Please observe the updated lecture time schedule on June 12, 2008

VDI Wissensforum

Program
1st SynTOP

June 11 – 13, 2008
Potsdam, Germany

Smart Synthesis and Technologies for Organic Processes
Bridging Chemistry and Engineering

www.SYNTOP2008.com
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June 12, 2008

from 07:30 Registration

08:00 Welcome and Opening
   Volker Hessel, Eindhoven University of Technology, The Netherlands/Institut für Mikrotechnik Mainz GmbH, Germany

08:05 New Tools for Molecule Makers
   **PL-1** Steven Ley, University of Cambridge, United Kingdom

08:50 Microprocess Engineering, Process Intensification and Multiscale Design
   **PL-2** Michael Matlosz, E.N.S.I.C. Nancy, France

09:35 Coffee Break

**Session: Microwaves**
Chair: C. Oliver Kappe, University of Graz, Austria

09:50 Towards Scaling-up Microwave-assisted Reactions
   **KN-1** Bert Hulshof, Eindhoven University of Technology/DSM, Geleen, The Netherlands

10:20 Microwave Enhanced Milling Organic Chemistry
   **OR-1** Franziska Schneider, Bernd Ondruschka, Ronald Trotzki, Tony Szuppa, University of Jena, Germany

10:40 Scale-up and Microwave Technology: a Contradiction?
   **OR-2** Hansjoerg Lehmann, Novartis Institutes of BioMedical Research, Basel, Switzerland

11:00 Coffee Break

11:30 A New Microwave-Assisted Catalytic Domino Process for the Synthesis of N-Heterocycles
   **OR-3** Uwe Beifuss, University of Hohenheim, Stuttgart, Germany

11:50 Continuous Flow Catalytic Transfer Hydrogenations Using Immobilized Palladium Nanoparticles Heated by Microwave Irradiation
   **OR-4** C. Oliver Kappe, University of Graz, Austria

12:10 Metals, Microwaves and the Magic They Create
   **KN-2** Michael G. Organ, York University, Toronto, Ontario, Canada
June 12, 2008

Session: Foams, Monoliths, Microcapsules, Microbeads and Other Structured Media
Chair: Bert Hulshof, Eindhoven University of Technology/DSM, Geleen, The Netherlands

12:40 Monolithic Composite Micro – Reactors: an Enabling Technology for Improved Organic Synthesis
OR-5 Ulrich Kunz, Clausthal University of Technology, Clausthal-Zellerfeld, Andreas Kirschning, University of Hannover, Germany

13:00 Chemistry in Flow – Enabling Technologies in Organic Synthesis Using PASSflow Reactors
OR-6 Andreas Kirschning, Sascha Ceylan, Gerald Dräger, University Hannover, Ulrich Kunz, Clausthal University of Technology, Clausthal-Zellerfeld, Germany

13:20 Lunch Break

PARALLEL Session

Session I: Micro and Milli Process Technologies
Chair: Paul Sharratt, University of Manchester, United Kingdom

14:30 Industrial Design and Use of Microreactors in the Fine Chemical and Pharmaceutical Industry
KN-3 Dominique Roberge, University of Ottawa, Canada

15:00 An Ozonolysis-Reduction-Sequence for the Synthesis of Pharmaceutical Intermediates in Microstructured Devices
OR-7 Sandra Hübner, Klaus Jähnisch, Ursula Bentrup, Leibniz-Institut für Katalyse e.V. an der Universität Rostock, Branch Berlin, Lukas Küpper, Infrared fiber sensors, Aachen, Uwe Budde, Kai Lovis, Bayer Schering Pharma AG, Berlin, Thomas Dietrich, Andreas Freitag, mikroglas chemtech GmbH, Mainz, Germany

15:20 The Performance of the Beckmann Rearrangement to Caprolactam in a Number of Micro Reactors
OR-8 Niek Zuidhof, Eindhoven University of Technology, The Netherlands

15:40 Coffee Break, Poster Session and Exhibition
Parallel Session

Session II: Micro and Milli Process Technologies
Chair: Volker Hessel, Eindhoven University of Technology, The Netherlands/Institut für Mikrotechnik Mainz GmbH, Germany

14:30 Biphasic Suzuki Coupling in a Mini Tube Reactor
OR-9 Sonja Rothstock, Bernd Werner, Patrick Löb, Volker Hessel, Institut für Mikrotechnik Mainz GmbH, Germany

OR-10 Peter Pfeifer, F. Özkan, O. Görke, Klaus Schubert, Forschungszentrum Karlsruhe, Germany

15:10 Efficient Implementation of Intensified Processes in Fine Chemicals Manufacture – Key Success Factors
KN-4 Sascha Braune, DSM Fine Chemicals Austria Nfg GmbH & Co. KG, Linz, Austria

15:40 Coffee Break, Poster Session and Exhibition
Please observe the updated lecture time schedule on June 12, 2008

June 12, 2008

**Session: Micro and Milli Chip Synthesis**
Chair: Peter H. Seeberger, ETH Zurich, Switzerland

16:45  Macrocycle Synthesis at Short Residence Times: High Yield Resorcinarene Synthesis Using a Modular Ceramic Micro Reactor System
OR-11 G. Alexander Groß, Torsten Thelemann, Steffen Schneider, J. Michael Köhler, Technical University of Ilmenau, Germany

17:05  Microreactors as Tools for Organic Chemists
OR-12 Karolin Geyer, Tomas Gustafsson, Arjan Odedra, Paola Laurino, Peter H. Seeberger, ETH Zurich, Switzerland

17:25  Evening Break

**Pre-Dinner Session**
**Session: Micro and Milli Chip Synthesis**
Chair: Peter H. Seeberger, ETH Zurich, Switzerland

18:30  Organic Synthesis in Continuous Flow Reactors
KN-5 Paul Watts, University of Hull, United Kingdom

19:00  Analyzing the Synthesis of Semiconducting PPV Polymers in Microreactors
OR-13 Stefan Löbbecke, Maud Schwarzer, Philip Trefz, Dirk Röseling, Fraunhofer Institute for Chemical Technology ICT, Pfinztal, Silvia Janietz, Hartmut Krüger, Fraunhofer Institute for Applied Polymer Research IAP, Potsdam-Golm, Germany

KN-6 Thomas Wirth, Cardiff University, United Kingdom

19:50  End of the First Day of the Conference

20:00  Evening Event

Reception with buffet
**June 13, 2008**

**Session: Supercritical & Ionic Liquids**
Chair: **Uwe Budde**, Bayer Schering Pharma AG, Berlin, Germany

08:00  Catalytic Reactions in Supercritical Fluids  
**KN-7** Martyn Poliakoff, Richard A. Bourne, University of Nottingham, United Kingdom

08:30  Hydrogenation of Citral Using Ionic Liquids as Bulk Solvents or as Supported Ionic Liquid Layers  
**OR-14** Jürgen Arras, Martin Steffan, Peter Claus, Technical University of Darmstadt, Germany

08:50  Ionic Liquids for the Manufacture of Platform Chemicals: Framing Novel Process Windows  
**OR-15** Annegret Stark, Martin Sellin, Jan Lifka, Bernd Ondruschka, University of Jena, Germany

09:10  Intensified Kolbe-Schmitt Synthesis Using Continuous Microreactor Processing, Reactive Ionic Liquids and Microwave Heating  
**OR-16** Ulrich Krtschil, Volker Hessel, Patrick Löb, Institut für Mikrotechnik Mainz, Germany, Faysal Benaskar, Eindhoven University of Technology, The Netherlands

09:30  Ionic Liquid “Solutions” for Catalytic Transformations  
**KN-8** Peter Wasserscheid, University Erlangen-Nuremberg, Germany

10:00  Coffee Break, Poster Session and Exhibition
June 13, 2008

Session: Advanced Organic Synthesis & Process Chemistry & Automation
Chair: Hansjoerg Lehmann, Novartis Institutes for BioMedical Research, Basel, Switzerland

10:45 Separation and Analysis Technologies in Support of Pharmaceutical Process Research
KN-9 Christopher Welch, Merck & Co., Inc., Rahway, NJ, United States

11:15 New Process Strategy for an Emerging Biopolymer – Bacterial Produced Nanocellulose
OR-17 Dana Kralisch, Nadine Heßler, University of Jena, Rainer Erdmann, Wolfgang Schmidt, EPC Engineering Consulting GmbH, Rudolstadt, Dieter Klemm, Transfergroup POLYMET e.V. at University of Jena, Germany

11:35 SIPROCESS – A Micro Process System for Challenging Reactions
OR-18 Thomas Bayer, Daniel Kadzimirsz, Markus Kinzl, Oliver Lade, Siemens AG, Frankfurt, Germany

11:55 Process Intensification – Supporting the Bridge and Paving the Road for a Competitive Chemical Industry
OR-19 Reinhard Ditz, Merck KGaA, Darmstadt, Germany

12:15 Lunch Break

Session: Membranes and Extraction
Chair: Dana Kralisch, University of Jena, Germany

13:30 Development and Characterisation of a Microscale Permselective Enzymatic Membrane Reactor
OR-20 E. Ekkehard Barth, David W. Agar, University of Dortmund, Germany

13:50 Microscale Countercurrent Liquid / Liquid Extraction
OR-21 Aras Ghaini, David W. Agar, University of Dortmund, Germany

14:10 Continuous Mini-Channel Membrane Device for the Separation of Organic Mixtures: Experimental and Model-based Evaluation
OR-22 Kai Sundmacher, Thorsten Schultz, Peter Heidebrecht, Max-Planck-Institute for Dynamics of Complex Technical Systems, Magdeburg, Adiche-Ait Aissa, Max-Planck-Institute, University of Magdeburg, Germany
June 13, 2008

**Session: Modular Plants**
Chair: Andrzej Stankiewicz, Delft University of Technology, The Netherlands

14:30  Process Intensification from an Industrial Point of View
KN-10  Robert Franke, Evonik Degussa, Frankfurt

15:00  Multi-step Chemical Processes in the Modular Plate Reactor from Alfa Laval
OR-23  Barry Johnson, Alfa Laval, Eastbourne, United Kingdom

15:20  Microreactors in Industrial Applications for Intermediates and APIs
OR-24  Sigurd Buchholz, Leslaw Mieczko, Bayer Technology Services GmbH, Leverkusen, Germany

15:40  Modular Microprocess Technology – New Devices for Process and Product Development and new Applications
OR-25  Olaf J. Stange, Frank Schael, Frank Herbstritt, Matthias Kroschel, Károly Nagy, Ehrfeld Mikrotechnik BTS GmbH, Wendelsheim, Germany

16:00  Concluding Remarks
Volker Hessel, Eindhoven University of Technology, The Netherlands/Institut für Mikrotechnik Mainz GmbH, Germany

16:10  End of the Conference

Plenary (PL) 45 minutes
Keynote (KN) 30 minutes
Oral presentation (OR) 20 minutes, incl. discussion