Workshop Program

Seventeenth Annual International Workshop on Advanced Materials (IWAM 2026)

Jais Ballroom, Mövenpick Resort Al Marjan Island

Ras Al Khaimah, UAE

Monday, February 2 – Wednesday, February 4

Sunday 1st February 2026

14:00 onwards	**Check-in at Jais Ballroom** **Mövenpick Resort Al Marjan Island** *Al Marjan Island Blvd, Ras al Khaimah, UAE*
17:30-20:00	**IWAM Registration & Reception** *Mövenpick Resort Al Marjan Island – Neo Sky Bar*

Day 1: Monday 2nd February 2026

Session I	Opening Session	Start time: 08:30 End time: 10:00
08:30	**Welcome & Overview of RAK CAM** **Professor Sir Tony Cheetham** Chairman, Ras Al Khaimah Centre for Advanced Materials	
09:00	**Keynote Address** **His Highness Sheikh Saud bin Saqr Al Qasimi, *Member of the Supreme Council of the UAE and Ruler of Ras Al Khaimah***	
09:30	**Outdoor Thermal Comfort: A Key Innovative Approach to RAK's Sustainability** **Professor Youssef Diab** Center for Outdoor Comfort and Cities in Ras Al Khaimah	
10:00	**Coffee Break**	

Session II	Energy Materials	Start time: 11:00 End time: 13:00
	Chair: Andrew Holmes	
11:00	**Engineering the Future of Photovoltaics: The 16-Year Revolution in Perovskite Solar Cells** **Osman M. Bakr** Division of Physical Science and Engineering Center for Renewable Energy and Storage Technologies (CREST) King Abdullah University of Science and Technology Thuwal, Kingdom of Saudi Arabia	

11:40	**A Rational Design Playbook for Functional Hybrid Metal Halides** **<u>Lingling Mao</u>** Department of Chemistry Southern University of Science and Technology, Shenzhen, P.R. China
12:20	**Electrochemical Interfaces: Molecular Assemblies and Materials Towards Energy Conversion and Storage** **<u>S. Sampath</u>** Department of Inorganic and Physical Chemistry Indian Institute of Science, Bangalore, India

Session III	**Poster Session**	**Start time: 13:00** **End time: 15:00**
13:00	**Poster Session I** Boons, Mövenpick Resort (across from main lobby) *Lunch will be provided buffet style during the poster session* *Please hang your poster at the start of the session* *Odd number posters will present between 13:00-14:00* *Even number posters will present between 14:00-15:00*	

Session IV	**Dresselhaus Memorial Lecture**	**Start time: 15:15** **End time: 16:15**
	Chair: Judith MacManus-Driscoll	
15:15	**Advancing the Frontiers of Organic Electronics Through Precision Synthesis and Molecular Design** **<u>Christine Luscombe</u>** Okinawa Institute of Science and Technology Okinawa, Japan	
16:15	**Coffee Break**	

Session V	Materials Discovery	Start time: 16:40 End time: 18:00
	Chair: Andrew Cooper	
16:40	**Discovering Compounds and Designing Materials** **Ram Seshadri** Materials Department, and Department of Chemistry & Biochemistry University of California, Santa Barbara, California, United States of America	
17:20	**2D nanomaterials inks for energy applications** **Valeria Nicolosi** School of Chemistry, Centre for Research on Adaptive Nanostructures and Nanodevices (CRANN) and Advanced Materials Bio-Engineering Research Centre (AMBER) Trinity College Dublin, Dublin, Ireland	

End of Day 1

Day 2: Tuesday 3rd February 2026

Session VI	Graduate Student Researcher Talks	Start time: 09:00 End time: 09:50
	Chairs: Shaikha S. Al Neyadi & Lingling Mao	
9:00	**Molecular Layer Deposition of AlF-MOF Thin Flim For Selective CO_2 Capture** **Maram Bakiro** Department of Chemistry Carleton University, Ottawa, Canada	
9:10	**Data-driven insights into thermo-viscoelastic behaviour of additively manufactured short carbon fiber-reinforced nylon composites for high-performance structural applications** **Dushyant Dubey** School of Interdisciplinary Research Indian Institute of Technology Delhi, New Delhi, India	
9:20	**Chemical tuning of metavalent bonding: Fundamental role of p-p interactions along linear chains** **Sakshi Verma** Theoretical Sciences Unit Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR) Bangalore, India	
9:30	**Study of the structural and electronic properties of $Zn_{1-x-y}Mg_xTi_yO$ structures** **Sidi Ahmedbowba** Department of Physics University of Tunis El Manar, Tunis, Tunisia	

9:40	***Ab Initio* Insights into the Optoelectronic Properties and Stability of β-CuSCN as an HTM for Perovskite Solar** **Salma Naimi**[†‡] [†]Nanomaterials and Photovoltaic Cells Laboratory, Electric and Photovoltaic Department, Green Energy Park (IRESEN/UM6P), Benguerir, Morocco [‡]Laboratory of Condensed Matter and Interdisciplinary Sciences, Department of Physics, Faculty of Sciences, Mohammed V University, Rabat, Morocco
9:50	**Coffee Break**

Session VII	**Next Generation Materials**	**Start time: 10:20** **End time: 12:20**
	Chair: Chrstine Luscombe	
10:20	**Can we—and why should we—automate scientific discovery using robots and AI?** **Andrew Cooper** University of Liverpool, United Kingdom	
11:00	**Emergent Pathways to the Metal-Insulator Transition: Magnetic Stress, Potential Fluctuations, and Confinement** **Bivas Saha** International Centre for Materials Science & Chemistry and Physics of Materials Unit Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore, India	
11:40	**Designing Smart Framework Materials for Remediation, Detection, and Therapeutic Delivery** **Shaikha S. Al Neyadi** Department of Chemistry United Arab Emirates University, Al Ain, United Arab Emirates	

Session VIII	Poster Session	Start time: 12:30 End time: 14:30
12:20	**Poster Session II** Boons, Mövenpick Resort (across from main lobby) *Lunch will be provided buffet style during the poster session* *Please hang your poster at the start of the session* *Odd number posters will present between 12:30-13:30* *Even number posters will present between 13:30-14:30*	

Session IX	Sheikh Saud International Prize	Start time: 14:45 End time: 16:00
	Chair: Mohamed Eddaoudi	
14:45	**Reticular materials for carbon capture and water harvesting from desert air in the age of AI** **Omar M. Yaghi** Department of Chemistry and Bakar Institute of Digital Materials for the Planet, University of California, Berkeley Berkeley, California, United States of America	
16:00	**Coffee break**	

Session X	Framework Materials	Start time: 16:45 End time: 17:25
	Chair: Osman Bakr	
16:45	**Reticular chemistry: The design journey from highly-connected building blocks to merged nets** **Mohamed Eddaoudi** King Abdullah University of Science and Technology Thuwal, Kingdom of Saudi Arabia	
	RAK CAM board meeting at 5:30 PM (17:30)	

End of Day 2

Day 3: Wednesday 4th February 2026

Session XI	Graduate student talks II	Start time: 9:00 End time: 9:30
	Chair: Yaser Greish & Ali Trabolsi	
9:00	**A MXene/MOF Hybrid Catalyst for Energy-Efficient MEA Solvent Regeneration in CO_2 Capture** **Muhammad Waseem** Department of Chemical and Petroleum Engineering United Arab Emirates University, Al Ain, United Arab Emirates	
9:10	**Influence of flow and Antibody Orientation on Biosensor Performance: A case study with CA125 ovarian cancer biomarker** **Neelam Vishwakarma** Department of Applied Materials & Instrumentation Group (AMI) CSIR-Central Scientific Instruments Organisation, Chandigarh, India	
9:20	**Selective Electrostatic Sorption of Water-Soluble Anionic Molecules over Electrospun Cationic Polymer Fibers** **Ashraf Helmy** Center for Material Science, Zewail City of Science and Technology, Giza, Egypt	

Session XII	Materials Physics	Start time: 9:40 End time: 11:00
	Chair: Michael Klein	
9:40	**Wonder Materials** **Andre Geim** National Graphene Institute, University of Manchester Manchester, United Kingdom	
10:20	**New Vibrational Spectroscopies based on Quantum Geometry of Electrons** **Umesh V Waghmare** Theoretical Sciences Unit Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore, India	
11:00	**Coffee break**	

Session XIII	Materials Physics continued	Start time: 11:20 End time: 12:40
	Chair: Valeria Nicolosi	
11:20	**Practical Functional Oxides for Memory and Neuromorphic Devices** **Judith MacManus-Driscoll** Department of Materials Science, University of Cambridge Cambridge, England, United Kingdom	
12:00	**Understand the Properties of Teflon with Machine Learned Potentials** **Michael L. Klein** Laura H. Carnell Professor of Science Temple University, Philadelphia, Pennsylvania, United States of America	
12:40	**Group photo**	

Session XIV	Poster Session	Start time: 13:00 End time: 15:00
13:00	**Poster Session III** Boons, Mövenpick Resort (across from main lobby) *Lunch will be provided buffet style during the poster session* *Please hang your poster at the start of the session* *Odd number posters will present between 13:00-14:00* *Even number posters will present between 14:00-15:00*	

Session XV	Materials for Health and Sustainability	Start time: 15:20 End time: 17:00
	Chair: Umesh Waghmare	
15:20	**Covalent Organic Frameworks for Precise Drug Delivery** **Ali Trabolsi** Department of Chemistry, New York University Abu Dhabi Abu Dhabi, United Arab Emirates	
16:00	**Low Cost Perovskite Formate MOFs for Energy Applications** **Anthony K. Cheetham** Materials Research Laboratory University of California, Santa Barbara, California, United States of America	
16:40	**Closing Remarks** **Tony Cheetham**	
19:00	**Dinner Banquet at the Palace hosted by** **His Highness Sheikh Saud bin Saqr Al Qasimi** Ruler of Ras Al Khaimah and Member of the Supreme Council of UAE *All guests must wear nametag to attend banquet with a bus sticker from registration.* *Meet outside Jais Ballroom at 6:00 PM (18:00) for departure to the palace.*	

End of Day 3