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# 1<sup>st</sup> George Olah Conference

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*Innovative research at the  
Faculty of Chemical  
Technology and  
Biotechnology, BME*

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23 September 2019

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*Innovative research at the Faculty of Chemical Technology and  
Biotechnology, BME*

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## Program

**EVENT VENUE:** BME CH BUILDING, SZENT GELLÉRT SQUARE 4., CHC14

7<sup>45</sup>-8<sup>25</sup> **Registration**

8<sup>25</sup> **Opening ceremony**

### ORAL PRESENTATIONS

**Chairman:** Prof. Dr. László Poppe

8<sup>30</sup>-9<sup>00</sup> **Prof. Dr. Romas J. Kazlauskas** – Changing enzyme function: esterases to hydroxynitrile lyases – Invited lecturer from University of Minnesota

9<sup>00</sup>-9<sup>30</sup> **Dr. Kinga Nyíri** – Structural background of pathogenicity island regulation in *Staphylococcus aureus* – George Olah Prize winner in 2018

**Chairman:** Prof. Dr. György Keglevich

9<sup>30</sup>-9<sup>55</sup> **Dr. József Kupai** – Asymmetric synthesis with cinchona-based cyclodextrin organocatalysts in a synthesis separation integrated continuous flow reactor – Invited lecturer from Department of Organic Chemistry and Technology

9<sup>55</sup>-10<sup>10</sup> **Gergő Dargó** – In vitro, tissue-specific permeability models in lead optimization

10<sup>10</sup>-10<sup>25</sup> **Zsófia Molnár** – Immobilized whole-cell transaminase biocatalysts for continuous-flow kinetic resolution of amines

10<sup>25</sup>-10<sup>40</sup> **Zsófia Bata** – Structural dynamics of the catalytic inner lid loop of MIO enzymes

10<sup>40</sup>-11<sup>00</sup> **Coffee Break (CH 201)**

**Chairman:** Prof. Dr. Beáta G. Vértessy

11<sup>00</sup>-11<sup>25</sup> **Dr. Áron Németh** – Ten years in development of lactic acid fermentation technology – Invited lecturer from Department of Applied Biotechnology and Food Science

- 11<sup>25</sup>-11<sup>50</sup>**     **Dr. Benjámín Gyarmati** – Poly(amino acid) derivatives for gellable formulations – Invited lecturer from Department of Physical Chemistry and Materials Science
- 11<sup>50</sup>-12<sup>05</sup>**     **Martiz Chalen Jose Alejandro** – Synthesis of ceramic materials for Preparation of nanocomposites
- 12<sup>05</sup>-12<sup>20</sup>**     **Rawan Abukharian** – Interaction of MLL4 with long non-coding RNAs
- 12<sup>20</sup>-12<sup>35</sup>**     **Borbála Tegze** – Photoinduced processes of dyes in mesoporous titania sol-gel coatings

**12<sup>35</sup>-13<sup>40</sup>**     **Lunch Break – Poster Session (CH 201)**

**Chairman:**             **Prof. Dr. László Nyulászi**

- 13<sup>40</sup>-14<sup>10</sup>**     **Dr. Balázs Volk** – Cooperation between the Faculty of Chemical Technology and Biotechnology of BME and Egis Pharmaceuticals Plc – Invited lecturer from Egis Zrt.
- 14<sup>10</sup>-14<sup>35</sup>**     **Dr. Julianna Oláh** – Accurate modelling of biochemical systems: How far can we go? – Invited lecturer from Department of Inorganic and Analytical Chemistry
- 14<sup>35</sup>-14<sup>50</sup>**     **Réka Mokrai** – Investigation of heteroelement containing conjugate systems
- 14<sup>50</sup>-15<sup>05</sup>**     **Flóra Horváth** – Nucleating agents with dual nucleating ability in isotactic polypropylene

**15<sup>05</sup>-15<sup>30</sup>**     **Coffee Break (CH 201)**

**Chairman:**             **Prof. Dr. Krisztina László**

- 15<sup>30</sup>-15<sup>55</sup>**     **Dr. Edit Székely** – Innovative applications of pressurized carbon dioxide – Invited lecturer from Department of Chemical and Environmental Process Engineering
- 15<sup>55</sup>-16<sup>10</sup>**     **Ayshan Khalafli** – Process Design and Automation in brownfield projects in example of Methanol Production Company with Agile approach
- 16<sup>10</sup>-16<sup>25</sup>**     **Zsolt Benedek** – Quantum chemistry aided design of biomimetic complexes for atmospheric pressure ammonia synthesis

**16<sup>25</sup>**             **Closing ceremony**

## **POSTERS**

1. **Ahmed Mohamed Abdelhamied Rozza:** Mapping pathways of diatomic ligands migration into H-NOX domains as a model of sGC activation
2. **Amer Aljamal:** Effect of Phosphorus Flame Retardants on the Properties of Bio-based Epoxy Resins
3. **Aysel Mammadova:** The effect of cationic side groups on the aqueous stability of thiolated polyaspartamides
4. **Balázs Decsi:** Application of a biomimetic oxidation system in homogeneous and heterogeneous, continuous flow conditions
5. **Bence Varga:** Resolution of secondary phosphine oxides and H-phosphinates as P-stereogenic intermediates
6. **Dániel Vadas:** Physical and Chemical Foaming of Flame Retarded Poly(lactic acid)
7. **Edina Jaksics:** Rheological behavior of wheat lines with altered amylose content
8. **Emese Farkas:** Continuous flow chemoenzymatic cascade reactions aiming diastereopure amine synthesis
9. **Emese Pregi:** Effect of fiber content on the properties of hybrid PP composites containing lignin and flax
10. **Erzsébet Madaras:** Investigation of Ligand Exit Paths in the MIO Enzyme Family with the Help of Random Acceleration Molecular Dynamics (RAMD)
11. **Eszter Supala:** High-throughput electrosynthesis and read-out of protein MIPs with microelectrospotting-coupled fluorescence imaging
12. **Éva Pusztai:** Process capability indices when the usual assumptions fail: a tolerance interval approach
13. **Gergely Koppány:** Development and in vitro testing of covalent inhibitors targeting oncogenic KRAS mutants
14. **Gergely Rácz:** Knock-out of dUTPase in mice leads to early embryonic lethality and is not rescued by concurrent knock-outs of both UNG and SMUG
15. **Gergő Dargó:** In vitro, non-cellular permeability assay to predict corneal absorption of APIs using the PAMPA model
16. **József Kozma:** Comparison of Conducting Polymers and High Capacitance Materials for the Fabrication of Solid-Contact Ion-Selective Electrodes
17. **Kata Decsov:** Development of bioepoxy resin microencapsulated ammonium-polyphosphate for flame retardancy of polylactic acid
18. **Katharina Preißinger:** Dissection of *Plasmodium falciparum* developmental stages with multiple imaging methods

19. **Kinga Juhász:** Heterogeneous catalytic 1,4-addition reaction in the presence of supported metal catalysts
20. **Krisztina Lévy:** Selective heterogeneous catalytic hydrogenation of nitriles to primary amines over palladium
21. **László Ferenc Simon:** Sequence independent quantification of the surface density of DNA probes on DNA microarrays by SPRi
22. **Lu Cui:** Physical Ageing of Poly(Lactic acid): Factors and Consequences for Practice
23. **Marietta Szentmiklóssy:** Improvement of bioactive component composition in wheat with breeding
24. **Marwa Ahmed:** Optimization of the polymerization conditions of thermoresponsive poly(NIPAm-co-AAc-co-TBAm) microgels for the molecular imprinting of lysozyme
25. **Miklós Bosits:** Development of a lab-scale continuous crystallization process with turbidity-based safety and control method
26. **Muriel Józó:** Degradation of PLA fibers containing an enzyme
27. **Nikolett Nagy:** Tissue- and development-specific expression pattern of dUTPase isoforms
28. **Péter Kisszékelyi:** Cinchona-decorated cyclodextrin - a recyclable organocatalyst
29. **Zsófia Bognár:** Enzymatic methods for microRNA detection with surface plasmon resonance imaging