

3rd International Conference on Reaction Kinetics, Mechanisms and Catalysis

RKMC 2024

22-25 May 2024 / Budapest, Hungary / Mercure Budapest Castle Hill ****

Programme*

Wednesday / 22 May 2024

15:00	Registration desk opens		
Room Mátyás I.			
17:00	17:10	Opening remarks	Gábor Lente Conference Chair University of Pécs, Hungary
Chair: Gábor Lente			
17:10	18:15	Reaction-diffusion modelling and applications of autocatalytic systems: recent developments + 15 min. Q&A	Annette F. Taylor University of Sheffield, UK
18:15	20:00	Welcome reception (Foyer)	

Thursday / 23 May 2024

Room Mátyás I.			
Chair: Günther Rupprechter			
9:00	9:50	Electrocatalytic refinery for production of fuels and chemicals + 10 min. Q&A	Shizhang Qiao University of Adelaide, Australia
9:50	10:15	Computational profiling of fast, base-free synthesis of quinolin-2-(1H)-one + 5 min. Q&A	Krishna K. Govender University of Johannesburg, South Africa
10:15	10:40	Structure of the slow manifold as a tool for parametrisation of the reaction mechanism for oscillatory reactions + 5 min. Q&A	Zeljko Cupic University of Belgrade, Serbia
10:40	11:10	Coffee break (Foyer)	
Chair: Shizhang Qiao			
11:10	11:35	Catalytic glycerol hydrogenolysis on bimetallic clusters of platinum and tungsten: A DFT study + 5 min. Q&A	Mohit Kashyap IITB-Monash Research Academy, India
11:35	12:00	Small molecule activation at biological metal-macrocyclic complexes: contrasts between heme and vitamin B12 + 5. min. Q&A	Radu Silaghi-Dumitrescu Babes-Bolyai University, Romania
12:00	12:25	Magnetic field control of heterogeneous catalysis: Application to low-pressure Fischer-Tropsch + 5 min. Q&A	Durante' E Naidoo University of KwaZulu-Natal, South Africa
12:30	14:00	Lunch (Restaurant)	
14:00	16:00	Poster session (Foyer)	
16:00	16:30	Coffee break (Foyer)	
17:00	19:00	Walking tour in the Buda Castle district (meeting point: hotel lobby 17:00)	

Friday / 24 May 2024

Room Mátyás I.			
Chair: Zeljko Cupic			
9:00	9:50	Chemical dynamics in single particle catalysis: in situ microscopy and microkinetic modelling + 10 min. Q&A	Günther Rupprechter TU Wien, Austria
9:50	10:15	Mechanism reduction-assisted kinetic parameter optimization for combustion mechanisms + 5. min. Q&A	László Horváth HUN-REN Centre for Natural Sciences, Hungary
10:15	10:40	VOC oxidation over structured transition metal oxide catalysts prepared by plasma jet sputtering: the effect of energy delivery + 5 min. Q&A	Pavel Topka Institute of Chemical Process Fundamentals of the CAS, Czech Republic
10:40	11:10	Coffee break (Foyer)	
Room Mátyás I.			
Chair: Ana Ivanović-Šašić			
11:10	11:35	Triglyceride hydroconversion over alumina-supported and phosphatized-alumina-supported Pd catalysts + 5 min. Q&A	Anna Vikár HUN-REN Research Centre for Natural Sciences, Hungary
11:35	12:00	Heterogeneous catalyst development and reaction kinetics for biodiesel production from biomass-based sources + 5. min. Q&A	Raphael Idem University of Regina, Canada
12:00	12:25	Hydroconversion of γ -valerolactone on alumina- and Beta zeolite-supported Co catalysts: The role of catalyst acidity in the reaction pathways + 5 min. Q&A	Hanna E. Solt HUN-REN Research Centre for Natural Sciences, Hungary
12:30	14:00	Lunch (Restaurant)	
Room Mátyás I			
Chair: András Sápi			
14:00	14:25	Photocatalytic characteristics of (Ag,Na)-TiO ₂ /Sr ₄ Al ₁₄ O ₂₅ :Eu,Dy heterojunction photocatalyst synthesized by coprecipitation method + 5 min. Q&A	Jung-Sik Kim University of Seoul, South Korea
14:25	14:50	PNC-doped TiO ₂ nanoparticles for highly stable self-cleaning paints: A sustainable path to industrial development+ 5. min. Q&A	Qaisar Maqbool TU Wien, Austria
14:50	15:15	Plasmon-enhanced ammonia photoelectrosynthesis + 5 min. Q&A	Vitor Silveira Uppsala University, Sweden
15:15	15:40	Rooibos tea waste binary oxide composite: An adsorbent for the removal of nickel ions and an efficient photocatalyst for the degradation of ciprofloxacin + 5 min. Q&A	Kriveshini Pillay University of Johannesburg, South Africa
19:00	22:00	Conference dinner - Vénhájó Restaurant (meeting point: hotel lobby 18:30)	

Saturday / 25 May 2024

Room Mátyás I.			
Chair: Annette F. Taylor			
9:00	9:50	Perturbation techniques in experimental and numerical investigations of the Belousov-Zhabotinsky oscillatory reaction + 10 min. Q&A	Ana Ivanović-Šašić University of Belgrade, Serbia
9:50	10:15	Deactivating effects in the co-conversion of lauric acid and anisol over NiMo/Al ₂ O ₃ catalyst + 5. min. Q&A	Oleg Kikhtyanin University of Chemistry and Technology Prague, Czech Republic
10:15	10:40	Polymorph selection of zeolitic imidazolate frameworks via kinetic and thermodynamic control + 5 min. Q&A	Gábor Schuszter University of Szeged, Hungary
10:40	11:10	Coffee break (Foyer)	
Room Mátyás I.			
Chair: Gábor Lente			
11:10	11:35	Femtosecond laser generation of defect-rich CuZn nanoalloys for model catalysis + 5 min. Q&A	Niusha Lasemi TU Wien, Austria
11:35	12:00	Tuning quality of C1 and C5+ green fuels by CO ₂ hydrogenation over structured catalysts + 5. min. Q&A	András Sápi University of Szeged, Hungary
12:00	12:25	Biochar-derived activated carbons: a comprehensive assessment of kinetic and isotherm modeling for adsorptive removal of methylene blue dye contaminants + 5 min. Q&A	Othman M. Hakami Jazan University, Saudi Arabia
12:25	12:40	Closing remarks	Gábor Lente Conference Chair University of Pécs, Hungary
12:40	14:00	Lunch (Restaurant)	

Poster session / Thursday, 23 May 2024 / 14:00-16:00 / Foyer

T1 Catalysts in sustainable and green chemistry		
Catalytic-like effect of alternating electric field on the growth and germination of wheat seeds	Itana Nuša M. Bujanja	University of Belgrade, Serbia
Effect of calcination temperature on the activity of K-Co/Al ₂ O ₃ catalyst for oxidative coupling of methane	Sarannuch Sringam	Kasetsart University, Thailand
Hydrogen sulfide removal using Copper (II) nitrate-impregnated ZSM-5 derived from sugarcane bagasse ash	Napassorn Chanka	Kasetsart University, Thailand
T2 Catalytic solutions for energy-related challenges		
Development of catalysts for the catalytic hydrogenation of aromatic nitro compounds for industry	Andra Mihalkó	BorsodChem Zrt., Hungary
Extrusion of optimized catalysts with smart extrusion technology from ECT-KEMA	Torsten Seidel	ECT-Kema GmbH, Germany
Synthesis, characterization and application of Fe-SBA-15 catalyst	Darja Pečar	University of Maribor, Slovenia
T5 Homogeneous and heterogeneous photocatalysis		
Photochemical processes in aqueous benzoquinone and anthraquinone solutions	Krisztina Csonka	University of Pécs, Hungary
Photochemical study of the reaction between 2,3-dimethoxy-5-methyl-p-benzoquinone and water	Erik Imre	University of Pécs, Hungary
Photochemical decomposition of sodium anthraquinone-sulfonate in aqueous solution	Panna Lukács	University of Pécs, Hungary
A kinetic study of the photooxidation of water by aqueous cerium(IV) in perchloric and nitric acids	Ildikó Rapp-Kindner	University of Pécs, Hungary
T6 Catalysts in biomass utilization		
Ethanol coupling reactions over noble metal (Pt, Pd) promoted MgO-Al ₂ O ₃ mixed oxide-based catalysts	Amosi Makoye Shitebel	HUN-REN Research Centre for Natural Sciences, Hungary
T7 Mathematical aspects of reaction kinetics		
Modeling of thiol waves in two-channel gel reactors	István Sütő	University of Szeged, Hungary
The kinetics of a generalized nucleation-growth type model	Rebeka Szabó	University of Pécs, Hungary
Stationary distribution control of a gene regulation network using compartmental discretization	Gábor Szederkényi	Pázmány Péter Catholic University, Hungary
T8 Electrocatalysis, electrode development and fuel cells		
Two-dimensional electrochemical imaging of the Belousov-Zhabotinsky reaction using a microelectrode	András Kiss	University of Pécs, Hungary
T10 Catalysts in the hydrogen economy		
Cobalt supported on a mesoporous TiO ₂ for Fischer-Tropsch reaction	Alfonos Caballero	University of Seville, Spain
The Computational screening of van Der Waals heterostructures as sustainable hydrogen production materials	Poomani Govender	University of Johannesburg, South Africa
Analysis of safe operation characteristics of SOFC pre-reformer with integrated heat exchanger	Tak-Hyoung Lim	Korea Institute of Energy Research, South Korea
In search of oxo-rhenium catalyst compositions for development of an active new formulation for one-step water-gas shift reaction	Dimitrinka Nikolova	Institute of Catalysis, Bulgarian Academy of Sciences, Bulgaria
Dehydrogenation of methyl cyclohexane over nickel-ceria-alumina LOHC catalysts	Yuting Shi	HUN-REN Research Centre for Natural Sciences, Hungary
Solar photocatalytic water splitting for hydrogen generation using a novel chromium-doped SrTiO ₃ integrated MXene nanocomposite	Héctor Valdés	Universidad Católica de la Santísima Concepción, Chile

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