

## **Final report of the 5th Conference on Frontier in Organic Synthesis Technology (FROST5) (21-23 October 2015, Budapest)**

The conference series on flow chemistry, launched in autumn 2007 in Budapest, held its 5th event in October this year. The event was organised by the Flow Chemistry Society, owner of the conference series and its collaboration partner, the Akadémiai Kiadó, focused on current and latest advances in core areas of the field: end-to-end production technology; innovative applications in the oil industry; nanotechnology; green chemistry; and the latest flow technology based solutions in organic chemistry. During the 5-session conference 18 very high-quality, inspiring lectures and nearly 20 posters were presented. The conference that was attended by 63 participants from 15 countries of 4 continents was opened by Ferenc Darvas, President & Chairman of the Society.

Rigoberto Advincula (Case Western University, Cleveland), one of the three keynote speakers, emphasized in his lecture that considering multiphase systems and precise process control, flow chemistry is an ideal process for the oil and gas industry. Holger Löwe (Gutenberg University, Mainz) presented a method for accomplishing chemical reactions within emulsion microdroplets, while Walter Leitner (Aachen University) expounded the new possibilities in flow catalysis enabled by the usage of carbon dioxide.

In the further lectures the latest research results of acknowledged flow chemistry experts were presented (in no particular order, Thomas Wirth, Cardiff University), Volker Hessel (Eindhoven University of Technology), C. Oliver Kappe (Karl-Franzens-University of Graz), Mimi Hii (Imperial College London), Paul Watts (Nelson Mandela Metropolitan University, Port Elizabeth), Kerry Gilmore (Max Planck Institute, Potsdam), Simon Kuhn (KU Leuven), Mike Hawes (Syrris Ltd.), Philip Miller (Imperial College London), Alessandro Massi (University of Ferrara), Renzo Luisi (University of Bari), Benjamin J. Deadman (Imperial College London)).

Hungary has been playing a pioneering role in flow chemistry from the beginnings, mainly with the reactors of ThalesNano Inc. (e.g. H-Cube®), however, in the recent years the academic and pharmaceutical industry sectors have also made their mark, that is why three lecturers (László Kocsis (Thalesnano), György I. Túrós (Richter Gedeon Plc.) and Sándor B. Ötvös (University of Szeged)) represented Hungary at the FROST5.

The regular panel discussion was organized on the second day of the conference. The debate forum on the current state and the future of flow chemistry was moderated by Richard V. Jones (ThalesNano). Among other topics it was remarked that flow chemistry should be integrated into the BSc education of organic chemists, as it is an ever-growing need of the industry. Within the topic of development trends in the next 10 years, the comprehensive integration of real-time analytics was discussed, which - together with the spread of smart phones - may facilitate remote control over chemical reactions, thus revolutionizing laboratory/plant work culture.

Four companies took part in the conference as exhibitors and sponsors: Advion (USA), Syrris (UK), ThalesNano (Hungary) and Vapourtec (UK). The industrial and academic sectors were represented at the event in equal proportions, confirming that flow chemistry is a technology-oriented applied science.

The best poster award was handed over at the gala dinner to Nicholas Holmes, a young PhD student of the University of Leeds. The IUPAC – ThalesNano Flow Chemistry Award 2016 was also announced at the dinner by its initiators, Ferenc Darvas (ThalesNano) and János Fischer (IUPAC Hungary).

Ferenc Darvas (Chairman), Mimi Hii (Vice-Chair), Oliver C. Kappe, Paul Watts, Szilvia Gilmore and Balázs Réffy's (Members of the Local Organizing Committee) dedicated perseverance, hard work and combined efforts have certainly helped making this conference a great success.

György Dormán

Member of the Local Organizing Committee  
Chair of the Poster Presentation Refereeing Committee