

Day - 1 (November 1, 2019)

08:00-09:00 am **Reception and Registration**

Inauguration

09:00-09:05 am **ICONN Introduction** (Irshad Hussain, Principal Organizer, ICONN-19)

09:05-09:10 am **Welcome address** (Shahid Masud, Dean SBASSE, LUMS)

09:10-09:15 am **Nanotechnology status in Pakistan** (N. M. Butt (SI), Fellow, Pakistan Academy of Sciences)

09:15-09:25 am **Inaugural address** (Syed Babar Ali, Founder & former Pro-Chancellor of LUMS)

Session – I Biomedical applications of nanomaterials

Chair: **N.M. Butt** Co-Chair: **Arshad Hussain**

09:30-10:00 am **The nanotechnology gold rush**

Mathias Brust (University of Liverpool, UK)

10:00-10:30 am **Sequence-specific “Peptoids” for bionano science and engineering**

K. H. Aaron Lau (Strathclyde University, Glasgow, UK)

10:30-10:50 am **Multi-dimensional materials in health-related applications**

Najam-ul-Haq (Bahauddin Zakariya University, Multan)

10:50-11:05 am **Tea break**

Session – II Biomedical applications of nanomaterials

Chair: **Arshad Saleem Bhatti** Co-Chair: **Najam-ul-Haq**

11:05-11:25 am **Smart surfaces and drug delivery systems**

Basit Yameen (Lahore University of Management Sciences, LUMS)

11:25-11:45 am **Metallic nanoparticles and de-oxy sugar containing pro-angiogenic synthetic grafts to accelerate healing in burns and diabetic foot ulcer wounds**

Muhammad Yar (COMSATS University Islamabad, Lahore campus)

11:45-12:00 pm **TiO₂ based nanocomposite hydrogel for solar disinfection**

Anam Safri (Strathclyde University, Glasgow, UK)

12:00-12:15 pm **The use of gold nanoparticles as novel photodynamic cancer therapy sensitizers**

Matthew Broadbent (University of Liverpool)

12:15-12:30 pm **Chiral metamaterials for biological sensing: The role of optical chirality and interference**

Cameron Gilroy (University of Glasgow, UK)

12:30-12:45 pm **In-vitro and in-vivo characterization of PVA/Starch/g-C₃N₄/Ag-TiO₂ nanocomposite hydrogel membranes for wound dressings**

Arooj Ahmed (National University of Science and Technology)

12:45-02:30 pm **Lunch Break**

Session – III Nanomaterials for renewable energy technologies

Chair: **Walther Schwarzacher** Co-Chair: **Zakir Hussain**

02:30-03:00 pm **Nanotechnology: key to synthetic fuels for a sustainable energy transition**

Asif Ansar (German Aerospace Center, Germany)

03:00-03:20 pm **Tailoring and tuning of optical properties of wide band gap semiconductor nanostructures**

Arshad Saleem Bhatti (COMSATS University Islamabad)

03:20-03:40 pm **Fused ring small molecule acceptors for high-performance fullerene-free polymer solar cells**

Raja Shahid Ashraf (Government College University Lahore)

03:40-04:00 pm **Advanced functional nanoscale materials: Thin-films, electrocatalysis, solar and chemical energy conversion applications**

Khurram S. Joya (King Fahd University of Petroleum and Minerals, KSA)

04:00-04:15 pm **Tuning metal chalcogenide molecular catalysts for the hydrogen evolution reaction: Electronic effects and mechanistic insights**

James McAllister (University of Glasgow, UK)

04:15-04:30 pm **Controlled development of electrode materials for water splitting**

Akhtar Munir (Lahore University of Management Sciences)

04:30-06:00 pm **Tea and Poster session**

07:00-10:00 pm **Cultural night (Food, Handicraft, Music & Tradition)**

Organized by LUMS Society of Chemical Sciences & Engineering

Day - 2 (November 2, 2019)

8:00-8:30 am **Registration**

Session – IV Synthesis, characterization and properties of nanomaterials

Chair: **Mathias Brust** Co-Chair: **Asif Ansar**

- 08:30-09:00 am **Classical nucleation theory and electrodeposition**
Walther Schwarzacher (University of Bristol, UK)
- 09:00-09:20 am **Magneto-optics of 2D materials**
Sabieh Anwar (Lahore University of Management Sciences)
- 09:20-09:40 am **Inorganic materials for electrochemical and catalysis applications**
Manzar Sohail (National University of Science and Technology)
- 09:40-10:00 am **Fabrication of triboelectric nanogenerators using template assisted synthesis**
Ajab K. Kasi (University of Balochistan, Quetta)
- 10:00-10:15 am **Long wavelength lattice dynamics in morphotropic $PbZr_xTi_{1-x}O_3$: the road to large scale electronic structure calculations**
Jack Baker (University College London, London, UK)
- 10:15-10:30 am **First principles modeling of anisotropic thermoelectric materials**
Alban d'Harcourt (University of York, UK)
- 10:30-10:45 am **Exploiting the structure-property relationship in Bragg stacks: A soft matter approach**
Faroha Liaqat (Quaid-i-Azam University, Islamabad)
- 10:45-11:00 am **Tea break**

Session – V Synthesis, characterization and properties of nanomaterials

Chair: **Bien Tan** Co-Chair: **Shahab-ud-Din Memon**

- 11:00-11:30 am **The effect of confinement on the crystallization of soft materials**
Hatice Duran (TOBB University of Economics and Technology, Turkey)
- 11:30-11:50 am **Synthesis of ion-channels: Ideal candidates for the drug delivery systems**
Raza Shah (HEJ Research Institute of Chemistry, International Center for Chemical and Biological Sciences (ICCBS), University of Karachi)
- 11:50-12:10 pm **The role of calixarenes as nanorobotics in material science**
Shahab-ud-Din Memon (Center of Excellence in Analytical Chemistry, University of Sindh, Jamshoro)
- 12:10-12:30 pm **Graphene and other 2D materials: Fabrication & applications**
Rashid Jalil (University of Engineering and Technology, Lahore)
- 12:30-12:45 pm **Real time STM tip state recognition using neural networks**
Oliver Gordon (University of Nottingham, UK)
- 12:45-01:00 pm **Nano-colloids to understand the nature of the glass transition**
Levke Ortlieb (University of Bristol, UK)
- 01:00-02:00 pm **Lunch break**

Session – VI Environmental applications of nanomaterials

Chair: **Raza Shah** Co-Chair: **Hatice Duran**

- 02:00-02:30 pm **Porous hypercrosslinked polymer-TiO₂-graphene photocatalysts for visible-light-driven CO₂ conversion**
Bien Tan (Huazhong University of Science and Technology (HUST), Wuhan, China)
- 02:30-02:50 pm **Carbon dioxide capture from methane using mixed matrix membranes**
Arshad Hussain (National University of Science and Technology, Islamabad)
- 02:50-03:10 pm **Applications of multinary metal oxides nanocomposites**
M. Akhyar Farrukh (Forman Christian College, Lahore)
- 03:10-03:30 pm **Mesoporous zirconia nanostructures (MZN) for excellent adsorption of As(III) and As(V) from aqueous solutions**
Khurram Shehzad (University of Science and Technology of China, China)
- 03:30-03:50 pm **A Facile Synthesis of FeCo Nanoparticles Encapsulated in Hierarchical N-doped Carbon Nanotube/Nanofiber Hybrids for Overall Water Splitting**
Faryal Aftab (Lahore University of Management Sciences)
- 03:50-04:20 pm **Closing ceremony and refreshments**