
6th George Olah Conference

*XXII Conference of the George Olah
Doctoral School*

23 September 2024



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Program

EVENT VENUE: BME CH201 ROOM PUNGOR

8³⁰ Opening

ORAL PRESENTATIONS

Chairman: Dr. Alfréd Kállay-Menyhárd

8³⁵-9⁰⁵ **Dr. Márton Nagyházi** – Beyond carbenes – versatile use of highly nucleophilic ligands in transition metal complexes – Invited lecturer, George Olah Prize winner in 2023

9⁰⁵-9⁵⁰ **Prof. Dr. Julius Vancsó** – Where synthetic and natural materials touch: Biointerface chemistry and lessons to be learned for engineering – Invited lecturer from the University of Twente and Sulis Polymers LTD

9⁵⁰-10²⁰ **Prof. Dr. Gábor Laurenczy** – Reflections on hydrogen storage and delivery – Invited lecturer from the Swiss Federal Institute of Technology Lausanne

10²⁰-10⁴⁰ Coffee Break

Chairman: Dr. Mercédesz Tőrincsi

10⁴⁰-11¹⁰ **Prof. Dr. István Hargittai** – George A. Olah's Magnanimity – Invited lecturer from the Department of Inorganic and Analytical Chemistry

11¹⁰-11³⁰ **Dr. Hajnalka Pataki** – Heterogenous crystallization in the presence of formulation additives – Invited lecturer from the Department of Organic Chemistry and Technology

11³⁰-11⁵⁰ **Dr. Eszter Makkos** – Modelling surfaces – The role of catalytic support in CO₂ conversion – Invited lecturer from the Department of Inorganic and Analytical Chemistry

11⁵⁰-12¹⁰ **Dr. Dénes Berta** – Mechanism and reactivation of Ras GTPases based on virtual reactivity screening – Invited lecturer from the Department of Physical Chemistry and Materials Science

12¹⁰-12³⁰ **Dr. Dávid Havasi** – From building blocks to virtual chemicals: insights into design and synthesizability – Invited lecturer from the Department of Chemical and Environmental Process Engineering

12³⁰-12⁵⁰ **Dr. Gergely Nándor Nagy** – Structural neurobiology: ligand-receptor and proteoglycan interactions during extracellular signal transduction – Invited lecturer from the Department of Applied Biotechnology and Food Science

12⁵⁰-14²⁰ **Break and Poster session – 2nd floor**

Jury: Prof. Dr. Julius Vancsó, Dr. Mercédesz Tórincsi, Prof. Dr. István Hargittai

P01	Anna Péter-Haraszti	Investigation of relaxations of interacting and non-interacting amorphous solid dispersions with different analytical methods
P02	Dorottya Vaskó	Development of an Inline Monitoring System for Adalimumab Filtration Using Raman and NIR Spectroscopy
P03	Tibor Tamás Novák	Fluorofunctionalization of selected functionalized cycloalkene scaffolds through halofluorination/fluoroselenation and aziridination/aziridine opening protocol
P04	Lucy Nyambura Karanja	Preparation, Characterization, and Photocatalytic activity of ZnO Nanorods grown on TiO ₂ and ZnO Inverse Opal Structures
P05	Niloofar Bayat	Thermal Decomposition of Hexaamminecobalt (III) Dibromide Permanganate
P06	Orsolya Péterfi	Real-time particle size measurement during the pellet layering process using artificial intelligence-aided endoscopic imaging
P07	Sarah Morais Bezerra	Synthesis of SiC nanocrystals for quantum applications
P08	Tibor Viktor Szalai	Experimental validation of water network prediction tools - structure and thermodynamics
P09	Askar Kholikov	Studying thermostable α -amylase from native <i>B. licheniformis</i> 104.K: Screening, Cloning and Computational design
P10	Kata Buda	Discovering xylanolytic enzyme production of <i>Spencermartinsiella europaea</i> and <i>Sugiyamaella novakii</i>
P11	Emese Sándor	Enantiocomplementary Bioreduction of 1-(Arylsulfanyl)propan-2-ones
P12	Eszter Holub	Differences of thymidylate synthase inhibitory drugs in gene expression and RNA processing
P13	Ghazwan Saleh Ahmed	Enzymatic interesterification of sunflower oil to biodiesel in a solvent-free process

P14	Honvári Máté Gergő	Biocatalysis for synthesis of enantiopure saturated heterocycles as potential drug scaffolds
P15	Máté Laurinyecz	Development of immobilized <i>Pza</i> PAL catalysts
P16	Péter Magyar	Aqueous multicomponent reactions – step-by-step to biocatalysis
P17	Nikolett Emódi	Insights into Zearalenone Degrading Enzymes
P18	Viktória Berta Perey-Simon	Role and effect of uracil metabolism on zebrafish embryonic development
P19	Gabriella Muskovics	Changes of gluten protein composition during sourdough fermentation in rye flour
P20	György Nimród Stoffán	Development of continuous additive-controlled crystallization by DoE-based batch experiments

STUDENTS' ORAL PRESENTATIONS

Section A – CH201

Chairman: Prof. Dr. László Poppe

14²⁰-14³⁵ **Orsolya Péterfi** – Artificial neural network-based prediction of in vitro tablet dissolution profile using granulation process parameters and spectroscopic measurements

14³⁵-14⁵⁰ **Anna Bulátkó** – Reduced graphene oxide cryogels and implications for green applications

14⁵⁰-15⁰⁵ **Gábor Koplányi** – Immobilization of a Potential Therapeutic Enzyme on Magnetic Nanoparticles

15⁰⁵-15²⁰ **Petra Záhonyi** – Investigation of the dehydration of dextrose monohydrate during twin-screw wet granulation and in-line, real-time monitoring of the anhydrous content in granules

15²⁰-15³⁵ **Andor Vancza** – Heteroleptic iron(II)-bis-terpyridine complexes: the effect of ligand combinations on the metastable quintet state lifetime

15³⁵-15⁵⁰ **Pradeep Kumar** – Development of edible food packaging using food processing industry side streams

15⁵⁰-16¹⁰ **Coffee Break**

Section B – CH201

Chairman: Dr. Alfréd Kállay-Menyhárd

16¹⁰-16²⁵ **Barbara Honti** – Explainable deep recurrent neural networks for the batch analysis of a pharmaceutical tableting process in the spirit of Pharma 4.0

16²⁵-16⁴⁰ **Niloofar Bayat** – Thermal Decomposition of Hexaamminecobalt (III) Dibromide Permanganate

16⁴⁰-16⁵⁵ **Gergely T. Solymosi** – Single Solid-State Ion-Channels as Potentiometric Ion Sensors

16⁵⁵-17¹⁰ **Norbert Kovács** – Revealing Molecularly Imprinted Cavities and Pinholes in Electrically Insulating Nanofilms by Gold Electroplating and Conductive Atomic Force Microscopy

17¹⁰-17²⁵ **Khadijeh Firoozirad** – Advances in crystal nucleation rate studies, focusing on experimental and theoretical modeling approaches

17³⁵ **Closing – CH201**