

Editorial

Mirroring the evolution of microreaction technology: the vast contributions of IMRET

IMRET stands for the International Conference on Microreaction Technology. It is the primary, recurring platform for presenting research in the field of microreaction technology or micro process engineering, and recently also includes contributions from flow chemistry. It all started in 1994, when the research on microreaction technology received broader worldwide attention. It was the same time that microreactor activities started at the Institute of Microtechnology Mainz (IMM) in Germany and I actually began at IMM my professional career in the same year; I have attended the IMRET conferences since then. Major industrial players, such as DuPont and BASF, revealed their internal microreactor activities to the public. Chemical organization platforms, such as Dechema in Germany and AIChE in the USA, immediately became interested in organizing and hosting a new dedicated conference on the topic of microreactors. Finally, AIChE, Dechema, IMM, and Pacific Northwest National Laboratory (PNNL) organized a “test trial” in late 1995; a first workshop on microreaction technology was given in Mainz, Germany.

The technology was very young but, as I firmly remember, all organizers were surprised and in a way overwhelmed by the success of this event. For the first time, believers in the technology felt the momentum of having a joint idea and belief. Within 1 year, the first IMRET Conference in Frankfurt in early 1997 paved the way for a series of such conferences over the next 16 years until now. Due to strong activities in both Europe, with Germany as the initial center, and the US, it was decided to alternate the conferences between these two locations. In the US, IMRET became part of the AIChE Spring Conference, a large umbrella event which allowed chemical engineers to join IMRET which otherwise would not have done it. I had the pleasure of organizing the IMRET10 Conference in 2008 in New Orleans with Ron Besser (Stevens Institute, Hoboken, NJ, USA) and Ulrich Krtschil (IMM, Mainz, Germany). The AIChE Spring Conference 2008 was meant to give a vote of confidence to this vivid metropolis, which was in the midst of recovering from the devastating Hurricane Katrina a few years earlier.

The topical contents and sessions of IMRET have evolved along with technology. Originally, it was focused

on microfabrication, modeling, first lab demonstrations of model reactions, and even included biochemical microchip-based applications. The true IMRET profile was sharpened throughout the following decade, to include topics such as fine-chemical processes, detailed mixing studies, fuel processing, polymerizations, scale-up/industrial applications and more, and was further supplemented by more recent trends such as particle making and flow separation.

IMRET has always reflected the interests of industry and has many industrial contributors talking about targeted application examples. The pioneers Otto Woerz from BASF and Jan Lerou from DuPont are remembered. This tradition is still followed, with presentations by Dominique Roberge from Lonza, Peter Poehlauer from DSM, and many more. A few high-profile individual scientific contributions now come from Japan. Starting from 2000, Japanese research had been clustered in a large consortium with several universities and industries. This consorted action finally led to reporting 10 microreactor-based pilot plants, all in conjunction with industry. Other Asian countries followed suit, including India, Korea, and China. Appropriately, IMRET11 was held in Japan in 2010.

IMRET12 in Lyon was again a great success. It was well attended, fresh and up to date in regards to scientific contributions, with fascinating plenary and keynote speakers; it covered both academic and industrial areas. In the name of *Green Processing and Synthesis*, I appreciate the decision of the organizers to devote papers from selected IMRET sessions to our journal and I am personally honored that renowned researchers and authors accepted our invitation. Just as IMRET reflects the growth of microreaction technology, our journal embraces the opportunity to chronicle the knowledge of those who contribute to IMRET and this technology.

Volker Hessel
Editor-in-Chief
E-mail: v.hessel@tue.nl



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