



International Workshop on 2D Materials and Quantum Effect Devices (19-21 July, 2022)

Organized By: Department of Physics and Applied Mathematics/Center for Mathematical Sciences

Pakistan Institute of Engineering and Applied Sciences

Tuesday 19 July, 2022		
0830 – 0930	Registration (Lyceum Hall)	
0930 – 1030	Opening Ceremony (Lyceum Hall)	
1030 – 1100	Tea Break	
Technical Session 1: Session Chair – Dr. Shahid Qamar		
1100 – 1145	Prof. Shunri Oda	Si-based qubits for quantum computing
1145 – 1230	Dr. Muhammad Irfan	Geometrically controlled Fraunhofer pattern in ballistic Josephson junctions
1230 – 1300	Dr. Amina Zafar	The Thinnest Light Disk: Rewritable Data Storage and Encryption on WS ₂ Monolayers
1300 – 1400	Lunch & Prayer Break	
Technical Session 2: Session Chair – Dr. Anila Usman		
1400 – 1445	Dr. Atif Aziz	Industrial applications and the prospect of Graphene and related two-dimensional materials
1445 – 1530	Dr. Falak Sher	Advanced Materials Characterization Techniques – Powder X-ray Diffraction

Wednesday 20 July, 2022		
Technical Session 1: Session Chair – Dr. Falak Sher		
0900 – 0945	Dr. Atif Aziz	Lightweight Cables: a Dream or a Reality
0945 – 1030	Dr. Kashif Sabeeh	Topological Materials and their Phase Transitions
1030 – 1100	Dr. M. Waqas Iqbal	Two Dimensional Van-der Waals heterostructures for photovoltaic and sensing applications
1100 – 1130	Tea Break	
Technical Session 2: Session Chair – Dr. Atif Aziz		
1130 – 1215	Dr. Ayaz Ali Hakro	MoS ₂ /hBN transistors for high-performance NO _x detection
1215 – 1300		
1300 – 1400	Lunch & Prayer Break	
Technical Session 3: Session Chair – Dr. Kashif Sabeeh		

1400 – 1445	Prof. Zahid Ali K. Durrani	Information entropy exchange and the Szilard cycle in a room-temperature dopant atom double quantum dot transistor
1445 – 1530	Dr. Muhammad Waseem	Collisions in two dimensional Fermi gases with p-wave interactions
1530 – 1600	Tea Break	

Thursday 21 July, 2022		
Technical Session 1: Session Chair – Prof. Shunri Oda		
0900 – 0945	Dr. Abdul Jalil	Computational Screening of Two- Dimensional Materials for Different Applications
0945 – 1030	Dr. M. Zaheer Iqbal	Microwave Induced Resistance Oscillations in 2DEG System
1030 – 1100	Dr. M. Hassan Sayyad	2D Materials Based Next-Generation Photonic and Optoelectronic Devices
1100 – 1130	Tea Break	
Technical Session 2: Session Chair – Dr. Muhammad Hassan Sayyad		
1130 – 1215	Dr. Faisal Shahzad	2D Transition Metal Carbides (MXenes) as an Electrically Conductive and Catalytically Active Material
1215 – 1300	Dr. Ambreen Uzair	Charge Transport in clean two-dimensional metals
1300 – 1400	Lunch & Prayer Break	
1400 – 1530	Closing Ceremony (Lyceum Hall)	
1530 – 1600	Tea Break	