

# MNE 2016 Scientific Program

Tuesday Morning 20 September 2016

8:30	Opening		
9:00	Dave Egglestone <b>Emerging Memory: From Technology to Applications</b>		
9:45	Franz Kreupl <b>Carbon-based Materials as Key-Enabler for "More-than-Moore" Devices</b>		
10:30	10:30 - 11:00 Break/Coffee/Exhibition		
	<b>C11.1 Applications 1 - sensors</b> Chair: Victor Cadarso "Strauß"	<b>D6 Applications</b> Chair: Luigi Sasso "Stolz"	<b>B1 Pattern transfer</b> Chair: Rafael Taboryski "Schubert"
11:00	<b>C11-1-inv</b> <b>Nanosensor Devices for Multi Gas Detection – Aspects of CMOS and Smart System Integration</b> Anton Köck et al.	<b>D6-1-1</b> <b>Light-triggered In Situ Formation of Multifunctional Silk Fibroin Hydrogel System for Synergistic Photothermal Chemotherapy of Breast Cancer</b> Ling-Chu Yang et al.	<b>B1-1-1</b> <b>High Resolution Printed Patterning by 250mm Wide Seamless Roller Mold with Sub-micron Pattern</b> Naoto Ito et al.
11:15		<b>D6-1-2</b> <b>Flexible electrodes for micro-electromyography</b> Enrique Escobedo-Cousin et al.	<b>B1-1-2</b> <b>High aspect ratio metal gratings by casting into microstructured silicon template</b> Lucia Romano et al.
11:30	<b>C11-1-1</b> <b>Mirco fabricated all optical pressure sensor</b> Andreas Havreland et al.	<b>D6-1-inv</b> <b>Acoustic devices for molecular diagnostics and point-of-care applications</b> Electra Gizeli et al.	<b>B1-1-3</b> <b>A damascene process for gold micro- and nano- structures</b> Mouawad MERHEJ et al.
11:45	<b>C11-1-2</b> <b>Piezo- and Flexoelectricity in AlN-based Flexible MEMS for Tactile Applications</b> Vincenzo Mariano Mastronardi et al.		<b>B1-1-4</b> <b>Top-down Fabrication of (111)-Silicon Nanowire Arrays for Flexible Field-Effect Transistors Achieving Large-Scale Integrated Electronic Circuits</b> Sangmin Lee et al.
12:00	<b>C11-1-3</b> <b>Sub-wavelength slit and plasmonic grating integration in Ge-based metal-semiconductor-metal photodetectors for sensing application</b> Mario Lodari et al.	<b>D6-1-3</b> <b>Nanoimprinted quasi 3D Nanosquares to Detect Low Cell Concentration</b> Stella Pang et al.	<b>B1-1-inv</b> <b>Systematic study of high throughput fabrication of nano holes and nano pillars in polymer foils by roll-to-roll-extrusion coating</b> Swathi Murthy et al.
12:15	<b>C11-1-4</b> <b>Fabrication of Hollow-Gold-Nanoparticle/Spin-On-Glass Composite Thin Film with Ultrahigh Broadband Absorbance for Novel Silicon-based Photodetector</b> Ling-Chu Yang et al.	<b>D6-1-4</b> <b>Sample Preparation lab on-Chip for Detection of Foodborne Pathogens</b> Katerina Tsougeni et al.	
	12:30 - 13:30 Lunch		

Tuesday Afternoon 20 September 2016

Tuesday Afternoon 20 September 2016			
	<b>C1.1 MEMS / NEMS 1 - actuation</b> Chair: Andris Sternberg	<b>A4.1 Soft lithography 1</b> Chair: Steve Lenk	<b>B7 (Nano-) Metrology</b> Chair: Monika Fleischer
	"Strauß"	"Stolz"	"Schubert"
13:30	<b>C1-1-inv</b> Scanning magnetoresistance microscopy enabled by AFM cantilevers with integrated magnetic sensors Margaret Costa et al.	<b>A4-1-1</b> A Cost-Efficient Fabrication Method of Dissolvable Micro-needle for Drug Delivery Xu Wang et al.	<b>B7-1-1</b> Nanometer-resolution, wide-field optical measurement of time-varying sub-micron fluid film thicknesses for viscosity determination Hannah Gramling et al.
13:45		<b>A4-1-2</b> Nanoimprint Lithography of T-shaped Nanostructures Michael Mühlberger et al.	<b>B7-1-2</b> Quantitative DC-free Kelvin Probe Force Microscopy Dominik Kohl et al.
14:00	<b>C1-1-1</b> Cantilever array with optomechanical read-out and integrated actuation for scanning probe microscopy Thomas Michels et al.	<b>A4-1-3</b> Fabrication of high aspect ratio and sub-5 µm wide patterns by capillary force assisted printing through a thermal imprinting process Ryohei Hokari et al.	<b>B7-1-3</b> Doped nanodiamonds and their application for nanoelectronics sensing applications Thomas Hantschel et al.
14:15	<b>C1-1-2</b> A Flexible Two Dimensional Force Mapping Sensor Using PDMS Nanocomposite Jin-Woo Choi et al.	<b>A4-1-4</b> Nanoimprint lithography as a new tool for cavity-resonator-integrated guided-mode resonance filter fabrication Sylvain Augé et al.	<b>B7-1-4</b> Dopant profiling in the scanning helium ion microscope Augustus Chee et al.
14:30	<b>C1-1-3</b> MEMS magnetic field modulators for ultra-low DC field detection Rosana Dias et al.	<b>A4-1-5</b> Vacuum ultraviolet light assisted nano-pattern transfer to fabricate nanostructure with heterogeneous materials Yuki Hashimoto et al.	<b>B7-1-inv</b> Metrology for single nanometer manufacturing Richard Koops et al.
14:45	<b>C1-1-4</b> Toward high sensitivity of SAW gyroscope by using floating thin piezo membrane Keekeun Lee et al.	<b>A4-1-6</b> An etch-free fabrication of uniform, ordered, micro- and nanoscale through-hole membrane Him Cheng Wong et al.	
15:00 - 15:30 Break/Coffee/Exhibition			
	<b>C6 Device and system modelling</b> Chair: Thomas Schrefl	<b>D2 Lab-on-a-Chip</b> Chair: Silvan Schmid	<b>B2 Plasma etching</b> Chair: Sandra Wolff
	"Strauß"	"Stolz"	"Schubert"
15:30	<b>C6-1-1</b> Experimental and finite element investigations of nano metal-semiconductor contacts Moh'd Rezeq et al.	<b>D2-1-inv</b> A monolithically integrated mid-infrared lab-on-a-chip Borislav Hinkov et al.	<b>B2-1-1</b> A monolithic micro-optical interferometer etched into fused silica Martin Hoffmann et al.
15:45	<b>C6-1-2</b> Characterization of Thermal-Piezoresistive MEMS Resonators for Sensing Applications Claudia Coelho et al.		<b>B2-1-2</b> Deep plasma etching of Parylene C patterns for biomedical applications Aurélie Lecestre et al.
16:00	<b>C6-1-3</b> Exploring an improvement SET-FET hybrid behavior by using different FET types Esteve Amat et al.	<b>D2-1-1</b> Integrated hollow microneedle-optofluidic biosensor for minimally-invasive low-volume therapeutic drug detection Victor J. Cadarso et al.	<b>B2-1-3</b> Optical emission monitoring for optimisation of atomic layer etch (ALE) processes Andy Goodyear et al.
16:15	<b>C6-1-4</b> Performance Simulation of InP HEMTs With 10 nm T Shape Gates Jianan Deng et al.	<b>D2-1-2</b> UV-NIL of a water-soluble resist for nano-patterning of proteins Marco Lindner et al.	<b>B2-1-4</b> Process induced poling and plasma induced damage of thin film PZT Jiahui Wang et al.
16:30 - 18:00 Exhibition / Poster Session			

Wednesday Morning 21 September 2016

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

Wednesday Afternoon 21 September 2016

Wednesday Afternoon 21 September 2016			
	<b>C1.2 MEMS / NEMS 2 - processing</b> Chair: Robert Kirchner	<b>A3 Electron and ion beam lithography</b> Chair: J. Alexander Liddle	<b>D5 System design and fabrication</b> Chair: Rudolf Heer
	"Strauß"	"Stolz"	"Schubert"
13:30	<b>C1-2-1</b> <b>Fabrication of 3D Air-core MEMS Inductors</b> Hoa Thanh Le et al.	<b>A3-1-inv</b> <b>Definition of sub-20nm nanowire structures featuring well-defined sidewall modulations</b> Jens Bolten et al.	<b>D5-1-1</b> <b>Tapered and nanostructured optical fibers for simultaneous optical control and electrical readout of neural activity in the living mouse brain</b> Marco Pisanello et al.
13:45	<b>C1-2-2</b> <b>Optimized SU-8 pyrolysis for fabrication of pyrolytic carbon microelectrodes</b> Yasmin Mohamed Hassan et al.		<b>D5-1-2</b> <b>Fabrication of Cellulose Structures via Focused Electron Beam Induced Conversion: Approaching the Nanoscale</b> Harald Plank et al.
14:00	<b>C1-2-3</b> <b>Fabrication of Large-area Tunnelling Pizeoresistive Polymer Sheets Embedded with Microdome Structures</b> Chao-chi Yeh et al.	<b>A3-1-1</b> <b>Double patterning for high throughput electron beam lithography</b> Alexei Bogdanov et al.	<b>D5-1-3</b> <b>Hot punching for drug loading into microcontainers</b> Stephan Sylvest Keller et al.
14:15	<b>C1-2-4</b> <b>Ultrashort pulse laser dicing of thin silicon wafers: increasing the cutting speed with burst mode</b> Matthias Domke et al.	<b>A3-1-2</b> <b>Fabrication of PMMA Retinal Tack Using X-ray Lithography and Long-term In-vivo Biocompatibility Evaluation for Progressive Observation Using Optical Coherent Tomography</b> Sangmin Lee et al.	<b>D5-1-4</b> <b>Light-emitting diodes with designed top metal electrode</b> Irina Khmyrova et al.
14:30	<b>C1-2-5</b> <b>Torsion test of microstrip line printed on flexible substrate using silver ink-jet printing</b> Sung-min Sim et al.	<b>A3-1-3</b> <b>A Quantitative Comparison between Helium Ion and Electron Beam Lithography on PMMA Resist</b> Xiaoqing Shi et al.	<b>D5-1-inv</b> <b>Microsieve electrode array (<math>\mu</math>SEA): fabrication and characterization</b> Bart Schurink et al.
14:45	<b>C1-2-6</b> <b>Variable Capacitors using Extended MEMS Parallel-plate actuators</b> Eurico Moreira et al.	<b>A3-1-4</b> <b>High resolution imaging and sub 10nm nanostructuring with He and Ne ions</b> Peter Gnauck et al.	
15:00	15:00 - 15:30 Break/Coffee/Exhibition		

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

Thursday Morning 22 September 2016

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

Thursday Afternoon 22 September 2016

Thursday Afternoon 22 September 2016			
	<b>C11.3 Applications 3 - fabrication</b> Chair: Roman Beigelbeck	<b>A4.2 Soft lithography 2</b> Chair:	<b>B3 Beam induced deposition</b> Chair: Claus J. Burkhardt
	"Strauß"	"Stolz"	"Schubert"
13:30	<b>C11-3-inv</b> <b>Resistive memories using Cu nanoparticles embedded amorphous SiC</b> Junqing Fan et al.	<b>A4-2-1</b> <b>Industrial platform assessment for volume manufacturing by nanoimprint lithography within INSPIRE project</b> Martin Eibelhuber et al.	<b>B3-1-1</b> <b>Tailored surface smoothening of the inherent roughness of micro-lenses fabricated with 2-photon-lithography</b> Robert Kirchner et al.
13:45		<b>A4-2-2</b> <b>High Resolution Glassy Carbon Molds for Precision Glass Molding</b> Karin Prater et al.	<b>B3-1-2</b> <b>Systematic study of the fabrication parameters for line doubled X-ray zone plates</b> Felix Marschall et al.
14:00	<b>C11-3-1</b> <b>UV nanoimprint lithography and lift-off processes for fabricating split-ring resonators with 20 nm gaps</b> Takuya Uehara et al.	<b>A4-2-3</b> <b>Computational study of material optimization on de-molding process for mold replication in nanoimprint</b> Yoshihiko Hirai et al.	<b>B3-1-inv</b> <b>Engineering of hydrogel materials for 3D printing</b> Gioia Della Giustina et al.
14:15	<b>C11-3-2</b> <b>Single digit fabrication for bi-metallic plasmonic nanostructures</b> Valentin Flauraud et al.	<b>A4-2-4</b> <b>Versatile reversal imprinting process by use of water soluble film</b> Hiroaki Kawata et al.	
14:30	<b>C11-3-3</b> <b>Metal Assisted Chemical Etching of Silicon for Speckle-based X-ray Imaging</b> Joan Vila-Comamala et al.	<b>A4-2-inv</b> <b>Nanoimprint and additive manufacturing - a vision</b> Michael Mühlberger et al.	<b>B3-1-3</b> <b>Low Cost Fabrication of 4H-SiC Junction Barrier Schottky Diode Using Excimer-Laser Doping from Molten Al</b> Tanemasa Asano et al.
14:45	<b>C11-3-4</b> <b>Fabrication options for Si3N4 photonic circuits used in different application scenarios</b> Jens Bolten et al.		<b>B3-1-4</b> <b>Gas assisted purification of Electron Beam Induced Deposited noble metal nanostructures – Challenges and Applications in nanoelectronics</b> Mostafa Moonir Shawrav et al.
15:00	15:00 - 15:30 Break/Coffee/Exhibition		
	<b>C1.3 MEMS / NEMS 3 - energy harvest</b> Chair:	<b>A6 Directed Self Assembly</b> Chair: Helmut Schiff	<b>D1.2 Sensing 2</b> Chair: Zoran Djuric
15:30	<b>C1-3-1</b> <b>A new architecture of high performance AlN vibrational energy harvester</b> Francesco Guido et al.	<b>A6-1-1</b> <b>Novel Si-containing high-<math>\chi</math> block-copolymer for nanolithography application:PS-b-PDMSB</b> Antoine Legrain et al.	<b>D1-2-1</b> <b>Fabrication and characterization of 3D pyrolytic carbon microelectrodes forelectrochemistry</b> Suhith Hemanth et al.
15:45	<b>C1-3-2</b> <b>Simple two-step fabrication of a paper-based triboelectric nanogenerator with pencil-trace electrode</b> Je Hoon Oh et al.	<b>A6-1-2</b> <b>Directed self-assembly of block copolymers: a commensurability study using elliptical guiding patterns for contact multiplication</b> Shayma Bouanani et al.	<b>D1-2-2</b> <b>An Inkjet-Printed Electrochemical Sensor for Selective Detection of Hydrogen Peroxide</b> Jin-Woo Choi et al.
16:00	<b>C1-3-4</b> <b>An Infrared Photodetector Using PbS Quantum Dots Capped with Isopropylamine</b> Jin-Woo Choi et al.	<b>A6-1-3</b> <b>Pattern transfer challenges of the Sequential Infiltration Synthesis (SIS) of Directed self-assembly (DSA) for line/space applications</b> Boon Teik Chan et al.	<b>D1-2-3</b> <b>CMOS integrable Gas Sensor Devices based on CuO- and ZnO – Nanowire Arrays</b> Robert Wimmer-Teubenbacher et al.
16:15		<b>A6-1-4</b> <b>Focused ion beam implantation for the nucleation of self-catalyzed III-V nanowires</b> Suzanne Lancaster et al.	<b>D1-2-4</b> <b>Sea urchin egg mass measurement using piezoresistive cantilever and sedimentation measurement method</b> Hayato Sone et al.

	<b>Poster Session</b>	<b>Special Session SNM</b> Chair: Ivo Rangelow
16:30	16:30 - 18:00 Exhibition / Poster Session	<b>SNM-1-1</b> <b>Introduction to the SNM project</b> Ivo W. Rangelow et al.
16:45		<b>SNM-1-2</b> <b>Multibeam Scanning Electron Microscope (MB SEM) – versatility and flexibility</b> Cornelius W. Hagen et al.
17:00		<b>SNM-1-3</b> <b>Oxidation and Thermal Scanning Probe Lithography</b> Armin Knoll et al.
17:15		<b>SNM-1-4</b> <b>Scanning Probe Lithography using low-energy electrons</b> Marcus Kästner et al.
17:30		<b>SNM-1-5</b> <b>Advanced Etching for Nanodevices and 2D materials</b> Jean-François de Marneffe et al.
17:45		<b>SNM-1-6</b> <b>Beyond CMOS devices and their integration in CMOS technology</b> Francesc Perez-Murano et al.
18:15		
22:00	22:00 Young people party meeting (Praterdome)	



Friday Morning 23 September 2016

Friday Morning 23 September 2016			
	<b>C7.2 Micro / Nano devices for physical science 2 - optical devices</b> Chair: Kees Hagen	<b>A5 Materials for micro- and nanolithography</b> Chair: Ricardo Garcia	<b>B4 3D nanomanufacturing</b> Chair: Evangelos Gogolides
	"Strauß"	"Stolz"	"Schubert"
8:30	<b>C7-2-1</b> <b>Application of Down Shifting Photo Luminescent ZnO Quantum Dots in Solar Cells</b> Aldo Zazueta Raynaud et al.	<b>A5-1-inv</b> <b>The Nanolithography Toolbox</b> J. Alexander Liddle et al.	<b>B4-1-1</b> <b>Enhanced colloidal lithography for fabrication of well-defined-area silicon nanowires</b> Gerry Hamdana et al.
8:45	<b>C7-2-2</b> <b>A lithographic approach for quantum dot - photonic crystal nanocavity coupling in dilute nitrides</b> Annamaria Gerardino et al.		<b>B4-1-2</b> <b>Investigation of Lateral Resist Development for 3D Electron Beam Patterning</b> Corinna Kaspar et al.
9:00	<b>C7-2-3</b> <b>Anomalous Red-Shift of the Down-Shifted Photoluminescent Emission Peaks of Carbon and CdTe Quantum Dots</b> J Elias Pelayo Ceja et al.	<b>A5-1-1</b> <b>Cylinder microstructure on Non-planar and Functional surface based on photopatternable TiO<sub>2</sub> sol-gel and colloidal photolithography</b> Loic Berthod et al.	<b>B4-1-3</b> <b>A Micro Test Platform for In-Situ Mechanical and Electrical Characterization of Nanostructured Multiferroic Materials</b> Randy Fechner et al.
9:15	<b>C7-2-4</b> <b>Mass-production compatible technique for fabrication of strip-loaded waveguides</b> Janne Laukkanen et al.	<b>A5-1-2</b> <b>Characterization of Spatially Confined Polymer Softening for Ultra-Smooth Surfaces</b> Roel Hoekstra et al.	<b>B4-1-4</b> <b>Fully Controlled Al<sub>2</sub>O<sub>3</sub> and ZnO Nanotubes Fabrication</b> Ling Xie et al.
9:30	<b>C7-2-5</b> <b>Wafer scale plasmonic device fabrication for surface-enhanced vibrational spectroscopy</b> Uwe Huebner et al.	<b>A5-1-3</b> <b>Sensitivity enhancement of high-resolution molecular resist for EUV lithography</b> Alex Robinson et al.	<b>B4-1-inv</b> <b>Fabrication of 3 Dimensional Photonic Crystals with Waveguides for Visible Light</b> Scott Dhuey et al.
9:45	<b>C7-2-6</b> <b>High aspect ratio silicon diffraction lenses with ultra-high efficiency and tunability for hard X-ray experiments</b> Maxime Lebugle et al.		
10:00	10:00 - 10:30 Break/Coffee		
10:30	Peter Ertl <b>Chips-in-Organs &amp; Organs-on-a-Chip</b>		
11:15	Closing Remarks		

# Poster Presentations

## 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 N5 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

#### Tue-A2-12

**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 Rezeq 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 Soltys 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 Hoshian 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 Fuchsbauer 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.

### Wed-A4-34

**Nanoimprinting on chalcogenide MIR-fiber end-facets to reduce coupling losses**  
Mikkel Lotz et al.

### Wed-A4-35

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

### Wed-A4-36

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

### Wed-A4-37

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

### Wed-A4-38

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

### Wed-A4-39

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

### Wed-A4-40

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

### Wed-A4-41

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

### Wed-A4-42

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

### Wed-A4-43

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

### Wed-A4-44

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

**Wed-A4-45****Computational study on induced strain in direct nanoimprint process for molecular ordering**

Masaaki Yasuda et al.

**Wed-A4-46****Realization of residue-free ultra-violet nanoimprinting lithography using a soft patterned mold**

Su Shen et al.

**Wed-A4-47****Inkjet-printing of working stamp material for UV-based nanoimprint lithography**

Michael Mühlberger et al.

**Wed-A4-48****High Precision UV Nanoimprint Process using Condensable Gas of Trans-1,3,3,3-tetrafluoropropene for Microlens Arrays**

Kenta Suzuki et al.

**Wed-A4-49****Fabrication of nano-steps for total internal reflection fluorescence microscopy by using roll-typed liquid transfer imprint lithography**

Hiroshi Kigami et al.

**Wed-A4-50****Fin structures fabrication for solid oxide fuel cell air electrode using micro molding**

Jun Taniguchi et al.

**Wed-A4-51****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-chaee Jeon et al.

### Thu-A7-61

Localized Photocatalytic Chemical Etching Using TiO<sub>2</sub>-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 Krivoschapkina 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 Dissolvable 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 Al<sub>2</sub>O<sub>3</sub> 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.

**Thu-A9-77**

**Blister-actuated Laser Induced Forward Transfer for micro printing of overlapping droplets**

Lars Hecht et al.

**Thu-A9-78**

**Local modification of submicron periodic patterns by combining zone plates with displacement Talbot lithography**

Philip Shields et al.

**Thu-A9-79**

**Facile and cost-effective fabrication of fluorine-free superhydrophobic surfaces via salt dissolution assisted etching**

Donghyeon Yoo et al.

## **B. Micro- and Nanofabrication**

### **B1 Pattern transfer**

**Tue-B1-80**

**Wet etching of oxynitride on silicon nitride films using HF-last process**

Irina Kiryushina et al.

**Tue-B1-81**

**Preparation of hybrid electrode using ZnO nanorods / silver nanowires for UV sensor applications and its electrical characteristics**

Da-hyeok Lee et al.

**Tue-B1-82**

**Stability of flexible composite stamps with thermal nanoimprint**

Marc Papenheim et al.

**Tue-B1-83**

**Line Edge Roughness Evaluation on Patterns with Serrated Curvatures**

Cheng-yao Lo et al.

**Tue-B1-84**

**Atomic layer deposition instrument for in-situ environmental TEM imaging of ALD process**

Matteo Todeschini et al.

**Tue-B1-85**

**Roll-to-roll extrusion coating process for high speed replication of micron-sized periodic pattern**

Nastasia Okulova et al.

**Tue-B1-86**

**Investigation with complementary characterization methods of adhesion layer effect on nanostructure of gold ultra-thin films**

Matteo Todeschini et al.

**Tue-B1-87**

**Enhancing the resolution and stability of bioimprinted casein microdevices**

Azadeh Hashemi et al.

**Tue-B1-88**

**3D multi-scale fractal network fabrication using Hele-Shaw cell**

Tanveer ul Islam et al.

### **B2 Plasma etching**

**Wed-B2-89**

**High selectivity and anisotropic dry etching of GaAs/GaAlAs with Cl<sub>2</sub> based plasma using ICP/RIE system.**

Stephane Guilet et al.

**Wed-B2-90**

**Atomic layer etching by self-limited ion implantation for precise silicon nitride and Low-k spacer etching**

Nicolas Posseme et al.

**Wed-B2-91****Application of hierarchically-structured polyaniline films in supercapacitors**

Lin Zhen-Wei et al.

**Wed-B2-92****Novel Hybrid Photosensitive Mask for Etching High-Aspect-Ratio Structures**

Lei Chen et al.

**Wed-B2-93****Anisotropic Etching of Yb-doped Ta<sub>2</sub>O<sub>5</sub> Channel Waveguide Laser Device**

Xingzhao Yan et al.

**Wed-B2-94****Optimized Process Analysis for SiO<sub>2</sub> etch using CFD Simulation**

Han-Bit Kim et al.

**Wed-B2-95****Precision 3-D Nanomachining of Silicon Nanowires**

Katarzyna Korwin-mikke et al.

**Wed-B2-96****Microfabricated Lenses on Silicon Using Plasma Etching**

Zhong Ren et al.

**Wed-B2-97****Ultra vertical and smooth X-ray single Kinoform lens by deep reactive ion etch on silicon**

Xin Li et al.

**Wed-B2-98****Silicon etching with vertical and smooth walls achieved via a low power Reactive Ion Etching process**

Gianluca Greci et al.

**Wed-B2-99****Realisation of etching Indium-included materials in atomic layer etch process via repeated cycling of chloride formation and its plasma removal for GaN-based power device fabrications**

Xu Li et al.

**B3 Beam induced deposition****Wed-B3-100****Control of upward growth on the three-dimensional nanostructure fabrication by focused-ion-beam chemical vapor deposition**

Mizue Sekine et al.

**Wed-B3-101****Effects of direct nano patterning on gold and silicon surfaces with helium ion microscope**

Etsuo Maeda et al.

**Wed-B3-102****Thin films prepared with a Kaufman broad ion-beam source for a top-down micromachining process of MEMS/NEMS resonators**

Miloš Hrabovský et al.

**Wed-B3-103****Reference markers generated by Electron Beam Induced Deposition enabling easy functionalization of random deposited nanomaterials with e-beam lithography**

A.christiaan Zonneville et al.

**Wed-B3-104****Fabrication of micro-bridges with piezo-resistors deposited with electron beam**

Magdalena Moczala et al.

**B4 3D nanomanufacturing****Thu-B4-105****Trapped-mode in ion-beam folded 3D bi-flake structures**

Zhe Liu et al.

**Thu-B4-106****Complex 3D structures via repeated hybrid imprint and sacrificial layer techniques**

Christian Steinberg et al.



**Thu-B4-107****3D microprinting resolution enhancement method in micro-stereolithography for microneedle array fabrication**

Haeryung Kim et al.

**Thu-B4-108****Fabrication of template grown metallic nanocones for use as field emitter cathode**

Farough Roustaei et al.

**Thu-B4-109****Fabrication of catalyst membrane for long-length nanocarbon growth—Atmospheric pressure CVD fill of Fe and Fe<sub>x</sub>O<sub>y</sub> to nano-through-holes of self-standing anodic alumina**

Eiichi Kondoh et al.

**Thu-B4-110****Single-digit resolution grayscale patterns using electron beam lithography**

Robert Kirchner et al.

**Thu-B4-111****3D Nano-Printing of Plasmonic Gold Structures: Beyond Current Limitations**

Harald Plank et al.

**Thu-B4-112****Electroplated 3D metal free forms casted from 3D photoresist molds**

Ulrich Mescheder et al.

**Thu-B4-113****Drag reduction of stable Biomimetic superhydrophobic steel surface by acid etching under an oxygen rich environment**

Haifeng Zhang et al.

**B5 3D microprinting****Tue-B5-114****New lithography method for fabricating densely arrayed lenticular lenses**

Toshiyuki Horiuchi et al.

**Tue-B5-115****Precision deposition of melt-electrospun microfibers to build 3D microfibrillar structure**

Young Hun Jeong et al.

**Tue-B5-116****High-resolution 3D hydrogel structures for biological studies**

Laura Brigo et al.

**Tue-B5-117****Micro-masonry for the simple fabrication of nanoplate resonators with integrated electrostatic transduction**

Thierry Leichle et al.

**Tue-B5-118****Exploiting the Combination of 3D Polymer Printing and Inkjet Ag-Nanoparticle Printing for Advanced Packaging**

Matic Krivec et al.

**Tue-B5-119****Controlled fabrication of hollow microneedles by bulk photopolymerization**

Swapnil Ransing et al.

**B6 Inspection and process diagnostics and control****Wed-B6-120****The in-situ observation of graphene with gas flowing**

Mikihiro Kato et al.

**Wed-B6-121****Highly Tunable ZnO films grown by Atomic Layer Deposition**

Kian Shen Kiang et al.

## **B7 (Nano-) Metrology**

### **Thu-B7-122**

**Precise measurement of thin film thickness in 3D-NAND device with CD-SEM**

Takeyoshi Ohashi et al.

### **Thu-B7-123**

**Enhancement of Mechanical Properties in Au Films Electroplated with Supercritical Carbon Dioxide for Application in MEMS**

Haochun Tang et al.

### **Thu-B7-124**

**Controllable Mechanical Properties of Au Films by Pulse Electroplating for MEMS Accelerometer**

Chun-Yi Chen et al.

### **Thu-B7-125**

**Characterization of nanostructures from visual color**

Nikolaj Feidenhans'l et al.

### **Thu-B7-126**

**Effect of annealing atmosphere on photocatalytic activity of ZnO nanostructure doping Bismuth thin film by sol-gel method**

Sirirat Rattanachan et al.

### **Thu-B7-127**

**A sensor for low dimensional heat transport measurement**

Zarina Umatova et al.

### **Thu-B7-128**

**Electron Mobility Extraction in ZnO Nanowire FETs by a Top-Down Approach**

Alnazer Mohamed et al.

### **Thu-B7-129**

**Two-dimensional junction delineation by energy-filtering in the scanning electron microscope**

Augustus Chee et al.

### **Thu-B7-130**

**Micromachined active test structure for Scanning Thermal Microscopy probes calibration**

Pawel Janus et al.

## **B8 Self-aligned processes**

### **Wed-B8-131**

**Self-aligned processing for fabricating coupled-cavity VCSELs**

Ludovic Marigo-lombart et al.

### **Wed-B8-132**

**The Hydrophobic property of boron nitride nanotube buckypaper**

Ling Li et al.

### **Wed-B8-133**

**Fine Patterning of Stretchable Gold/silver-nanowire Electrode for thin film Transistors**

Tae Young Choi et al.

## **C. Micro/Nano Devices and Systems**

### **C1 MEMS / NEMS**

#### **Tue-C1-134**

**Solar cell efficiency improvement by harvesting UV light employing silicon quantum dots.**

Rosendo Lopez Delgado et al.

#### **Tue-C1-135**

**Enhanced conversion efficiency of solar cells employing photo luminescent down-shifting CdSe/CdS core shell quantum dots.**

Rosendo Lopez Delgado et al.

**Tue-C1-136**

**Mechanical behavior of Ti-27Nb Ni-free biomedical Shape-Memory Alloy Evaluated by Temperature Variable Micro-Compression Test**

Takashi Nagoshi et al.

**Tue-C1-137**

**Mechanical Behaviour of Electroplated Gold Evaluated by Micro-Tensile Test for Application in MEMS Accelerometer**

Masato Sone et al.

**Tue-C1-138**

**Micro-Bending Tests of Pure Gold Cantilevers for Applications as Movable Components in MEMS Devices**

Masato Sone et al.

**Tue-C1-139**

**Analysis of uniformity on reflow velocity of glass-reflowed microlens array**

Hye-lim Kang et al.

**Tue-C1-140**

**High Aspect Ratio Copper Filling of Through-silicon-vias by Bottom-Up Electroplating for Fabrication of 3D Air-core MEMS Inductors**

Io Mizuhima et al.

**Tue-C1-141**

**Fabrication of SPR chip with multiple air-gaps using SoQ bonding**

Yeonsu Lee et al.

**Tue-C1-142**

**Graphene Hydrogels Deposited in SSFF as Cathode Gas Diffusion Layer for Water Management Passive  $\mu$ -DMFC**

Rui Xue et al.

**Tue-C1-143**

**Flexible Thermo-Electrochemical Cell Based on Buckypaper Interdigital Electrodes**

Chien-Liang Chu et al.

**Tue-C1-144**

**Mechanical coupling in Doubly Clamped Silicon Beam Nanomechanical Resonators fabricated by focused ion beam implantation**

Jordi Llobet et al.

**Tue-C1-145**

**Microfabrication of EM Micropump with Hybrid Magnetic Actuator Membrane**

Jumril Yunas et al.

**Tue-C1-146**

**PARYLENE-BASED HOLLOW NANOMECHANICAL RESONATORS FOR BIO-APPLICATIONS**

Annalisa De Pastina et al.

**Tue-C1-147**

**Analysis of residual stress in membrane structure of uncooled LSMO microbolometer**

Jaroslav Dzuba et al.

**Tue-C1-148**

**Direct mask writing for RIE and diaphragms fabrication for MEMS sensors using ultrashort pulsed laser ablation**

Johann Karl Zehetner et al.

**Tue-C1-149**

**Uniformity improvement of a nonthermal atmospheric-pressure plasma jet device with ceramic balls**

Hanjun Bae et al.

**Tue-C1-150**

**Fabrication and characterization of pyrolytic carbon string resonators.**

Long Nguyen Quang et al.

**Tue-C1-151**

**Optimization of Sensitivity and Efficiency of MOEMS Displacement Readouts**

Andreas Kainz et al.

**Tue-C1-152**

**Nonlinear MOEMS Transducer for DC Displacement and Inclination Utilizing Harmonics**

Harald Steiner et al.

**Tue-C1-153**

**50 nm thick AlN Films for Actuation and Detection of Nanoscale Resonators**

Kaitlin Howell et al.

**Tue-C1-154**

**Preparation and electrical properties of CaCu<sub>3</sub>Ti<sub>4</sub>O<sub>12</sub> thin ceramic film for electrostatic MEMS supercapacitor application**

Gang Li et al.

**Tue-C1-155**

**Graphene Based Mechanical Resonators Fabricated via Direct Dry Transfer**

Tom Larsen et al.

**Tue-C1-156**

**Electrodeposition of Graphene Oxide on Stainless Steel Fiber Felt as Anode Mass Transfer Layer for Passive  $\mu$ -DMFC**

Rui Xue et al.

**Tue-C1-157**

**Microcantilever magnetometer fabricated from AFM probe by focused ion-beam milling**

Katarina Secianska et al.

**Tue-C1-158**

**Generation of highly transparent superhydrophobic quartz surfaces by the combination of femtosecond laser structuring and wet oxidation**

Sandra Stroj et al.

**Tue-C1-306**

**Silicon Solar Cell Performance Improvement Employing Photo Luminescent Photosystem I and CdTe Quantum Dots.**

Kemeth Mayfield et al.

## **C2 Micro and nano fluidic systems**

**Wed-C2-159**

**Development of Miniature Micro-Powder Feeder Driven by Surface Acoustic Wave for Practical Use**

Tsunemasa Saiki et al.

**Wed-C2-160**

**Combination of Micro-Heater and Water Channel Device and Its Application to Plant Cell Vital Control**

Kazuho Kai et al.

**Wed-C2-161**

**Bubble Trap Analysis for Smooth Fluid Flowing in Micro Channel / Tube Network**

Natsumi Yagi et al.

**Wed-C2-162**

**Fuel Cell Operation in Liquid Environment by Gas-Liquid Interface Control System**

Katsuaki Yamane et al.

**Wed-C2-163**

**Development of a Microfluidic Cuvette Device Integrated with Nanostructures for Spectrophotometric Measurement**

Hyungjun Lim et al.

**Wed-C2-164**

**Characterization of SAN (Self-Assembled Network) Structure Formed in Ultra Thin Film by using AFM (atomic force microscope)**

Tomohiro Maruyama et al.

**Wed-C2-165**

**Characterization of Nanoscale Bubble and Polymer Aggregate Adhered on Substrate by using Atomic Force Microscope (AFM) Tip**

Akira Kawai et al.

**Wed-C2-166**

**Fabrication of superomniphobic nanoserif surfaces**

Ville Rontu et al.

**Wed-C2-167**

**Development of Aerogel Based Optofluidic Microreactors**

Yaprak Özbakir et al.

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