

PROCESS MONITORING

Haus der Wissenschaft, Sandstr. 4/5, Bremen, Germany

Monday 18 June 2018

08:30	Registration
Session 1	
09:00	<p>Welcome and introduction <u>Lucio Colombi Ciacchi</u> MAPEX Center for Materials and Processes, University of Bremen</p>
09:10	<p>Process monitoring and modeling of aramid high performance fibres production <u>Sybrand van der Zwaag</u> Faculty of Aerospace Engineering, TU Delft</p>
09:30	<p>Light droplet analysis in manufacturing process monitoring and control <u>Udo Fritsching</u> Leibniz-Institut für Werkstofforientierte Technolgien – IWT, Bremen</p>
10:10	Flashlight presentations 1
F01	<p>A different approach to material-selective separation of small particles <u>Georg Pesch</u> Center for Environmental Research and Sustainable Technology, University of Bremen</p>
F02	<p>High humidity high temperature reverse bias (H3TRB) testing on power semiconductors <u>Christian Zorn</u> Institute for electrical devices, power electronics and devices, University of Bremen</p>
F03	<p>Degradation and failure mechanisms of power semiconductor devices during power cycling <u>Felix Hoffmann</u> Institute for electrical devices, power electronics and devices, University of Bremen</p>
F04	<p>Microscopic description of the electronic and optical properties of novel atomically thin semiconductors and quantum dots <u>Christian Carmesin</u> Institute for Theoretical Physics, University of Bremen</p>
10:30	Coffee break
Session 2	
10:50	<p>Insights into mechanisms of deformation, damage and fracture via <i>in situ</i> micromechanical testing <u>Erica Lilleodden</u> Institute of Materials Research, Helmholtz-Zentrum Geesthacht</p>
11:30	<p>Towards simulation-based process monitoring of additive manufacturing <u>Vasily Ploshikhin</u> Integrative Simulation and Engineering of Materials and Processes, University of Bremen</p>

12:10 Flashlight presentations 2	
F05	Reconstruction of temperature fields by selective lase melting <i><u>Oliver Illies</u></i> <i>Integrative Simulation and Engineering of Materials and Processes, University of Bremen</i>
F06	tba <i><u>AG Lang</u></i> <i>Institute for microsensors, -actuators and –systems, University of Bremen</i>
F07	tba <i>tba</i> <i>tba</i>
F08	Digital holography inside a production accompanying environment <i><u>Aleksandar Simic</u></i> <i>Bremer Institut für Angewandte Strahltechnik – BIAS, Bremen</i>
12:30 Poster session and lunch	
13:30 MAPEX impulse projects	
11	Switchable porous liquid crystalline elastomers in applications and current limits of the technology <i><u>Anne Staubitz / Bernd Mayer / Katrin Voigt</u></i> <i>Organic Functional Materials, University of Bremen</i>
12	Helical composite fibers for advanced actuators <i><u>Dorothea Brüggemann / Michael Maas</u></i> <i>Institute for Biophysics / Advanced Ceramics, University of Bremen</i>
13	Synthesis, lithiation and crystal chemical investigations of WO₃·xH₂O <i><u>Mangir Murshed / Robert Kun</u></i> <i>Institute of Inorganic Chemistry and Crystallography, University of Bremen / Fraunhofer Institute for Manufacturing Technology and Advanced Materials – IFAM, Bremen</i>
Session 3	
14:00	The sensoric probe body: Investigation of process signatures by integrated sensors <i><u>Walter Lang</u></i> <i>Institute for microsensors, -actuators and –systems, University of Bremen</i>
14:40 Coffee break and poster session	
15:00	Computational optical metrology - unfolding the tetrahedron of optical metrology <i><u>Ralf B. Bergmann</u></i> <i>Bremer Institut für Angewandte Strahltechnik – BIAS, Bremen</i>
15:40	Speckle-based in-process measurements <i><u>Andreas Fischer</u></i> <i>Bremen Institute for Metrology, Automation and Quality Science, University of Bremen</i>
16:20 End of first day's programme	
19:30 Dinner	

Tuesday 19 June 2018

08:30	Registration
Session 1	
09:00	Catalytic fixed bed reactors – experimental and numerical reactor diagnostics and knowledge based optimization <u>Raimund Horn</u> <i>Institute of Chemical Reaction Engineering, Hamburg University of Technology</i>
09:40	Process modeling, optimization and design <u>Edwin Zoderwan</u> <i>Institute for Advanced Energy Systems, University of Bremen</i>
10:20	Flashlight presentations 3
F09	Flow field measurements under challenging in-process conditions <u>Christoph Vanselow</u> <i>Bremen Institute for Metrology, Automation and Quality Science, University of Bremen</i>
F10	Matching CFD and experimental MRI results for analysing gas flow through porous media <u>Mehrdad Sadeghi</u> <i>Center for Environmental Research and Sustainable Technology, University of Bremen</i>
F11	tba <u>Tobias Wollborn</u> <i>Leibniz-Institut für Werkstofforientierte Technolgien – IWT, Bremen</i>
F12	Spatio-temporally resolved measurements of fluid processes <u>AG Avila</u> <i>Center of Applied Space Technology and Microgravity, University of Bremen</i>
10:40	Coffee break
Session 2	
11:00	Raman spectroscopy for inline process monitoring of polymerization reactions <u>Jörn Viell</u> <i>Process Systems Engineering, RWTH Aachen University</i>
11:40	New kid on the block: enantioselective raman spectroscopy for monitoring processes in chiral media <u>Johannes Kiefer</u> <i>Technical Thermodynamics, University of Bremen</i>

12:20	Flashlight presentations 4
F13	<p>Development of a model-based quality control system for “zero-error”-production of flexible batch sizes in the thermoforming-process <u>Richard Vocke / Johannes Stempin</u> <i>Faserinstitut Bremen – FIBRE / Bremen Institute for Metrology, Automation and Quality Science, University of Bremen</i></p>
F14	<p>Optical fibre sensors in process and structural health monitoring applications for adhesively bonded CFRP components <u>Neele Grundmann</u> <i>Fraunhofer Institute for Manufacturing Technology and Advanced Materials – IFAM, Bremen</i></p>
F15	<p>In-process quality assurance procedures for surface preparation in adhesive bonding <u>Christian Tornow</u> <i>Fraunhofer Institute for Manufacturing Technology and Advanced Materials – IFAM, Bremen</i></p>
F16	<p>Simulation vs Optimization: Case studies with the NLP solver WORHP <u>Matthias Knauer</u> <i>Center for Industrial Mathematics, University of Bremen</i></p>
12:40	Poster session and lunch
13:40	MAPEX impulse projects 2
I4	<p>Surface science modeling of metal-additive interactions <u>Jan Ingo Flege / Massimo Delle Piane / Daniel Meyer</u> <i>Institute of Solid State Physics / Hybrid Materials Interfaces, University of Bremen / Leibniz-Institut für Werkstofforientierte Technolgien – IWT, Bremen</i></p>
I5	<p>Complementary experimental and mathematical analysis of damage generation in steel during tensile tests <u>Jérémy Epp / Michael Böhm</u> <i>Leibniz-Institut für Werkstofforientierte Technolgien – IWT, Bremen / Center for Industrial Mathematics, University of Bremen</i></p>
Session 3	
14:00	<p>Weld depth monitoring for event-based position control of laser deep penetration welding <u>Christoph Mittelstädt</u> <i>Bremer Institut für Angewandte Strahltechnik – BIAS, Bremen</i></p>
14:40	<p>Monitoring of trends <u>Kirsten Tracht</u> <i>Bremen Institute for Mechanical Engineering, University of Bremen</i></p>
15:20	End of the programme