSTAINABILITY, SECURITY &amp; HEALTH</b>	
<i>Organized by Department of Food Science and Technology</i>	
<b>Muhammad Uzair Auditorium</b>	<p><b>Chair: Dr. Faiza Ashfaq</b> The University of Melbourne, Australia</p> <p><b>Co-Chair: Ms. Anum Liaquat</b> Chairperson, Department of Food Science and Technology Jinnah University for Women, Karachi, Pakistan</p>
10:00 am - 10:05 am	<p><b>Welcome Address: Ms. Anum Liaquat</b> Chairperson, Department of Food Science and Technology Jinnah University for Women, Karachi, Pakistan</p>
10:05 am - 10:30 am	<p><b>Keynote Speech: “Sustainable conversion of agroindustrial food waste (AIFW) to protein rich animal feed”</b> Dr. Kashif Rasool Senior Scientist, Qatar Environment and Energy Research Institute (QEERI) Hamad Bin Khalifa University, Qatar</p>
10:30 am - 10:55 am	<p><b>Keynote Speech: “Molecular imprinted polymers and their role in food safety assessment”</b> Dr. Muhammad Nadeem Department of Food Sciences and Technology University of Management and Technology, Lahore, Pakistan</p>
10:55 am - 11:05 am	<p><b>“Studying the nutritional value of eggshell-mungbean enriched food bars”</b> Prof. Dr. Aysha Sameen GC Women University, Faisalabad, Pakistan</p>
11:05 am – 11:15 am	<p><b>“Nutraceutical rumex nervosus as a natural drug candidate; its metabolite profiling and pharmacological estimation for health applications”</b> Dr. Arusa Aftab Lahore College Women University, Lahore, Pakistan</p>
11:15 am – 11:25 am	<p><b>“Advances in food waste-based nanomaterials: Innovations in sustainable food packaging and waste reduction”</b> Hiba Naveed University of Central Punjab, Lahore, Pakistan</p>
11:25 am – 11:35 am	<p><b>“Physicochemical and Biological Changes of Compost Inoculated with <i>Pseudomonas Aeruginosa</i> AAC1 and Rock Phosphate: Implications for P Availability”</b> Areesha Ahmed University of Karachi, Karachi, Pakistan</p>
11:35 am - 11:45 am	<p><b>“Ecotoxicological Effects of Surbex-Z Multivitamins on Seed Germination and Seedling Development of Chickpea (<i>Cicer arietinum</i> L.)”</b> Hafsa Razzaq Mirpur University of Science and Technology, Mirpur (AJK), Pakistan</p>
11:45 am - 11:55 am	<p><b>“Utilization of organic seed base for sustainable water purification biosorbent technology”</b> Nihan Atif Jinnah University for Women, Karachi, Pakistan</p>
11:55 am – 12:05 am	<p><b>“Preparation Of Fish Pickle For Improving Community Nutritional Status”</b> Umm e Kulsum Jinnah University for Women, Karachi, Pakistan</p>
12:05 pm - 12:15 pm	<p><b>“Incorporation of bioluminescent ingredients extracted from food commodities to give night light effect in ice creams”</b> Qandeel Ansar Jinnah University for Women, Karachi, Pakistan</p>
12:15 pm – 12:25 pm	<p><b>“Assessment of Physicochemical Characteristics and Nutritional Analysis of Pita Bread Developed From Composite Flour Blend”</b> Samia Jabeen Jinnah University for Women, Karachi, Pakistan</p>

12:25 pm – 12:35 pm	<b>“Development of Organic Food Colors from Beetroot and Spinach”</b> Zara Khilji Jinnah University for Women, Karachi, Pakistan
12:35 pm – 12:45 pm	<b>“Assessment of physicochemical characteristic and Nutritional analysis of cupcakes made by incorporating hibiscus in whole wheat flour”</b> Summaiya Iqbal Jinnah University for Women, Karachi, Pakistan
12:45 pm – 12:55 pm	<b>“Nature's protein Cache: extracting protein from hemp and quinoa and incorporating into the food product”</b> Manahil Khan Jinnah University for Women, Karachi, Pakistan
1:25 pm – 1:40 pm	Q/A Session
2:00 pm	Lunch
<b>New Council Room</b>	<b>SESSION V: IMPACT OF CLIMATE CHANGE ON AGRICULTURAL PRODUCTION</b>  <i>Organized by Department of Botany</i>  <b>Chair: Dr. Kishwar Ali</b> Assistant Professor, College of General Education University of Doha for Science and Technology  <b>Co-Chair: Dr. Saba Rizwan</b> Assistant Professor, Department of Botany, Jinnah University for Women,
10:00 am - 10:05 am	<b>Welcome Address: Dr. Rabia Badar</b> Chairperson, Department of Botany Jinnah University for Women, Karachi, Pakistan
10:05 am - 10:30 am	<b>Keynote Speech: “Exploring silicon’s role in mitigating drought and heat stress in wheat”</b> Dr. Waseem Ashfaq Research Scientist, Department of Primary Industries and Regional Development, Katanning, Australia
10:30 am - 10:55 am	<b>Invited Talk: “The Influence of Climate Change on Agricultural Practices”</b> Dr. Gulnaz Parveen Chairperson and Associate Professor Department of Botany, Women University of Swabi, Pakistan
10:55 am - 11:05 am	<b>“Utilizing zea mays waste as a sustainable resource for paper production and environmental conservation”</b> Ms. Fizza Saleem Jinnah University for Women, Karachi, Pakistan
11:05 am – 11:15 am	<b>“Heat stress regulation in plants of Thal desert Bhakkar”</b> Dr. Muhammad Kabir Thal University Bhakkar, Pakistan
11:15 am – 11:25 am	<b>“Utilization of environmentally friendly organic fertilizers for sustainable yield and quality of cut flower (<i>Zinnia elegans</i>)”</b> Ms. Tahreem Zamir Jinnah University for Women, Karachi, Pakistan
11:25 am – 11:35 am	<b>“Application of organic matter with biofertilizers to restore biofertility and minimizing environmental hazards for augmentation of the flowering in gladiolus”</b> Ms. Tabassum Razi Jinnah University for Women, Karachi, Pakistan
11:35 am - 11:45 am	<b>“Premonsoon and postmonsoon effects on <i>Ceriops tagal</i> from Sonmiani Bay, Balochistan”</b> Ms. Khadija Sharif Jinnah University for Women, Karachi, Pakistan
11:45 am - 12:00 pm	Q/A Session
2:00 pm	Lunch

## DAY 3 (JANUARY 31, 2025)

10:00 am - 12:00 pm (F-6)	<b>TUTORIAL I: Nutritional Therapies for Weight Management</b> Organizing Department: Department of Food Science and Technology Facilitators: Dr. Humaira Ashraf and Ms. Ayesha Mohsin
10:00 am - 12:00 pm (January 27, 2025)	<b>TUTORIAL II: Foundations of AI for Biological Research</b> Organizing Department: Department of Computer Science and Software Engineering Facilitator: Prof. Dr. Narmeen Zakaria Bawany and Ms. Ushna Tasleem
10:00 am - 1:00 pm (C-53)	<b>WORKSHOP I: Practical Applications of ELISA in Clinical and Research Settings</b> Organizing Department: Department of Biochemistry Facilitators: Dr. Arshia Tabassum and Ms. Shahana Rasheed
10:00 am - 12:00 pm (C-51)	<b>WORKSHOP II: Plant Cell and Tissue Culture Technique</b> Organizing Department: Department of Biotechnology Facilitator: Dr. Syeda Kakhkashan Kazmi and Ms. Umairya Abdali
10:00 am - 12:00 pm (January 27, 2025) Muhammad Uzair Auditorium	<b>WORKSHOP III: Training Strategies of Biorisk Management in Biological and Applied Research</b> Organizing Department: Department of Biochemistry Facilitators: Prof. Dr. Saima Saleem & Prof. Dr. Sitwat Zehra, Pakistan Biosafety Association (PBSA), Organization for Women in Science for the developing World (OWSD).
<b>Audio/Visual Room (A-6)</b>	<b>SESSION VI: INNOVATION IN CHEMICAL SCIENCES</b>  <i>Organized by Department of Chemistry</i>  <b>Chair: : Dr. Haider A. Khwaja</b> Wadsworth Center, Department of Environmental Health Sciences School of Public Health, University of Albany, New York, USA  <b>Co-Chair: Prof. Dr. Rubeena Saleem</b> Department of Chemistry, Jinnah University for Women, Karachi, Pakistan
10:00 am - 10:05 am	<b>Welcome Address: Dr. Najma Rasool</b> Chairperson, Department of Chemistry Jinnah University for Women, Karachi, Pakistan
10:05 am - 10:30 am	<b>Keynote Speech: “Beyond Column Chemistry: Exploring External Variables Affecting Peak Shape and Width in HPLC”</b> Dr. Muhammad Farooq Wahab Research Engineering Scientist, Department of Chemistry and Biochemistry University of Texas at Arlington, USA
10:30 am - 10:50 am	<b>Invited Talk: “Single Jersey Wearable Tribo-Electric Nano Generator”</b> Dr. Syed Farhan Hasany Principle Investigator, SUNUM Research Institute, Istanbul, Turkey
10:50 am – 11:10 am	<b>Keynote Speech: “Synthetic Chemistry’s Role in Enzyme Inhibition: A Path to Therapeutic Innovation”</b> Prof. Dr. Momin Khan Department of Chemistry, Abdul Wali Khan University, Mardan, Pakistan
11:10 am – 11:30 am	<b>Invited Talk: “Assessment of Groundwater Quality with Special Emphasis on Fluoride Contamination: A Case Study in Thar Desert, Pakistan”</b> Dr. Haider A. Khwaja Department of Environmental Health Sciences College of Integrated Health Sciences, University at Albany, New York, USA
11:30 am – 11:40 am	<b>“Environmental friendly natural surfactant in replacement to the hazardous synthetic surfactants”</b> Dr. Maria Taj Muhammad Jinnah University for Women, Karachi, Pakistan
11:40 am - 11:50 am	<b>“Spectrometric determination of water soluble Lead in Karachi dust samples”</b> Ms. Ghazila Majid Jinnah University for Women, Karachi, Pakistan

11:50 am - 12:00 pm	<p><b>“Kinetic study for the adsorption of toxic dyes on low cost modified agricultural waste”</b>  Ms. Saira Syed  Jinnah University for Women, Karachi, Pakistan</p>
12:00 pm – 12:10 pm	<p><b>“Kinetic profiling of vitamin B2 degradation in the presence of reducing divalent anions under light exposure”</b>  Dr. Wajiha Gul  Dow University of Health Sciences, Karachi, Pakistan</p>
12:10 pm – 12:20 pm	<p><b>“Synthesis and utilization of inorganic geopolymer for the absorption of acidic and basic dyes”</b>  Ms. Sumina Ibrahim  Jinnah University for Women, Karachi, Pakistan</p>
12:20 pm – 12:30 pm	Q/A Session
2:00 pm	Lunch
<p><b>SESSION VII: EMERGING INFECTIONS AND NATURAL THERAPEUTICS</b></p> <p><i>Organized by Department of Microbiology</i></p>	
<b>Muhammad Uzair Auditorium</b>	<p><b>Chair: Prof. Dr. Sayyada Ghufrana Nadeem</b>  Department of Microbiology Jinnah University for Women, Karachi, Pakistan</p> <p><b>Co-Chair: Muhammad Tanweer Khan</b>  Associate Professor, University of Gothenburg, Sweden</p>
10:00 am - 10:05 am	<p><b>Welcome Address: Prof. Dr. Mahmooda Kazmi</b>  Chairperson, Department of Microbiology, Jinnah University for Women, Karachi, Pakistan</p>
10:05 am - 10:30 am	<p><b>Keynote Speech: “Exploring genetic and phenotypic variation in yeast hybrids for applications in genetic disease research and therapeutic development”</b>  Dr. Samina Naseeb  University of Manchester, UK</p>
10:30 am - 10:55 am	<p><b>Keynote Speech: “Antibiotyping and genotyping of extensively drug-resistant (XDR) Salmonella sp. isolated from clinical samples of Lahore, Pakistan”</b>  Dr. Muhammad Sohail  Department of Microbiology, Riphah International University, Lahore, Pakistan</p>
10:55 am - 11:20 am	<p><b>Keynote Speech: “Tackling antimicrobial resistance through a one health approach”</b>  Dr. Archana Chawla  Head of Medical Education and Training  ASPAC Medical Affairs, Bio Merieux, Singapore</p>
11:20 am - 11:30 am	<p><b>“Photocatalytic and biological applications of chromium oxide nanoparticles synthesized from Terminalia Chebula Fruit Extract”</b>  Ms. Iqra Urooj  The Women University Multan, Pakistan</p>
11:30 am - 11:40 am	<p><b>“An innovative approach for the preparation of cost effective microbiological media”</b>  Ms. Kausar Naseem  Jinnah University for Women, Karachi, Pakistan</p>
11:40 am - 11:50 am	<p><b>“PX-12 synergistically enhances the therapeutic efficacy of vorinostat under hypoxic tumor microenvironment in oral squamous cell carcinoma in vitro”</b>  Ms. Rafia Akhlaq  Jinnah University for Women, Karachi, Pakistan</p>
11:50 am – 12:00 pm	<p><b>Antimicrobial peptides against MDR pathogens isolated from endotracheal secretions of mechanically ventilated neonates</b>  Ms. Syeda Qissa Zehra  Dow University of Health Sciences, Karachi, Pakistan</p>

12:00 pm - 12:10 pm	<b>“Carbapenems in treating hospital-acquired Pneumonia: A focus on clinical effectiveness”</b> Ms. Uroosa Kanwal Salim Habib University, Karachi, Pakistan
12:10 pm – 12:20 pm	<b>“Identification of antibiotic and disinfectant sensitivity profile of bacteria isolated from door handles/ knobs and door keys”</b> Ms. Zoha Warsi Federal Urdu University of Arts, Science and Technology, Karachi, Pakistan
12:20 pm – 12:30 pm	<b>Effect of <i>Trachyspermum Ammi</i> (Ajwain) on Enteric Pathogens.</b> Ms. Mehwish Aftab Jinnah University for Women, Karachi, Pakistan
12:30 pm – 12:40 pm	<b>“Banana peel: Exploring Antibacterial Activity and Phytochemical Composition”</b> Ms. Qurat ul Ain Yameen Jinnah University for Women, Karachi, Pakistan
12:40 pm – 12:50 pm	<b>“Protein-peptide docking of Ebola matrix protein with antimicrobial activity”</b> Ms. Lubna Yousuf Jinnah University for Women, Karachi, Pakistan
12:50 pm – 1:00 pm	Q/A Session
2:00 pm	Lunch

### DAY 4 (FEBRUARY 01, 2025)

<b>SESSION VIII: RECENT ADVANCES IN PURE AND APPLIED MATHEMATICS</b>	
<i>Organized by Department of Mathematics</i>	
<b>Audio/Visual Room (A-6)</b>	<b>Chair: Prof. Dr. Rashid Kamal Ansari</b> Department of Mathematics Sir Syed University of Engineering and Technology, Karachi, Pakistan
	<b>Co-Chair: Ms Nazia Munawar</b> Assistant Professor, Department of Mathematics Jinnah University for Women, Karachi, Pakistan
10:00 am - 10:05 am	<b>Welcome Address: Ms. Shazia Nawab</b> Chairperson, Department of Mathematics Jinnah University for Women, Karachi, Pakistan
10:05 am to 10:30 am	<b>Keynote Speech: “Spectral properties of an impulsive Sturm–Liouville operator with Complex periodic coefficients”</b> Dr. Rakib Efendiev Baku Engineering University, Khirdalan, Azerbaijan
10:30 am - 10:55 am	<b>Keynote Speech: “Study of the nature of asteroids and their physical and chemical properties”</b> Dr. Firuza Rahmatulloeva Associate Professor, Institute of Astrophysics National Academy of Sciences, Tajikistan
10:55 am – 11:20 am	<b>Keynote Speech: “Darboux’s formula with integral remainder and related results”</b> Dr. Asif Raza Khan Assistant Professor, University of Karachi, Karachi, Pakistan
11:20 am - 11:40 am	<b>Invited Talk: “Mathematical Modeling and dynamics of Immunological exhaustion caused by measles transmissibility interaction with HIV host”</b> Dr. Najeeb Alam Khan Associate Professor, Department of Mathematics University of Karachi, Karachi, Pakistan

11:40 am – 11:50 am	<p><b>“Mathematical model of cornea shape after Descemet’s stripping Endothelial Keratoplasty”</b>  Dr. Fareeha Sami Khan  Federal Urdu University of Arts, Sciences and Technology, Pakistan</p>
11:50 am - 12:00 pm	<p><b>“Influence of Climatic Factors on Monsoon Rainfall in Potohar Region, Pakistan”</b>  Dr. Mehwish Shafi Khan  University of Karachi, Karachi, Pakistan</p>
12:00 pm – 12:10 pm	<p><b>“Cupola-Based Flood Risk Assessment at Tarbela Dam, Pakistan”</b>  Ms. Aliza Ishtiaque  University of Karachi, Karachi, Pakistan</p>
12:10 pm – 12:20 pm	<p><b>“Projective mapping of Grassmannian complex to tangent complex in weight 2 and weight 3”</b>  Ms. Rabia Essa  Government College of Education, Karachi, Pakistan</p>
12:20 pm – 12:30 pm	<p><b>“Ji, Ki as differential operators corresponding to decomposed chain. <math>SL(2, C) \supset E2 \supset SO(2)</math>”</b>  Ms. Afsheen Fatima  Jinnah University for Women, Karachi, Pakistan</p>
12:30 pm – 12:45 pm	Q/A Session
<b>Muhammad Uzair Auditorium</b>	<p><b>SESSION VII: ZOONIVERSE 2025: EXPLORING THE TECHNOLOGY AND ADVANCES IN FAUNA</b></p> <p><i>Organized by Department of Zoology</i></p> <p><b>Chair: Dr. Syed Anser Rizvi</b>  Meritorious Professor, Department of Zoology  University of Karachi, Karachi, Pakistan.</p> <p><b>Co-Chair: Dr. Nasreen Khan</b>  Chairperson, Department of Zoology  Jinnah University for Women, Karachi, Pakistan.</p>
	<p><b>Welcome Address: Dr. Nasreen Khan</b>  Chairperson, Department of Zoology  Jinnah University for Women, Karachi, Pakistan</p>
10:00 am - 10:05 am	<p><b>Welcome Address: Dr. Nasreen Khan</b>  Chairperson, Department of Zoology  Jinnah University for Women, Karachi, Pakistan</p>
10:05 am to 10:30 am	<p><b>Keynote Speech: “Bioenergetics-Based Factorial Model to Determine Feed Requirement and Waste Output of Tilapia Produced under Commercial Conditions”</b>  Dr. Sohail A. Siddiqui  Ministry of Natural Resources (MNR), Dorion Fish Culture Station  Provincial Service Division, Fish and Wildlife Branch, Ontario, Canada</p>
10:30 am - 10:55 am	<p><b>Keynote Speech: “Eras of insect diagnosis: from historical insights to the future innovations”</b>  Dr. Imran Khatri  Professor and Chair, Department of Entomology  Sindh Agriculture University, Tandojam, Pakistan</p>
10:55 am - 11:05 am	<p><b>“Studies on diversity and impact of climate change on Orthoptera fauna of Pakistan”</b>  Waheed Ali Panhwar  University of Sindh, Jamshoro Pakistan</p>
11:05 am - 11:15 am	<p><b>“Heavy metal pollution depiction through sediment and crab (Scopimera crabricauda) from Sonmiani Bay, Baluchistan”</b>  Asmat Saleem Siddiqui  Centre of Excellence in Marine Biology, University of Karachi, Karachi, Pakistan</p>
11:15 am - 11:25 am	<p><b>“Biodiversity of Acrididae (Orthoptera) from Sindh- Pakistan”</b>  Sajjad Ali Larik  Shah Abdul Latif University, Khairpur, Pakistan</p>

11:25 am - 11:35 am	<b>Characterization of Ag-doped ZnO Nanoparticles of <i>Cymbopogon citratus</i> L. (Lemon grass) field</b> Farwa Ali Jinnah University for Women, Karachi, Pakistan
11:35 am – 11:45 am	<b>Biodiversity of Acrididae from Sufi Anwer Shah Safari Park, Ghotiki, Sindh, Pakistan/</b> Kaleemullah University of Sindh, Jamshoro, Pakistan
11:45 am – 12:00 pm	Q/A Session
<b>Muhammad Uzair Auditorium</b>	<b>CLOSING CEREMONY</b>
1:00 pm – 1:10 pm	<b>Welcome Address</b>
1:10 pm – 1:20 pm	<b>Address: Mr. Wajehuddin Ahmed</b> Chancellor, Jinnah University for Women, Karachi, Pakistan
1:20 pm – 1:30 pm	<b>Address by Chief Guest</b>
1:30 pm – 1:40 pm	<b>Vote of Thanks: Prof. Dr. Narmeen Zakaria Bawany</b> Conference Chair, Dean Faculty of Science, Jinnah University for Women, Karachi, Pakistan
1:40 pm – 1:50 pm	Shields Distribution
2:00 pm	Lunch

