



A Key to Sustainability

A three-day conference with lectures, posters and panel discussions on how chemistry and materials science can drive sustainable processes and the energy transition, hosted at the Izmir Institute of Technology, 12–14 September, 2022.

Scientific Programme

MONDAY 12 SEPTEMBER	
09:00-09:45	Arrival, registration & coffee
09:45-10:00	Welcome by the host institution
10:00-10:40 Plenary Lecture 1	Understanding adsorption and surface travel in heterogeneous catalysis Prof. Dr. Gadi Rothenberg, University of Amsterdam, The Netherlands
10:40-11:05	Surface-immobilized supramolecular cages as heterogeneous catalysts Pieter Laan, University of Amsterdam, The Netherlands
11:05-11:30	Borohydrides as practical carbon-free fuels Fran Pope, University of Amsterdam, The Netherlands
11:30-11:50	Coffee break
11:50-12:15	Local pH Effects in Electrochemical CO₂ Reduction Saeede Tafazoli, Koç University, Türkiye
12:15-12:40	Catalyst and process development for sustainable technologies Vahide Mutlu, SOCAR Turkey Research & Development and Innovations Inc., Türkiye
12:40-14:00	Lunch + Poster Session
14:00-14:20 Rector's speech	Science Diplomacy Prof. Dr. Yusuf Baran, Izmir Institute of Technology, Türkiye
14:20-15:00 Plenary Lecture 2	Towards a carbon neutral civilization: A first and second law analysis of artificial photosynthesis Prof. Dr. Deniz Üner, Middle East Technical University, Türkiye
15:00-15:25	Problems in liquid phase photocatalytic reactions due to reactor structure Dr. Elif Can, On Dokuz Mayıs University, Türkiye
15:25-16:05 Plenary Lecture 3	Computational catalysis-a powerful tool for catalyst design Assist. Prof. Dr. Ali Can Kızılkaya, Izmir Institute of Technology, Türkiye
16:10-17:30	Poster session + coffee break
17:30-18:30	Cocktail reception

TUESDAY 13 SEPTEMBER	
09:00-09:30	<i>Arrival, registration & coffee</i>
09:30-10:10 Plenary Lecture 4	Overcoming the Challenges with Atomically Dispersed Supported Metal Catalysts Prof. Dr. Alper Uzun, Koç University, Türkiye
10:10-10:35	Interplay between Copper Nanoparticle Size and Oxygen Vacancy on Mg-Doped Ceria Controls Partial Hydrogenation Performance and Stability Yuxin Zhao, Koç University, Türkiye
10:35-11:00	Ethyl Ester Production using Solid Catalysts Cem Karacasulu, Izmir Institute of Technology, Türkiye
11:00-11:20	<i>Coffee break</i>
11:20-11:45	Polyol electro-oxidation suitable for paired electrolysis in industry Noë Watson, University of Amsterdam, The Netherlands
11:45-12:10	Ex situ catalytic cracking of intermediate liquid products of plastic pyrolysis Fatma Defne Çalık, Izmir Institute of Technology, Türkiye
12:10-14:00	<i>Lunch + Poster session</i>
14:00-14:40 Plenary Lecture 5	Solid acid catalysts: From fundamentals to applications Prof. Dr. Selahattin Yılmaz, Izmir Institute of Technology, Türkiye
14:40-15:05	The Synthesis of Copper Nanocubes for CO₂ Reduction in Aqueous and Organic Media Connor Deacon-Price, University of Amsterdam, The Netherlands
15:05-15:25	<i>Coffee break</i>
15:25-16:00	Panel discussion
16:00-17:30	<i>IzTech Integrated Research visit (organised in groups)</i>

WEDNESDAY 14 SEPTEMBER	
09:30-10:10 Plenary Lecture 6	Photocatalytic degradation of aquatic organic pollutants with Zn and Zr based metal-organic frameworks: ZIF-8 and UiO-66 Prof. Dr. Fehime Çakıcıoğlu Özkan, Izmir Institute of Technology, Türkiye
10:10-10:35	Anthracene Oxidation over Heterogeneous Single Atom Catalysts Martijn Mekker, University of Amsterdam, The Netherlands
10:35-11:00	Polyol synthesis from epoxidized soybean oil over sulfated TiO₂-SiO₂ and metal-incorporated SBA-15 Azime Arıkaya, Izmir Institute of Technology, Türkiye
11:00-11:20	<i>Coffee break</i>
11:20-11:45	Z-scheme plasmonic composite photocatalysts Assoc. Prof. Dr. Meral Dükkancı, Ege University, Türkiye
11:45-12:10	Rationally functionalized electrochemical bio sensing platforms Zheng Wei, University of Amsterdam, The Netherlands
12:10-13:00	Plenary discussion and closing remarks
13:00-14:00	<i>Lunch and end of the conference</i>