



## Editorial

## Special Issue of the 10th International Conference on Microreaction Technology (IMRET 10)

The International Conference on Microreaction Technology is the central international forum reporting the latest developments in the field of microprocess technology in a broad manner. IMRET-10 took place in April 2008 in New Orleans in the context of the first joint American Chemical Society (ACS) and American Institute of Chemical Engineers (AIChE) meeting ever held. It was organised with support of the "Process Development Division" (PDD) and "Micro Process Engineering" section of AIChE.

Unique to this IMRET-10 is that it has been possible to publish the scientific results in three special issues of different journals reaching a broad and diversified audience. This series leading to 45 articles in total started with the special issue of *Chemical Engineering & Technology* released in August 2008, followed by a special feature section in the September 2009 issue of *Organic Process Research & Development* and now concludes with this *Chemical Engineering Journal* special issue.

This special issue contains 12 contributions stemming directly from IMRET 10 supplemented by two external contributions on related topics. The IMRET 10 session chairs provided direction in the selection of invited papers.

The topic of process analytics is addressed by three contributions dealing with a microfluidic calorimeter, a new microviscosity sensor, and the use of thermal mass flow sensors for reaction monitoring. Another group of papers focuses on the design and characterization of micromixers including scale-up considerations. The topic of mixing is broadened further by two papers on mass

transfer in two-phase flow in microchannels. The topic of micro-bioreactors is also addressed. Finally, heterogeneously catalysed processes in microreactors are considered from different perspectives and application backgrounds.

In total, the three special issues illustrate, as did the conference itself, the vivid developments in the field of microreaction technology in a broad range of application areas.

Finally, we thank all the authors for their contributions and all the reviewers for their support in setting up this special issue.

Patrick Löb\*

*Institut für Mikrotechnik Mainz GmbH,  
Carl-Zeiss-Str. 18-20, 55129 Mainz, Germany*

Volker Hessel

*Institut für Mikrotechnik Mainz GmbH, Germany  
Eindhoven University of Technology, The Netherlands  
Technische Universität Darmstadt, Germany*

Ronald Besser

*Stevens Institute of Technology, New Jersey, USA*

\* Corresponding author. Tel.: +49 61 31 990 377;  
fax: +49 61 31 990 205.

E-mail address: [loeb@imm-mainz.de](mailto:loeb@imm-mainz.de) (P. Löb)