

^{1,2,3}H: Interdisciplinary Perspectives on Hydrogen Isotopes



23 – 25 March 2026, Leipzig, Germany

Monday 23 March (timings are CET)

08:00–08:45	Registration
08:45–09:00	Opening Ceremony
09:00–09:45	Stefan Kaskel Porous Materials for Isotope Separation
09:45–10:15	Tanja Gulder Electrochemical Hydrogen–Deuterium Exchange: Towards Sustainable Approaches for Late-Stage Isotope Labeling
10:15–10:30	Junsu Ha High-temperature hydrogen isotope separation enabled by locally flexible gates in tightly confined microporous metal-organic frameworks
10:30–11:00	Coffee Break
11:00–11:30	Hyunchul Oh Advanced MOF Strategies for Hydrogen Isotope Separation
11:30–11:45	Sibo Chetry Structural Determinants of Dihydrogen Adsorption and Isotopologues Separation in Metal-Organic Frameworks
11:45–12:00	Hrittik Karmakar Dihydrogen Isotope Adsorption on the SBUs of Metal Organic Frameworks
12:00–12:30	Michael Hirscher Adsorption-Based Separation of Gaseous Hydrogen Isotopologue Mixtures Investigated by Thermal Desorption Spectroscopy
12:30–13:30	Lunch
13:30–14:00	Daniel Obenchain Ligand Exchange in Gas-Phase Molecular Hydrogen Complexes Influenced by Isotopic and Spin-Isomer Effects
14:00–14:15	Dennis El Mouzawak Ion Soft-Landing of Undercoordinated Metal Complexes: Spatial Profiling, Ion Beam Control, and Stabilization
14:15–14:30	Maria Chiara Crimella Deposition of Charged Microdroplets to Quantify Charge Separation of Salts in the ESI Process
14:30–15:00	Martin Beyer Hydrogen-Deuterium Exchange in Charged Water Clusters
15:00–15:30	Coffee Break
15:30–16:00	Linda Zhang Distinct Lattice Responses and Adsorption Dynamics of Hydrogen Isotopologues in a Flexible Triazolate MOF
16:00–16:15	Pranjit Das Hydrogen Isotope Adsorption in V-Doped MIL-53(Al) Using <i>In Situ</i> EPR Spectroscopy
16:15–16:45	Irena Senkowska Flexible Metal–Organic Frameworks: Opportunities for Isotope Separation
16:45–17:00	Akira Taguchi H₂-D₂ Separation in 8-membered Ring Zeolites (CHA, RHO, and LTA (4A)) at Mild Temperatures
17:30–20:00	Poster Session

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Tuesday 24 March (timings are CET)

09:00–09:45	Volker Derdau Chasing the Miracles of Science with Hydrogen Isotopes
09:45–10:15	Inez Weidinger The Role of Protons in Electrocatalysis
10:15–10:30	Kwangjin An Catalyst Design for Liquid Organic Hydrogen Carriers (LOHCs)
10:30–11:00	Coffee Break
11:00–11:30	Cornelius Fischer Hydrogen Isotope (¹H, ²H, ³H) Interactions with Microporous Materials: Experimental and Analytical Insights
11:30–11:45	Alexander Feige Electron Diffraction as an Alternative to Neutron Methods for Hydrogen Isotope Identification
11:45–12:00	David Egloff From Experience to Engineering: The Evolution of Safe and Refined Tritium Handling
12:00–12:30	Genrich Zeller Raman Spectroscopy and Microscopy of Tritiated Samples
12:30–13:30	Lunch
13:30–14:00	Olga García Mancheño Late-Stage Photocatalytic Hydrogen Isotope Exchange and H-Isotope Effects Towards Selective Reduction Reactions
14:00–14:15	Hannah Buttkus Deciphering HFIP's Influence on the Microhydration of Fluorinated Phosphate Anions
14:15–14:30	Erik Butenschön What ¹H & ²H NMR Reveals About Enzymatic PET-Degradation
14:30–15:00	Detlev Belder Integrated Chemical Microlaboratories: A Key Technology for Automated, Safe, and Sustainable Reaction Processing
15:00–15:30	Coffee Break
15:30–16:00	Jörg Meyer New Insights into the Volume Isotope Effect of Ice Ih from Polarizable Many-Body Potentials
16:00–16:15	Muhammad Fernadi Lukman Local Structure Insight of Flexible Cu²⁺ doped ZIF-8 and Its Application to Hydrogen Isotopologues Detection
16:15–16:45	Alexandra Becker Tritium Loading on Titanium-Based Metal Samples
16:45–17:00	Nils Hertl Mode Selectivity in Electron Promoted Vibrational Relaxation of Chemisorbed Hydrogen on Molybdenum and Tungsten Surfaces
18:00–22:00	Conference Dinner

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Wednesday 25 March (timings are CET)

09:00–09:45	Melanie Schnell H-Isotope Dependent Effects Revealed with High-Resolution Molecular Spectroscopy
09:45–10:15	Anne B. McCoy Exploring Spectral Signatures of Hydrogen Bonding and Proton Transport Through Studies of Ionic Clusters
10:15–10:30	Milena Barp Vibrational Signature of Shared Hydron in Deprotonated HFIP Dimer and Trimer
10:30–11:00	Coffee Break
11:00–11:30	Grégory Schneider Graphene and its Interactions with Protons and Hydrons
11:30–11:45	Maria Judith Caisachana Lozada Environmental Factors Governing Proton Flux Through Graphene-Nafion Membranes
11:45–12:00	Dario Calvani Enhanced and Selective Unidirectional Proton Transport via Covalent Benzenesulfonic Functionalized Nanoporous and Pristine Graphene
12:00–12:30	Thomas Kühne Quantum Mechanics in a Glass of Water
12:30–13:30	Lunch
13:30–14:00	Thomas Heine Hydrogen and Helium Isotope Separation on Open Metal Sites in Framework Materials
14:00–14:15	Felix Moncada Nuclear Orbitals within the Born-Oppenheimer Approximation
14:15–14:30	Daniela Mondonico Design Principles for Isotopologue-Selective Membranes in Aqueous Environment: The Interplay Between Pore Size and Functional Group Chemistry
14:30–15:00	Hoi Ri Moon Metal–Organic Frameworks as Quantum Sieving Platforms for Next-Generation Hydrogen Isotope Separation
15:00–15:30	Closing
15:30–17:30	Lab tour