## MNE 2016 Scientific Program

### Tuesday Morning 20 September 2016

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<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Chair</th>
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<tbody>
<tr>
<td>8:30</td>
<td>Opening</td>
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<td>C11.1 - inv, D6</td>
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<tr>
<td>9:00</td>
<td>C11.1 Applications 1 - sensors</td>
<td>Nanosensor Devices for Multi Gas Detection – Aspects of CMOS and Smart System Integration</td>
<td>Anton Köck</td>
<td>D6-1-inv</td>
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<td>9:15</td>
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<td>9:45</td>
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<td>Acoustic devices for molecular diagnostics and point-of-care applications</td>
<td>Electra Gizeli</td>
<td>D6-1-inv</td>
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<tr>
<td>10:00</td>
<td>B1 Pattern transfer</td>
<td>A damascene process for gold micro- and nano-structures</td>
<td>Mouawad MERHEJ</td>
<td>B1-1-3</td>
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<td>10:15</td>
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<td>Top-down Fabrication of (111)-Silicon Nanowire Arrays for Flexible Field-Effect Transistors Achieving Large-Scale Integrated Electronic Circuits</td>
<td>Sangmin Lee</td>
<td>B1-1-4</td>
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<td>11:00</td>
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<td>11:15</td>
<td>C11.1 Applications 1 - sensors</td>
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<td>12:30</td>
<td>12:30 - 13:30 Lunch</td>
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<td>Time</td>
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<td>Authors</td>
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<td>13:30</td>
<td>C1-1-inv</td>
<td>Scanning magnetoresistance microscopy enabled by AFM cantilevers with integrated magnetic sensors</td>
<td>Margaret Costa et al.</td>
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<tr>
<td>13:30</td>
<td>A4-1-1</td>
<td>A Cost-Efficient Fabrication Method of Dissolvable Micro-needle for Drug Delivery</td>
<td>Xu Wang et al.</td>
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<tr>
<td>13:30</td>
<td>B7-1-1</td>
<td>Nanometer-resolution, wide-field optical measurement of time-varying sub-micron fluid film thicknesses for viscosity determination</td>
<td>Hannah Gramling et al.</td>
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<tr>
<td>13:30</td>
<td>A4-1-2</td>
<td>Nanoimprint Lithography of T-shaped Nanostructures</td>
<td>Michael Mühlberger et al.</td>
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<tr>
<td>13:30</td>
<td>B7-1-2</td>
<td>Quantitative DC-free Kelvin Probe Force Microscopy</td>
<td>Dominik Kohl et al.</td>
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<tr>
<td>13:30</td>
<td>C1-1-1</td>
<td>Cantilever array with optomechanical read-out and integrated actuation for scanning probe microscopy</td>
<td>Thomas Michels et al.</td>
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<tr>
<td>13:30</td>
<td>A4-1-3</td>
<td>Fabrication of high aspect ratio and sub-5 µm wide patterns by capillary force assisted printing through a thermal imprinting process</td>
<td>Ryohei Hokari et al.</td>
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<td>13:30</td>
<td>A4-1-4</td>
<td>Nanoimprint lithography as a new tool for cavity-resonator-integrated guided-mode resonance filter fabrication</td>
<td>Sylvain Augé et al.</td>
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<td>13:30</td>
<td>B7-1-3</td>
<td>Doped nanodiamonds and their application for nanoelectronics sensing applications</td>
<td>Thomas Hantschel et al.</td>
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<td>13:30</td>
<td>A4-1-5</td>
<td>Vacuum ultraviolet light assisted nano-pattern transfer to fabricate nanostructure with heterogeneous materials</td>
<td>Yuki Hashimoto et al.</td>
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<td>13:30</td>
<td>B7-1-inv</td>
<td>Metrology for single nanometer manufacturing</td>
<td>Richard Koops et al.</td>
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<td>13:30</td>
<td>C1-1-3</td>
<td>MEMS magnetic field modulators for ultra-low DC field detection</td>
<td>Rosana Dias et al.</td>
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<td>13:30</td>
<td>A4-1-6</td>
<td>An etch-free fabrication of uniform, ordered, micro- and nanoscale through-hole membrane</td>
<td>Him Cheng Wong et al.</td>
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<tr>
<td>13:30</td>
<td>C6-1-1</td>
<td>Experimental and finite element investigations of nano metal-semiconductor contacts</td>
<td>Moh'd Rezeq et al.</td>
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<tr>
<td>13:30</td>
<td>D2-1-inv</td>
<td>A monolithically integrated mid-infrared lab-on-a-chip</td>
<td>Borislav Hinkov et al.</td>
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<tr>
<td>13:30</td>
<td>C6-1-2</td>
<td>Characterization of Thermal-Piezoresistive MEMS Resonators for Sensing Applications</td>
<td>Cláudia Coelho et al.</td>
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<td>A monolithic micro-optical interferometer etched into fused silica</td>
<td>Martin Hoffmann et al.</td>
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<td>Exploring an improvement SET-FET hybrid behavior by using different FET types</td>
<td>Esteve Aamat et al.</td>
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<td>The Alveoli-on-a-chip: towards in vitro modelling of the alveolar barrier.</td>
<td>Alexandra LANIECE et al.</td>
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<td>C6-1-4</td>
<td>Performance Simulation of InP HEMTs With 10 nm T Shape Gates</td>
<td>Jianan Deng et al.</td>
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<td>D2-1-2</td>
<td>UV-NIL of a water-soluble resist for nano-patterning of proteins</td>
<td>Marco Lindner et al.</td>
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<td>B2-1-3</td>
<td>Optical emission monitoring for optimisation of atomic layer etch (ALE) processes</td>
<td>Andy Goodyear et al.</td>
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<td>Process induced poling and plasma induced damage of thin film PZT</td>
<td>Jiahui Wang et al.</td>
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**Tuesday Afternoon 20 September 2016**

**15:00 - 15:30 Break/Coffee/Exhibition**

**16:30 - 18:00 Exhibition / Poster Session Reception**
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<tr>
<td>8:30</td>
<td>Nico de Rooij</td>
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<td><strong>Micro Electro Mechanical Systems — Technology and Applications</strong></td>
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<td>9:15</td>
<td>MNE Fellow Award + MEE YI Award</td>
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<td>9:30</td>
<td>Veena Misra</td>
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<td><strong>Self-Powered Health and Environmental Monitoring for Wellness</strong></td>
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<td>10:15</td>
<td>10:15 - 10:45 Break/Coffee/Exhibition</td>
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<td>10:45</td>
<td><strong>Young Investigator Award lecture</strong></td>
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<td><strong>Chair:</strong> Jens Gobrecht</td>
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<td><strong>Chair:</strong> Electra Gizeli</td>
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<td>10:45</td>
<td><strong>A7 Tip based patterning</strong></td>
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<td><strong>D4 Micro / Nanofluidics for bio / life sciences</strong></td>
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<tr>
<td>11:00</td>
<td><strong>A7-1-1 Devices with sub15 nm features fabricated with thermal scanning probe lithography</strong>&lt;br&gt;Martin Spieser et al.</td>
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<td>11:00</td>
<td><strong>A7-1-2 Fowler-Nordheim electron emission simulations in scanning probe lithography using active cantilever</strong>&lt;br&gt;Steve Lenk et al.</td>
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<tr>
<td>11:00</td>
<td><strong>A7-1-3 Thermal scanning probe lithography on a glassy supramolecular film creates a combination of topography and fluorescent nanostructures</strong>&lt;br&gt;Samuel Zimmermann et al.</td>
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<tr>
<td>11:00</td>
<td><strong>A7-1-4 Expanding the Scale of Atomically Precise STM Lithography</strong>&lt;br&gt;James Owen et al.</td>
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<tr>
<td>11:00</td>
<td><strong>A7-1-5 High-aspect ratio nanopatterning via combined thermal scanning probe lithography and dry etching</strong>&lt;br&gt;Yuliya Lisunova et al.</td>
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<td>11:00</td>
<td><strong>A7-1-inv Advanced Scanning Probe Lithography for nanopatterning and nanoelectronics</strong>&lt;br&gt;Ricardo Garcia et al.</td>
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<td>11:00</td>
<td><strong>D4 Micro / Nanofluidics for bio / life sciences</strong></td>
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<td>11:00</td>
<td><strong>D4-1-1 Bumping Dynamics of Bacteria and Blood Cells in Asymmetric Deterministic Lateral Displacement Devices</strong>&lt;br&gt;Keith Morton et al.</td>
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<tr>
<td>11:00</td>
<td><strong>D4-1-2 Cell rheology in microfluidic perfusion: computational and experimental approach</strong>&lt;br&gt;Markus Gusenbauer et al.</td>
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<td>11:00</td>
<td><strong>D4-1-3 Microfluidic traps for droplet-cell pairing and adhesion studies</strong>&lt;br&gt;Jacques Fattaccioli et al.</td>
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<td>11:00</td>
<td><strong>D4-1-4 Photothermal assembling of bacteria for rapid counting</strong>&lt;br&gt;Takuya Iida et al.</td>
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<td>11:00</td>
<td><strong>D4-1-5 Concentrate exosome using ion depletion zone in microfluidic device</strong>&lt;br&gt;Kei Hayashida et al.</td>
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<tr>
<td>11:00</td>
<td><strong>D4-1-inv A novel control system for concentration of bio-substances by utilizing combination technique of ion concentration polarization and electrophoresis</strong>&lt;br&gt;Katsuo Mogi et al.</td>
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<td><strong>D4-1-7 Large-scale and multiplex biopatterning combining automated microfluidic inking and micro-contact printing</strong>&lt;br&gt;Julie Foncy et al.</td>
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<td>12:00</td>
<td><strong>12:30 - 13:30 Lunch</strong></td>
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<td>12:30</td>
<td><strong>Flexible Electronics – From Nanostructures to Large Area System</strong>&lt;br&gt;Ravinder Dahiya</td>
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<td><strong>Wednesday Morning 21 September 2016</strong></td>
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<td>13:30</td>
<td>C1-2-1</td>
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<td>A3-1-inv</td>
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<td>D5-1-1</td>
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<td>13:45</td>
<td>C1-2-2</td>
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<td>D5-1-2</td>
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<td>14:00</td>
<td>C1-2-3</td>
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<td>14:15</td>
<td>C1-2-4</td>
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<td>D5-1-4</td>
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<td>C1-2-5</td>
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<td>C1-2-6</td>
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<td>A3-1-4</td>
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**Wednesday Afternoon 21 September 2016**

15:00 - 15:30 Break/Coffee/Exhibition
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<tr>
<th>Time</th>
<th>Track 1</th>
<th>Track 2</th>
<th>Track 3</th>
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</table>
| 15:30 | **C11.2** Applications 2 - memory  
Chair: Borislav Hinkov | **A1** Photon lithography  
Chair: Paul Alkemade | **D1.1** Sensing 1 - biomolecules  
Chair: Anton Kock |
| **C11-2-1** | 3D Monolithic Integration of Multiple Memristor Crossbar Layers with CMOS  
Qiangfei Xia et al. | A1-1-1 High Rotational Symmetry Photonic Structures Fabricated with Multiple Exposure Displacement Talbot Lithography  
Christian Dais et al. | D1-1-1 Extending the measurement range of microfluidic quartz-crystal-microbalance (QCM) sensors through specialized mass amplifying immunoassays  
Jan-Wilhelm Thies et al. |
| 15:45 | **C11-2-2** Tuneable ZrOx resistive memory with multistate switching behavior  
Ruomeng Huang et al. | A1-1-2 High lateral and vertical resolution grayscale lithography using EUV interference lithography  
Roberto Fallica et al. | D1-1-2 Enzymatic biosensors based on electrodeposited alginate hydrogels  
Augusto Marquez et al. |
| 16:00 | **C11-2-3** Spin-Current Operation in a Cu Nano-Ring  
Marjan Samiepour et al. | A1-1-3 Very short period grating printing combining UV interferential exposure and mechanical strain  
Maxime Bichotte et al. | D1-1-3 Homogeneous mix & measure protein detection by monitoring the rotational dynamics of magnetic nanorods  
Joerg Schotter et al. |
| 16:15 | **C11-2-4** Shift of the magnetic vortex nucleation field due to the presence of magnetic bias fields  
Jinseok Heo et al. | D1-1-4 Use of Metal Nanoparticle Arrays to Develop Cost-effective Plasmonic Biosensors for Immediate Detection of Volatile Biogenic Amines as Food Freshness Indicator  
Aileen Sun et al. |
| 16:30 | 16:30 - 18:00 Exhibition / Poster Session Reception |
| 19:00 | 19:00 Conference Dinner |
## Thursday Morning 22 September 2016

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<thead>
<tr>
<th>Time</th>
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<tbody>
<tr>
<td>8:00</td>
<td>Takehiko Iwanaga</td>
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<td><strong>Nanoimprint System Development and Status for High Volume Semiconductor Manufacturing</strong></td>
<td>Takehiko Iwanaga</td>
<td>A9-1-1</td>
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<td>Michiel Vellekoop</td>
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<td><strong>Gel-technology in microfluidics and biochips</strong></td>
<td>Michiel Vellekoop</td>
<td>A9-1-2</td>
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<td>9:30</td>
<td><strong>Poster Award + µ-n-Graph Award + Conference Announcements</strong></td>
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<td>10:30</td>
<td><strong>C7.1 Micro / Nano devices for physical science 1</strong></td>
<td><strong>C9</strong></td>
<td><strong>A9 Novel techniques</strong></td>
<td><strong>C2 Micro and nano fluidic systems</strong></td>
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<td>Chair: Zahid Durani</td>
<td>Chair: Andree Liubera</td>
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<td><strong>“Strauß”</strong></td>
<td><strong>“Stolz”</strong></td>
<td><strong>“Schubert”</strong></td>
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<td><strong>CMOS BEOL compatible process for the fabrication of single electron transistors, using TIN/Al2O3/TIN junctions</strong></td>
<td><strong>FABRICATION OF POLYMER MICRO DEVICES WITH ULTRASOUND</strong></td>
<td><strong>Nanofluidic Liquid Cell with Integrated Electrokinetic Pump for In Situ TEM</strong></td>
<td><strong>Julia Kosloß et al.</strong></td>
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<td><strong>Bruno Lee Sang et al.</strong></td>
<td><strong>A9-1-2</strong></td>
<td><strong>C2-1-2</strong></td>
<td><strong>Nanostructured catalyst for Metal Assisted Chemical Etching of Silicon</strong></td>
<td><strong>Lucia Romano et al.</strong></td>
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<td><strong>A9-1-3</strong></td>
<td><strong>C2-1-3</strong></td>
<td><strong>Computational study on novel focused beam processing in 3-dimensional space</strong></td>
<td><strong>Yoshikiko Hirai et al.</strong></td>
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<td><strong>A9-1-4</strong></td>
<td><strong>C2-1-4</strong></td>
<td><strong>Electrodeposition of Functional Semiconducting Metal Chalcogenide: GeSbTe Phase Change and Resistive Switching Memory</strong></td>
<td><strong>Wilfried Schipper et al.</strong></td>
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<td><strong>A9-1-5</strong></td>
<td><strong>C2-1-5</strong></td>
<td><strong>Membrane templated activated carbon for electric double layer supercapacitors</strong></td>
<td><strong>Vasileios Papadimitriou et al.</strong></td>
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<td>11:00</td>
<td><strong>C7-1-1</strong></td>
<td><strong>A9-1-6</strong></td>
<td><strong>C2-1-6</strong></td>
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<td>11:15</td>
<td><strong>Electrodeposition of Functional Semiconducting Metal Chalcogenide: GeSbTe Phase Change and Resistive Switching Memory</strong></td>
<td><strong>Roll-2-Roll Nano-Imprinting – Journey to seamless wide-web functional film</strong></td>
<td><strong>Roll to plate production of gravity driven, micro fluidic sensors based on electrowetting on dielectrics</strong></td>
<td><strong>Harald Plank et al.</strong></td>
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<td>11:30</td>
<td><strong>Membrane templated activated carbon for electric double layer supercapacitors</strong></td>
<td><strong>A simple fabrication process for stepwise gradient wrinkle patterns with spatially controlled wavelength based on selective oxygen plasma treatment</strong></td>
<td><strong>Microchannels equiped with force sensors for the investigation of the mechanical forces exerted by living cells during migration.</strong></td>
<td><strong>Jeong Su Lee et al.</strong></td>
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<td>11:45</td>
<td><strong>C7-1-4</strong></td>
<td><strong>C2-1-7</strong></td>
<td><strong>C2-1-7</strong></td>
<td><strong>Direct-Write Fabrication of Electric and Thermal High-Resolution Nanoprobe on Self-Sensing AFM Cantilever</strong></td>
<td><strong>Yang Ge et al.</strong></td>
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<td><strong>CMOS BEOL compatible process for the fabrication of single electron transistors, using TIN/Al2O3/TIN junctions</strong></td>
<td><strong>Single-digit nanofabrication: ultrahigh density sub-10 nm TiO2 features via the self-aligned double patterning process</strong></td>
<td><strong>Microchannels equiped with force sensors for the investigation of the mechanical forces exerted by living cells during migration.</strong></td>
<td><strong>Stefano Dallorto et al.</strong></td>
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<td>12:00</td>
<td><strong>Non-destructive material characterisation by oscillating microprobes</strong></td>
<td><strong>A8-1-8</strong></td>
<td><strong>C2-1-8</strong></td>
<td><strong>TMH Developer Intrusion into Resist Film Analyzed by C-V Method of MIS Structure</strong></td>
<td><strong>Xinxin Xu et al.</strong></td>
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<td><strong>Boris Goj et al.</strong></td>
<td><strong>A8-1-7</strong></td>
<td><strong>C2-1-9</strong></td>
<td><strong>Fabrication and development of high brightness nano-aperture ion source</strong></td>
<td><strong>Emma Desvignes et al.</strong></td>
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<td><strong>All-Printed Capacitors with Continuous Solution Dispensing Technology</strong></td>
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<td>12:15</td>
<td><strong>C7-1-5</strong></td>
<td><strong>C2-1-10</strong></td>
<td><strong>C2-1-10</strong></td>
<td><strong>TMAH Developer Intrusion into Resist Film Analyzed by C-V Method of MIS Structure</strong></td>
<td><strong>Hodaka Shirataki et al.</strong></td>
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<td><strong>Bruno Lee Sang et al.</strong></td>
<td><strong>Xinxin Xu et al.</strong></td>
<td><strong>C2-1-10</strong></td>
<td><strong>Fabrication of single electron devices in silicon for room temperature operation using electron beam lithography and geometric oxidation</strong></td>
<td><strong>Dixi Liu et al.</strong></td>
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<td><strong>C2-1-2</strong></td>
<td><strong>C2-1-2</strong></td>
<td><strong>Nanofluidic trapping devices for detecting critical reaction concentrations</strong></td>
<td><strong>Michael Gerspach et al.</strong></td>
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<td>12:30</td>
<td><strong>C7-1-6</strong></td>
<td><strong>C2-1-11</strong></td>
<td><strong>C2-1-11</strong></td>
<td><strong>CMOS BEOL compatible process for the fabrication of single electron transistors, using TIN/Al2O3/TIN junctions</strong></td>
<td><strong>Lucia Romano et al.</strong></td>
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<td></td>
<td><strong>TMAH Developer Intrusion into Resist Film Analyzed by C-V Method of MIS Structure</strong></td>
<td><strong>Functionalyzed Nanofluidic System for Trapping Nano-objects</strong></td>
<td><strong>Influence of Experimental parameters on The Device Continuously Sampling Micro-Nano Size Particles Using Liquid-Based Gating Mechanism</strong></td>
<td><strong>Deepika Sharma et al.</strong></td>
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<td><strong>Hodaka Shirataki et al.</strong></td>
<td><strong>C2-1-12</strong></td>
<td><strong>C2-1-12</strong></td>
<td><strong>Roll to plate production of gravity driven, micro fluidic sensors based on electrowetting on dielectrics</strong></td>
<td><strong>Marco Matteucci et al.</strong></td>
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<td><strong>C2-1-13</strong></td>
<td><strong>C2-1-13</strong></td>
<td><strong>Microchannels equiped with force sensors for the investigation of the mechanical forces exerted by living cells during migration.</strong></td>
<td><strong>Emma Desvignes et al.</strong></td>
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<td><strong>C2-1-14</strong></td>
<td><strong>C2-1-14</strong></td>
<td><strong>Fabrication and development of high brightness nano-aperture ion source</strong></td>
<td><strong>Xinxin Xu et al.</strong></td>
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</table>

**10:00 - 10:30 Break/Coffee/Exhibition**

**12:00 - 13:30 Lunch**
<table>
<thead>
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<th>Time</th>
<th>Session</th>
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<tr>
<td>13:30</td>
<td>C11-3-inv</td>
<td>Resistive memories using Cu nanoparticles embedded amorphous SiC</td>
<td>Junqing Fan et al.</td>
</tr>
<tr>
<td>13:45</td>
<td>C11-3-1</td>
<td>UV nanoimprint lithography and lift-off processes for fabricating split-ring resonators with 20 nm gaps</td>
<td>Takuya Uehara et al.</td>
</tr>
<tr>
<td>14:00</td>
<td>C11-3-2</td>
<td>Single digit fabrication for bi-metallic plasmonic nanostructures</td>
<td>Valentin Flauraud et al.</td>
</tr>
<tr>
<td>14:30</td>
<td>C11-3-3</td>
<td>Metal Assisted Chemical Etching of Silicon for Speckle-based X-ray Imaging</td>
<td>Joan Vila-Comamala et al.</td>
</tr>
<tr>
<td>14:45</td>
<td>C11-3-4</td>
<td>Fabrication options for Si3N4 photonic circuits used in different application scenarios</td>
<td>Jens Bolten et al.</td>
</tr>
<tr>
<td>15:00</td>
<td>C11-3-inv</td>
<td>Resitive memories using Cu nanoparticles embedded amorphous SiC</td>
<td>Junqing Fan et al.</td>
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<td>15:30</td>
<td>C11.3</td>
<td>Applications 3 - fabrication</td>
<td>Chair: Regina Luttge</td>
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<tr>
<td>13:30</td>
<td>C11-3-1</td>
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<tr>
<td>15:00</td>
<td>C1.3</td>
<td>MEMS / NEMS 3 - energy harvest</td>
<td>Chair: Massimo De Vittorio</td>
</tr>
<tr>
<td>15:30</td>
<td>C1-3-1</td>
<td>A new architecture of high performance AlN vibrational energy harvester</td>
<td>Francesco Guido et al.</td>
</tr>
<tr>
<td>15:45</td>
<td>C1-3-2</td>
<td>Simple two-step fabrication of a paper-based triboelectric nanogenerator with pencil-trace electrode</td>
<td>Je Hoon Oh et al.</td>
</tr>
<tr>
<td>16:00</td>
<td>C1-3-3</td>
<td>Silicon Solar Cell Performance Improvement Employing Photo Luminescent Photosystem</td>
<td>Kemeth Mayfield et al.</td>
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<tr>
<td>16:15</td>
<td>C1-3-4</td>
<td>An Infrared Photodetector Using PbS Quantum Dots Capped with Isopropylamine</td>
<td>Jin-Woo Choi et al.</td>
</tr>
<tr>
<td>16:00</td>
<td>A6</td>
<td>Directed Self Assembly</td>
<td>Chair: Christophe Vieu</td>
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<td>16:15</td>
<td>A6</td>
<td>Directed Self Assembly</td>
<td>Chair: Christophe Vieu</td>
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<td>16:00</td>
<td>D1.2</td>
<td>Sensing 2</td>
<td>Chair:</td>
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<td>16:15</td>
<td>D1.2</td>
<td>Sensing 2</td>
<td>Chair:</td>
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<tr>
<td>16:30</td>
<td>Special Session SNM</td>
<td>SNM-1-1 Introduction to the SNM project</td>
<td>Ivo W. Rangelow et al.</td>
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<tr>
<td>16:45</td>
<td>Special Session SNM</td>
<td>SNM-1-2 Multibeam Scanning Electron Microscope (MB SEM) – versatility and flexibility</td>
<td>Cornelius W. Hagen et al.</td>
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<td>17:00</td>
<td>Special Session SNM</td>
<td>SNM-1-3 Oxidation and Thermal Scanning Probe Lithography</td>
<td>Armin Knoll et al.</td>
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<tr>
<td>17:15</td>
<td>Special Session SNM</td>
<td>SNM-1-4 Scanning Probe Lithography using low-energy electrons</td>
<td>Marcus Kästner et al.</td>
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<tr>
<td>17:30</td>
<td>Special Session SNM</td>
<td>SNM-1-5 Advanced Etching for Nanodevices and 2D materials</td>
<td>Jean-François de Marneffe et al.</td>
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<tr>
<td>17:45</td>
<td>Special Session SNM</td>
<td>SNM-1-6 Beyond CMOS devices and their integration in CMOS technology</td>
<td>Francesc Perez-Murano et al.</td>
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<td>18:15</td>
<td>Special Session SNM</td>
<td>SNM-1-7 Nanoimprint lithography in the SNM project</td>
<td>Thomas Glinsner et al.</td>
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<td>21:30</td>
<td>Poster Session</td>
<td>16:30 - 18:00 Exhibition / Poster Session Reception</td>
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<td>21:30</td>
<td>21:30 Young people party meeting (Praterdome)</td>
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<td>Time</td>
<td>Session</td>
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<td>8:30</td>
<td>C7-2-1</td>
<td>APPLICATION OF DOWN SHIFTING PHOTO-LUMINESCENT ZNO QUANTUM DOTS IN SOLAR CELLS</td>
<td>Aldo Zazueta Raynaud et al.</td>
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<td>8:35</td>
<td>C7-2-2</td>
<td>A lithographic approach for quantum dot - photonic crystal nanocavity coupling in dilute nitrides</td>
<td>Annamaria Gerardino et al.</td>
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<td>9:00</td>
<td>C7-2-3</td>
<td>Anomalous Red-Shift of the Down-Shifted Photoluminescent Emission Peaks of Carbon and CdTe Quantum Dots</td>
<td>J Elias Pelayo Ceja et al.</td>
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<tr>
<td>9:15</td>
<td>C7-2-4</td>
<td>Mass-production compatible technique for fabrication of strip-loaded waveguides</td>
<td>Janne Laukkanen et al.</td>
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<td>9:30</td>
<td>C7-2-5</td>
<td>Wafer scale plasmonic device fabrication for surface-enhanced vibrational spectroscopy</td>
<td>Uwe Huebner et al.</td>
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<td>9:45</td>
<td>C7-2-6</td>
<td>High aspect ratio silicon diffraction lenses with ultra-high efficiency and tunability for hard X-ray experiments</td>
<td>Maxime Lebugle et al.</td>
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<td>10:00</td>
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<td>10:00 - 10:30 Break/Coffee</td>
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<td>10:30</td>
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<td>Keynote</td>
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<td>11:15</td>
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<td>Closing Remarks</td>
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A. Micro- and Nanopatterning

A1  Photon lithography

Tue-A1-1
A new stitching soft X-ray interference lithography technique
Jun Zhao et al.

Tue-A1-2
Continuous and high-speed photolithography via roll-type equipment
Sungho Lee et al.

Tue-A1-3
The Study of Focus Shift Issue due to TIS Sensor Coating Degradation under ArFi Scanner
Kyung-hwan Joo et al.

Tue-A1-4
Fabrication of 3D micro-objects by two-photon lithography on PVA as water-soluble sacrificial layer for single-cell manipulation
Farideh Abhari et al.

Tue-A1-5
Impact of the Non-Ideal Extreme Ultra-Violet (EUV) Mask Stack for 1x nm Patterning and the Effect on the Anamorphic High-NA Lithography
Ki-Ho Ko et al.

Tue-A1-6
Impact of transmission non-uniformity of wrinkled EUV pellicle for NS patterning with various illuminations including anamorphic systems
In-seon Kim et al.

Tue-A1-7
The impact of locally deformed multi-stack pellicle and its optimization for extreme ultraviolet lithography
Guk-Jin Kim et al.

Tue-A1-8
Thermal and mechanical stresses of multilayer extreme ultraviolet pellicle
Eun-Sang Park et al.

Tue-A1-9
Molecular dynamics study of pattern formation in extreme ultraviolet lithography
Masaaki Yasuda et al.

Tue-A1-10
EUV Interference lithography at the Swiss Light Source of the Paul Scherrer Institute
Elizabeth Buitrago et al.

Tue-A1-11
Negative Pattern Formation in Positive Resist Layer by EB / UV Hybrid Lithography
Tomohiro Maruyama et al.

A2  Mask technology

Layer Dependency on Extreme-Ultraviolet Transmission and Non-Uniform Thickness of Multi-Stack Extreme-Ultraviolet Pellicle Membrane
Sung-Gyu Lee et al.

A3  Electron and ion beam lithography

Tue-A3-13
Novel characteristics of single atom tips fabricated by local electron bombardment
Moh’d Rezq et al.

Tue-A3-14
Optics for zone plate based X-ray microscopy
Stefan Rehbein et al.

Tue-A3-15
Advances in Ice Lithography in Denmark and China
William Tiddi et al.
Tue-A3-16
Hough Transform as a quality test tool for electron beam lithography
Oktay Goktas et al.

Tue-A3-17
Dependence of fogging electron current on the collection field
Yoshifumi Hagiwara et al.

Tue-A3-18
Dependence of the working distance and the applied bias on the surface potential distribution of insulating specimen irradiated by electron beam
Takuya Kawamoto et al.

Tue-A3-19
Combined e-beam lithography using different energies
Stanislav Krátký et al.

Tue-A3-20
Taylor-made contacted plasmonic nano-bowties with nanometer gaps on insulating substrates
Florian Laible et al.

Tue-A3-21
Recent improvements and applications of Proton Beam Writing: An outlook towards fast writing at sub 10 nm
Jeroen A van Kan et al.

Tue-A3-22
Investigation of a double layer PMMA resist for the fabrication of the Honeycomb surface lattices
Nebile Isik Goktas et al.

Tue-A3-23
Monte Carlo simulation and processing study toward 2 nm HSQ single lines by electron beam lithography
Yifang Chen et al.

Tue-A3-24
E-beam grayscale exposures into acrylic-glass plate
Stanislav Krátký et al.

Tue-A3-25
Advanced SPM probes made from commercial AFM probes by EBL and FIB
Jan Soltyš et al.

Tue-A3-26
Development of trajectory simulation of fogging electrons in a vacuum specimen chamber
Kazumasa Terada et al.

Tue-A3-27
Sub-20 nm gaps in HSQ for ultra-scaled nanoelectronic devices
Maneesha Rupakula et al.

A4 Soft lithography

Wed-A4-28
Soft Lithography for Double-Scale Structuring and Mobility of Micro/Nano Air Pockets as Plastron on Superhydrophobic Surfaces
Sasha Hoshisan et al.

Wed-A4-29
A Roll-to-Plate UV-nanoimprint tool for micro and nano-optical applications
Michael Mühlberger et al.

Wed-A4-30
Quantification and reduction of deformations in multilayer soft-NIL stamps
Michael Förthner et al.

Wed-A4-31
Towards inkjet printing on 3D printed surfaces for NIL applications
Anita Fuchsbaier et al.

Wed-A4-32
Black silicon and its replication to polymers: from antibacterial to self-cleaning applications
Aritz Retolaza et al.

Wed-A4-33
Fabrication of the large area mold using roll to plate equipment via visually tolerable tiling method
Jihoon Lee et al.
Nanoimprinting on chalcogenide MIR-fiber end-facets to reduce coupling losses
Mikkel Lotz et al.

Metal nano-pattern fabrication by applying a soft UV-NIL resist onto a neutral developable lift-off layer
Michael Haslinger et al.

Improvement of transfer performance for antireflection structured with antifouling effect
Hikari Eto et al.

Improvement of transfer durability of pillar shaped release agent-free replica mold on UV-NIL
Gen Nakagawa et al.

Fabrication of Polymeric Magnetic Pillars with Tuneable Properties
Anas Al-Azawi et al.

Consecutive Imprinting Performance of Large Area UV Nanoimprint Lithography using Bi-layer Soft Stamps in Oxygen-containing Atmosphere
Martin Hoffmann et al.

Evaluation of molecular orientation induced by simplified double nanoimprint-graphoepitaxy
Makoto Okada et al.

Viscoelasticity of Cyclo Olefin Polymer and Imprinting Transfer
Kenji Monden et al.

Metallic antireflection structures made from silver ink using liquid transfer imprint technique
Tomoya Uchida et al.

Overcoming the limitation of spin-coating on unconventional substrates by liquid transfer imprint lithography
Jung Wuk Kim et al.

Fabrication sequence for silicon nitride based PIC using a NIL approach
Jung Wuk Kim et al.

Computational study on induced strain in direct nanoimprint process for molecular ordering
Masaaki Yasuda et al.

Realization of residue-free ultra-violet nanoimprinting lithography using a soft patterned mold
Su Shen et al.

Inkjet-printing of working stamp material for UV-based nanoimprint lithography
Michael Mühlberger et al.

High Precision UV Nanoimprint Process using Condensable Gas of Trans-1,3,3,3-tetrafluoropropene for Microlens Arrays
Kenta Suzuki et al.

Fabrication of nano-steps for total internal reflection fluorescence microscopy by using roll-typed liquid transfer imprint lithography
Hiroshi Kigami et al.

Fin structures fabrication for solid oxide fuel cell air electrode using micro molding
Jun Taniguchi et al.

Depth analysis of molecular orientation induced by nanoimprint-graphoepitaxy
Makoto Okada et al.
**Wed-A4-52**
Direct fabrication of plasmon-magnetic nanoparticles for biomolecular sensing by UV-NIL and lift-off
Lukas Häusler et al.

**Wed-A4-53**
Fine-tuning highly periodic Au nanodisc arrays for plasmon resonance-controlled transparent SERS substrates using UV-NIL based double-layer lift-off process
Julian Barnett et al.

**A5 Materials for micro- and nanolithography**

**Wed-A5-54**
Fabrication of double layer with magnetite and aluminium to obtain new polarization characteristics
Young Tae Cho et al.

**Wed-A5-55**
Processing of the e-beam resist CSAR 62 at low temperatures
Silvia Diewald et al.

**Wed-A5-56**
Growth of ZnO Nanowires on Multi-Layered Polymer Structures Fabricated using UV Liquid Transfer Imprint Lithography
Namwon Kim et al.

**Wed-A5-57**
Fabrication of high-aspect ratio nanostructures on the flexible substrates using nanoimprint lithography technology
SangHee Jung et al.

**A6 Directed Self Assembly**

**Thu-A6-58**
Large Block Copolymer Self-Assembly for Fabrication of Sub-wavelength Structures for Antireflective Surfaces
Parvaneh Mokarian-Tabari et al.

**Thu-A6-59**
Directed self-assembly in nanoimprint guide for sub-10 nm lithography
Koji Asakawa et al.

**A7 Tip based patterning**

**Thu-A7-60**
Experimental analysis of micro-nano mechanical patterning of soft thin film on hard substrate
Eun-chae Jeon et al.

**Thu-A7-61**
Localized Photocatalytic Chemical Etching Using TiO2-coated AFM Probe
Takayuki Shibata et al.

**Thu-A7-62**
Low-energy electron exposure phenomena in Fowler-Nordheim single digit scanning probe lithography with active probes
Yana Krivoshapkina et al.

**Thu-A7-63**
Fabrication and Operation of Inverted Pyramidal Microplasma Devices Arrays for Maskless Nanoscale Material Direct Writing
Li Wen et al.

**Thu-A7-64**
Scanning probe microscopy lithography on CVD graphene grown on Ge(100) substrates
Andrea Notargiacomo et al.

**A8 Stencil based patterning**

**Thu-A8-65**
Simple overprinting technique for thick conductive patterns
Ken-ichi Nomura et al.

**Thu-A8-66**
A Novel Fabrication of Dissoluble Microneedle Patch for Transdermal Drug Delivery
Libo Wu et al.
A9 Novel techniques

Thu-A9-67
Tuning the Surface Wettability of Thermoplastic Microchannels in Manufacturable Ways
Zhenfeng Wang et al.

Thu-A9-68
Selective Immobilization of Metal Nanoparticles Using Self-assembly Techniques
Hiroki Yamamoto et al.

Thu-A9-69
Direct Electron-Beam Patterning of Alkanethiol-Stabilized Nanoparticle Layers
Patrick Reissner et al.

Thu-A9-70
New 3D structuring process, by ion implantation and selective wet etching
Lamia Nouri et al.

Thu-A9-71
OLED Dry-Film Morphology Compensation and Evaluation
Cheng-yao Lo et al.

Thu-A9-72
Direct Bonding of Amorphous ALD Al2O3 with Silicon Nitride Thin Films
Simone Laganá et al.

Thu-A9-73
Spatial Confinement of Nanograss for Manipulating Condensation
Nikolaj Kofoed Mandsberg et al.

Thu-A9-74
Aluminium-assisted anisotropic chemical vapor etching of silicon dioxide
Reo Kometani et al.

Thu-A9-75
Through-Graphene Etching of Porous Si by Electroless Metal Assisted Chemical Etching
Christoforos Panteli et al.

Thu-A9-76
Nanostructured Perovskite via Ultrafast Nano Imprinting Lithography
Nicola Cefarin et al.

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Inertial microfluidic chip integrated valveless peristaltic pump
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A simple fabrication process for disposable interdigitated electrode arrays with adjustable nanogaps for Lab on a Chip applications
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D4 Micro / Nanofluidics for bio / life sciences

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3D-PRINTED MICROFLUIDIC DEVICE FOR PRE-CONCENTRATION BASED ION CONCENTRATION POLARIZATION
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A new Micro/Nano Hybrid Substrate for neuronal network formation
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Fabrication of functionalized polyvinyl alcohol/graphene hybrid nanofibers by electrospinning for biomedical application
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Controlling Neuronal Connectivity - A Microfluidic Microelectrode Array for Evaluation of Neurotrophic Factors
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Integrated Micropillars for Cell Migration Studies in Microchannels
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Adsorption-based chemical and biological microfluidic sensors: Deterministic versus stochastic approach in analysis of sensor response
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D5 System design and fabrication

Fabrication of Pt-Silk Composite Material by a Novel Catalyzation in Supercritical Carbon Dioxide for the Application of Medical Devices
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Porous polymer coating of SUS microneedle for transdermal drug delivery
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Spatially controlled, free-standing nanofiber membrane integrated transwell for the development of blood-brain barrier model
Seongsu Eom et al.

Carbon Based Semi-Transparent Microelectrode Arrays
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Multilayer graphene structures for a gas sensor module with wireless circuits by picosecond laser irradiation
Tien-Li Chang et al.

Optimization of a Biosensor Device based on a microwave Split-Ring Resonator
Lisa-Marie Wagner et al.

Roll-to-Roll pilot line for large-scale manufacturing of microfluidic devices
Stefan Köstler et al.

Fabrication of micropillar arrays of height gradient for cell patterning studies
Bin Wang et al.

Design and analysis of a metamaterial-based label-free biosensor for detection of DNA backbone frequencies in THz region
Sahar Mirzaei et al.

Laboratory injection molder for the fabrication of porous PCL scaffolds using NaCl and sucrose crystals as porogen.
Tania Limongi et al.

D6 Applications

Trajectory manipulation of microchains in an oscillation magnetic field
Ya-wei Lee et al.

The Seal Ring In The Suction Adhesion Formed By Microstructure Of Suckermouth Fish
Jinrong Wang et al.

Patterned Parylene C for cell adhesion, spreading and alignment
Xiaolong Tu et al.

Plasmonic Substrates for Metal Enhanced Fluorescence
Gerhard Hawa et al.
Characterization of suspended DNA by laser Raman spectroscopy
Monica Marini et al.

Culture patch method for primary hippocampal neurons culture
Yadong Tang et al.

Glycosaminoglycan micro-patterned hydrogels promote cell differentiation: effect of Surface chemistry and pattern
Santos Merino et al.

Nanocontact printing of proteins to pattern in-vivo membrane proteins
Marco Lindner et al.

Electrospraying particles for loading into microcontainers for drug delivery
Line Hagner Nielsen et al.

A Portable Fluorescent Sensing System with Multicolor Excitation LEDs
Jin-Woo Choi et al.

Multi-well screening platform with micro-scale topographies for efficient cell proliferation
Seonga An et al.

Characterization of CrC coated copper as proton exchange membrane fuel cell bipolar plates material
Ya-wei Lee et al.

Dispersed Demultiplexing system for ECoG
Juan Pablo Marcoleta et al.