



PROGRAMME

4 - 6 May 2026 · Dresden

12th International Symposium on the Characterization of Porous Solids

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PROGRAMME

Saturday, 2 May 2026

09:00 - 17:00 **YOUNG INVESTIGATORS SYMPOSIUM
TU DRESDEN**

Sunday, 3 May 2026

09:00 - 14:00 **YOUNG INVESTIGATORS SYMPOSIUM
TU DRESDEN**

10:00 - 16:00 Set Up Exhibition

17:30 - 18:30 Registration/Check-In

18:00 - 21:00 Welcome Event

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EXHIBITORS



PROGRAMME

Monday, 4 May 2026

08:30	Registration & Check-In
09:00	OPENING SESSION <i>Chair: Stefan Kaskel</i>
09:05	PLENARY LECTURE Using NMR Spectroscopy to Investigate Structure, Disorder and Chemical Reactivity in Porous Solids Sharon Ashbrook
	ADVANCED CHARACTERIZATION METHODS <i>Chair: Stefan Kaskel</i>
09:45	Development of Low-Dose Three-Dimensional Electron Diffraction and Its Applications on Framework Materials Zhehao Huang
10:05	Exploration of CO₂ Capture and Gas/Vapour Adsorption in Dynamic and Photo-Responsive Porous Architectures Jacopo Perego
10:25	A Low-field NMR Coupling for Gravimetric Analysers Enabling Vapour Coupled Relaxation and Sorption Measurements Paul Iacomi
10:35	Development of a Novel Characterization Methodology for Nanoporous Materials Utilized in Liquid Phase Applications by Combining NMR Relaxometry with Adsorption Carola Vorndran
10:45	Coffee Break in the Exhibition Area
	ADSORPTION & FUNDAMENTALS <i>Chair: Paul Iacomi</i>
11:15	Novel Pore Network Model for Advanced Physical Adsorption Characterization of Nanoporous Materials Matthias Thommes
11:35	Ultrasonic and Dilatometric Study of Water Adsorption in Nanoporous Glass Gennady Gor
11:55	When Pores Decide: The Diameter That Turns Methylation from Hydrophobic to Hydrophilic in MOFs Monique van der Veen
12:15	Exploring gas adsorption in porous materials through cryogenic Oxygen isotherms Ignacio Campello Gómez
12:25	Enhanced Xenon Porometry for Pore Size Distribution of Silica Gamze Colak
12:35	Characterizing the Hydrogen Storage Performance of Metal-Organic Frameworks: Lessons Learnt from MOST-H₂ Darren Broom
12:45	Lunch, Posters & Exhibition

PROGRAMME

Monday, 4 May 2026

	APPLICATIONS & DYNAMICS <i>Chair: Tina Düren</i>
13:45	Prevention of Complications in Cardiovascular Intervention Using MOF-Containing Extruded Catheters Russell E. Morris
14:05	Probing Pore Dynamics and Phase Identity in Metal-Organic Frameworks with THz Raman Spectroscopy Simon Krause
14:25	Chemoselectivity Inversion of Responsive MOF by Particle Size Tuning Irena Senkovska
14:35	Structural Adaptiveness-Enabled High Selectivity in Transiently Porous Crystals Soumya Mukherjee
14:45	Screening Odor Absorbers for Plastics and Recyclates Using a TD-GC-MS-Based Test Stand Roxana Grömmmer
14:55	Particle and Porosity Characterization of Dry Battery Electrode Powders Katie Struckhoff
15:05	Tunable Bimetallic Carboxylate-Pyrazolate MOFs for CO₂ Capture Georges Mouchaham
15:25	Coffee Break in the Exhibition Area
	CARBONS <i>Chair: Joaquin Silvestre Albero</i>
15:55	Graphene-coated Nanoporous Carbons Stably Storing High-Density Methane at Ambient Pressure Katsumi Kaneko
16:15	Exploring the Effects of S- and N- Containing Surface Groups on Short Chain PFAS Adsorption Teresa J. Bandosz
16:35	Phase Behaviour of Non-crystallizing Nanoporous Water in Activated Carbon Pores under Extremely High Pressure Taku Iiyama
16:55	Introducing Battery Electrolyte Vapor Sorption as a Tool to Connect the Liquid-Solid Interface to Initial Losses in Carbon Anodes Jonas Krug von Nidda
17:05	Neutron Total Scattering and Computational Modelling as a Method to Probe Electrolyte Structure Confined in Nanoporous Carbon Supercapacitor Electrodes Rakin Gilani
17:15	Atomistic Simulations and Theoretical Model for Electrolyte Adsorption at the Surface of Nano-Porous Carbon Electrodes Heiarri Lou Chao
17:25	Poster Party I
19:30	End of Conference Day I

PROGRAMME

Tuesday, 5 May 2026

09:00	PLENARY LECTURE Membranes Based on Self-Assembly and Macrocycles Suzana Pereira Nunes <i>Chair: Katsumi Kaneko</i>
	SEPARATION & CATALYSIS <i>Chair: Katsumi Kaneko</i>
09:40	Advancing the Molecular Trapdoor Mechanism for Precision Adsorption and Selective Sieving Jin Shang
10:00	Direct Visualization of Dealumination in Zeolites Akira Endo
10:20	Mercury-free Liquid Metal Intrusion Porosimetry for Pore Size Characterization Michael Noisternig
10:30	In-Situ Impedance Characterisation of Multi-Scale Gas Transport in Zeolite Pellets Atheer Saad Hashim
10:40	Coffee Break in the Exhibition Area
	METAL ORGANIC FRAMEWORKS <i>Chair: Irena Senkowska</i>
11:10	Bespoke Models for Pore Structure Characterization of Metal-Organic Frameworks Alexander Neimark
11:30	Maximized Efficiency in MOF/COF Structure Analysis Carsten Wolf
11:40	Solvent-free Thermal Defect Engineering in Metal-Organic Frameworks V́ctor Rubio-Giménez
11:50	Selective Adsorption Behavior in ZIF-90 vs ZIF-8: Modelling and Experimental Evidences Oscar Iván Tovar Arredondo
12:00	Evolution of nano-catalyst from 2D-leaf-shaped Zeolitic Imidazolate Framework for ORR reactions: In-situ insights Joerg Jischek
12:10	Engineering Pore Size and Functionality of Metal-organic Framework via Mixed-ligand Strategy for Efficient Xe/Kr Separation Kyu-Min Ryoum
12:20	Lunch, Posters & Exhibition
	CO₂ AND BEYOND <i>Chair: Matthias Thommes</i>
13:20	A Temperature-induced Desorption Method for the Measurement of Multicomponent Adsorption in Metal-Organic Frameworks Robbe Van Loenhout

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Tuesday, 5 May 2026

13:40	Isothermal Capture and Release of Carbon Dioxide with a Porous Molecular Hexamine Adrian Huang
14:00	Sulfur Impregnation in Porous Materials for CO₂ Adsorption Kilian Fourie
14:10	Kinetic and Equilibrium CO₂ Adsorption in Microporous Carbon: A Classical DFT Approach Andrei Kolesnikov
14:20	Influence of Acid Gas on Zeolites for CO₂ Separation by Accelerated Durability Tests Ayumi Ikeda
14:30	The Effect of Water on CO₂ Capture Using Porous Adsorbents Lei Liu
14:40	Putting ZIF-8 in Shape: ZIF-8 / Polymer Extrudates for Gas Phase Alcohol/Water Separations Julia Duplessis-Kergomard
14:50	Coffee Break in the Exhibition Area
	EMERGING TOPICS <i>Chair: Russel Morris</i>
15:20	How Enzymes Reshape Porous Crystals: Direct Evidence of Nanocavity Formation in ZIF-L via Electron Microscopy Sara Talebi Deylamani
15:40	Anomalous Temperature Dependence of He Adsorption Density at Cryogenic Temperatures Hideki Tanaka
16:00	Adsorption Behavior of 6-membered Ring Alicyclic Hydrocarbons on ZIF-8: Insight from the Adsorption Kinetics Takahiro Ueda
16:10	From Pore to Defect Engineering: Cu₂ Triazolyl Isophthalate MOFs for Dihydrogen Adsorption and Isotopologue Separation Sibo Chetry
16:20	How Water Adsorption Directs Interlayer Distance in Potassium Poly(Heptazine Imide) Kai Hetze
16:30	Metal-Free Magnetism in Organic 2D Frameworks Hongde Yu
16:40	How a Single Atom Influences the Spatiotemporal Response of Flexible MOFs: In-sights from Theory and Experiment Kornel Roztocki
17:00	Poster Party II
19:00-22:30	Get together with Barbecue Dinner at Hygienemuseum

PROGRAMM

Wednesday, 6 May 2026

09:00	<p>PLENARY LECTURE Can AI Deliver the Materials We Need for Carbon Capture? Berend Smit <i>Chair: Guillaume Maurin</i></p> <p>MODELLING <i>Chair: Guillaume Maurin</i></p>
09:40	Computational Exploration of Metal-Organic Frameworks for Hydrogen Separation Prantar Dutta
09:50	SearchMOF: A Pipeline with Retrieval-Augmented Generation (RAG) Approach for Metal-Organic Frameworks Yi Li
10:00	Data-Driven Discovery of Metal-Organic Framework Catalysts for Small Molecule Conversions Shubhajit Das
10:10	The Adsorption Information Format (AIF): New Tools and Future Directions for FAIR Adsorption Data Sharing Jack D. Evans, Stefan Kaskel
10:30	Characterizing Flexibility in 3D Linker-based MOFs Using Computational and Experimental Approaches Randall Q. Snurr
10:50	Coffee Break in Exhibition Area
	<p>METHODOLOGY <i>Chair: Hideki Tanaka</i></p>
11:20	Bayesian Estimation of Pore Size Distribution in Porous Carbon Using a Surface-Roughness-Integrated GCMC Kernel Kazuyuki Nakai
11:30	Investigation of the Influence of Temperature on Adsorption Enthalpy Hendrik Löchte
11:40	Combining Differential Scanning Calorimetry and Adsorption to Deepen the Understanding of MOF Adsorption Thermodynamics Javier García Ben
11:50	Linking Adsorbent Monolith Channel Size and Heterogeneity to CO₂ Capture Performance Benjamin Claessens
12:00	Unlocking Water from Air by Advanced Zr-Based MOF Sorbents Ciara Susan Byrne
12:10	Linking Gas Adsorption and Transport in Structurally Disordered Mesoporous Materials Rustem Valiullin
12:30	Heterogeneous Photocatalysis Observed in Real Time by Light-irradiated Magic Angle Spinning Solid-State NMR Spectroscopy Dorothea Wisser

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Wednesday, 6 May 2026

12:50	Poster Award Ceremony
13:05	Closing Remarks Stefan Kaskel
13:10	Lunch Buffet and Lunch Bags
14:00	End of Conference