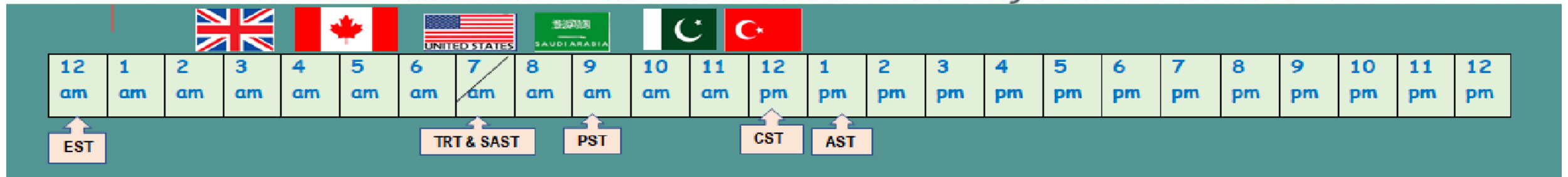




# 4<sup>th</sup> iiScience International Conference

Recent advances in Photonics and Physical Sciences



## Conference Program, 16th April-2024, Day-I

Timeline	
<b>Special Invited Session</b> <b>Iqra Auditorium, LCWU</b> <b>09:00-11:30 am PST</b>	
09:00-09:05 am PST	Recitation from the Holy Qur'an Dr. Talat Zeeshan Naat-e-Rasool e Maqbool
<b>Chair:</b> Prof. Dr. Saira Riaz, Director CSSP, PU, Lahore. <b>Co-Chair:</b> Dr. Shahid Atiq, Associate Professor, CSSP, PU, Lahore. <b>Convener:</b> Dr. Talat Zeeshan, Assistant Professor Physics, LCWU.	

09:05-9:30 am PST	<b>Keynote Talk: <i>Challenges of Water Security: How Research in Physics can Contribute towards Addressing these Challenges.</i></b> <b>Speaker: Prof. Dr. Maria C. Donoso</b> , Florida International University in Miami, FL.
09:30-10:00 am PST	<b>Keynote: <i>Some Outstanding Women Scientists and Their Contributions to Physics.</i></b> <b>Speaker: Prof. Dr. M. Zafar Iqbal</b> , Department of Physics, Quaid-i-Azam University, Islamabad, Pakistan.
10:00-10:30 am PST	<b>Keynote: <i>Alternative Substrate Technologies for III- Nitride LEDs.</i></b> <b>Speaker: Dr. Ian Ferguson</b> , Prof. & Dean, Southern Polytechnic College of Engineering and Engineering Technology Kennesaw State University Georgia, USA.
10:30-11:00 am PST	<b>Keynote <i>Laser Technology: Applications, Innovations, and Future Trends.</i></b> <b>Speaker: Prof. Dr. Shazia Bashir</b> , Prof. Dean of Mathematical and Physical Sciences, Director Institute of Physics, Chairperson Dept. of Physics, GCU, Lahore, Pakistan.
<b>Plenary Lecture</b>	
11:00- 11:30 am PST	<b>Prof. Dr. Aslam Baig</b> , Prof. Founding Director Science at SESAME Project, Amman, Jordan. Founder Atomic and Molecular Physics Laboratory, Quaid-i-Azam University, Islamabad.
<b>Inaugural Formalities</b> <b>Iqra Auditorium, LCWU</b> <b>11:30 - 11: 45 am PST.</b>	
<p>Welcome-Note: Prof. Dr. Zohra Nazir Kayani – (Conference Chair)  Theme &amp; Objectives of iiScience 2024: Prof. Dr. Yasin Akhtar Raja, (General Chair)  Remarks: Prof. Dr. Safia Anjum (Chairperson Physics LCWU).  Remarks by Patron in Chief Prof Dr Shagufta Naz (VC, LCWU).</p> <p>Remarks by Guest of Honor  Word of Wisdom: Chief Guest</p>	
<b>Tea/Coffee Break</b> <b>LCWU</b> <b>11:45- 12:00 noon PST</b>	
<b>Posters Session</b> <b>Lobby, Iqra Auditorium</b> <b>09:00 – 04:00 pm PST</b> <b>Display only for LCWU</b> <b>Display of all universities and Evaluation on Day II</b>	
<p><b>Chief Guest:</b> Prof. Dr. Shagufta Naz, Vice Chancellor, LCWU.  <b>Judges:</b> Prof. Dr. M. Hassan Sayyad (Former Prof. GIKI), Prof. Dr. M. Asghar Hashmi (National Skills University, Islamabad), Prof Dr. Saira Riaz (CSSP, PU), Dr. Muhammad Arshad (National Centre of Physics), Prof. Dr. Rehana Sharif (UET) &amp; Dr. Shagufta Y. Raja (Former Director STEM Program, UNC Charlotte, USA).  <b>Convener:</b> Dr. Shafaq Arif, Dr. Salma Waseem, Dr. Talat Zeeshan, and Dr. Rukhama Haq</p>	

## Session-II (Drug Designing and Disease Diagnosis)

12:00 pm-2:00pm PST

Iqra Auditorium

**Chair:** Prof. Dr. Robina Farooq, Former VC GCWUF, Current Director, University Industry Linkage Section, COMSATS Lahore, Lahore, Pakistan

**Co-Chair:** Mr. Farooq Bashir, Chief Equipment Maintenance Engineer, Central Lab, LCWU, Lahore, Pakistan

**Convener:** Dr. Alliya Khalid, Assistant Professor, Physics, LCWU

12:00-12:30 pm PST	<b>Keynote: <i>Electro-spinning: an Emerging Technology for Construct Polymer-based Nanofibers for Drug delivery</i></b> <b>Speaker: Prof. Dr. Syed Atif Raza</b> , Principal, Punjab University College of Pharmacy, University of The Punjab, Lahore, Pakistan.
12:30-12:45pm PST	<b>Invited Talk: <i>Miraculous Applications of Graphene: Empowering the Cutting-Edge Technologies and Human Lives.</i></b> <b>Speaker: Prof. Dr. Kausar Khan</b> , Gulberg College, Lahore, Pakistan.
12:45-01:00 pm PST	<b>Invited Talk: <i>Synthesis and Characterization of Nanoparticles</i></b> <b>Speaker: Dr. Muhammad Adil Rasheed</b> , Pharmacology, and Toxicology, UVAS, Lahore, Pakistan.
01.00-1:15 pm PST	<b>Invited Talk: <i>Preparation of Calcium Conjugated Antigen Nanoparticle based Viral Vaccine and its Immuno Stimulating Effects in-Vivo</i></b> <b>Speaker: Dr. Imran Altaf</b> , University of Veterinary & Animal Sciences (UVAS), Lahore, Pakistan.
1:15-1:25 pm PST	<b>Title: <i>Burden of Antimicrobial Resistance Pneumonia causing Isolation among Pakistani Population: An Emerging Concern to Public-Health</i></b> <b>Speaker: Ms. Irum Waqar</b> , Department of Biotechnology, LCWU, Pakistan.
1:25 - 1:35 pm PST	<b>Title: <i>Resonances in X-Ray Elastic Scattering from Chiral Magnetic Materials.</i></b> <b>Speaker: Ms. Sina Mehboodi</b> , Technical University of Munich, Germany.
1:35- 1:45 pm PST	<b>Title: <i>AI-Empowered Blood Cell Analysis Using Customized Data-Set.</i></b> <b>Speaker: Mr. Usman Ali Shams</b> , Department of Hematology, University of Health Sciences, Lahore, Pakistan.
1:45- 2:00 pm PST	<b>Title: <i>Optimization of Femtosecond Laser Written Waveguides in Germanate Glass for Efficient Lasing in Near-IR</i></b> <b>Speaker: Dr Mamoon Khalid</b> , Photonics and Communications Lab, Electrical Engineering Department, University of Engineering and Technology, Taxila, Pakistan.

## Session III (Emerging Technologies in Environmental Sciences)

12:00 pm-2:00pm PST

Pharmacy Seminar Hall/Student service center (Old), LCWU

**Chair:** Prof. Dr. M. Hassan Sayyad, GIKI.

**Co-Chair:** Dr. Zeba Israr, Tenured Associate Professor, Physics, LCWU.

**Convener:** Dr. Hina Nazli, Lecturer Physics, LCWU.

12:00-12:15 pm PST	<b>Invited Talk: <i>Factors Affecting Silicon Determination from Plant Samples.</i></b> <b>Speaker: Dr. H. Faiq Siddique Gul Bakhat</b> , Department of Environmental Sciences, COMSATS University Islamabad, Vehari Campus, Pakistan.
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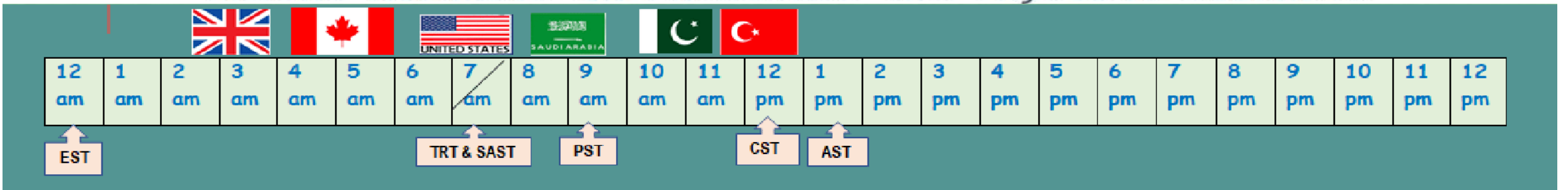
12:15-12:30 pm PST	<b>Invited Talk: <i>Bi-functional Semiconductor Hetero-junction for Photo-electrochemical Water Splitting.</i></b> <b>Speaker: Dr. Syeda Ammara Shabbir</b> , Physics Department, FC College Lahore, Pakistan.
12:30-12:45 pm PST	<b>Invited Talk: <i>Assessment of Fertilizer-value and Associated Health Risks from Putrescible Solid Waste as Affected by the Composting Techniques.</i></b> <b>Speaker: Dr. Ghulam Mustafa Shah</b> , Department of Environmental Sciences, COMSATS Institute of Information Technology, Vehari, Pakistan.
12:45-1:00 pm PST	<b>Invited Talk: <i>Socioeconomic Drivers of Embodied Particulate Matter PM2.5 and PM10 Emission in Pakistan.</i></b> <b>Speaker: Dr. Muhammad Wakeel Rana</b> , Environmental Science, COMSATS University Islamabad, Vehari Campus, Pakistan.
1:00 - 1:10 pm PST	<b>Title: <i>Silver Based Silica Membranes for Desalination.</i></b> <b>Speaker: Ms. Sufyana Idress</b> , Department of Physics, LCWU, Lahore, Pakistan.
1:10 - 1:20 pm PST	<b>Title: <i>Recent Advances in Metal-oxides as Energy Storage Materials: synthesis, characterization, and electrochemical studies for sustainable energy storage.</i></b> <b>Speaker: Ms. Alvena Shahid</b> , Department of Physics, LCWU, Lahore, Pakistan.
1:20 - 1:30 pm PST	<b>Title: <i>Nano-fertilizers as a Promising Strategy to Combat Climate Change.</i></b> <b>Speaker: Ms. Maria Hanif</b> , Biotechnology, LCWU, Lahore, Pakistan.
1:30 - 1:40 pm PST	<b>Title: <i>High Output InGaN Red Laser Diodes through Implementation of AlGaInN Inter-Layers.</i></b> <b>Speaker: Ms. Laraib Mustafa</b> , Faculty of Engineering Sciences, GIKI, Topi, Khyber Pakhtunkhwa, Pakistan.
1:40 - 1:50 pm PST	<b>Title: <i>Designing M-graded last quantum barrier of AlGaInP-based red light emitting diodes.</i></b> <b>Speaker: Ms. Anam Alia</b> , Faculty of Engineering Sciences, Ghulam Ishaq Khan Institute of Engineering Sciences and Technology, Topi, Swabi, Khyber Pakhtunkhwa, Pakistan.
<b>Session IV (Fuel Cell Technology)</b> <b>12:00 pm-2:00 pm PST</b> <b>Siraj -Ud-Din Committee Room, LCWU</b>	
<b>Chair:</b> Prof. Dr. M. Asghar Hashmi, National Skills University, Islamabad.	
<b>Co-Chair:</b> Dr. Munazza Mohsin, Associate Professor, HED, Govt. Graduate College for Women, Wahdat colony, Lahore, Pakistan.	
<b>Convener:</b> Dr. Saima Khalid, Lecturer Physics, LCWU.	
12:00-12:15 pm PST	<b>Invited Talk: <i>The Electrochemical Study of NixCe1-xO2-δ Electrode using Natural gas as a Fuel.</i></b> <b>Speaker: Dr. Shumail Farhan</b> , Department of Material Science and Chemistry, China University of Geo-sciences, Wuhan, China.
12:15-12:30 pm PST	<b>Invited Talk: <i>Flexible and Selfheal-able Hydro Gels-based Energy Storage Devices for Wearable Electronics.</i></b> <b>Speaker: Dr. Shahid Bashir</b> , Sr. Lecturer, University Malaya Power & Energy Dedicated Advance Centre, Malaya
12:30-12:45 pm PST	<b>Invited Talk: <i>Green Energy to Fight Climate Change- a path to sustainable future.</i></b> <b>Speaker: Dr. Munazza Mohsin</b> , Associate Professor, HED, Govt. Graduate College for Women, Wahdat colony, Lahore, Pakistan.

12:45-1:00 pm PST	<b>Invited Talk: Synergistic Electrical Properties of Graphene-based Nano Composite Cathode Materials for Advance Ceramic Fuel Cells.</b> <b>Speaker: Dr. Khalil Ahmed</b> , Virtual University Lahore, Pakistan.
1:00-1:10 pm PST	<b>Title: Development and Characterization of Perovskite-based Materials for Intermediate-Temperature Solid Oxide Fuel Cells (IT- SOFCs).</b> <b>Speaker: Mr. Najam Ul Haq</b> , Physics Department, COMSATS, Lahore, Pakistan.
1:10-1:25 pm PST	<b>Invited Talk: New Directions for Developing Dissipation-less Electronics and Computing.</b> <b>Speaker: Dr. M. Shahbaz Anwar</b> , Department of Materials Science & Metallurgy, University of Cambridge, Cambridge, UK. Department of Engineering, University of East London, London, UK.
1:25-1.55 pm PST	<b>Keynote: Molecular clusters: growth and catalysis</b> <b>Speaker:</b> John E. McGrady, Department of Chemistry, University of Oxford, South Parks Road, Oxford, OX13QZ, UK.
<b>Lunch &amp; Prayer Break, LCWU</b> <b>2:00-3:00 pm PST</b>	
<b>Session – V</b> <b>Symposium on Photonic Materials, Devices and Emerging Photonics’ Applications</b> <b>Iqra Auditorium LCWU</b> <b>3:00-4:35 pm</b>	
<b>Organizers:</b> Prof. Dr. M. Yasin Akhtar Raja, UNC Charlotte, USA and Dr. Muhammad Hassan Sayyad, GIKI. <b>Chair:</b> Prof. Dr. Safia Anjum, Physics Department, LCWU. <b>Co-Chair:</b> Dr. Aqsa Shabbir, Associate Professor, Electrical Engineering. Head of Intermediate Section, LCWU. <b>Convener:</b> Mrs. Afshan Rashid, Lecturer Physics, LCWU.	
3:00-3:30 pm PST	<b>Keynote: Molecular Spectroscopy in Developing Artificial Intelligence Integrated Analysis and Applications of Nano materials.</b> <b>Speaker: Prof. Dr. Muhammad Akhyar Farrukh</b> , Department of Basic and Applied Chemistry, Faculty of Science and Technology, University of Central Punjab, Lahore, Pakistan.
3:30-3:45 pm PST	<b>Invited Talk: Optical Spectroscopy: Unraveling the Potential of Optoelectronic Materials.</b> <b>Speaker: Dr. Samia Aslam</b> , COMSATS University Islamabad, Pakistan.
3:45- 4:00 pm PST	<b>Invited Talk: The Fluorescent Frontier in Ionic- and Molecular Sensing.</b> <b>Speaker: Dr. Lubna Rasheed</b> Department of Chemistry, Rawalpindi Women University Rawalpindi, Pakistan.
4:00-4:15 pm PST	<b>Invited Talk: Design, Simulation and Fabrication of a Silicon Photonic Mach-Zehnder Interferometer Circuit for Transverse Electric (TE) Polarization.</b> <b>Speaker: Mr. Arslan Asim</b> , Department of Electrical and Computer Engineering, Dalhousie University, Halifax, Canada
4:15 -1:25 pm PST	<b>Talk: Enhancement of the Optoelectronic Performance of 25um InGaN Micro-LED.</b> <b>Speaker: Ms. Shazma Alia</b> , Faculty of Engineering Sciences, GIKI, Topi, Khyber Pakhtunkhwa, Pakistan.
4:25 -4:35 pm PST	<b>Talk: Breaking Performance Barriers: AlN Spacer Integration Boosts GaN HEMTs to Higher Drive Drain Current for HEMT- LED.</b> <b>Speaker: Ms. Wagma Hidayat</b> , Faculty of Engineering Sciences, GIKI, Topi, Khyber Pakhtunkhwa, Pakistan.



# 4<sup>th</sup> iiScience International Conference

Recent advances in Photonics and Physical Sciences



## Conference Program, 17<sup>th</sup> April 2024, Day-II

### Timeline

Session I : Light and Renewable Energy

Iqra Auditorium, LCWU

9:00-11:00 am PST

Chair: Prof. Dr. M Yasin Akhter Raja, UNC Charlotte.

Co- Chair: Dr. Aneeqa Sabah, Tenured Associate Professor Physics, LCWU.

Convener: Dr. Shafaq Arif. Assistant Professor, Department of Physics, LCWU, Lahore, Pakistan.

09:00-9:05amPST Recitation from the Holy Qur'an Dr. Talat Zeeshan  
Naat-e-Rasool e Maqbool

9:05-9:35 am PST **Keynote: Advanced Materials for Sustainable Energy Applications.**  
**Speaker: Prof. Dr. M. Ashraf Gondal**, Physics Department, IRC-Hydrogen & Energy Storage and K.A. CARE Energy Research and Innovation Center, King

	Fahd University of Petroleum & Minerals (KFUPM), Dhahran, Saudi Arabia.
9:35-10:00 am PST	<b>Invited Talk: <i>Reliability of Photovoltaic Metallization Technologies for Cost-effective Solar-electricity.</i></b> <b>Speaker: Dr. Abasifreke Ebong</b> , Department of Electrical and Computer Engineering, University of North Carolina, Charlotte, USA.
10: 00-10:15 am PST	<b>Invited Talk: <i>M Xene based Energy Storage Materials.</i></b> <b>Speaker: Dr. Muhammad Arshad</b> , National Centre of Physics, Islamabad, Pakistan.
10:15 -10:30 am PST	<b>Invited Talk: <i>Synthesis and Characterization of Lead-free Double Perovskite for Photo-Voltaic Applications.</i></b> <b>Speaker: Dr. Ghulam Murtaza</b> , CASP, GCU, Lahore, Pakistan.
10:30 –10:45 am PST	<b>Invited Talk: <i>Quasi Solid State Electrolyte for Dye Sensitized Solar Cells: A Case Study.</i></b> <b>Speaker: Prof. Dr. Safeer Ahmed</b> , Department of Chemistry, Quaid-i-Azam University (QAU), Islamabad, Pakistan.
10:45-11:00 am PST	<b>Invited Talk: <i>Formulation and Evaluation of Counter Electrode Composites for Platinum-Free Dye-Sensitized Solar Cells.</i></b> <b>Speaker: Dr. Sofia Siddique</b> , Physics Department, UET, Lahore, Pakistan.
<b>Session- II (Smart and Sustainable Development in Materials Manufacturing)</b> <b>Biotech Seminar Hall, LCWU</b> <b>09:00 -11:00 am PST</b>	
<b>Chair:</b> Prof. Dr. Rehana Sharif, Professor Physics, UET, Lahore. <b>Co-Chair:</b> Dr. M. Javaid Iqbal, Centre for Solid State Physics, Punjab University, Lahore, Pakistan. <b>Convener:</b> Ms. Afshan Rashid, Lecturer, Department of Physics, LCWU, Lahore, Pakistan.	
09:05 - 9:20 am PST	<b>Invited Talk: <i>Utilization the Highly Versatile Spray Pyrolysis Technique for Multifunctional Metallic Oxide Coatings.</i></b> <b>Speaker: Dr. Dilawar Ali</b> , Physics Department, GCU, Lahore, Pakistan.
9:20-9:35 am PST	<b>Invited Talk: <i>Optimization of Electrochemical Nature of Ni/Co MOF -assisted Zn Metal Centers for Better Electrode Performance in Hybrid Devices.</i></b> <b>Speaker: Dr. Syed Sajid Ali Gillani</b> , Physics Department, GCU, Lahore, Pakistan.
9:35-9:45 am PST	<b>Invited Talk: <i>Effect of Electronic Alteration on Hydrogen Storage and Optical Response in NaMgF<sub>3</sub> using DFT approach.</i></b> <b>Speaker: Dr. Muhammad Rizwan</b> , SPS, Punjab University, Lahore, Pakistan.
9:45- 9:55 am PST	<b>Talk: <i>A Flexible Tri-band Inverted C-shaped Conformal Antenna for On-body Communications.</i></b> <b>Speaker: Mr. Abdul Jabbar</b> , Department of Electrical Engineering, ITU, Lahore, Pakistan.
9:55-10:10 am PST	<b>Invited Talk: <i>Resonant Tunneling of Electrons and Holes through the In<sub>x</sub>Ga<sub>1-x</sub>/GaN Parabolic Quantum Well/LED Structure.</i></b> <b>Speaker: Dr. Hind Althib</b> , Department of Physics, College of Science, Imam Abdul Rahman Bin Faisal University, Saudi Arabia.
10:10 -10:20 am PST	<b>Talk: <i>Breaking Performance Barriers: AlN Spacer Integration Boosts GaN HEMTs to Higher drive drain Current for HEMT- LED.</i></b> <b>Speaker: Mr. Muhammad Usman</b> , Faculty of Engineering Sciences, GIKI, Topi, Swabi, Khyber Pakhtunkhwa, Pakistan.

10:20-10:30 am PST	<b>Talk: <i>Design and Development of High-Power Cavity Bandpass Filter with Improved Quality Factor and Capacitively Coupled Feed.</i></b> <b>Speaker:</b> Mr. Muhammad Ali, Information Technology University (ITU) of the Punjab, Lahore, Pakistan.
10:30 -10:40 am PST	<b>Talk: <i>Topology-Optimized High-Numerical-Aperture, Facile Meta-surfaces.</i></b> <b>Speaker:</b> Mr. Md. Sohaib Hossain Sohag, Department of Physics and Optical Science, University of North Carolina at Charlotte, Charlotte, North Carolina, USA.
10:40 - 10:50 am PST	<b>Talk: <i>Achieving Enhanced Charge Transport and Molecular Ordering in PCDTPT -based Organic Field-Effect Transistors by Directional Coating.</i></b> <b>Speaker:</b> Ms. Tehmina Afzal, Centre for Solid State Physics, PU, Lahore.
10:50- 11:00 am PST	<b>Talk: <i>Study of Oxygen Reduction and Electrochemical Behavior by Substituting Transition Elements in Sr<sub>0.5</sub>Fe<sub>0.5</sub>MnO<sub>4-δ</sub> Cathode for Proton Conducting.</i></b> <b>Speaker:</b> Mr. Wasif Ghauri, COMSATS University, Lahore, Pakistan.
<b>Session- III (Energy Storage Applications)</b> <b>Siraj -Ud-Din Committee room, LCWU</b> <b>09:00 -11:00 am PST</b>	
<b>Chair: Prof. Dr. M. Ashraf Gondal</b> , Physics Department, (KFUPM), Dhahran, Saudi Arabia.	
<b>Co-Chair:</b> Dr. Rasheeda Bashir, Associate Professor, Department of Biotechnology, LCWU, Lahore, Pakistan.	
<b>Convener:</b> Dr. Madeeha Riaz, Assistant Professor, Department of Physics, LCWU, Lahore, Pakistan.	
09:05 - 9:20 am PST	<b>Invited Talk: <i>Frequency Dependent Electrical and Dielectric Properties of the Fe-doped ZnO/Si Hetero junctions.</i></b> <b>Dr. Hadia Noor</b> , Assist. Prof. Centre for Solid State Physics, PU, Lahore, Pakistan.
9:20-9:30 am PST	<b>Talk: <i>Maxine and Graphene based Nano composites for Energy Storage Applications.</i></b> <b>Speaker:</b> Mr. Tariq Ali, Physics Department, COMSATS University, Lahore, Pakistan.
9:30-9:40 am PST	<b>Talk: <i>Structural and Optical Properties of ZnS Thin Films - Effect of Acidic Bath Under Stirring.</i></b> <b>Speaker:</b> Ms. Azqa Farrukh Butt, Centre for Solid State Physics, Punjab University, Lahore, Pakistan.
9:40- 9:50 am PST	<b>Talk: <i>Structural, Dielectric and Magnetic Study of Microwave- assisted Sol-gel Prepared Spinel Manganese Chromium Oxide Nano-powders.</i></b> <b>Speaker:</b> Ms. Faiza Arshad, Centre for Solid State Physics, Punjab University, Lahore, Pakistan.
9:50-10:00 am PST	<b>Talk: <i>The spectral Analysis of Space Plasma in Terms of Satellite Missions.</i></b> <b>Speaker:</b> Ms. Saba Ramzan, Department of Physics, LCWU, Lahore, Pakistan.
10:00 -10:10 am PST	<b>Talk: <i>Concurrent Existence of Magneto-electric Coupling and Electro-optic Kerr Effect in Perovskite-based Ternary Composites for Energy Reservoirs.</i></b> <b>Mr. Muhammad Umar Salman</b> , Centre for Solid State Physics, Punjab University, Lahore, Pakistan.
10:10-10:20 am PST	<b>Talk: <i>Optical modulation of threshold voltage in DPPDTT-based organic field-effect transistors.</i></b> <b>Speaker:</b> Mr. M. Nadeem, Centre for Solid State Physics, Punjab University, Lahore, Pakistan.
10:20 -10:30 am PST	<b>Talk: <i>Green Synthesis and Characterization of Silver Nanoparticles using Fruit Extract of Citrullus Colocynths and their Applications in Biomedical Science.</i></b> <b>Speaker:</b> Mr. Shafqat Rasool, Centre for Solid State Physics, Punjab University, Lahore, Pakistan.
10:30 - 10:40 am PST	<b>Talk: <i>Green Synthesized Silver Nanoparticles based Textiles for Potential Applications.</i></b> <b>Speaker:</b> Ms. Hira Ghani, Centre for Solid State Physics, Punjab University, Lahore, Pakistan.
10:40- 10:50 am PST	<b>Talk: <i>La<sup>3+</sup> substituted M-type Hexaferrites: Theoretical and Experimental Study of Structural, Dielectric, and Magnetic and Optical Properties.</i></b>



	<b>Speaker: Mr. Muhammad Shahbaz</b> , Centre for Solid State Physics, Punjab University, Lahore, Pakistan.
10:50- 11:00 am PST	<b>Talk: <i>Enhanced SPR by Double Prism Effect for Sensing.</i></b> <b>Speaker: Ms. Anna Arshad</b> , Department of Physics, LCWU, Lahore, Pakistan.
<b>Plenary Talk</b> <b>Iqra Auditorium, LCWU</b> <b>11:00-11:30pm PST</b>	
11:00- 11:30 pm PST	Prof. Dr. N. M. Butt, Chairman and Preston Professor at the Preston Institute of Nano Science and Technology (PINSAT) of the Preston University, Islamabad
<b>Tea Break</b> <b>LCWU</b> <b>11:30-12:00 pm PST</b>	
<b>Session- IV (Photonic Devices &amp; Chemical Engineering)</b> <b>Iqra Auditorium</b> <b>12:00 -01:35 pm PST</b>	
<b>Chair:</b> Prof. Dr. Saleem Farooq Shaukat (Director COMSATS Vehari Campus) <b>Co- Chair:</b> Dr. M. Akram Raza, Centre for Solid State Physics, Punjab University, Lahore, Pakistan. <b>Convener:</b> Ms. Saba Tehniat, Lecturer, Department of Physics, LCWU, Lahore, Pakistan.	
12:00-12:30pmPST	<b>Keynote: <i>Measurements for Emerging Power Grids.</i></b> <b>Speaker: Prof. Dr. Mihaela Albu</b> , National University of Science and Technology Politehnica Bucharest, IMS Chapter (chair), Romania.
12:30-12: 45pmPST	<b>Invited Talk: <i>Organic Field Effect Transistors: Quest for Stable and High Mobility Devices in Ambient Conditions.</i></b> <b>Speaker: Dr. M Javaid Iqbal</b> , Assist. Prof. Centre for Solid State Physics, PU, Lahore, Pakistan.
12: 45- 1:00 pm PST	<b>Invited Talk: <i>Nanotechnology based Functional coatings for durable Self-cleaning Applications.</i></b> <b>Speaker: Dr. M. Akram Raza</b> , Assist. Prof. Centre for Solid State Physics, Lahore, Pakistan.
1:00 - 1:15 pm PST	<b>Invited Talk: <i>PUND Analysis in Ferroelectric Materials for Next-Generation Data Processing Devices.</i></b> <b>Speaker: Dr. Shahid Atiq</b> , Assoc. Prof., Centre for Solid State Physics, PU, Lahore, Pakistan.
1:15- 1:30 pm PST	<b>Invited Talk: <i>Organic Light-Emitting Field Effect Transistors: Advances and Perspectives.</i></b> <b>Speaker: Dr. Mujeeb U. Chaudhry</b> , Assoc. Prof. in Organic Electronics Advanced Materials, Electronics & Communications Research Challenge Department of Engineering, Durham University, UK.
<b>Posters Session Continuation from Day-I (Open to All Attendees and Judges Panel for Evaluation)</b> <b>09:00 -4:00 pm</b>	
<b>Judges:</b> Prof. Dr. M. Hassan Sayyad (Former Prof. GIKI), Prof. Dr. M. Asghar Hashmi (National Skills University, Islamabad), Prof Dr. Saira Riaz (CSSP, PU), Dr. Muhammad Arshad (National Centre of Physics), Prof. Dr. Rehana Sharif (UET) & Dr. Shagufta Y. Raja (Former Director STEM Program, UNC Charlotte, USA). <b>Convener:</b> Dr. Shafaq Arif, Dr. Salma Waseem, Dr. Talat Zeeshan, and Dr. Rukhama Haq.	

## Session- V (Nano science and Chemical Processing)

Siraj -Ud-Din Committee room, LCWU

12:00 -01:40 pm PST

**Chair:** Prof. Dr. Zill-e-Huma, VC, GCWUF.

**Co- Chair:** Dr. Imran Sadiq, Centre for Solid State Physics, Punjab University, Lahore, Pakistan.

**Convener:** Dr. Madeeha Riaz, Assistant Professor, Department of Physics, LCWU, Lahore, Pakistan.

12:00 – 12:30 pm PST

**Keynote:** *Recent Research Trends in Nano Science and Nanotechnology.*

**Speaker:** Prof. Dr. Rehana Sharif, Physics Department, UET, Lahore, Pakistan.

12:30-12:45 pm PST

**Invited Talk:** *The Inducement of Magnetic Frustration in Frustrated R-type Hexagonal Ferrite suitable for Biomedical Applications.*

**Speaker:** Dr. M. Imran Sadiq, Centre for Solid State Physics, PU Lahore.

12:45-12:55 pm PST

**Talk:** *High-performance supercapattery Devices based on Binder-free Zinc Phosphate and Activated Carbon.*

**Speaker:** Asmara Fazal, Centre for Solid State Physics, Punjab University, Lahore, Pakistan.

12:55-1:05 pm PST

**Talk:** *Fabrication of High-performance Electrodes of Rare-Earth Cerium Substituted Nickel Ferrite for Super Capacitor Application.*

**Speaker:** Dr Ayesha Saleem, Department of Physics, FCCU, Lahore, Pakistan.

1:05-1:15 pm PST

**Talk:** *Temperature-induced Shape Transformation of Anisotropic Gold Nanoparticles.*

**Speaker:** Ms. Zanjbeel Fatima, Centre for Solid State Physics, Punjab University, Lahore, Pakistan.

1:15-1:25 pm PST

**Talk:** *Study of MgAl<sub>2</sub>O<sub>4</sub> for Energy Harvesting Applications.*

**Speaker:** Mr. Abaid ur Rehman, Centre for Solid State Physics, Punjab University, Lahore, Pakistan.

1:25-1:35 pm PST

**Talk:** *Structural, Magnetic and Electrochemical Properties of La<sup>+3</sup> Substituted, Barium Hexaferrite (BaLaxFe<sub>12-x</sub>O<sub>19</sub>) Synthesized by Mechanical Milling.*

**Speaker:** Ms. Mehwish Sattar, Department of Physics, LCWU, Lahore, Pakistan.

1:35-1:45 pm PST

**Talk:** *Optical Modulation of Threshold Voltage in DPPDTT-based Organic Field-effect Transistors.*

**Speaker:** Mr. M. Nadeem, Centre for Solid State Physics, Punjab University, Lahore, Pakistan.

## Session VI (Revolutionizing Experimental Physics)

Biotech Seminar Hall, LCWU

12:00 -01:35 pm PST

**Chair:** Prof. Dr. Muhammad Hassan Sayyad, GIKI.

**Co-Chair:** Dr. Hadia Noor, Centre for Solid State Physics, Punjab University, Lahore, Pakistan.

**Convener:** Dr. Farah Anjum, Department of Physics, LCWU, Lahore, Pakistan.

12:00-12: 15 pm PST

**Invited Talk:** *Tackling road Congestion through machine learning, Hierarchical Graphs, and Just-in-time Congestion Response.*

**Speaker:** Dr. Megan L Johnson, Assist. Professor, Department of Mathematical Sciences, The State University of New York, Fredonia, USA.

12:15-12:30 pm PST	<b>Invited Talk: <i>Indigenous Ingenuity: Revolutionizing Experimental Physics Labs and Commercialization through Fabrication Innovation.</i></b> <b>Speaker: Dr. Bilal Tahir</b> , Khawaja Farid University, RYK, Pakistan.
12:30-12:40 pm PST	<b>Talk: <i>Photo-degradation Response of Sol-gel synthesized Vanadium Oxide Nanoparticles.</i></b> <b>Speaker: Ms. Saba Niaz</b> , Centre for Solid State Physics, Punjab University, Lahore, Pakistan.
12:40-12:50 pm PST	<b>Talk: <i>Tunable properties of rare earth elements (Ce, Dy, Yb, La and Pr).</i></b> <b>Speaker: Mr. Haseeb Shah</b> , Centre for Solid State Physics, Punjab University, Lahore, Pakistan.
12:50 -1:00 pm PST	<b>Talk: <i>Adopting the sol-gel auto-combustion approach to synthesize the La<sup>3+</sup> substituted hexagonal ferrite suitable for permanent magnets and high-frequency applications.</i></b> <b>Speaker: Ms. Samreen Saeed</b> , Centre for Solid State Physics, Punjab University, Lahore, Pakistan.
1:00-1:10 pm PST	<b>Talk: <i>Ion-Acoustic Waves in Generalized Electron Distribution Magnetized Plasma: A Study Employing the Reductive Perturbation Method.</i></b> <b>Speaker: Ms. Easha Shahid</b> , Department of Physics, LCWU, Lahore, Pakistan.
1:10-1:20 pm PST	<b>Talk: <i>Magnetic Phase-Transition upon Divalent Substitution in Sr<sup>2+</sup>-based R-type Hexagonal Ferrite.</i></b> <b>Speaker: Ms. Mishal Idrees</b> , Centre for Solid State Physics, Punjab University Lahore, Pakistan.
1:20-1:30 pm PST	<b>Talk: <i>Exploring Sustainable Approaches for the Synthesis of Na <math>\beta</math>-type Hexagonal Ferrite Magnetic Nanoparticles and Their Application in the Electrochemical Detection of Cefixime.</i></b> <b>Speaker: Mr. Sajjad Hussain</b> , Centre for Solid State Physics, Punjab University, Lahore, Pakistan.

### Session VII (Computational Perspectives in Expanding Horizons)

Pharmacy Seminar Hall, LCWU

12:00 -01:30 pm PST

**Chair:** Prof. Dr. M. Asghar Hashmi, Controller Exams, National Skills University, Islamabad.  
**Co-Chair:** Dr. Mohsin Nazir, Associate Professor, Chairperson, Software Engineering Department, LCWU, Lahore.  
**Convener:** Ms Sahar Tasleem, Assistant Professor, Department of Physics, HED, Punjab, Lahore, Pakistan.

12:00-12:15 pm PST	<b>Invited Talk: <i>Computational Perspectives in Expanding Horizons: Bridging Photonics and Digital Sciences.</i></b> <b>Speaker: Dr. Mohsin Nazir</b> , Associate Professor, Chairperson, Software Engineering Department LCWU, Lahore.
12:15-12:25 pm PST	<b>Talk: <i>Structural and optical properties of Cr doped Ta<sub>2</sub>O<sub>5</sub>.</i></b> <b>Speaker: Ms. Laiba Ashraf</b> , Department of Physics, LCWU, Lahore, Pakistan.
12:25-12:35 pm PST	<b>Talk: <i>Changes in Optical, Physical, and Surface Characteristics of ZnO Nanostructures by Increasing Gold (Au) Content.</i></b> <b>Speaker: Ms. Maryam Anwar</b> , Department of Physics, LCWU, Lahore, Pakistan.
12:35 -12:45pm PST	<b>Talk: <i>Multifunctional Ni-Doped Bismuth Oxide Thin Films: Synthesized and Characterized Applications.</i></b> <b>Speaker: Ms. Madia Sahar</b> , Department of Physics, LCWU, Lahore, Pakistan, IRSIP (Durham University), UK.
12:45-12:55pm PST	<b>Talk: <i>Novel insight in photocatalytic degradation of organic dyes over CeO<sub>2</sub>/Ce<sub>2</sub>S<sub>3</sub> Nano composite.</i></b> <b>Speaker: Ms. Hibba Tu Rauf</b> , Department of Physics, LCWU, Lahore, Pakistan.
12:55-1:05 pm PST	<b>Talk: <i>Probing the Impact of Ba on Properties of ZnO at the Nanoscale: Optical, Dielectric and Antibacterial Activity Evolution.</i></b> <b>Speaker: Ms. Ayesha Akram</b> , Department of Physics, LCWU, Lahore, Pakistan.

1:05-1:15 pm PST | **Talk: *Broadband Generation of Irregularly Shaped Perfect Vortex Beams in the NIR Spectrum.***  
**Speaker: Mr. Muhammad Danial**, Department of Electrical Engineering, ITU, Lahore, Pakistan.

**Lunch & Prayer Break**  
**Ground, LCWU**  
**1:30 pm-2:30 pm PST**

**" Workshop on " Simulations and Remote Access"**  
**Web-based Simulations and Remote Access Visualization Tools for Science & Engineering Programs**  
**Iqra Auditorium, LCWU**  
**02:30 – 04:00 pm**

**Convener:** Prof. Dr. Yasin Akhtar Raja, Physics and Optical Science & Engineering, UNC Charlotte, NC, USA.

**Moderator:** Dr. Salma Waseem, Assistant Professor, Department of Physics, LCWU, Lahore, Pakistan.

02:30 - 03:30 pm PST | **Lead: Prof. Ahmed S Khan**, PhD. Fulbright Specialist Scholar, World Learning Inc. U.S. Dept. of State's Bureau of Educational & Cultural Affairs (ECA), USA.

**Remembering in Dua'** | **Resource Person: Prof. Salahuddin Qazi (Deceased in February)\***, Professor Emeritus, SUNY Polytechnic Institute, Utica, NY, USA

03:30- 4:00 pm PST | **Resource Person: Dr. Atilla Ozgur Cakmak**, Teaching Assistant Professor, Pennsylvania State University, USA.

**Symposium on Emerging Technologies and Challenges for Effective Teaching and Learning -Skills & Themes in Higher Education**  
**Iqra Auditorium, LCWU**  
**04: 00 - 5:00 pm PST**

**Symposium Chairs:**

Prof. Dr. M. Yasin Akhtar Raja, Physics and Optical Science & Engineering, UNC Charlotte, NC, USA.

Prof. Dr. M. Asghar Hashmi, Controller Exams, National Skills University, Islamabad.

Prof. Dr. Robina Farooq, Director, University Industry Linkage Section, COMSATS Lahore, Lahore, Pakistan.

04:00- 4:30 pm PST | **Invited Talk: "What If We All Could be Innovative?"**  
**Speaker: Dr. M. Khizar Bhutta**, Sr. Engineering Manager, Whirlpool Corporation.

04:30- 5:00 pm PST | **Keynote: Phase Control Growth of InAs Nanowires by Using Bi Surfactant**  
**Speaker: Prof. Dr. M. Asghar Hashmi**, Controller Exams, National Skills University, Islamabad.

**Panel Session**  
**(Emerging Technologies and Challenges for Effective Teaching and Learning -Skills & Themes in Higher Education)**

**Chief Guest:** Prof. Dr. Shagufta Naz, Vice Chancellor, LCWU.

Prof. Dr. Faleeha Zahra Kazmi Vice Chancellor, Home Economics College University.

Prof. Dr. Adnan Noor, Vice Chancellor, ITU.

Prof. Dr. Zill e Huma, Vice Chancellor, GCWUF.

Prof. Dr. Uzma Qureshi Form. Vice Chancellor LCWU, GCWU Multan

Prof. Dr. M. Aslam, Maj Gen (Retd.), Fmr. Rector Shifa Medical Univ, Islamabad, Pakistan

Prof. Dr. Robina Farooq Former Vice Chancellor GCWUF, Dir. University Industry Linkage Section, COMSATS Lahore, Lahore, Pakistan.

Prof. Dr. Farooq Saleem Shaukat, Director at COMSATS University, Vehari campus

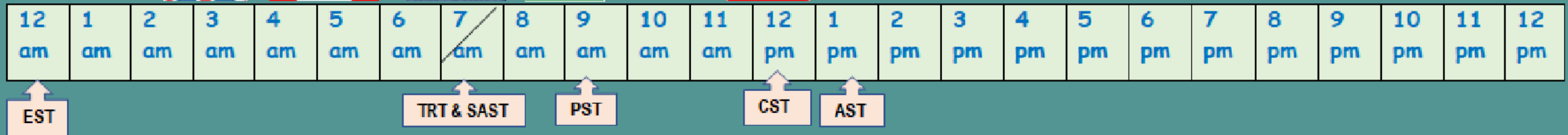
**Moderators:**

Prof. Dr. Robina Farooq (COMSATS), Prof. Dr. M. Asghar Hashmi (National Skills University), and Prof. Dr. M. Yasin Akhtar Raja (UNC).



# 4<sup>th</sup> iiScience International Conference

Recent advances in Photonics and Physical Sciences



## Conference Program, 18<sup>th</sup> April-2024, Day-III

Timeline	
<b>Iqra Auditorium, LCWU</b> 09:00 am-12:00 pm PST	
09:00-09:05 am PST	Recitation from the Holy Qur'an Dr Talat Zeeshan Naat-e-Rasool e Maqbool
<b>Symposium on Smart Sensing for e-Healthcare Applications using IoT, AI and ML Technologies</b> Iqra Auditorium, LCWU 09:00-12:00 am PST	

**Chairs and Contributors:**

Maj Gen (Ret'd.), Prof. M. Aslam, Fmr. Rector Shifa Medical University, Islamabad Pakistan.  
Prof. M. Yasin Akhtar Raja, Ctr. Optoelectronic & Optical Communication, UNC Charlotte, USA.

**Chair:** Prof. Dr. Amina Moazzam, Chairperson Psychology, LCWU, Lahore Pakistan.

**Co-Chair:** Dr Neelam Munir, Associate Prof. Biotechnology, LCWU, Lahore Pakistan.

**Convener:** Dr. Shafaq Arif, Assistant Prof. Physics, LCWU, Lahore Pakistan.

09:05–9:35am PST

**Keynote: *Evolution of Turning Wireless Communication to Sensing for e-Healthcare***

**Speaker: Dr. Yingying (Jennifer) Chen**, Chair & Prof., Dept. of Electrical & Computer Engineering, Peter D. Cherasia Faculty Scholar, Rutgers Univ, NJ, USA.

9:35- 10:05 am PST

**Keynote: *Artificial Intelligence in Monitoring Patient Vital Signs and additional Real-Time in-situ Physiological and Biochemical “Laboratory Results” and Derived Treatment Recommendation.***

**Speaker: Dr. Ir. Robert Splinter**, Chief Operating Officer, Chief Technology Officer, Intelligent Bioinformatics Ltd. UK, Manchester UK, Adjunct Faculty, UNC Charlotte, Charlotte, NC, USA.

10:05-10:35 am PST

**Keynote: *Fostering Linkages between Medicine, Engineering, and Industry for Better Healthcare System***

**Speaker: Prof. Dr. M. Aslam**, Maj Gen (Retd.), Fmr. Rector Shifa Medical Univ, Islamabad, Pakistan

10:35-10:50 am PST

**Invited: *IoT—Convergence of Wireless Sensor and Data Science Technologies for Smart eHealthcare***

**Speaker: Engr. Shaftab Ahmed**, Former Assoc Prof & Dept. Chair, Electrical & Computer Engineering, Bahria University, Islamabad, Pakistan, and Visiting Faculty ECE, Optical Sc. & Engineering UNC Charlotte, USA.

10:50- 11:20 am PST

**Keynote: *e-Health Care System in Pakistan.***

**Speaker: Prof Dr. Humaira Majeed Khan**, Dean Faculty of Pharmaceutical & Allied Health Sciences, LCWU, Lahore, Pakistan

**Closing Ceremony**

Iqra Auditorium, LCWU

11:20-12:00 pm PST

Summary Remarks and Closing Report (Conference Chairs and Executive Team)

Recognition and Distribution of Shields/Certificates

Vote of Thanks by Prof. Dr. Zohra Nazir Kayani- Conference Chair

Closing Remarks by Prof Dr. M. Yasin Akhtar Raja-General Chair

Remarks by Prof. Dr. Safia Anjum- Chairperson Physics Department.

Remarks by Patron-in-Chief, Prof Dr. Shagufta Naz

Remarks by Guest of Honor

Remarks by Chief Guest

Group Photo

Adjourn for the Next Year !

**Lunch**

LCWU

12:00- 1:00 pm PST