RKMC + YOURHETCAT 2026

4th International Conference on Reaction Kinetics, Mechanisms and Catalysis & 3rd Forum of Young Researchers on Heterogeneous Catalysis

4-6 June 2026 / Budapest, Hungary

Final program

Thursday, 4 June 2026

12:00	**Registration desk opens**	
	Auditorium B	
14:00-14:15	Opening	
14:15-15:00	Catalysis-enabled biomass economy *(David Kubička / University of Chemistry and Technology Prague, Czechia)*	
15:00-15:30	**Coffee break (Atrium)**	
	Auditorium B	**Room 101**
	Sustainable and industrial catalysis	**Data-driven and theoretical advances in catalytic reaction systems**
15:30-15:50	Kim kinetic characterization of different catalysts: Comparison of conventional reaction, downstream distillation, and integrated membrane reactor *(Kim Leonie Hoff / TH Cologne, Germany)*	Modeling catalytic supported nanoparticles using machine learning interatomic potentials *(Tibor Szilvasi / The University of Alabama, USA)*
15:50-16:10	Complexity in catalyst scale-up for CO2 conversion to gasoline *(Rajib K. Singha / University of Szeged, Hungary)*	DFT modelling of the oxygen activation on Co3O4|CeO2 heterojunctions *(Filip Zasada / Jagiellonian University, Poland)*
16:10-16:30	Inorganic oxide–carbon type composite supported CO-tolerant Pt catalysts for PEM fuel cells *(Ilgar Ayyubov / HUN-REN Research Centre for Natural Sciences, Hungary)*	Pd single sites in Au-rich nanoparticles on CeO2 enable selective Methane-to-Methanol conversion with water *(Pablo Lustemberg / Institute of Catalysis and Petrochemistry (ICP-CSIC), Spain)*
16:30-16:50	Proximity and productivity-based design principles of Fe-based tandem catalysts for CO2 hydrogenation to C5+ hydrocarbons *(Sara Najari / University of Szeged, Hungary)*	Unveiling the mechanistic shift in Wacker-type oxidations: A combined DFT and kinetic study on Ligand-induced anti-Markovnikov selectivity *(Thomas Bouveyron / TH Köln, Germany)*
16:50-17:10	Abstract base catalyzed isomerization of glucose into fructose *(Pasquale Chiaramonte / TU Wien, Austria)*	Discrete state deterministic approach to chemical kinetics *(Rebeka Szabó / University of Pécs, Hungary)*
17:10-17:30	Effect of pretreatment on the catalytic performance and stability of NiCeZrSmOx in methane dry reforming *(Karen Cecilia Pajaro Avila / Institute of Catalysis and Petrochemistry (ICP-CSIC), Spain)*	Differential coats–redfern framework for non-catalyzed and Zeolite-catalyzed thermolysis of low-density polyethylene (Korea Institute of Energy Technology *(Youngho Yeong / Korea Institute of Energy Technology, South Korea)*
	Auditorium B	
17:35-18:20	Rethinking catalysis: A personal journey toward truly sustainable processes *(Paolo Fornasiero / University of Trieste, Italy)*	
18:30-20:30	**Welcome reception (Atrium)**	

Friday, 5 June 2026

	Auditorium B	
9:00-9:45	Catalyzing the energy transition *(Jorge Gascon / King Abdullah University of Science and Technology, Saudi Arabia)*	
9:45-10:45	Pitch presentations	
10:45-11:15	**Coffee break (Atrium)**	
	Auditorium B	**Room 106**
	Environmental catalysis	**Exploring catalytic reaction mechanisms**
11:15-11:35	Valorizing industrial sludge into iron oxides integrated with g-C3N5 photocatalysts for CO2 reduction and renewable energy generation *(En Chin Su / National University of Kaohsiung, Taiwan)*	On the performance of FCC catalysts in polyolefin cracking *(Kinga Góra-Marek / Jagiellonian University, Poland)*
11:35-11:55	Synthesis of 1,4-diazabicyclo[2.2.2]octane (DABCO) and its derivates MDABCO using commercial and modified zeolites *(Martin Zapletal / University of Chemistry and Technology Prague, Czechia)*	Sustainable $CeO_2/CoFe_2O_4$ catalysts for the total oxidation of mixed VOC–CO emissions: From activity to mechanism *(Rayane Al Shbib / Laboratoire Catalyse et Spectrochimie, France)*
11:55-12:15	Composite Cu-based catalysts for H2O2 decomposition: tuning ROS distribution by redox-electroprotic coupling for wastewater AOPs *(Wiktor Czerwonka / Jagiellonian University, Poland)*	Unraveling the role of reactant loading in methanol conversion over zeolite via operando spectroscopy and MCR-ALS analysis *(Anna K. Walczyk / Jagiellonian University, Poland)*
12:15-12:35	Nitrogen-doped and g-C3N4-modified grass pellet biochar for enhanced PMS-mediated trimethoprim degradation under UV light *(Dinesh Chandola / University of Szeged, Hungary)*	Illuminating the path to vanillin: Tuning molybdenum complexes for selective oxidation *(Josipa Sarjanović / University of Zagreb, Croatia)*
12:35-12:55	Prins reaction of indene with paraldehyde catalyzed by clay-based and zeolite-based materials *(Eva Vrbková Zapletalová / University of Chemistry and Technology, Prague, Czechia)*	Acid-catalyzed permanganate oxidation of guaiacol : A kinetic and mechanistic insights *(Riya Sailani / University of Rajasthan, India)*
13:00-14:00	**Lunch break**	
	Auditorium B	
14:00-14:45	Design of catalysts/photocatalysts using advanced oxidation processes for water and air cleaning *(Nataša Novak Tušar / University of Nova Gorica, Slovenia)*	
	Auditorium B	**Room 106**
	Advanced materials & characterization in catalysis	**Catalyst design & nanocatalysis**
14:45-15:05	Development of controlled-porosity alumina supports for high-surface area Ni catalysts in HVO synthesis *(Rodolfo D. Piazza / Unesp, Brazil)*	Interface engineering of Pt–ZnO–CeO2 by atomic layer deposition for advanced applications *(Anastasiia Efremova / University of Szeged, Hungary)*
15:05-15:25	Operando soft and hard XAS investigation of a model Co/Silica Fischer-Tropsch catalyst under realistic reaction conditions *(Athanasios Skaltsogiannis / Helmholtz Zentrum Berlin für Materialien und Energie, Germany)*	Role of copper additive in catalysts based on Mg-Al oxides and FAU zeolites for Guerbet condensation of ethanol into higher alcohols *(Karina Valihura / University of Seville, Spain)*
15:25-15:45	Development of a novel magnetic rotating disk electrode for advanced electrocatalytic studies *(Áron Klonka / University of Szeged, Hungary)*	Hydrodeoxygenation of anisole over Ni-Mo catalysts *(Racheal Ariokot / University of Chemistry and Technology, Prague, Czechia)*
15:45-16:05	Synthesis and study of catalytic properties of cobalt-based binary oxide catalysts *(Sabina Aliyeva Rashad / Sumgayit State University, Azerbaijan)*	
16:05-17:30	**Coffee break & Poster session (Atrium)**	
19:00-01:00	**Conference dinner & Party (Hemingway restaurant - meeting point: 18:30 at the registration desk)**	

Saturday, 6 June 2026

	Auditorium B
9:00-9:45	Redox catalysis on platonic oxide nanocrystals *(Zbigniew Sojka / Jagiellonian University, Poland)*
9:45-10:00	Sponsor lecture (Linev Systems, Lithuania)
10:00-10:30	**Coffee break (Atrium)**
10:30-11:15	Challenges and opportunities of the machine learning-based kinetic modelling of catalystic reactions *(Emanuele Moioli / Politecnico di Milano, Italy)*
11:15-12:45	Workshop
12:45-13:00	Closing & awards

*The Organizers reserve the right to make changes in the Conference program