

FROST6 summary

After another two years the flow chemistry scientists returned to Hungary. The 6th event in the FROST conference series was held in October with exceptionally high participation (118) and with increasing standards of the presentations (topics and discussions).

As before, FROST6 was organized by the Flow Chemistry Society, and focused on hot areas and latest advances in the field including: perspectives in flow chemistry, safe production of hazardous chemicals in flow, flow chemistry in pharma industry and drug discovery, instruments for flow chemistry: microreactors.

The Conference Chairman (Timothy Noël, Eindhoven University) made an excellent job and invited 20 high-quality speakers who represented the more and more colorful world of flow chemistry. Apart from the lectures 31 posters were presented, which is a record in the history of the FROST conference series. The participants represented 22 countries and 4 continents. Six instrument providers displayed their latest developments (Advion, Ehrfeld, Kobelco, Syrris, ThalesNano, Vapourtec).

The 3 keynote speakers introduced state-of-the art applications of flow chemistry. C. Oliver Kappe; (University of Graz) discussed one of the promising future directions of flow chemistry. On-demand on-site continuous processing is a viable solution to generate potentially hazardous chemicals on-the-spot avoiding difficult transportations and serious safety precautions. Timothy Noël (Eindhoven University of Technology) described new synthetic opportunities in flow applying photocatalysis with visible light, which is a mild and sustainable way of activation of organic molecules. In his keynote lecture, Steven V. Ley (University of Cambridge) discussed the latest achievements of his lab including novel synthetic strategies using in-situ generated diazo compounds and sp²-sp³ cross-coupling reactions. He also shared with us his future thoughts on flow chemistry such as remote control, synthesis automation and self-optimization etc.

Three excellent lectures were presented by speakers from the Pharma industry (Jesus Alcazar, Janssen Pharma; John Naber, Merck and Jorg Sedelmeier, Novartis) demonstrating that flow chemistry techniques are gradually penetrating into the drug discovery and development sector.

Some of the supporting lectures have drawn much attention: Richard Jones (ThalesNano, Design of Flow Reactors for Supporting Traveling to Mars); Maurizio Benaglia (University of Milan, Catalytic and 3D-printed reactors), Róbert Örkényi (Budapest University of Technology and Economics, Purification in Continuous Flow Manufacturing).

The regular panel discussion was moderated by Richard V. Jones (ThalesNano) discussed many timely issues including how to implement flow chemistry into the university and training programs; how to cross the disciplinary barriers. It has been also stated that young generation is more enthusiastic about flow chemistry, which is effected by the general changes in the society such as the extensive use of the social media, cell phones, new ways of data handling, remote operation and robotics.

The conference dinner, which was a lovely cruising on the Danube, gave the opportunity to present the poster awards. Desiree Znidar (University of Graz) received the Best Poster Prize ("Continuous-flow synthesis of key intermediates for the preparation of a novel Alzheimer API").

On the Flow Chemistry University the participants (46) have become familiar with the ThalesNano, Ehrfeld, and Syrris instruments. (ThalesNano provided lab space and necessary experimentation, which contributed a lot to the effective training activities).

Ferenc Darvas (Chairman of the Conference Series Organizing Committee), Tim Noël (Conference Chairman), Richard Jones (Chair of the Scientific Committee), Szilvia Gilmore (Chair of the Local Organizing Committee), Maurizio Benaglia, Joerg Sedelmeier and György Dormán (Poster Referee Committee), and the employees of Diamond Congress dedicated perseverance, hard work and combined efforts have certainly helped making this conference a great success!

ThalesNano deserves a special thanks for its continuous support in providing facility, equipments and manpower for the Open University program the fifth time.

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