



Editorial

Microreaction technology has piqued the interest of many chemical engineers over the past several decades. The International Symposium on Microreaction Technology (IMRET) has served as the key venue for exchanging the ideas and developments born of this interest. Since the first meeting was convened in Frankfurt in 1995, DECHEMA and AIChE have alternately hosted the conference. The eleventh conference was held in Kyoto, Japan between 8 and 10, March 2010. This was the first in the series of conferences to be hosted by SCEJ, the Society of Chemical Engineers, Japan. The change reflects the growth of research activity in the field of microreaction technology in Asia, and the attendance was a reflection of global interest and importance. Although Japan is very distant from Europe and the States, the conference attracted more than 320 participants from more than 20 countries. When the conference was held, the entire world was in a serious recession – the large acceptance of the conference shows that there is always room for new ideas and innovation in chemical processing.

There were six invited presentations at the conference, and the total number of oral and poster presentations was 191. Remarkably, there were 15 presentations in the session entitled “Industrial application of microreaction technology.” Since there were several reports related to industrial applications in other sessions as well, a conservative estimate of the number of presentations on industrial applications would be more than 20. Clearly, the number of industrial applications is growing and the technology is becoming more widely accepted in the chemical industry. There were also many presentations on the attempts to expand the frontier of application areas. The performance of microreactors was

examined for yet another form of synthetic reactions, fluid systems, and for severe reaction conditions such as high-temperatures, high-pressure operations. In many reports, the reaction conditions were only possible using microreactors. The unique properties of microreaction technology will be exploited to a much greater extent in the future and will give rise to the development of many new reaction systems.

The papers in this special issue are based on the presentations made at the 11th IMRET conference. Each paper has been subjected to the peer review process by experts of the field, so the content represents state-of-art microreaction technology in the year 2010. The information and technology shown in this issue will be valuable for researchers using microreactors; certainly for experienced practitioners, but also for novice ones. This special issue was published after one year of the conference. The guest editors would like to thank every author and every reviewer who helped us achieve this.

Managing guest editor

K. Kusakabe
J.G.E. (Han) Gardeniers
A. Gavriilidis
V. Hessel
H. Okamoto
K.-I. Sotowa
P. Watts
J.-i. Yoshida