



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	<b>Understanding adsorption and surface travel in heterogeneous catalysis</b> Prof. Dr. Gadi Rothenberg, University of Amsterdam, The Netherlands
10:40-11:05	<b>Surface-immobilized supramolecular cages as heterogeneous catalysts</b> Pieter Laan, University of Amsterdam, The Netherlands
11:05-11:30	<b>Borohydrides as practical carbon-free fuels</b> Fran Pope, University of Amsterdam, The Netherlands
11:30-11:50	Coffee break
11:50-12:15	<b>Cu based electrocatalyst for ORR</b> Timuçin Balkan, Koç University, Türkiye
12:15-12:40	<b>Local pH Effects in Electrochemical CO<sub>2</sub> Reduction</b> Saeede Tafazoli, Koç University, Türkiye
12:40-14:00	Lunch + Poster Session
14:00-14:40 Plenary Lecture 2	<b>Towards a carbon neutral civilization: A first and second law analysis of artificial photosynthesis</b> Prof. Deniz Üner, Middle East Technical University, Türkiye
14:40-15:05	<b>Problems in liquid phase photocatalytic reactions due to reactor structure</b> Dr. Elif Can, On Dokuz Mayıs University, Türkiye
15:05-15:30	<b>Catalyst and process development for sustainable technologies</b> Vahide Mutlu, SOCAR Turkey Research & Development and Innovations Inc., Türkiye
15:30-16:10 Plenary Lecture 3	<b>Computational catalysis-a powerful tool for catalyst design</b> Assist. Prof. Dr. Ali Can Kızılkaya, Izmir Institute of Technology, Türkiye
16:10-17:30	Poster session + coffee break



TUESDAY 13 SEPTEMBER	
09:00-09:30	Arrival, registration & coffee
09:30-10:10 Plenary Lecture 4	<b>Overcoming the Challenges with Atomically Dispersed Supported Metal Catalysts</b> Prof. Dr. Alper Uzun, Koç University, Türkiye
10:10-10:35	<b>Interplay between Copper Nanoparticle Size and Oxygen Vacancy on Mg-Doped Ceria Controls Partial Hydrogenation Performance and Stability</b> Yuxin Zhao, Koç University, Türkiye
10:35-11:00	<b>Ethyl Ester Production using Solid Catalysts</b> Cem Karacasulu, Izmir Institute of Technology, Türkiye
11:00-11:20	Coffee break
11:20-11:45	<b>Polyol electro-oxidation suitable for paired electrolysis in industry</b> Noë Watson, University of Amsterdam, The Netherlands
11:45-12:10	<b>Ex situ catalytic cracking of intermediate liquid products of plastic pyrolysis</b> Fatma Defne Çalık, Izmir Institute of Technology, Türkiye
12:10-14:00	Lunch + Poster session
14:00-14:40 Plenary Lecture 5	<b>Solid acid catalysts: From fundamentals to applications</b> Prof. Dr. Selahattin Yılmaz, Izmir Institute of Technology, Türkiye
14:40-15:05	<b>The Synthesis of Copper Nanocubes for CO<sub>2</sub> Reduction in Aqueous and Organic Media</b> Connor Deacon-Price, University of Amsterdam, The Netherlands
15:05-15:25	Coffee break
15:25-16:00	Panel discussion
16:00-17:30	IzTech Integrated Research visit (organised in groups)

WEDNESDAY 14 SEPTEMBER	
09:30-10:20 Plenary Lecture 6	<b>Alternative electrochemical cells for sustainable energy</b> Dr. Ning Yan, University of Amsterdam, The Netherlands
10:20-10:45	<b>Understanding Photocatalytic Anthracene Oxidation over Single Atom Catalysts</b> Martijn Mekkering, University of Amsterdam, The Netherlands
10:45-11:10	<b>Polyol synthesis from epoxidized soybean oil over sulfated or sulfonated TiO<sub>2</sub>-SiO<sub>2</sub> and metal-incorporated SBA-15</b> Azime Arıkaya, Izmir Institute of Technology, Türkiye
11:10-11:35	Coffee break
11:35-11:50	<b>Z-scheme plasmonic composite photocatalysts</b> Didem Akgün, Ege University, Türkiye
11:50-12:15	<b>Rationally functionalized electrochemical bio sensing platforms</b> Zheng Wei, University of Amsterdam, The Netherlands
12:15-13:00	Soft Skills + TTO
13:00-14:00	Lunch and Closing Remarks