Programme Schedule

8th January 2024 (Monday)			
16:00-19:00	**Registration** (Venue: *Vikramshila Foyer)*		
20:00-22:00	**Pre-Conference DINNER** *(Venue: Vikramshila Foyer)*		
9th January 2024 (Tuesday)			
7:30-8:45	**Registration and Breakfast** (*Vikramshila Foyer*)		
9:00-9:45	**Inauguration Ceremony** *(Kalidas Auditorium)*		
9:45-10:30	**Plenary-1: Keshav M. Dani,** OIST, Japan [Excitons in Momentum Space] Chair: Saurabh Lodha *(Kalidas Auditorium)*		
10:30-11:00	**High Tea** *(Vikramshila Foyer*)		
	Kalidas Auditorium	**Gargi Auditorium**	**Maitrayee Auditorium**
	Session A1: Emerging Materials (Chair: Prasanta Kumar Dutta)	**Session B1: Polymer & related (Chair: Amita Mahanty)**	**Session C1: Ceramic and related (Chair: Rahul Mitra)**
11:00-11:30	**(KN-1) Patrick Parkinson (University of Manchester)** *High-Throughput Study of Wavelength-Scale Optoelectronics*	**(KN-2) Tarun K Mandal (IACS Kolkata)** *Zwitterionic Polymer Architectures and Smart Materials Therein*	**(KN-3) Christian Pithan (Forschungszentrum Juelich, Germany)** *Influence of Oxygen Deficiency and Crystal Chemistry on Electric Transport in $Pr_{1-x}Ca_xMnO_3$ Ceramic Solid Solutions*
11:30-11:55	**(IL-1) Chitraleema Chakraborty (University of Delaware, USA)** *Flatland Quantum Materials*	**(IL-2) Bijay P. Tripathi (IIT Delhi)** *Rationally Designed Oxygen Vacant TiO_2@Covalent Organic Framework for Enhanced Electrocatalytic Nitrogen Reduction to Ammonia*	**(IL-3) B Venkata Manoj Kumar (IIT Roorkee)** *Development of electrical discharge machinable and wear-resistant SiC ceramics*
11:55-12:20	**(IL-4) Lutz Waldecker (RWTH Aachen, Germany)** *Tailoring dielectric screening and energy transfer in van der Waals heterostructures*	**(IL-5) Sanjib Banerjee (IIT Bhilai)** *Smart Functional Polymeric Materials for Emerging Applications*	**(IL-6) Dibyendu Chakravarty (ARCI)** *Spark Plasma Sintering: A versatile technique for developing high-performance components for niche applications*
12:20-12.45	**(IL-7) Kausik Majumdar (IISC Bangalore)** *Van der Waals heterojunctions for quantum device applications*	**(IL-8) Bhanu Nandan (IIT Delhi)** *Textile-Based Electrode Materials for Lithium Sulfur Batteries*	**(IL-9) Swastibrata Bhattacharya (BITS-Pilani, Goa)** *A First-Principles Phase Field Method for Predicting microstructures of alloys*
12.45-13:00	**(OR-1) Dipanjan Sen** *Integration of Ferroelectric and Freestanding 3D $SrTiO_3$ and 2D MoS_2 Nanomembranes for Multifunctional Devices*	**(CT-1) Ravi Kumar Biroju** *Engineered Layered 2D Semiconductors and Energy Harvesting*	**(CT-2) Parani Sundararanjan** *Carbon Dots- Engineered Nanocomposite Membranes: An Emerging Membrane Separation Technology*
13:00-14:00	**Lunch** (*Vikramshila Foyer)*		
14:00-15:30	**Poster Session**		
	Kalidas Auditorium	**Gargi Auditorium**	**Maitrayee Auditorium**
	Session A2: (Chair: Samit Kumar Ray)	**Session B2: (Chair: Kinsuk Naskar)**	**Session C2: (Chair: Rohit Medwal)**
15:45-16:10	**(KN-4) Saurabh Lodha (IIT Bombay)** *Few-layer 2D TMD-based photo and strain detectors*	**(KN-5) Sudip Malik (IACS Kolkata)** *Transport Behaviours of Metal Doped Polyaniline Nanostructures and* Resistive Memory Switching Applications	**(KN-6) Saroj Kumar Nayak (IIT Bhubaneswar)** *Computational Design of Functional Materials: From Super Capacitor to Solar Energy*
16:10-16:35	**(IL-10) Satender Kataria (RWTH Aachen, Germany)** *A parallel road of Graphene and 2D materials towards device applications an industry*	**(IL-11) Pradip Paik (IIT BHU)** *Novel polymeric nanoparticles with Anti-inflammatory Activities and Tissue Regeneration*	**(IL-12) Tarun Kumar Agarwal (IIT Gandhinagar)-** *Multi-scale modeling of 2D materials heterostructure-based devices*
16.35-17:00	**(IL-13) Atindra Nath Pal (S N Bose)** *Emergent electronic and magnetic phases in quasi-2D vdW* ferromagnet	**(IL-14) Samarendra Maji (SRMIST)** *Expanding the scope of surface modified MnO_2 based nanomaterials for biomedical applications*	**(IL-15) Ananth Govind Rajan (IISC Bangalore)** *Modeling the Synthesis of Nanoporous 2D Materials*
17:10-18:30	**Panel Discussion: Lab-to-Fab Transfer of Technology Indian Scenario** **Panellists**: Suman Chakraborty (IIT KGP), Ranjan Singh (NTU), Mayank Shrivastava (IISc) Deshdeep Sahdev (Quazar Tech)		
19.00-22.00	**GALA DINNER (Wonder INN)**		

10th January 2024 (Wednesday)

7:30-8:50	**Breakfast** (*Vikramshila Foyer*)			
9:00-9:40	**Plenary-2: Mayank Shrivastava, IISc** [Roadmap for Disruptive Applications and Heterogeneous Integration Using Two-Dimensional Materials: State-of-the-Art and Technological Challenges] *Chair:* Manu Jaiswal *(Kalidas Auditorium)*			
	Kalidas Auditorium	**Gargi Auditorium**	**Maitrayee Auditorium**	
	Session A3: (Chair: Shriganesh S Prabhu)	**Session B3: (Chair: Ashish Arora)**	**Session C3: (Chair: Rabibrata Mukherjee)**	
9:45-10:15	**(KN-7) Ranjan Singh (NTU Singapore)** *On-Chip THz Topological Photonics for 6G to XG Wireless*	**(KN-8) Manu Jaiswal (IIT Madras)** *Thermal Transport in Graphene with Multiple Twisted Interfaces*	**(KN-9) Asish Pal (INST Mohali)** *Precision Strategies toward Adaptive and Functional Supramolecular Biomaterials*	
10:15-10:40	**(IL-16) Rohit Medwal (IIT Kanpur)** *Controlling and probing spins*	**(IL-17) Akshay Singh (IISC Bangalore)** *Interplay of strain and defects in optimally synthesized 2D materials*	**(IL-18) Bimalendu Adhikari (NIT Rourkela)** *Exotic Supramolecular Polymers*	
10:40-11:05	**(IL-19) Santosh Kumar (IIT Goa)** *Single photon emitters in monolayer WS_2 emitting in the visible spectral range*	**(IL-20) Saswata Bhattacharya (IIT Delhi)** *Probing Excited States in Halide (Hybrid)-Perovskites from Many-body Perturbation Theory: Fundamental Issues and Challenges.*	**(IL-21) Ashutosh Kumar Dubey (IIT BHU)** *Piezoelectrically Induced Osteogenic and Antibacterial Response*	
11:05-11.25	**Tea break**			
	Session A4 (Chair: Patrick Parkinson)	**Session B4 (Chair: Sandip Dhara)**	**Session C4: (Chair: Shivakiran Bhaktha)**	
11:30-12:00	**(KN-10) Ambarish Ghosh (IISC Bangalore)** *Novel applications of nanostructured films and colloids fabricated using GLancing Angle Deposition (GLAD)*	**(KN-11) Suraj P Khanna (NPL, Delhi)** *Uncovering the Memristor in PET-Metal Fiber Composite Yarns and Fabrics*	**(IL-24) Debjani Karmakar (BARC)** *V-based Kagome magnetic superconductors: Complex dynamical magnetism and electronic correlation*	
12:00-12:25	**(IL-22) Bivas Saha (JNCASR)** *Magnetic Stress as a New Chauffeur of Metal-Insulator Transition*	**(IL-23) Kapil Bhorkar** *Light for synthesis, modification, and transfer of graphene-related materials*	**(IL-27) Swastika Banerjee (IIT Roorkee)** *Designing Functional Materials for Lithium and Beyond-Lithium Ion Batteries*	
12:25-12:50	**(IL-25) N Kamaraju (IISER Kolkata)** *Exploring ultrafast carrier trapping and many body dynamics in various semiconductor nanoforms and microforms*	**(IL-26) Kaushik Ghosh (INST Mohali)** *Porous Carbon Template Decorated with MOF-driven Bimetallic Phosphide: A suitable Heterostructure for the production of uninterrupted Green Hydrogen via Renewable Energy Storage Device*	**(IL-56) Sarat Kumar Swain (VSSUT)** *Wound Healing Applications of Biopolymer-based Hybrid Functional Materials*	
12:50 -13:05	----------	**(CT-4) Anubhav Roy** *Heterogeneities in Materials across Length-Scales*	**(CT-5) Saurabh Kharwar** *Origin of Ohmic Contacts in Au-MoS_2 via Vacancy-Defected Bilayer MoS_2*	
13:05 -14:00	**Lunch** (*Vikramshila Foyer*)			
14:00- 15:45	**Poster Session**			
	Session A5 (Chair: Satender Kataria)	**Session B5 (Chair: Satyaprakash Sahoo)**	**Industrial Presentation (Chair: Santanu Chattopadhyay)**	
16:00 -16:30	**(KN-13) Bhaskaran Muralidharan (IIT Bombay)** *Can quantum topology be exploited in emerging devices?*	**(KN-14) Sandip Dhara (IGCAR)** Monolayer MoS_2 nanoscroll : A compact optoelectronic device	**Start-up Inspiring Talk: Deshdeep Sahdev** *Science Through Entrepreneurship: An Indian Journey*	
16:30 -16:55	**(IL-28) Shree Prakash Tiwari (IIT Jodhpur)** Multifunctional Organic Transistors for Green Electronics	**(IL-29) Subhash C Yadav (AIIMS Delhi)** *Nanotechnology-based cost-effective, and simple diagnostic technology platforms for rural India*	16:30-16:45	JEOL
16:55 -17:20	**(IL-30) Rahul Sharma (IISER Berhampur)** *Tunneling into a World of Possibilities with a Spectroscopic Imaging Scanning Tunneling Microscope (SI-STM)*	**(IL-31) *Biswajit Dey (Visva-Bharati)*** *Supramolecular Self-healing Metallogels: Platform for Light-responsive Semiconducting Diode-fabrication and Non-Linear Optical Activity*	16.45-17.00	Oxford
17:20 -17:45	***(IL-32)*** **Santanu Das (IIT BHU)** *Two-dimensional functional nanostructures for electronics and energy applications: New archetypes of nano-scale engineering*	**(IL-33) Pankaj Kumar Patro (BARC)** *Hydrogen Production by High-Temperature Steam Electrolysis (HTSE): An Insight into Materials Challenges and Opportunities*	17.00-17.15 17.15-17.30 17:30-17:45	Tubacex Malvern Panalytical Thermo Fisher
17:45 –18:10	**(IL-34) Chandana Rath (IIT BHU)** *Structural Distortion, Magnetization Reversal along with Bipolar Switching in Fe doped Cerium Chromite 17:*	**(IL-35) Paritosh Mohanty (IIT Roorkee)** *Synthesis of Nanoporous Polymers from Polycyclic Aromatic Hydrocarbons for Adsorptive Desulphurization of*	17.45-18.00	Meity/INUP

	Nanoparticles	*Fuels*	16.00-16.30	Saint-Gobin-1
18:10-18:25	**(OR-2) Deblina Roy** Few-layer phosphorene/Metal-organic framework heterostructure for photoelectrochemical hydrogen evolution	**(CT-6) Pallab Bhattacharya** *Cost-effective development of highly pure Ti_3AlC_2MAX for Ti_3C_2 MXene based supercapacitors*		Saint-Gobin-2 Saint-Gobin-3
18:45-20:00	**Cultural Programme** *(Kalidas Auditorium)*			
20:00-22.00	**Banquet Dinner** *(Vikramshila Foyer)*			

11th January 2024 (Thursday)

7:30-8:45	**Breakfast** (*Vikramshila Foyer*)		
9:00-9:40	**Plenary-3: Unyong Jeong** [Title: Printed Wearable Electronics for Practical Uses] ***Chair: Mahitosh Mandal*** *(Kalidas Auditorium)*		
	Kalidas Auditorium	**Gargi Auditorium**	**Maitrayee Auditorium**
	Session A6 (Chair: Ranjan Singh)	**Session B6 (Chair: Shailendra Kumar Varshney)**	**Session C6 (Chair: Karabi Biswas)**
9:45-10:15	**(KN-15) Shriganesh S Prabhu (TIFR Mumbai)** *Terahertz (THz) Spectroscopy of Materials using Far-Field and Near-Field Techniques*	**(KN-16) Arup Dasgupta (IGCAR)** *Microscopy and Spectroscopy at Ultra High-Resolution using Probe Aberration Corrected TEM*	**(KN- 17) Priyadarshi De (IISER Kolkata)** *Amino Acid-Derived Alternating Polyampholytes*
10:15-10:40	**(IL-36) Bodhaditya Santra (IIT Delhi)** *Quantum simulation and computing using cold atoms with tunable interactions*	**(IL-37) Joysurya Basu (IIT BHU)** *Nanoarchitectonics of self-assembled chessboard-like structures in spinel forming CoFeMn oxide*	**(IL-38) Jacoba Hernandez Montelongo (UCT)** *Advanced Implant Function: Cyclodextrin/Citric Acid Biopolymer Coatings as Drug Delivery System*
10:40-11:05	**(IL-39) Ashish Arora (IISER Pune)** *High-precision magneto-optical spectroscopy of 2D materials: low fields versus high fields*	**(IL-40) Arka Karmakar (University of Warsaw Poland)** *Interlayer Energy Transfer Processes in 2D Heterostructures*	**(IL-41) Sagar Pal (IIT-ISM, Dhanbad)** *Synthesis of polysaccharide-based amphiphilic copolymers and their application in the field of drug delivery*
11:05-11.25	**Tea break**		
	Session A7 (Chair: Sajal Dhara)	**Session B7 (Chair: Dipak Kumar Goswami)**	**Session C7 (Chair: Soumen Das)**
11:30-11.55	**(IL-42) Samaresh Das (IIT Delhi)** *Low Noise Broadband Photodetectors based on Layered Materials Heterojunction with Silicon on Insulator and Germanium on Insulator*	**(IL-43) Satyaprakash Sahoo (IOPB)** *Thermally and opto-electronically controlled 2D material memtransistors for memory and bio-inspired neuromorphic computing*	**(IL-44) Biplab Kumar Kulia (IIT BHU)** *Conjugated polymer framework or network and their applications*
11.55-12:20	**(IL-45) Biswanath Chakraborty (IIT Jammu)** *Identifying interlayer /Charge Transfer Excitons in Heterostructures*	**(IL-46) Pavan Nukala (IISC)** *From ferroelectricity in doped-hafnia to cryogenic electrocaloric cooling*	**(IL-47) Uttam Manna (IIT Guwahati)** *Is nucleated gas-bubble adhesion a problem for hydrogen production?*
12:20-12.45	**(IL-48) Kishore Kumar Madapu (IGCAR)** *Defect-bound Exciton Emission in CVD-grown Monolayer MoS2 and Effect of Heating Dissipating Area*	**(IL-49) Satyaprasad Senanayak (NISER)** *Electronic and Ionic Transport in Mixed Metal Perovskites*	**(IL-50) Supratim Banerjee (IISER, Kolkata)** *Bio-Templated Luminescent Materials in Aqueous*
12:45-13.00	**(OR-3) Rana Saha** *Chiral spin textures in future memory devices*	**(OR-4) Mayukh Das** *Enhancing doping efficiency to achieve high-performance p-type field effect transistors.*	**(OR-5) Binaya Kumar Sahu** *Controlling electromagnetic field by sub-wavelength sized metal and magneto metal in nanoscale for plasmonic application*
13:00 -14:00	**Lunch** (*Vikramshila Foyer)*		
14:00- 14.30	Interaction Session/Lab Visit		
	Session A8 (Chair: Lutz Waldecker)	**Session B8 (Chair: Bhim Charan Meikap)**	**Session C8 (Chair: Anandaroop Bhattacharya)**
14.30-15.00	**(KN-18) Yukio Sato (Kumamoto University, Japan)** *Observation of nanoscale polar structure in ferroelectrics*	**(KN-19) Subrata Ghosh (IIT Mandi)** *Tin-Based Resist Materials for Nanopatterning*	**(KN-20) Raja Shunmugam (IISER Kolkata)** Designing Functional Polymers for the Drug Delivery Applications
15.00-15.25	**(IL-51) Surandera B Anantharaman (IIT Madras)** *Strong Light-Matter Interactions in Two-dimensional Materials for Harvesting Solar Energy*	**(IL-52) Ashutosh Kumar Singh (CENS, Bangalore)** *Affordable and Energy-Efficient Electrochromic Energy Storage Devices: An Alternative to Conventional Glass Windows*	**(IL-53) Saumen Mandal (NIT Karnataka)** *Combustion processed high entropy oxide dielectrics: A solution for microelectronic applications*
15.25-15.50	**(IL-54) Saquib Shamim (S N Bose)** *Kondo interactions of quantum spin Hall edge channels with charge puddles*	**(IL-55) Rik Rani Koner (IIT Mandi)** *Engineering Hierarchical Functional Materials for Energy storage*	**(IL-56)Haradhan Kolya (Jeonbuk National University, South Korea)**

				Application Advances in Sound Absorption Techniques: Step-Shaped Ceramic Fiberboards with Veneer Attachment for Walls
15.50-16.15	**(IL-57) Subrata Ghosh (Italy)** *Distinct strategies to explore the insights of nanostructures for Energy applications*.	15:50-16:00	**(CT-7) Kingshuk Mukhuti** *Delayed emission as a probe for singlet fission in TIPS-tetracene single crystals*	**(OR-6) Krishna Prasad Maity** *Elucidating the effect of spin crossover materials on graphene sensing devices*
		16:00-16:10	**(CT-9) Ashok Bera** *Complex oxides to overcome the water-energy nexus*	**(OR-7) Herojit Ioushamban** Co_2+ on the magnetism and the distribution in the $(Cox)_2$+$(Fe_{2-x})_3$+O_4 nanoparticle and its multifunctionality
16.15-16.30	**(CT-8) Anwesha Mukherjee** *Development of high-performance,robust, CMOS-compatible gas sensors*	16.10-16.20	*(OR-8)* **Jayadevan Kampurath Poduvattil** *Computational study of electronic density of states of interstitial carbondoped $BaSnO_3$ perovskite*	**(OR-9) Kritika Ghosh** *Implications of Epitaxial High-K Dielectric Gd_2O_3 thin films on Optical Properties of $MoSe_2$ Monolayer*
16.30-17.00	**Tea Break**			
17.00-18.00	**Valedictory Session and Poster Award Ceremony** *(Kalidas Auditorium)*			
19.00-21.00	**Dinner** *(Vikramshila Foyer)*			