



Monday, 21 September

09:30 **Workshop : MNE-Tutorial1**
TUTORIAL 1 - Metasurfaces
Venue - Grimsel 1+2
Organised by: Juergen Brugger

MNE-Tutorial1-1 Optical metasurfaces and metalenses for imaging, sensing, and display
» [Junsuk Rho](#)

09:30 **Workshop : MNE-Tutorial3**
TUTORIAL 3 - Sustainability
Venue - Harder 1+2

MNE-Tutorial3-1 Sustainable process strategies based on the environmental footprint of semiconductor manufacturing
» [Isabelle Servin](#)

MNE-Tutorial3-2 From Silica Sand to Semiconductors: Understanding and Assessing Environmental Impacts in Cleanroom Manufacturing
» [Yannick Rivoira](#)

MNE-Tutorial3-3 Implementing resilience with ICTs
» [Sébastien Toussaint](#)

MNE-Tutorial3-4 Life Cycle Analysis of electronic assemblies and discrete components to reduce environmental impact as well as waste
» [Jeff Kettle](#)

MNE-Tutorial3-5 EPFL-CMi cleanroom carbon footprint, including hotspot identification, opportunities for improvement, and the transformations already underway
» [Cyrille Hibert](#)

13:15 **Workshop : MNE-Tutorial2**
TUTORIAL 2 - Bioiontronics
Venue - Grimsel 1+2
Organised by: Juergen Brugger

MNE-Tutorial2-1 Bioiontronics for biointerfaces and future medicine
» [Yujia Zhang](#)

Tuesday, 22 September

08:30 **General : MNE-OPENING**
MNE Opening CEREMONY
Venue - Auditorium
Organised by: Yasin Ekinici, Nako Nakatsuka, Helmut Schift, and Michel Calame

MNE Opening Ceremony by Conference Chairs
» Yasin Ekinici and Nako Nakatsuka

08:45 **Keynote : S01A_T1**
MNE Plenary Keynotes - Lithography
Venue - Auditorium
Organised by: Yasin Ekinici, Helmut Schift, and Dimitrios Kazazis

S01A_T1-1 High resolution lithography using EUV - status and prospects
» [Jos Benschop](#)

S01A_T1-2 Nanoimprint lithography for high volume fabrication - status and prospects
» [J. Alexander Liddle](#)



Continued from Tuesday, 22 September

10:45

Oral : S02A-T1

Nanoimprint Lithography

Venue - Auditorium

Organised by: Helmut Schiff, Michael Muehlberger, and Dimitrios Kazazis

S02A-T1-1 Three decades of innovation in photoresists and photo polymers enabling advanced micro and nanomanufacturing

» [Gabi Grützner](#)

S02A-T1-2 Scalable Roll-to-Plate Nanoimprint Lithography of 4 cm-Scale Visible Metalenses Using TiO₂ Nanoparticle-Embedded Resin

» [Dohyun Kang](#), Junsuk Rho

S02A-T1-3 Poisson Effect-Assisted Replication Lithography for Scalable Fabrication of Complex 3D Microstructures

» [Minsu Kim](#), Moon Kyu Kwak

S02A-T1-4 Precise pattern control in dry etching process for 15-nm half pitch reverse-tone nanoimprint lithography

» [Akiko Hirata](#), Kenta Suzuki, Masanaga Fukasawa, Yoshihiro Hayashi, Masaki Ishida, Tomomi Funayoshi, Ryosuke Hamamoto, Masayuki Kagawa, Kiyohito Yamamoto

10:45

Oral : S02B-T2

Cleanroom and Photonic Devices

Venue - Theatersaal

Organised by: Yasin Ekinici and Luis Guillermo Villanueva

S02B-T2-1 EuroNanoLab: present and future of the European distributed research infrastructure on micro- and nano-fabrication

» [Vittorio Morandi](#)

S02B-T2-2 Compact Photonic Crystal Waveguide Structures for Sputtered GeSn-on-SOI Integrated Photodetectors

» [Beiqi Ding](#), Simone Iadanza, Reyhaneh Ramezani, Rutuja Rajendra Mandavkar, Kirsten Moselund, Anna Fontcuberta i Morral

S02B-T2-3 A miniature scanning fiber Fabry-Perot cavity device with high finesse made in a monolithic glass substrate

» [Antoine Duret](#), Jakob Reichel, Romain Long, Yves Bellouard

S02B-T2-4 Interface-Mediated Deformation Mechanisms in Amorphous Ta₂O₅/SiO₂ Nanolaminates for UV Optical Coatings

» [Xavier Maeder](#)

10:45

Oral : S02C-T3

Biodevice Manufacturing

Venue - Brünig 1+2

Organised by: Katharina Maniura

S02C-T3-1 Design and fabrication of a biodegradable multi-chamber implantable micropump

» [Elena Aprea](#), Francesco Stallone, Sourav Patranabish, Javad Bathaei, Ata Jedari Golparvar, Clementine Boutry

S02C-T3-2 Development of Lab-on-a-Chip Platform for studying Antimicrobial Susceptibility Testing

» [Jyeshta Prabhu](#), Bharath Bannur, Sajan D. George

S02C-T3-3 Hybrid fabrication of All Polymer, Deterministic Lateral Displacement (DLD) Devices for High-Throughput Blood Sorting using CNC micro milling aligned to Hot Embossed microstructures

» [Keith Morton](#), Lucas Poncelet, Gaetan Veilleux, Karine Turcotte, Luke Lukic, Teodor Veres

S02C-T3-4 A Monolithic 4096-Microwell CMOS Array with In-Well Microelectrodes for Microfluidics-Free Droplet Digital Assays via Discontinuous Dewetting

» [Yuguo Sheng](#), Adam Wang, Fuze Jiang, Marco Saif, Jing Wang, Chih-Jen Shih, Hua Wang



Continued from Tuesday, 22 September

S02C-T3-5 Grass on glass substrate for optoelectrode fabrication: an application in dopamine detection from midbrain organoids

» [Samuel Maraschin](#), Surangrat Thongkorn, Rafael Romero Pérez, Marta Pereira, Arto Heiskanen, Henri Jansen, Jenny Emnéus, Stephan Sylvest Keller

11:00

Oral : S02D-T6

ENL Session 1 Cleanrooms

Venue - Grimsel 1+2

Organised by: Jean-Louis Leclercq

12:15

General : MNE ELSEVIER

Elsevier MNE Special Edition Lunch (by invitation only)

Venue - Brünig 1+2

Organised by: Helmut Schift

Elsevier Special Edition Lunch

» Abby Li

13:15

Oral : S03A-T1

EUV and Next Generation Lithography

Venue - Auditorium

Organised by: Dimitrios Kazazis and Helmut Schift

S03A-T1-1 Advances in directed self-assembly for semiconductor device fabrication

» [Francesc Perez-Murano](#)

S03A-T1-2 Correlation of EUV and Low-Energy Electron Beam Lithography for Accelerated Dry Resist Development

» Thi Thu Huong Chu, Dan Le, Nikhil Tiwale, MinJong Lee, Jiwon Kim, ChangYong Nam, Jinho Ahn, [Jiyoung Kim](#)

S03A-T1-3 Study on Sensitivity Enhancement of Inorganic-organic Hybrid Resist Materials upon Exposure to Ultrafast Coherent High Harmonic Generation (HHG) EUV

» [Hiroki Yamamoto](#)

S03A-T1-4 Single-Digit Nanometer EUV Lithography: ALD-Enabled Diffractive Optics for Next-Generation Interference Lithography

» [Fei Han](#), Yasin Ekinci, Iacopo Mochi, Dimitrios Kazazis

13:15

Oral : S03B-T2

Semiconductor Devices and CMOS

Venue - Theatersaal

Organised by: Luis Guillermo Villanueva

S03B-T2-1 From Micrometer structures to thousands of Amps - How Power Semiconductors change the power grid

» [Tobias Keller](#)

S03B-T2-2 Preparation and Characterization of MoC Thin Films for Thin-Film Resistors

» [Ying-Chieh Lee](#), You-Cheng Lu, Cheng-Hung Shih

S03B-T2-3 History of Overcoming NAND Flash Memory Interference from 2D to 3D Structure

» [Joongho Yoon](#), Hyunsuk Kim, Eunjin Baek, Keejeong Rho, Minsung Song, Jongkwang Lim, Junggyu Kim, Youngho Kwon, Kyungyoon Noh

S03B-T2-4 A Yagi-Uda Antenna-Based Sensor for Dielectric Sensing

» Hilary Scott Nkimbeng Cho, [Jin Choi](#)

13:15

Oral : S08C-T3

Microfluidics 1

Venue - Brünig 1+2

Organised by: Katharina Maniura

S08C-T3-1 Nano-opto-fluidics for biosensing

» [Irene Fernandez-Cuesta](#)



Continued from Tuesday, 22 September

S08C-T3-2 A droplet-based digital microfluidic platform with an integrated electrochemical sensor for glycan analysis

» [Xing Cheng](#)

S08C-T3-3 A Surface Fluidic Platform for Transdermal Delivery: Overcoming Loading Limitations in Lymphedema Conditions

» [Hyojin Kim](#), Hyunsik Yoon

S08C-T3-4 Wafer Scale Microfluidic Integration for Silicon Nitride Photonic Biosensors

» [Laurids von Emden](#), Umesh Phadke, Jakob Reck, Klara Mihov, Crispin Zawadzki, Csongor Keuer, Martin Kresse, Tianwen Qian, Ben Schuler, Nils Fuchs, Philipp Winklhofer, Bartu Yaman, Marcel Amberg, Oussama Zahir, Markus Struckmann, Francesco Villasmunta, Thomas Wiglenda, Johannes Wolf, David de Felipe, Moritz Kleinert, Norbert Keil

13:15

Oral : S03D-T5

ENL Session 2 Dry Etching

Venue - Grimsel 1+2

Organised by: Djaffar Belharet and Andrei Avram

S03D-T5-1 A method for comparing dry etch equipment - case study: Oxford Instruments PlasmaPro100 Cobra

» [Henk-Willem Veltkamp](#), Andrei Avram, Marek Elias, Sabina Ronchin, Charles de Boer, Jens Høvik, Meint de Boer

S03D-T5-2 Technological approaches for the plasma etching of silicon without halogens

» [Georg Umlauf](#)

S03D-T5-3 Dry Etching of Dielectric Materials at Fondazione Bruno Kessler: Processes, Challenges, and Solutions

» [Ali Nawaz](#)

S03D-T5-4 Vapor Phase Metal Assisted Chemical Etching - Tool Platform Update and Recent Process Developments

» [David Anderson](#)

15:00

Oral : S04A-T1

Electrochemical Etching

Venue - Auditorium

Organised by: Cyrille Hibert and Dimitrios Kazazis

S04A-T1-1 Electrochemical nanoimprinting of silicon: towards conformal patterning on curved surfaces

» [Bruno Azeredo](#)

S04A-T1-2 Catalyst assisted chemical etching in gas phase: a sustainable platform for high-aspect-ratio silicon-based micro- and nano-fabrication

» [Lucia Romano](#)

15:00

Oral : S04B-T2

Piezo MEMS

Venue - Theatersaal

Organised by: Luis Guillermo Villanueva

S04B-T2-1 SAW Filters on POI Wafers Addressing New Telecommunication Standard Challenges

» [Sylvain Ballandras](#)

S04B-T2-2 Impact of Time-Dependent Dielectric Soft-Breakdown on the Noise Characteristics of AlN and ScAlN-based Piezoelectric MEMS

» [Sina Zarepakzad](#), Shareena Muringakodan, Matthias Schlögl, Ulrich Schmid, Michael Schneider

S04B-T2-3 Dynamic deformations of a two-dimension piezo-actuated photonic cantilever

» [Laurent Mollard](#)

15:00

Oral : S09C-T3

Biosensing

Venue - Brünig 1+2

Organised by: Katharina Maniura



Continued from Tuesday, 22 September

S09C-T3-1 Modular organic electrochemical transistor architecture for continuous epithelial barrier monitoring in standardized organ-on-chip platforms

» [Jia-Jun Yeh](#), Charles-Théophile Coen, Tom Walraven, Niels Burghoorn, Hans Bouwmeester, Massimo Mastrangeli, Yoei van de Burgt, Jaap Den Toonder

S09C-T3-2 Bioelectronic Sensing for Early Diagnosis of Cutaneous Infections

» [David Valero Calvo](#), Liu Yang, Onur Parlak

S09C-T3-3 Plasmonic nanocavities and nanoantennas for PFAS detection by surface-enhanced infrared absorption spectroscopy

» [Santos Merino](#), Alberto Villar, Jorge Ramiro, Catalina Mansilla, Aritz Juarros, Roberto Álvarez-Boto, Mario Zapata-Herrera, Javier Aizpurua, Javier Sesé, Rubén Valero, Miguel Ángel Fernández

S09C-T3-4 Sustainable flexible SF-based microneedle sensors with natural indicators for real-time wound pH monitoring

» [Naseer Ahmad](#), Raquel Pereirab, Pablo Rodríguez, Sanna Sillankorva, Gonzalo Guirado, Silvia Mena, Xavier Munoz-Berbel

15:00

Oral : S04D-T6

ENL Session 3 Lithography

Venue - Grimsel 1+2

Organised by: Laurent Mazenq

S04D-T6-1 Bridging Top-Down and Bottom-Up: E-Beam Lithography and Precision Characterization on Nanostructures

» [Sylvain Pelloquin](#)

S04D-T6-2 Reframing FIB: From Characterization Tool to Nanofabrication Platform

» [Alessandro Cian](#)

S04D-T6-3 Developments in NIL and Laboratory Networking: The RENIL Network Example

» [Jean-Baptiste Doucet](#)

S04D-T6-4 From Layout to Structure and Back: EBL Strategies and Layout-Based Metrology for Photonics

» [Daniel Ritter](#)

16:00

Poster : S05A-T1

POSTER 1 - ODD - T1

Venue - Auditorium Foyer OG - T1

Organised by: Dimitrios Kazazis

S05A-T1-1 Additive Manufacturing of MicroLED Color Conversion Modules via Ultra-Precise Dispensing

» [Nina Szczotka](#), Slawomir Drozdek, Emmanuel FUCHS, Mohammad Kiaee

S05A-T1-2 Low-cost Fabrication of Biocompatible, Stretchable Electronics using Micro and Nanoporous Elastomers

» [Li Jiang](#), Ja'Mya Howard, Destinie James, Naga Korivi

S05A-T1-3 Laser direct writing of biomimetic textures on Ti64/PEEK (CF30) surfaces for their bonding strength

» [Shih-Feng Tseng](#), Chen-Yu Tsai, Tien-Li Chang, Wen-Tse Hsiao, Chih-Chyuan Kuo

S05A-T1-4 Fluorescence imaging of UV-cured patterns to understand advancement of UV-curable droplets between SiO2 imprint-mold and Si substrate surfaces

» [Masaru Nakagawa](#)

S05A-T1-5 Femtosecond-pulsed laser microtexturing of metals via suppression of nanoscale holes by reducing surface heterogeneity

» [HIROMU ISHIMURA](#), Ren Goto, Masaki Yamaguchi



Continued from Tuesday, 22 September

S05A-T1-6 Fabrication of AZO Optical Solar Reflectors via E-Beam Lithography

» [Thomas Howe](#), Yeda Wang, Kai Sun, Otto Muskens, Xiaohao Cai, Ruomeng Huang, Kees de Groot

S05A-T1-7 Post-ion bombardment strategy for transferred self-organized nanoripples: toward prolonged stable pattern evolution

» [Ying Liu](#)

S05A-T1-8 Research and development of Double-layer Subwavelength Metal-Dielectric-Metal Moire Grating for Polarization Filtering

» [Kangping Liu](#), Jinyu Guo, Hao Quan, Qiucheng Chen, Qingxin Wu, Xunjia Zhao, Fei Wu, Sheng Tao, Yifang Chen

S05A-T1-9 Structuring UV-polymerizable ionogels

» [Natalia Turek](#), Adrian Zając, Małgorzata Nyga, Katarzyna Komorowska

S05A-T1-10 Fabrication of Large-Area Thick Gold Chessboards by Au Electroplating on Patterned

» [Fei Wu](#), Hao Quan, Xunjia Zhao, Qiucheng Chen, Qingxin Wu, Jinyu Guo, Kangping Liu, Sheng Tao, Yifang Chen

S05A-T1-11 Cryogenic Deep Silicon Etch with Exceptional Smooth Sidewall Characteristics

» [Magdalena Ulmeanu](#), Kate Stokes, Zhong Ren

S05A-T1-12 Integration of High-Density Low Soldering Temperature Electroplated Copper Pillars with Indium Caps Using CMOS-Compatible Post-Process

» [Reto Besserer](#), Marco Cucinelli, Martin Stahel, Tina Strüning, Dietmar Bertsch, Samuel Huber

S05A-T1-13 Environmentally Sustainable Electrochemical Mechanical Polishing (ECMP) of single-crystal SiC for atomically smooth and uniform surfaces

» [Masashi Minoha](#), Junji Murata

S05A-T1-14 Implementation of a robust alignment mark detection method via dual-branch network in electron beam lithography

» Su zhengtao, Heming Wu, [Zhuming Liu](#)

S05A-T1-15 A single-tool workflow for rapid design and high-throughput patterning of Fresnel zone plates using Laser Beam Lithography

» Anna Casimiro, Niek Kremers, [Sander Schellingerhout](#), Adriana Umbria, Kahraman Keskinbora

S05A-T1-16 High Resolution Multi-Material Additive Manufacturing: Combining Slot-Die Coating and Stereolithography Printing

» Misha Ruijgrok, [Stavros Skrepetos](#), Marcel Tichem, Paola Fanzio

S05A-T1-17 Replication of dumbbell nano hole arrays by EBL and two-step dry etching

» [Sheng Tao](#), Yifang Chen

S05A-T1-18 Physics-Strongly-Coupled Transformer for S-Parameter Modeling of TSV Interconnects Under Process-Induced Variations

» [chong chen](#), Bo Wen, Yihui Cheng, Haoyu Le, Pan Zhang, Wei Wang

S05A-T1-19 Fabrication of slanted structure by oblique incidence electron beam lithography

» [Kensuke Niwa](#), Jun Taniguchi

S05A-T1-20 Residual Layer-Free Nanopatterning Using Black Resist as a Light-Shielding Layer

» [Yutaro Moriyama](#), Jun Taniguchi

S05A-T1-21 Thermal Nanoimprint Lithography of Epoxy-Based Interlayer Dielectrics for Fine-Pitch Cu/Polymer Hybrid Bonding

» [Junsik Choi](#), Hyunsik Yoon

S05A-T1-22 One Step Grayscale Hierarchical Microstructure Production by Mask Projection Laser Ablation

» [Umut Taylan](#), Benjamin Minnig, Nicolas Zaugg, Patrik Hoffmann



Continued from Tuesday, 22 September

S05A-T1-23 Characterization of Chitosan for Identification of Its Contributions in Hybrid Chitosan-Ag SERS Sensors

» [Vitas Lendraitis](#), Nora Slekiene, Zineb Chiki, Ingrida Bruzaite, Kestutis Nemciauskas, Valentinas Snitka

S05A-T1-24 Chasing Quantum Landscapes: The EBL Route Towards Sub-20 nm Superlattices

» [Patrícia Curado](#), Henri Jansen, Bjarke Sørensen Jessen

S05A-T1-25 Mechanically robust and self-cleanable encapsulated metalenses via spin-on-glass packaging

» [Dohyun Kang](#), Junsuk Rho

S05A-T1-26 Geometry-Guided Folding for Hydrogel Pore Dynamics

» [Ah Yun Kim](#), Hyunsik Yoon

S05A-T1-27 Atomic-Precision Patterning of Silicon Quantum Devices

» [Pradeep Namboodiri](#), Jonathan Wyrick, Fan Fei, Vijith Pulikodan, Mark-yves Gaunin, Brian Courts, FNU Utsav, Richard Silver

S05A-T1-28 Substrate-Dependent Pyroelectric Response and Noise Modeling in AlN and Sc_{0.33}Al_{0.67}N for Piezoelectric Applications

» [Giulia Gaetano](#), Sina Zarepakzad, Ulrich Schmid, Michael Schneider

S05A-T1-29 Integrated porous barriers with tailored permeability in monolithic glass microfluidics via selective laser-induced etching

» [Duarte Menezes](#), Dmitrii Perevoznik, Folke Dencker, Marc Wurz

S05A-T1-30 Process development for i-line/e-beam intra-level mix-and-match lithography for binary and grayscale 3D patterning

» [Ritesh Ambar](#), Markus Gottwald, Sebastian Schermer, Nikola Kohlschreiber, Christian Helke, Danny Reuter

S05A-T1-31 Itaconate-based polymers as resists for nano-scale structuring via electron beam lithography

» [Markus Gottwald](#), Nikola Kohlschreiber, Ritesh Ambar, Vy Dinh, Tobias Kirschbaum, Christian Helke, Roland Klein, Danny Reuter

S05A-T1-32 Platinum-Catalyzed Gas-Phase Metal-Assisted Chemical Etching for Vertical Silicon Nanowires

» [Vahide Hosseini](#), Bryan Benz, Georg Umlauf, Christoph Robert Meinecke, Lucia Romano

S05A-T1-33 A Computational Study on Demolding Defects Elimination by Substrate Floating in Nanoimprint Lithography

» [Yoshihiko Hirai](#)

S05A-T1-34 Digital Patterning of Slippery Liquid-Infused Porous Surfaces for Localized Particle Aggregation

» [Dongju Kim](#), Seong Min Yoon, Chae Hyeok Yoon, Young Tae Cho

S05A-T1-35 Local Conductivity Modulation of Graphene via Solid-State Electrochemical Treatment

» [Yuuya Kariwa](#), Masaru Takizawa, Junji Murata

S05A-T1-36 Investigation of Low-Temperature ALD SiO₂ as a Viable Alternative to Thermal Oxidation for SiC Gate Dielectrics

» Shi-Cheng Huang, [Zi-Hao Wang](#), Chiao-Yang Cheng, [Yen-Kun Su](#)

S05A-T1-37 Low-Temperature Transfer-Free Graphite Synthesis and Plasma-Sequence-Engineered ALD SiN_x Capping for Next-Generation EUV Pellicles

» Hye-Young Kim, [Sung Kyu Jang](#), Jihun Kim, Jong-Hyun Choi, Ji-Beom Yoo, [Hyun-Mi Kim](#), Seul-Gi Kim, [Hyeongkeun Kim](#)

S05A-T1-38 Advanced Spatial Phase Control of MoS₂ Using Focused Li⁺ Ion Beams and Ultrashort Laser Pulses

» [Marvin Krüner](#), Achim Nadzeyka, Malte Becher, Zhongquan Liao, Detlef Rogalla, André Clausner, Andreas Ostendorf, Michael Kahl, Claudia Bock



Continued from Tuesday, 22 September

S05A-T1-39 Impact of Lithography Resolution and Edge Roughness on Lithium Niobate based Acoustic Resonators

» [Nan Xu](#), Luis Guillermo Villanueva

S05A-T1-40 A Lift-Off-Based Approach to Gas-Phase Metal-Assisted Chemical Etching for High-Aspect-Ratio Nanostructures

» [Vahide Hosseini](#), Georg Umlauf, Micha Haase, David Anderson

S05A-T1-41 Gold-Free Metallized Bravais class like Hexagons based micro- UV optical cavity

» [Arwa Saud Abbas](#)

S05A-T1-42 Engineered catalyst structure for fabrication of high aspect ratio X-ray gratings using MacEtch

» [Amit Korde](#), Ji-Hye Kang, Oliver Wipf, Nensi Toncich, Henning Galinski, Marco Stamparoni, Lucia Romano

S05A-T1-43 High-Quality, Robust, and Scalable Dry Colloidal Self-Assembly on Arbitrary Substrates

» [Sanjay Singh Eswara Singh](#), Jatin Jawhir Pandit, Guillaume Le saux, Alon Naumchik, Angel Porgador, Mark Schwartzman

S05A-T1-44 Si Microfabricated gas handling device comprising multilayer stacked channels and vertical connection ports.

» [Jesper Navne](#), Henri Jansen, Mira Baraket, Maksym Plakhotnyuk, Rafael Taboryski

S05A-T1-45 Angular-resolved light scattering of polymer nanofiber membranes

» [Silvia Schintke](#), Nils Hellfeier, Dean Adam Crowe, Stefan del Rossi

S05A-T1-46 Ellipsometry study of parylene C, N, F, AF films – uniaxially and anisotropic ANISOTROPIC model properties

» [Sebastian Killge](#), Dennis Kaegbein, Dirk Ullmann, Franz Selbmann, Christian Helke, Danny Reuter

S05A-T1-47 Deterministic Thinning by AFM Nanoindentation for Localized Dielectric Breakdown in Thick Silicon Nitride Membranes

» [Sanket Jugade](#), Anumol Dominic, Akshay Naik, Manoj Varma

S05A-T1-48 Release of sub-100 nm thin nanoporous silicon nitride membranes via frontside vapor phase HF etch

» [Nikola Kohlschreiber](#), Markus Gottwald, Georg Umlauf, Vahide Hosseini, Christian Helke, Micha Haase, Danny Reuter

S05A-T1-49 Optimization of Ormocer® Layer Thickness for Nanoimprint-Based Liquid Cell Fabrication

» [CAGLA SELALMAZ](#), Nathalie P. Pranzner, Jeremy P. Teuber, Marie-Charlot Dalchow, Arwen R. Pearson, Irene Fernandez-Cuesta

S05A-T1-50 Utilizing Double-layer Resist Mask for Ion-Beam Etching: Towards Multilayered Capacitors for Miniaturized Power Supply Modules

» [Ömer Altan](#), Shuangyue Yang, Ahmed Ammar, Tiberiu-Gabriel Zsurzsan, Henri Jansen, Flemming Jensen, Hoà Lê Than

S05A-T1-51 Future generation of green photoresists for high resolution electron beam and EUV lithography

» [Jean-David Isasa](#), Dimitrios Kazazis, Yasin Ekinci, Yann Chevolot, Jean-Louis Leclercq, Kylian Virieux, Stephane Trombotto, Theodoros Manouras, Panagiotis Argitis, Pierre Cremillieu

S05A-T1-52 Selective carbon removal by O2 plasma ashing in monolayer doping of silicon

» [Pol Torres Vila](#), Mounir Driss Mensi, Giovanni Boero, Juergen Brugger, Arnaud Bertsch

S05A-T1-53 High-resolution and high-throughput patterning with nanoimprint materials and reactive ion etching

» [Sebastian Killge](#), Christoph Jurissek, Ritesh Ambar, Mirko Lohse, Micha Haase, Christian Helke, Danny Reuter

S05A-T1-54 Fabrication of a silver self-supporting film with a moth-eye structure using solvent-soluble UV-curable resin

» [Taichi Ogawa](#), Jun Taniguchi



Continued from Tuesday, 22 September

S05A-T1-55 Compatibility of Structured Ormocers® with Gas Phase Deposition of Al₂O₃

» [Marie-Charlot Dalchow](#), Nathalie P. Pranzner, Jeremy P. Teuber, CAGLA SELALMAZ, Arwen R. Pearson, Irene Fernandez-Cuesta

S05A-T1-56 Stoichiometry determination of e-beam evaporated TiO_x thin films by angle-resolved XPS

» [Magnus Vejby Nielsen](#), Radu Malureanu

S05A-T1-57 Investigation on high aspect ratio silicon oxide patterning using HF vapor phase etching

» [Bhavana Valaboju](#), Georg Umlauf, Vahide Hosseini, Micha Haase, Karla Hiller, Danny Reuter

S05A-T1-58 Low-shrinkage poly(vinyl alcohol) soft stamps for biomimetic surface replication by UV nanoimprint lithography

» [Haohui Yang](#), Srikalyan Mothukuri, Steffen Strehle

S05A-T1-59 Scalable transfer of 2D-materials using deionised water

» [Nico Rademacher](#), Lukas Völkel, Eros Reato, Martin Otto, Jan Mischke, Emre Yengel, Christof Mauder, Alexander Henning, Michael Heuken, Max Lemme

S05A-T1-60 Influence of fluid physical properties on the critical jetting speed and liquid filament breakup dynamics in drop-on-demand inkjet printing

» [Sanghyun Park](#), Je Hoon Oh, Minjun Ku, Chaeun Lee

S05A-T1-61 Sub-Ångström Surface Finishing via Chemical-Mechanical Polishing and Ion Beam Etching

» [Saba Gholizadeh](#), Luis Guillermo Villanueva

S05A-T1-62 Focused ion beam enhanced NEMS devices nanofabrication

» [Krzysztof Kwoka](#), Piotr Prokaryn, Adrianna Piejko, Bartosz Pruchnik, Andrzej Sierakowski, Tomasz Piasecki

S05A-T1-63 From lossy Interband Transition to Drude Dominance: Thermally Annealed Cr-CrO_x Nanopillars Enabling Lithography-Free Multispectral Camouflage With Embedded Radiative Cooling Channels

» [Reham Elshurafa](#), Ekmel özbay, Amir Ghobadi, Mertcen Salih

S05A-T1-64 Ultrasound-Based platform for the electromechanical characterization of piezoelectric materials for therapeutic applications

» [Santiago Caro Zapata](#), Luca Fachechi, Gaia de Marzo, Valentina Antonaci, Vincenzo Mastronardi, Francesco Rizzi, Massimo De Vittorio

S05A-T1-65 Synthesis, Characterization, and Experimental Dosimetric Evaluation of WO₃ Pluronic P123/Melanin Nanocomposites for Radiation Shielding Applications

» [Saad Aldawood](#)

S05A-T1-66 Directional Liquid Mobility and Interlocking of Anisotropic Micropillar Structures Modulated by Multiple Compressive Bending

» Hyunsik Yoon, [Tohid Otoufat](#)

S05A-T1-67 Deterministic Color-Center Integration in Nanopatterned Silicon Carbide Pillars

» [Alessandro Cian](#), Elena Nieto Hernández, Gioele Piccoli, Elia Scattolo, Greta Andirini, Matteo Ziino, Jacopo Forneris, Damiano Giubertoni

S05A-T1-68 Light-based Printing of Microfluidic Device for Generation of Janus Droplets for Mimicking Liver Microenvironment

» [Amlan Ashish](#), Gorachand Dutta

S05A-T1-69 LN-based PICs: Novel techniques for structuring and yield improvements with Ion Beam Etching

» [Susanne Hartmann](#)

S05A-T1-70 EuroNanoLab Lithography Experts Group Activities

» [Laurent Mazeng](#)



Continued from Tuesday, 22 September

16:00

Poster : S05A-T2

POSTER 1 - ODD - T2

Venue - Auditorium Foyer OG - T2

Organised by: Luis Guillermo Villanueva

S05A-T2-1 High-Pressure Thermal Actuator with Sidewall Wire-Bonding Package

» Marco LÜchinger, Dietmar Bertsch, Kerstin Kern, Eric Breitenstein, Klaus Dietrich, [Cornelia Nef](#)

S05A-T2-2 High-Performance and Stable Ultra-Thin ZnO Thin-Film Transistors with an HfO₂/Al₂O₃ Self-Passivation Layer

» [Se-Hyeong Lee](#), Minseong Kim, KIM Sungjae, Hye-Ji Yoon, Hyeonjeong Ji, Moonsuk Yi

S05A-T2-3 Flexible sensing material for methane sensor developed via direct casting method on IDT

» [Rakhmanova Aizhan](#)

S05A-T2-4 Ag Nanoparticle Modified SnO₂/Zn₂SnO₄ Nanocomposites for ppb-Level Rapid Detection Ethanol Gas Sensors

» Ruoxi Liu, [Zhenyu Yuan](#)

S05A-T2-5 van der Waals devices for surface-sensitive experiments

» [Nicolai Taufertshöfer](#), Simon Gerber, Corinna Burri, Rok Venturini, Iason Giannopoulos, Sandy Ekahana, Enrico Della Valle, Anze Mraz, Yevhenii Vaskivskiy, Jan Lipic, Alexey Barinov, Dimitrios Kazazis, Yasin Ekinci, Dragan Mihailovic

S05A-T2-6 Wireless ultra-thin LIG sensor for inflammation monitoring

» [Jongeon Park](#), Kyung-yeun Kim, Haram Lee, Sungsoo Kwak, Hojeong Jeon

S05A-T2-7 Selective Dual-Mode Organic Photodetectors via Charge-Transport Optimization and Injection-Barrier Engineering

» [Yelim Kang](#), Jae Won Shim

S05A-T2-8 Starfish-Shaped Au-Fe₃O₄ Nanoparticles for Exosome Capture and SERS-Based Profiling in Liquid Biop

» [Jaejong Lee](#), Yong-Su Kwon, Yunji Eom

S05A-T2-9 Low Voltage Operation in InZnO Thin Film Transistors with HfO₂/Al₂O₃ Nanolaminate Gate Dielectric via Atomic Layer Deposition

» [Minseong Kim](#), Se-Hyeong Lee, KIM Sungjae, Hye-Ji Yoon, Hyeonjeong Ji, Moonsuk Yi

S05A-T2-10 Integration of Miniaturized MEMS Pirani and Diaphragm Sensors for Ultra-Low-Power, Reliable, and Robust Operation

» [Jian Lu](#), Lan Zhang, Yuichi Kurashima, Hideki Takagi

S05A-T2-11 Microfabricated Ultra-High reflective mirror for quantum gravity experiments

» [Enrico Serra](#), [Paolo Sberna](#), Michele Bonaldi, Antonio Borrielli, Gianni Di Giuseppe, Nicola Malossi, Francesco Marin, Francesco Marino, Francesco Marzoni, Riccardo Natali, Paolo Piergentili, Antonio Pontin, Guido Sordo, David Vitali

S05A-T2-12 Single-Shot Fabrication of Four-Dimensional Variable Adhesive Hydrogel Structures via High-Dose Photolithography

» [Jinsik Yoon](#), Wook Park

S05A-T2-13 Dewetting and transfer of SiGe and Ge nanoresonators for flexible and strain-tunable dielectric nanophotonics

» [Sonia Freddi](#), Nicoletta Granchi, Michele Gherardi, Afonso De Cerdeira Oliveira, Andrea Chiappini, Adam Arette-Hourquet, Isabelle Berbezier, Alexey Fedorov, Maria Antonietta Vincenti, Daniel Chrastina, Giovanni Isella, Francesca Intonti, Monica Bollani

S05A-T2-14 A Flexible RF antenna Array Sensor for Real Time Non-Contact Hydration Assessment in Human Body

» [Sadia Abdul Samad](#)



Continued from Tuesday, 22 September

S05A-T2-15 Miniaturized Ultra-High-Vacuum Cell for Laser-Cooled Atoms toward Quantum Sensing Applications

» [Yuichi Kurashima](#), Sota Kagami, Thu Hac Huong Le, Akifumi Takamizawa, Ryohei Takei, Taisei Motomura, Takashi Matsumae, Atsuhiko Maeda, Hideki Takagi

S05A-T2-16 Ultrastable thin film coatings: grain boundary pinning by nanoparticle incorporation

» [Laszlo Petho](#)

S05A-T2-17 Resistance of Scaled Interconnects with Anisotropic Conductors

» [Ho-Yun Lee](#), Jean-Philippe Soulie, Davide Tierno, Clement Merckling, Christoph Adelman

S05A-T2-18 Printable grayscale nano-template for full-colour organic light-emitting diode near-eye displays with 3D achromatic metalenses

» [YoungSun leon](#)

S05A-T2-19 Flow control in confinement by microscopic magnetic artificial cilia

» [Zhiwei Cui](#), Jaap Den Toonder, Farbod Alijani

S05A-T2-20 EBL Process Framework for High-Density Polymer Neuroprostheses

» [Hanna Karlsson-Fernberg](#), Maria Asplund

S05A-T2-21 Advanced Infrared Silicon Metalens through Production-ready Deep-UV Lithography

» [Kai Sun](#), Jordan Scott, Xingzhao Yan, James Monks, Jun-Yu Ou, Otto Muskens

S05A-T2-22 Amplified and Selective NO₂ Sensing With IGZO/Graphene Heterostructures via Interfacial Charge-Transfer Modulation

» [Noah Jang](#), Da Ye Kim, Hyunjun Kim, Seong Ho Kong

S05A-T2-23 Development of Electrochemical Flow-Cell for the Electrodeposition of Atomic-level Au on PANI-coated Plates toward Electrochemical Sensor Applications

» [Keisuke Okamoto](#), Tomoyuki Kurioka, Gen Hikosaka, Yung-Jung Hsu, Chi-Hua Yu, Maria Antonietta Casulli, Tso-Fu Mark Chang, Masato Sone

S05A-T2-24 Fabrication of Highly Integrated Surface-Electrode-Ion-Traps

» [Marlon Kuhn](#), Jacob Stupp, Nora D. Stahr, Mohammad Masum Billah, Nica Schifflholz, Christine Marachoris, Friederike Giebel, Eike Iseke, Nila Krishnakumar, Konstantin Thronberens, Christian Ospelkaus

S05A-T2-25 Dielectrophoresis in Asymmetric Pyramid Micropatterns for Bioinspired Smart Windows with High Transmittance Contrast

» [Junmo Yu](#), Hyunsik Yoon

S05A-T2-26 Geometry-Guided Wrinkling for Stretchable Plasmonic Fabry-Pérot Optomechanics

» Pau Güell-Grau, Borja Sepulveda, [Mar Alvarez](#)

S05A-T2-27 Crystallinity-Programmed Memristive Devices for Reconfigurable Volatile and Nonvolatile Switching

» [Da Ye Kim](#), Hyunjun Kim, Noah Jang, Seong Ho Kong

S05A-T2-28 Device-Level Integration of Synaptic Functions for Spiking Neuromorphic Network

» [Cuo Wu](#), Hampus Hoffman, Richard Schroedter, Zipeng MI, Ronald Tetzlaff, Thomas Mikolajick, Benjamin Max

S05A-T2-29 Channeling-Implanted Shielding Regions for Improved Short-Circuit and Unclamped Inductive Switching Ruggedness in 1200 V SiC MOSFETs

» [Junki Jung](#), Sumin Park, Seungri Yang, Ogyun Seok

S05A-T2-30 Geometric Effects on the Mechanical Characteristics of Ti/Au Multi-layered Serpentine Springs toward MEMS Applications

» [Hisashi Takahata](#), Tomoyuki Kurioka, Torauto Yamada, Chihaya Mukaide, Katsuyuki Machida, Gen Hikosaka, Chun-Yi Chen, Tso-Fu Mark Chang, Yoshihiro Miyake, Hiroyuki Ito, Masato Sone



Continued from Tuesday, 22 September

S05A-T2-31 Amplified Sodium Ion Sensing Using an Ion-Selective Floating-Gate Organic Electrochemical Transistor for Wearable Sweat Analysis

» [Tommaso Bo](#), Charles-Théophile Coen, Niels Burghoorn, Mohammad Khorsand, Yoei van de Burgt, Jaap Den Toonder, Inês Figueiredo Pereira

S05A-T2-32 Neuromorphic Motor Control with Organic Electrochemical Transistor

» [Pei Zhang](#)

S05A-T2-33 Tunable Plasmonic Sensors via Angle- and Offset-Controlled Metal Deposition on Nanoimprinted Pillars

» [Hanhuai Yang](#), Stella Pang

S05A-T2-34 Measurement of the Separation Dependence of Tunneling Current in a Sub-50 nm Silicon Cleavage Plane Nanogap

» [Atsuya Yamashita](#), Masaki Shimofuri, Jun Hirofumi, Toshiyuki Tsuchiya

S05A-T2-35 Locally Buried SiO₂ for TCF Compensation of LiNbO₃ Thickness-Excited Resonators

» [Florian Hartmann](#), Luis Guillermo Villanueva

S05A-T2-36 A Kirigami Gripper Based on β -CD/OA Hydrogel with Tunable Stiffness for Dual-Mode Grasping

» [Yen-Chun Chen](#), Pin-Chun Huang, Yao-Joe Huang

S05A-T2-37 Fabrication Process to Improve the Performance of 1064 nm DBR Lasers

» [Olaf Brox](#)

S05A-T2-38 Process Optimization for Deterministic Microsphere Assembly in Microcavity Arrays

» [Mahmoud Asfour](#), [Aamenah Siddiqui](#), Muhammad Umar, Murat Kaya Yapici

S05A-T2-39 Fingertip skin-inspired micro-structured proximity-pressure-temperature tri-modal sensor with high sensitivity and wide perception range

» [Chaeun Lee](#), Changwoo Cho, Je Hoon Oh, Sanghyun Park

S05A-T2-40 Micro-structured chitosan films for hybrid piezo-flexoelectric sensors with enhanced output

» [Gaia de Marzo](#), Sara Ciccaglione, Matilde Manigrasso, Kartikeya Sharma, Lasse Højlund Eklund Thamdrup, Evgeniy Shkondin, Francesco Rizzi, Vincenzo Mariano Mastronardi, Michele Scaraggi, Anja Boisen, Massimo De Vittorio

S05A-T2-41 Adaptive reshaping of amorphous silica nanostructures by scanning electron beam stimulation

» Abhiraj Singh, Takahiro Namazu, [Amit Banerjee](#)

S05A-T2-42 Opto-electronic device integrating single InP nanowires in nanofluidic devices for the detection of individual Nanoparticles

» [Leon Seggering](#), Irene Fernandez-Cuesta

S05A-T2-43 Viscosity Measurement of Liquid Using a Coriolis Mass Flow Sensor Based on Quality Factor Analysis

» [Chang Liu](#), Remco Sanders, Jarno Groenesteijn, Remco Wiegerink, Joost Lotters

S05A-T2-44 A Sub-1- Ω Via-Last Cu TSV Process for 180 nm CMOS Technology on 300 μ m Thick 8-Inch Wafers

» [Martin Stahel](#), Marco Cucinelli, Reto Besserer, Raneem Achor, Samuel Huber

S05A-T2-45 Tape-Assisted Fabrication of Aluminum Nanohole Metasurfaces for Chip-Scale Computational Spectrometers

» Yu-Heng Hung, Tzu-Yu Lin, Hsiang-Yu Chung, Tsai-Yu Hsieh, Wen-Huei Chang, [Chun-Hung Lin](#)

S05A-T2-46 Investigation of Impedance Properties of Hydrogel-Gold-Nanoparticle Composites as a Potential Transduction Concept for Biomedical Sensing

» [Ahmad Hassan](#), Julia Körner



Continued from Tuesday, 22 September

S05A-T2-47 Solid-Contact Ion-Selective Electrode Fabricated via Displacement Talbot Lithography

» [Mislav Matić](#), Konstantins Jefimovs, Dimitrios Kazazis, Chris Van Hoof, Francesca Leonardi, Irene Taurino

S05A-T2-48 Controllable preparation and integration of high-performance perovskite micro/nano laser devices

» [Chen Cheng](#), Shuhao Si

S05A-T2-49 Sculpting Nanochannels in 2D Materials with t-SPL

» [Kristian S. Skailand](#), Georgios Apostolou, Edmund J. R. Kelleher, William V. William, Timothy John Booth

S05A-T2-50 Focused Ion Beam Induced Straining of MEMS devices - FIBIS

» [Bartosz Pruchnik](#), Mateus Masteghin, Krzysztof Kwoka, Robert Jesionowski

S05A-T2-51 Active Cantilever with Dual Actuator

» [Bartosz Pruchnik](#), Fabian Dietrich, Richard Subianto, Katerina Ivanova, Athulya K. Muraleedharan Bindu, Hans-Georg Pietscher, Javad Basseri, Muralikrishnan Brajesh Kaimal, Władysław Kopczyński, Wojciech Godlewski, Dominik Badura, Piotr Putek, Krzysztof Kwoka, Piotr Smagowski, Andrew Yacoot, Tomasz Piasecki, Fangzhou Xia, Ivo W. Rangelow

S05A-T2-52 Sensitive metal-deposited and plasma-modified polymer SERS substrates with tunable geometrical features

» [Athina S. Kastania](#), Anastasios Dimitriou, Sara Abbasi, Vassilios Constantoudis, Qing Liu, Nikolaos Papanikolaou, Heidi Ottevaere, Evangelos Gogolides

S05A-T2-53 3D Stereolithography-printed micro-lattices for MOF derived architectures as high-performance self-standing pseudocapacitive electrodes

» [Premkumar Murugesan](#)

S05A-T2-54 Mechanistic Continuum Modeling of Suction and Equilibrium Configurations in CNT@MoS₂ Nanotube Systems

» [Mansoor Alshehri](#)

S05A-T2-55 Electron beam detection using room-temperature single-electron transistors

» [Wenkun He](#), Jingbo Chen, Willy Lim, Anya Grushina, Mervyn Jones, Zahid Durrani

S05A-T2-56 Inkjet Printing and Nanoimprint Lithography for High Density Redistribution Layers in Advanced Packaging

» [Michael Haslinger](#), Viktorija Jonaityte, Pavel Kulha, Vaclav Prochazka, Ashray Prabhu, Michael Muehlberger

S05A-T2-57 Slot waveguides fabrication for Innovative Dielectric Laser Accelerator

» [Simone Luigi Marasso](#), Giuseppe Torrisi, Gino Sorbello, Giorgio Mauro, Alessio Verna, Mario Malerba, Eleonora Cara, Valentina Bertana

S05A-T2-58 A Photonic Palimpsest: Rewritable Metasurfaces on van der Waals Materials

» [Xinyu Sun](#), Min Qiu, Ding Zhao

16:00

Poster : S05A-T3

POSTER 1 - ODD - T3

Venue - Auditorium Foyer OG - T3

Organised by: Katharina Maniura

S05A-T3-1 Biomimetic nanoimprinting of functional biological surfaces for micro- and nanotechnology applications

» [Jakob Nüssel](#), Konstantin Obladen, Christoph Weigel, Steffen Strehle

S05A-T3-2 A Monolithic SLA-Printed Ingestible Micromechanical Device for Sampling of the GI lumen via Hydrogel-Actuated Inlet Sealing

» [Anshul Nema](#), Sarvesh Kumar Srivastava



Continued from Tuesday, 22 September

S05A-T3-3 Site-controllable surface functionalization of a CMOS-compatible titanium nitride microelectrode array for biosensing

» [Zhiwen Wei](#), Zhenhua Li, Bingqing Liang, Zonghui Li, Xiaohui Tang, Chang Chen, [Sijia Xie](#)

S05A-T3-4 The development of bile duct stent having antifouling properties by using atmospheric pressure low-temperature plasma (2)

» [Atushi Sekiguchi](#), Masashi Yamamoto

S05A-T3-5 Platinum silicide (PtSi) UltraMicroElectrode Array device for local and subsecond pH modulation at the microscale

» [Léa Cahuzac](#), Nicolas Clément, Guilhem Larrieu

S05A-T3-6 Capillary sealed micropneumatic actuator

» [Valentin Dumont](#), Gwenn Ulliac, Aude Boloignon, Antoine Barbot

S05A-T3-7 Pulse Energy Dependence of Ablation Depth and Crater Morphology in Ex Vivo Brain Tissue Using a 1030 nm Femtosecond Laser

» [Quanhong Feng](#)

S05A-T3-8 Quantification of fluorescent nanoparticles using UV imprinted nanofluidic devices and a double laser spot detection setup

» [Saran Vanapalli](#), Leon Seggering, Irene Fernandez-Cuesta

S05A-T3-9 Micro-Nano Lithography for Solid-State Biosensing Nanopipettes

» [Ali Elmersy](#), Nako Nakatsuka

S05A-T3-10 Nanocrystalline metallic multilayer membranes for robust microfluidic valves with reduced footprint

» [Pieter Vlughter](#), Farzaneh Bahrami, Adithyan Kannan, Youssef El Jerrari, Denis Van Lancker, Pradnya Gharpure, Lei Zhang, Tim Stakenborg

16:00

Poster : S05A-T4

POSTER 1 - ODD - T4

Venue - Auditorium Foyer OG - T4

Organised by: Cyrille Hibert

S05A-T4-1 K-Doped SrVO₃ Anodes for Carbon-Tolerant Hydrocarbon-Fueled SOFCs

» [Shu-Yi Tsai](#), [Kuan-Zong Fung](#)

S05A-T4-2 Fused silica in microfabrication: process impacts, size dependence, and environmental assessment

» [Sardar Hamza Pervez](#), Vincent Walter, Thomas Jeannin, Sébastien Thibaud

S05A-T4-3 Hybrid Radiative Cooling and Water Harvesting Film Based on Superabsorbent Polymer-PDMS Matrix

» [Jisung Ha](#), Jaemin Park, Seongwoo Park, Hangyu Lim, Heon Lee

S05A-T4-4 Dissolution behavior of model resist in tetramethylammonium hydroxide developer with dissolved poly(4-hydroxystyrene)

» [SEUNGJOO BAEK](#), Masahiko Harumoto, Yuqing Jin, Takahiro Kozawa

S05A-T4-5 Patterning of Functional Polymers to Obtain Superaerophobic Surfaces for CO₂ Reduction Reactions on Gas Diffusion Electrodes

» [Michael Muehlberger](#), Sonja Kopp, Viktorija Jonaityte, Heike Frommwald, Thomas Griesser, Michael Haslinger, Janine Lichtenberger, Theodoros Dimopoulos

S05A-T4-6 Synthesis of plasmonic and photocatalytic active 3D nanostructures by metastable atomic layer deposition

» [Mario Ziegler](#), Adrian Bohm, Valentin Ripka, Noah Rupp, Anke Drewitz, Marco Diegel, Jan Dellith, Martin Kühnel, Uwe Hübner

S05A-T4-7 A Multiplexed Microfluidic Platform for Sustainable Cleaning Formulation Discovery

» [Zain Ahmad](#), Gunjan Tyagi, Rebecca Fong, David Baezchavez, Joao Cabral



Continued from Tuesday, 22 September

S05A-T4-8 Structure-Driven Photocatalytic Degradation Pathways of Pharmaceuticals over TiO₂/CeO₂/g-C₃N₄: A Molecular Reactivity and Life Cycle Perspective

» [Aarti Puri](#), Vimal Chandra Srivastava

Wednesday, 23 September

08:30

Keynote : S06A_T0

MNE Awards - Young Investigator and MNE Fellow

Venue - Auditorium

Organised by: Urs Staufer

S06A_T0-1 Challenges in electron beam lithography and inspection

» [Cornelis Hagen](#)

10:45

Oral : S07A-T1

Nanofabrication Applications

Venue - Auditorium

Organised by: Dimitrios Kazazis

S07A-T1-1 High-Fidelity Fabrication of Dense Nanohole Arrays in Ultrathin SiN_x Membranes for Holographic Metastable Atom-Beam Lithography

» [Bhera Ram Tak](#), Pietro Rancati, Espen Werdal Selfors, Daniel Fojo Álvarez, Juan Jose J. Nieto, Adrià Salvador Palau, Bodil Holst, Richard Hobbs

S07A-T1-2 Unravelling the Microscopic Mechanisms and Transient Dynamics of 4-ns Laser Lift-Off in InPInGaAs Heterostructures

» [Yusheng Yang](#), Francois Chancerel, Steven Brems, Reynald Alcotte, Clement Merckling

S07A-T1-3 Uniformity and Reproducibility of Wafer Scale Superconducting Qubit Fabrication

» [Gregory Leveil](#), Fayçal Houssaini, Samuel Rene de Cotret, Idris Aboubakari, Nicolas Bourlet, Mathieu Juan, Dominique Drouin

S07A-T1-4 Bridging Precision and Scalability: Hybrid Lithography for Visible-Light LTOI Integrated Photonic Modulators

» [Nicola Brusadin](#), Guilhem Alma, Marina Arqué Roquet, Christopher Axline, Stephan Gamper, Robin Giroud, Phoebe Tengdin, Daniel Brau, Luis Guillermo Villanueva

S07A-T1-5 Process development for wafer-bonded InP random lasing networks on silicon

» [Luka Guzenko](#), Ioannis Georgakilas, Göktug Ilter, Enrico Bianco, Eunjung Cha, Cristina Garcia Marcilla, Riccardo Sapienza, Simone Iadanza, Kirsten Moselund

10:45

Oral : S07B-T2

Metalenses and Nanophotonics

Venue - Theatersaal

Organised by: Luis Guillermo Villanueva

S07B-T2-1 Sustainable manufacturing of optical metasurfaces with engineered optical materials

» [Junsuk Rho](#)

S07B-T2-2 Fabrication and Optical Response of High-Q Dielectric qBIC Metasurfaces

» Sonia Freddi, Alfonso Nardi, Agostino Difrancescantonio, Johann Osmond, Micheal Scalora, Marco Finazzi, Michele Celebrano, Maria Antonietta Vincenti, [Monica Bollani](#)

S07B-T2-3 Wafer-Scale CMOS-Compatible Ge-on-Si Metasurface Platform with FTIR-Validated Resonance Tuning

» [Wei-Han Chen](#), Jon Schlipf, Paul Oleynik, Giovanni Capellini, Yuji Yamamoto, Gianfranco Sfuncia, Giuseppe Nicotra, Katarzyna E. Hnida-Gut, Christian Wenger, Inga A. Fischer, Oliver Skibitzki



Continued from **Wednesday, 23 September**

S07B-T2-4 Development of an achromatic neutron lens

» [Mano raj Dhanalakshmi veeraraj](#), Di Qu, Hui-Yuan Chen, Silas Strebel, Peng Qi, Anna Fedrigo, Lucas Helfen, Alessandro Tengattini, Matteo Busi, Hongchang Wang, Piero Tranchida, Anders Kaestner, Christian David, Markus Strobl, [Joan Vila Comamala](#)

10:45

Oral : S07C-T3

Manufacturing and Biomaterials

Venue - Brünig 1+2

Organised by: Katharina Manuira

S07C-T3-1 Fabrication of fluid-compatible multilayer hollow atomic force microscopy (AFM) cantilevers for single-cell applications

» [Merve Mintas Kucuk](#), Nahid Hosseini, Ekin Asim Ozek, Georg Fantner

S07C-T3-2 Capillary Printing for Microscale Patterning of Piezoelectric Chitosan

» [Valentina Antonaci](#), Gaia de Marzo, Claudia Latte Bovio, Massimo De Vittorio

S07C-T3-3 Multi-Material DLP Printing of Bioelectronic Platforms Based Conductive Hydrogels

» [Stavros Skrepetos](#), Liwen Wang, Marcel Tichem, Achilleas Savva, Paola Fanzio

S07C-T3-4 Light-Driven Hydrogel Actuators for On-Chip Intestinal Motility

» [Riku Takahashi](#), Shogo Himori, Misa Yamaji, Aya Tanaka

10:45

Oral : S07D-T4

Sustainability in Manufacturing 1

Venue - Grimsel 1+2

Organised by: Cyrille Hibert

S07D-T4-1 Advancing Sustainable Micron-Nano Manufacturing through Real-Time AMC Monitoring including PFAS and F-GHG

» [Carla Frege](#)

S07D-T4-2 Experimental investigations into sustainable metal-catalytic plasma etching of silicon using hydrogen

» [Lenia Böhm](#), Georg Umlauf, Micha Haase, Christian Helke, Danny Reuter

S07D-T4-3 Solid Ethanol as a Renewable, Low-Toxicity, Electron-Beam Direct Write, and Biomedical Material

» [Bruno Perdigão](#), Bingdong Chang, Gwendoline A. E. Anand, Lechan Tao, Kayeon Kim, Anne Zebitz Eriksen, Malte Alexander Schönhoff, Guilherme Ferreira, Xiyuan Liu, Su Genelioglu, Neha Zahoor, Johan Ulrik Lind, Alice Bastos da Silva Fanta, Thomas Willum Hansen, Changsi Cai, Anpan Han

S07D-T4-4 PEAR Structuring of Silicon Oxides: Long-Term Stability, Process Transfer, and RIE Compatibility

» [Anant Bhardwaj](#), Christoph Weigel, Steffen Strehle

S07D-T4-5 Fully Aqueous Electrospun Smart Filtration Membranes with Integrated Bacterial Sensing

» [Carla Blanes Gallego](#), Pablo Rodríguez, Sebastián Gavira, Salvador David Aznar Cervantes, Gonzalo Murillo, Xavier Munoz-Berbel, Mar Alvarez

12:15

Workshop : MNE Lunch Seminar

LUNCH Talk Dissemination Strategy

Venue - Theatersaal

Organised by: Helmut Schiff

MNE Lunch Seminar-1 Best publishing practices for early career researchers

» [Abby Li](#)

MNE Lunch Seminar-2 Publishing, AI and Research Integrity

» [Edwin Constable](#)



Continued from **Wednesday, 23 September**

13:15

Oral : S08A-T1

Nanostructuring, Etching, and Deposition

Venue - Auditorium

Organised by: Dimitrios Kazazis

S08A-T1-1 Ion-Loaded Solid-State Electrochemical Etching for Direct Hierarchical Patterning of Copper

» [Atsuki Tsuji](#), Junji Murata

S08A-T1-2 Reaction Mechanisms in Copper Atomic Layer Deposition using Copper(II) Hexafluoroacetylacetonate and Diethylzinc via In Situ Time-of-Flight Mass Spectrometry

» [Ivo Utke](#), Camilla Minzoni, Sylwia Klejna, Krzysztof Mackosz, Aleksandra Szkudlarek, Aleksandra Figura-Jagoda, Marcin Sikora, Ramakrishna Ramisetty, Andreas Werbrouck, Patrik Hoffmann

S08A-T1-3 Atomic layer etching of nickel aluminide binary intermetallic using a super-cycle sequence based on Hhfac and Al(CH₃)₃

» [Ali Abdelgawad](#), Guillaume Krieger, Jean-Philippe Soulie, Harm Knoops, Erwin Kessels, Stefan Degendt, Jean-François de Marneffe

S08A-T1-4 Electron Beam Induced Nanoengineering in Amorphous Silica Nanomembranes

» [Abhiraj Singh](#), Kota Sugisaka, Takashi Sumigawa, Amit Banerjee, Ryosuke Matsumoto, Takahiro Namazu

S08A-T1-5 Thermal scanning probe lithography for nanoscale hard-mask patterning using single indentation techniques

» [Shulang Shen](#), Berke Erbas, Chenhao Wang, Arnaud Bertsch, Juergen Brugger

13:15

Oral : S08B-T2

Probes

Venue - Theatersaal

Organised by: Luis Guillermo Villanueva

S08B-T2-1 Pico Perfect Placement: Atom Precise Manufacturing is Now Practical

» [Robert Wolkow](#)

S08B-T2-2 Room-temperature displacement sensing of an AFM cantilever using a silicon-based single electron transistor

» [Komal Kaur](#), Wenkun He, Andrew Yacoot, Mervyn Jones, Zahid Durrani

S08B-T2-3 Deterministic Patterning of Gate-Tunable Single-Photon Emitters in Monolayer WSe₂ on Rigid SiO₂/Si Substrates via AFM Nanoindentation

» [Sanket Jugade](#), Ajit Kumar Dash, Manavendra Pratap Singh, Hardeep - , Tilly Guyot, Cora Crunteanu-Stanescu, Indrajeet Dhananjay Prasad, Yunus Waheed, Sumitra Shit, Sébastien Roux, Santosh Kumar, Cedric Robert, Xavier Marie, Akshay Naik, Akshay Singh

S08B-T2-4 New design of integrated self-sensing cantilevers for correlative SPM

» Wojciech Godlewski, Bartosz Pruchnik, [Paweł Janus](#), Andrzej Sierakowski, Magdalena Kucharska, Dominik Badura, Władysław Kopczyński, Krzysztof Kwoka, Julia Pruchnik, Robert Jesionowski, Tomasz Piasecki

13:15

Oral : S03C-T1

Industrial Highlights 1

Venue - Brünig 1+2

Organised by: Eva De Leo and Vitaliy Guzenko

S03C-T1-1 Extending the Limits of High-Aspect-Ratio Micro- and Nanofabrication for Advanced Optical Devices

» [Florian Döring](#), Thomas Beckenbach, Andreas Bacher, Judith Hohmann, Marina Rojano, Jan Erjawetz, Adam Kubec, Damien Eschimese

S03C-T1-2 Scalable Integration of Carbon Nanotubes for Next-Generation CNT-FET

» [Wenhao Huang](#), Frederik van Veen, Luca Ornago, Marko Nikolic, Sayedeh Emami, Natanael Lanz, Seoho Jung, Mickael L. Perrin, Maria El Abbassi



Continued from Wednesday, 23 September

S03C-T1-3 Towards Mix & Match resist patterning by e-beam and UV lithography using a positive resist for a scalable process technology

» [Anja Voigt](#), Anett Kolander, Marina Heinrich, Sebastian Schermer, Markus Gottwald, Gregor Büttel, Micha Haase, Christian Helke, Christine Schuster, Arne Schleunitz

S03C-T1-4 Large-area nanodevice fabrication with parallel multi-tip thermal scanning probe lithography

» [Jana Chaaban](#), Julia Stark, Elliott Clerc, Andrea Ubezio, Antoaneta Damyanova, Fabian Könnemann, Kartik Buddha, Simon Bonanni, Emine Çağın

S03C-T1-5 Xolography: Volumetric 3D Printing of Optical Elements and Living Matter Across the Micro- to Centimeter Scale

» [Arpita Roychoudhury](#), Martin Herder, Niklas König, Erik Brauer, Yves Garmshausen

13:15

Oral : S08D-T4

Life Cycle Analysis

Venue - Grimsel 1+2

Organised by: Cyrille Hibert

S08D-T4-1 Life Cycle Analysis of electronic assemblies and discrete components to reduce environmental impact as well as waste

» [Jeff Kettle](#)

S08D-T4-2 How to Reduce the Environmental Impacts of Micro and Nanofabrication? Quantifying Mitigation Strategies Using Absolute Environmental Sustainability Assessment

» [Katalin Lestyan-Goda](#), Stig Olsen, Stephan Sylvest Keller, Kristian Mølhave

S08D-T4-3 Ammonium alginate photopatterning assisted by polyoxometalates towards a bio-sourced photoresist for 248 nm lithography

» [Charalampos Katsogridakis](#), Veroniki P Vidali, Antonios Douvas, Dipti RANI, Kylian Virieux, Stephane Trombotto, Corinne GABLIN, Didier Leonard, Yann Chevolot, Jean-louis leclercq, Panagiotis Argitis

S08D-T4-4 A Ranked Framework for Bottom-Up LCA of Etching Processes

» [Saumya Sadhu](#), [Rupert Baumgartner](#)

15:00

Oral : S09A-T1

Grayscale Lithography

Venue - Auditorium

Organised by: Dimitrios Kazazis

S09A-T1-1 Irregular Microlens Arrays Fabricated by DMD-Based Maskless Lithography for Laser Beam Illumination

» [Yung Lee](#), Zhi Hao Chen, Chun-Ying Wu

S09A-T1-2 Germanium microlenses for thermal-IR applications

» [Robert Leitel](#), Peter Dannberg, Antje Oelschläger, André Matthes, Thomas Käsebier

S09A-T1-3 Towards nm-rough 3D X-ray optics via grayscale lithography and selective thermal reflow

» [Giulia Malvicini](#), Narjes Abdollahi Messmer, Sina Saxer, Helmut Schiff

S09A-T1-4 Manufacturing of 3D Glass Micro-Optics through Laser Assisted Topological Transformation

» [Martin Lentz](#), Alexandre Duval, Yves Bellouard

15:00

Oral : S09B-T2

MEMS

Venue - Theatersaal

Organised by: Luis Guillermo Villanueva



Continued from Wednesday, 23 September

S09B-T2-1 Antagonistic In-Plane/Out-of-Plane Nanoactuator for Photonic Switching

» [Akis Arabatzis](#), Danni Li, Manfred Kohl

S09B-T2-2 MEMS Electron Monochromator

» [Martijn Jacobus Adriaans](#), Jacob Hoogenboom, [Ali Mohammadi-Gheidari](#)

S09B-T2-3 Layer-Structure Effects on Warpage Behaviors of Proof-Masses with Ti/Au Multi-Layered Structures toward MEMS Capacitive Accelerometers

» [Masako Okumura](#), Tomoyuki Kurioka, Gen Hikosaka, Katsuyuki Machida, Tso-Fu Mark Chang, Hiroyuki Ito, Yoshihiro Miyake, Masato Sone

S09B-T2-4 Multi-parametric MEMS sensor for characterization of hydrogen-enriched natural gases

» [Melania Coronese](#), Christof Huber, Luis Guillermo Villanueva

15:00

Oral : S04C-T1

Industrial Highlights 2

Venue - Brünig 1+2

Organised by: Eva De Leo and Vitaliy Guzenko

S04C-T1-1 Pushing the Boundaries of Micro- and Nanosystem Simulations

» Sven Friedel, [Fabio Greco](#)

S04C-T1-2 FabuBlox: Process Discovery and Intelligent Fab Management in the Era of Agentic AI

» [Jan Tiepelt](#)

S04C-T1-3 From Miniaturized Bioassays to 3D Imaging of Microfluidic Devices

» [Yuksel Temiz](#)

S04C-T1-4 New, versatile 3D printing technology at the nano-scale

» [Soren Isaksen](#)

S04C-T1-5 MEMS-based IoT device for vibration energy harvesting

» [Hiroki Kuwano](#)

15:00

Oral : S09D-T4

Sustainability in Manufacturing 2

Venue - Grimsel 1+2

Organised by: Cyrille Hibert

S09D-T4-1 Sustainable process strategies based on the environmental footprint of semiconductor manufacturing

» [Isabelle Servin](#)

S09D-T4-2 From Silica Sand to Semiconductors: Understanding and Assessing Environmental Impacts in Cleanroom Manufacturing

» [Yannick Rivoira](#)

S09D-T4-3 Synergistically Reinforced Detachable Photonic Film for Efficient Daytime Radiative Cooling

» [Seongwoo Park](#), Jaein Park, Hangyu Lim, Jisung Ha, Deokhwan Lee, Sangho Kang, Heon Lee

S09D-T4-4 Implementing resilience with ICTs

» [Sébastien Toussaint](#)

16:00

Poster : S10A-T1

POSTER 2 - EVEN - T1

Venue - Auditorium Foyer OG - T1

Organised by: Dimitrios Kazazis

S10A-T1-1 Monolithic Integration of a Transient-Tolerant 1T-1M Memristor-Based Threshold Logic Gate (TLG) Unit Cell on a 0.18-µm CMOS Platform

» [Won-Chul Lee](#), Hyoungho Ko, Jongwon Lee, Solji Park, A-ryeong Lee, Jonghyun Song



Continued from Wednesday, 23 September

S10A-T1-2 Nano-texturing on silicon via orthogonal polarized femtosecond laser with burst mode

» WEN-JIA CHANG, [Yuanjen Chang](#)

S10A-T1-3 An Industrial Workflow for Scalable Micro and Nanostructures

» [Marek Krehel](#), Glen de Villafranca, Christoph Baum, Julian Neises

S10A-T1-4 CD-SEM measurement impact on curvilinear mask patterns: Resist shrinkage behaviour and its spatial dependence

» [Hikari Ogawa](#), Hideki Matsui, Yoshinori Kojima

S10A-T1-5 Fabrication of Manhattan Josephson Junctions on 200 mm Si Wafer

» [Fayçal Houssaini](#), Dominique Drouin, Serge Ecoffey, Gregory Leveil, Nicolas Bourlet, Max Hofheinz, Samuel Rene de Cotret, Sean Branagan

S10A-T1-6 Enabling Next Generation Packaging with Glass and Quartz Core Substrates

» [Lukas Hofmann](#)

S10A-T1-7 Deep Learning-Based Intelligent Detection System for Zone Plate Process Errors

» [Xunjia Zhao](#), Hao Quan, Qingxin Wu, Qiucheng Chen, Kangping Liu, Jinyu Guo, Fei Wu, Yifang Chen

S10A-T1-8 Numerical Simulation of the Limiting Period of Grating in Copolymer/PMMA Bilayer Resist

» [Fei Wu](#), Jinyu Guo, Hao Quan, Xunjia Zhao, Qiucheng Chen, Qingxin Wu, Kangping Liu, Sheng Tao, Yifang Chen

S10A-T1-9 Research on a Yield-Driven Enhanced VSB Mask Fracturing Algorithm for Complex Non-Manhattan Patterns at Advanced Technology Nodes

» Wei Liao, Heming Wu, [Zhuming Liu](#)

S10A-T1-10 Algorithmic Patterning – a new Electron Beam Lithography approach to unlock efficient Photonic Device and cm-scale Metasurface Fabrication

» [Frank Nouvertne](#), Michael Kahl, Volker Boegli

S10A-T1-11 Design and fabrication of transmission gratings for spectroscopic and lithographic applications at extreme-ultraviolet wavelengths

» [Sascha Brose](#), Lars Lohmann, Serhiy Danylyuk, Annika Bonhoff, Carlo Holly

S10A-T1-12 Fabrication of Adhesive Hydrophobic Surfaces Using Photosensitive Polyimide and Two-Step Etching

» [Yuu Sumita](#), Jun Taniguchi

S10A-T1-13 Vat-Less Roll-to-Roll DLP Photopolymerization System with Tilt-Assisted Sequential Contact and Detachment for High-Viscosity Ceramic Resin 3D Printing

» [Hyuntae Kim](#), Kyoohye Woo, Seungwoo Shin, Pyeong-sam Ko, Sin Kwon

S10A-T1-14 Thin SiARC layers for patterning ultra-thin layers: an integrated approach

» [Guido Rademaker](#), Jeanne Davost, Jonathan Pradelles, Corinne Comboroure, Jorge Nacenta Mendivil, Sébastien Guilbaud, Mouaad-Yassine Aliouat, Aurélien Sarrazin, Mathieu Stigliani, Claire Fournier, Estelle Guyez, Stephane Pocas

S10A-T1-15 Study of deformations control with S-NIL

» Tanneguy Blandin, Léopold Boudier, Jean-Baptiste Doucet, [Olivier Gauthier-Lafaye](#)

S10A-T1-16 Resonance-Induced Enhancement of Carbon Nano-Onion Synthesis in Acoustic Jet Diffusion Flames

» [Shuhn-Shyurng Hou](#), Hsing-Chih Hsieh, Chung-Yi Cheng, Chun-Ta Chen, Hao-Lin Hsu

S10A-T1-17 Dimensional Refinement of Photoresist Masks via Microwave Oxygen Plasma for Uniform Spin Valve Fabrication

» [Filipe Favita](#), Pedro Araujo, André Laranjeira, Diogo Gonçalves, Susana Cardoso



Continued from **Wednesday, 23 September**

S10A-T1-18 Beyond Superhydrophobicity: Oil-Repellent Microstructured Surfaces for Durable and High-Efficiency Solar Cells

» [Ilhan Yoo](#), Hyunsik Yoon

S10A-T1-19 Update on Inkjet-Printable Nanoimprint Materials for Etch Pattern Transfer

» [Christoph Jurissek](#), Mirko Lohse, Sebastian Killge, Christian Helke, Micha Haase, Martin Messerschmidt, Arne Schleunitz, Gabi Grützner

S10A-T1-20 Resists for Mix&Match processes combining 50 kV e-beam lithography and 375 nm direct laser writing

» [Silvia Diewald](#), Gernot Goll

S10A-T1-21 Integrated Aluminum Nitride Nano-photonics Fabrication on Fused Silica for Surface Electrode Ion Trap Quantum Processors

» [Mohammad Masum Billah](#), Nora D. Stahr, Jacob Stupp, Christopher F. Reiche, Friederike Giebel, Marlon Kuhn, Philipp L. Hoffmann, Eike Iseke, Konstantin Thronberens, Nila Krishnakumar, Christian Ospelkaus

S10A-T1-22 Fabrication of freestanding metallic thin-film membranes for MEMS bulge testing

» [Basma Elsaka](#), Philipp Kästner, Eireen Käkel, Benoit Merle, Hartmut Hillmer

S10A-T1-23 Bulk acoustic standing wave in aluminum microfluidics device with parallel channels

» [Amaury de Hemptinne](#)

S10A-T1-24 Localized Ultra-Fine Tungsten Residue Characterization Methodology for TSV Processes

» [Sanghyeon Jeon](#), Hoseung Na, Hanseon Lee, Seungbum Kim, Boyoung Song, Taehoon Park

S10A-T1-25 Single-Development Dual-Layer Negative Photoresist/Sacrificial Layers for Hexagonal Bravais UV Cavity Array Patterning

» [Arwa Saud Abbas](#)

S10A-T1-26 Spatially Confined Growth of 3-PPA Doped Quasi-2D Perovskites via Nanoimprint Lithography for Ultra-Low Threshold Multi-Wavelength Lasing

» Yuexu Si, Quanhong Feng, Ruochen Wang, Yulin Zhao, Chen Cheng, [Shuhao Si](#)

S10A-T1-27 Reaction Propagation and Shrinkage-Induced Deformation in Al/Ni Multilayers for Bonding Applications

» [Sarankamol Athichaikhongphat](#), Hiroya Saegusa, Takahiro Namazu

S10A-T1-28 Low Temperature Cyclic Epitaxy On Patterned Substrates : Impact On Facet Formation

» [Alice Ferrandon](#), Fabien Deprat, Matys Guyard, Luc Favre, Isabelle Berbezier

S10A-T1-29 Beyond Conventional Biasing: Tailored Waveforms for Atomic-Scale Control in Sputter Etching of MoS2 and Dielectric Layers

» [Anton Pletzer](#), Jonas Giesekus, Julian Schulze, Claudia Bock

S10A-T1-30 Wafer-Scale Hybrid Fabrication of Vertically aligned GaN Nanorod Arrays for Ultra-High-Resolution Nano-LED Displays

» [Hak-long Choi](#)

S10A-T1-31 CHALLENGES IN FABRICATION PROCESS OF 3D STRUCTURES VIA GRAYSCALE PROJECTION LITHOGRAPHY

» [Sebastian Schermer](#), Ritesh Ambar, Stephen DeMoor, Andrew Zanzal, Patrick Reynolds, Christian Helke, Anja Voigt, Danny Reuter

S10A-T1-32 Extending Wavefront Phase Imaging (WFPI) to Extreme Warpage Silicon Wafers: A Pressure-Controlled Deformation Device for Optical Metrology Validation

» [Cesar Perez Dominguez](#), [Pablo Cueto-Corral](#), Juan Trujillo-Sevilla, Carmelo Militello-Militello



Continued from Wednesday, 23 September

S10A-T1-33 Scalable Manufacturing of Micro-Mechanical Metamaterials

» Hava Musa Bilyalova, Arturas Kiselis, Hans Goosen, [Marcel Tichem](#)

S10A-T1-34 Sugar-Assisted Transfer Printing of Nanostructures onto Non-Planar Industrial Surfaces

» [Aisa Cuprija](#), Adam Burke, Axel Knutsson, Susanne Norgren, Anders Mikkelsen

S10A-T1-35 Wettability-Controlled Transitions in Colloidal Drying Patterns on Surface-Treated Hexagonal Microcavity Arrays

» [Seong Min Yoon](#), Yu Ju Han, Myung Seo Kim, Young Tae Cho

S10A-T1-36 Self-aligned fabrication of silicon photonic circuits with rib resonators and partially suspended bus waveguides

» [Bingrui Lu](#), Kamma Nørrelund Pedersen, Jakob Andreas Finne, Mikkel Heuck, Babak Vosoughi Lahijani, Philip Trøst Kristensen, Søren Stobbe

S10A-T1-37 Laser Diffraction Based Rotational Error Checking Method for nano scale periodic patterns

» [Seo Na Yoon](#), Seong Min Yoon, Seo Rim Park, Young Tae Cho

S10A-T1-38 Advancing Micro- and Nanofabrication Using Dry Film Technology

» Johannes Wolf, Christoph Waberski, Anett Kolander, Anja Voigt, Marina Heinrich, Jan Boelke, Hiroyuki Ohguri, Aoi Agematsu, Takao Asano, [Arne Schleunitz](#)

S10A-T1-39 Direct measurement of acid diffusion in chemically-amplified resist by electrochemical characterization

» [Jean-David Isasa](#), Dimitrios Kazazis, Theodoros Manouras, Yasin Ekinci

S10A-T1-40 Emissivity Prediction Framework for Freestanding Multilayer Metallic Nanomembranes

» [Kihun Seong](#), [Sung Kyu Jang](#), Yongkyung Kim, Jonghyuk Yoon, Jiho Kim, Sangsul Lee, Hyun-Mi Kim, Hyeongkeun Kim, Seul-Gi Kim

S10A-T1-41 Silicon-Micromachining Process for Sub-THz Front-Ends

» [Cesare Tadolini](#), Paolo Sberna, Maria Alonso-delPino, Nuria Llombart

S10A-T1-42 Comparative study of photodetection properties of epitaxial graphene on Ge(100) and transferred graphene on GOI substrates

» [Loïc Rayneau](#), Mansour Aouassa, Adonis Takala, Olivier Gourhant, Ismail Madaci, Antoine Ronda, Mathieu Abel, Isabelle Berbezier

S10A-T1-43 Systematic investigation of plasma etching processes for GeSn/Si nanophotonic device fabrication

» [Rutuja Rajendra Mandavkar](#), Kirsten Moselund

S10A-T1-44 In-situ TEM Investigation of Crystallization and Martensitic Transformation in Ti-Ni-Cu Shape Memory Alloy Thin Films

» [Elaheh Akbarnejad](#), Aleksander Kostka, Yujiao Li, Alfred Ludwig

S10A-T1-45 Spin-coating of IR Bragg Mirror based on ZrO₂ nanocomposite

» [Marouane Chag](#), Joelle El Hayek, Jonathan Wild, Jean-Hervé Tortai, David Peyrade

S10A-T1-46 Time evolution of contact angle on UV-Ozone treated OrmoStamp-family resists for microfluidic applications

» [Phil Grzybeck](#), CAGLA SELALMAZ, Juvaria Zafar, Irene Fernandez-Cuesta

S10A-T1-47 Advanced Refractive X ray Optics Based on Deep Silicon Compound Refractive Lenses and Tunable Zoom Architectures

» [Jan Erjawetz](#), Josephine Gutekunst, Timothee Allenet, Adam Kubec, Christoph Rau, Arndt Last, Florian Döring

S10A-T1-48 EUV-induced Hydrogen Desorption Lithography: A Step towards Scalable Quantum Devices in Silicon

» [David Schrago](#), Yasin Ekinci, Dimitrios Kazazis, Iacopo Mochi, Matthias Muntwiler, Steven Schofield



Continued from Wednesday, 23 September

S10A-T1-49 Fabrication of bubble-trapping hierarchical surfaces using Direct Laser Lithography

» [Aina Quintilla](#), Nico Halbgebauer, Gernot Goll

S10A-T1-50 Fabrication of Three-Dimensional Microstructures for Advanced Biomimetic Applications

» [Hyunsik Yoon](#)

S10A-T1-51 Nondestructive thickness estimation of coatings on rough substrates from paired SEM images

» [Alex Kondi](#), Efi-Maria Papia, Vassilios Constantoudis, Dimitrios Nioras, Evangelos Gogolides

S10A-T1-52 Novel fabrication method toward high line-density X-ray Blazed Gratings

» [Hui-Yuan Chen](#), Christian David, Melvin Hänggi, Sina Saxer, Jan Erjawetz, Florian Döring

S10A-T1-53 Fabrication of laminated pressure-resistant moth-eye film using low-modulus and high-modulus UV-curable resins

» [Takuto Wakasa](#), Jun Taniguchi

S10A-T1-54 AZ5214E JP – The image reversal resist in triple use in maskless photolithography

» [Uwe Hübner](#)

16:00

Poster : S10A-T2

POSTER 2 - EVEN - T2

Venue - Auditorium Foyer OG - T2

Organised by: Luis Guillermo Villanueva

S10A-T2-1 Pushing the limits of photoconductivity via hot electrons in deep trap states in plasmonic architectures

» [Moonsang Lee](#)

S10A-T2-2 Computational Evaluation of Dielectric Enhancement and Thermal Stability in Transition Metal-Doped ZnO Nanowires for Advanced Piezoelectric Applications

» [Rasool Akhtar Alias Osama](#), Graham Wood, Hannah Levene, Peter Lomax, Rebecca Cheung

S10A-T2-3 Fabrication and Characterisation of Multiple Buried Lateral Bottom-Gates

» [Luisa Koke](#), Thomas Grap, Jürgen Moers, Markus Kaiser

S10A-T2-4 New Insights on Dielectric Characterization in the Nanospace using Electrostatic Force Microscopy

» [Lukas Lehnert](#), Lars Helgest, Ronald Thoelen, Hildegard Möbius

S10A-T2-5 Tantalum-Encapsulated Niobium Superconducting Resonators: High Internal Quality Factor and Improved Temporal Stability via Surface Passivation

» [Anas Alkhazaleh](#), Juan Villegas, Florent Ravaux, Alexey Zharinov

S10A-T2-6 Advanced ACF Bonding Technique Using Silicon-Based Interposers for Multichannel Neural Interface-CMOS Integration

» [HyungDal Park](#), [Seonho Seok](#), Jinseok Kim

S10A-T2-7 Towards Bimetallic Nanowire Arrays with Controlled Compositions Using Block Copolymer Films: The Interplay Between Metal Precursors

» [Ofer Burg](#), Carmel Cohen, Roy Shenhar

S10A-T2-8 Gate-Modulated NO₂ Sensing in Atomic-Layer-Deposited ZnO Thin-Film Transistors under Near-Threshold Operation

» [KIM Sungjae](#), Se-Hyeong Lee, Minseong Kim, Hyeonjeong Ji, Hye-Ji Yoon, Moonsuk Yi

S10A-T2-9 On-chip co-integration of a multi-folded Si spring residual stress measurement device with a MEMS mirror structure via a unified SOI process

» [Yuki Ashikari](#), Shun Takase, Ryoya Yamama, Chiemi Oka, Seiichi HATA



Continued from Wednesday, 23 September

S10A-T2-10 Unique humidity sensor using carbon nanotube composite paper

» [Riku Kobayashi](#), Yuma Morita, Koya Arai, Takahide Oya

S10A-T2-11 Surface Chemical Stability of PtCoO₂ Thin Films for Nanoscale Interconnects

» [Kerry Hazeldine](#), Jean-Philippe Soulie, Liam Dwyer, Alex Walton, Christoph Adelmann, Silvia Armini

S10A-T2-12 Metal-Phthalocyanine Functionalization of WS₂ Nanosheet Films for Enhanced NO₂ Chemiresistive Sensing at Room Temperature

» [Ran Li](#)

S10A-T2-13 Collective VLSI-compatible fabrication of optomechanical AFM probes on 200mm Si wafer

» [Munique KAZAR MENDES](#), Guillaume Jourdan, Pierre Moritz, Florian Vellutini, Laurent Mollard

S10A-T2-14 Continuous intraocular pressure monitoring in glaucoma drainage devices

» [Qinlan Li](#), Jaap Den Toonder, Inês Figueiredo Pereira

S10A-T2-15 Differentiable library-based inverse design of achromatic metalens for full-color near-eye displays

» [YoungSun leon](#)

S10A-T2-16 Design Aspects of a Scalable Large-Aperture Transmissive MEMS Spatial Light Amplitude Modulator with Annular Electrode Architecture

» [Philipp Kästner](#), Basma Elsaka, Steffen Liebermann, Mustaqim Siddi Que Iskandar, Hartmut Hillmer

S10A-T2-17 High-Sensitivity Fiber Bragg Grating Platform for Perfluorooctanoic Acid Sensing

» [Theodoros Manouras](#), Vasilios Sarakatsianos, Maria Vamvakaki, Vasileia Melissinaki, Gabriella Motta, Guido Perrone, Stavros Pissadakis

S10A-T2-18 Contactless twist-angle tuning in graphene/hBN heterostructures by electron-beam charge injection

» Nicola Curreli, [Tero Kulmala](#), Riya Sebait, Nicolo Petrini, Matteo Bruno Lodi, Roman Furrer, Alessandro Fanti, Michel Calame, Ilka Kriegel

S10A-T2-19 Accelerating innovation through lab-to-fab fabrication of optomechanical devices

» [Pierre Moritz](#), Marc Gély, Jean-Luc Thomassin, Guillaume Jourdan, Marc Sansa

S10A-T2-20 Temperature Dependence of Threshold Voltage Change in Metal Oxide Semiconductor Structures with High-Potential Electret

» [Yoshitaka Ikeda](#), Hiroaki Honma, Hiroshi Toshiyoshi, Koji Sugano, Yoshitada Isono

S10A-T2-21 Dependence of surface potential of potassium-ion electret on concentration of potassium aqueous solution during thermal oxidation process

» [Tomoya Ikeda](#), Hiroaki Honma, Hiroshi Toshiyoshi, Koji Sugano, Yoshitada Isono

S10A-T2-22 Continuous Amplitude and Phase Modulated X-Ray Zone Plates Fabricated by Planar Electron Beam Lithography

» [Hao Quan](#), Fei Wu, Xunjia Zhao, Qiucheng Chen, Jinyu Guo, Qingxin Wu, Kangping Liu, Yifang Chen

S10A-T2-23 Electrothermal and electromechanical analysis of nanostructured sensors

» [Abel Palomas Jiménez](#), Michelle Cedeño, Ana Coloma, Manuel Domínguez-Pumar, Sandra Bermejo



Continued from Wednesday, 23 September

S10A-T2-24 Ambipolar Transport in Al-Si Nanowire Schottky Barrier Field Effect Transistors

» Sayantan Ghosh, Banafsheh Aghvami, Alessandro Puddu, Artur Erbe, [Ahmad Echresh](#)

S10A-T2-25 Bi-layer sub-wavelength Al/SiO₂/Al grating polarizers for broadband near-ultraviolet to visible polarimetric detection

» [Jinyu Guo](#), Kangping Liu, Sheng Tao, Hao Quan, Xunjia Zhao, Fei Wu, Yifang Chen

S10A-T2-26 Fabrication of Au/Poly(3,4-ethylenedioxythiophene) via Electrochemical Hybridization toward Non-Enzymatic Glucose Sensing

» [Tomoyuki Kurioka](#), Joji Higuchi, Tso-Fu Mark Chang, Masato Sone

S10A-T2-27 Effect of Annealing on the Micro-Mechanical Properties of Gold Micro-cantilevers with Ti/Au Multi-layered Structures

» [Nobutaka Toake](#), Tomoyuki Kurioka, Gen Hikosaka, Katsuyuki Machida, Chun-Yi Chen, Tso-Fu Mark Chang, Hiroyuki Ito, Yoshihiro Miyake, Masato Sone

S10A-T2-28 A Silicon Planar Hard X-ray Lens for the Debye Beamline

» [Silas Strebel](#), Joan Vila Comamala, Adam Hugh Clark, Maarten Nachtegaal, Christian David

S10A-T2-29 Crystallographic Orientation-Controlled Dion-Jacobson Perovskite Artificial Synapses for Synaptic Plasticity Modulation in Neuromorphic Computing

» [Sang Heon Lee](#), Jae Won Shim

S10A-T2-30 Top-Electrode-Controlled PCM and ECM Switching in VO₂-Based MIM Memristors

» [Hyunjun Kim](#), Noah Jang, Da Ye Kim, Seong Ho Kong

S10A-T2-31 FEM-Based Shape Optimization of Electrothermal Actuator for Silicon Cleavage Planes Nanogap MEMS

» [Kanta Fujiwara](#), Masaki Shimofuri, Jun Hirotsu, Toshiyuki Tsuchiya

S10A-T2-32 Effect of Ag Top Electrode Area on Operating Voltage and Switching Uniformity of HfO₂/Al₂O₃/HfO₂ Tri-Layer RRAM

» Shyh-Jer Huang, Yun Chen, [Zi-Hao Wang](#), [Yen-Kun Su](#)

S10A-T2-33 Microcapillary Printing of Silver Nanoparticle Ink for Photoacoustic Ultrasound Generation

» [Celeste Qvotrup](#), Giacomo Pasquali, Alessandra Corrado, Ferruccio Pisanello, Massimo De Vittorio

S10A-T2-34 Surface acoustic wave resonator for lunar dust mitigation in space applications

» [Federico Peretti](#), [Silvan Stettler](#), Luis Guillermo Villanueva

S10A-T2-35 Fabrication, Characterization and Applications of Electrode-Integrated Functional Coverslips for Micro- and Nanofluidic Lab-on-a-Chip Devices

» [Herbert Atrian-Garcia](#), Leon Seggering, Louise von Lacroix, Rukan Nasri, Irene Fernandez-Cuesta

S10A-T2-36 Multi-Modal Virtual Metrology for PEALD-Si₃N₄: Augmenting Equipment FDC Sensing with In-Situ ToF-MS Chemistry

» [Jihun Kim](#), Sung Kyu Jang, Hyun-Mi Kim, Jihye Seo, Jaeboong Choi, Hyeonkeun Kim, Jong-Hyun Choi

S10A-T2-37 Investigation of a Femtosecond Laser-Fabricated Graphene-Heated Microfluidic Device for DNA Amplification

» [Tien-Li Chang](#), Chun-Ta Chen, Shih-Feng Tseng, Wen-Tse Hsiao, Mei-Yung Chen

S10A-T2-38 Liquid cells for electron microscopy based on thin Al₂O₃ membranes supported by pillars for enhanced stability

» [Nathalie P. Pranzner](#), Jeremy P. Teuber, Judith Estengre Pérez, Marie-Charlot Dalchow, Arwen R. Pearson, Irene Fernandez-Cuesta



Continued from Wednesday, 23 September

S10A-T2-39 Bio-Based Polymer Waveguides with Integrated Bragg Gratings for Photonic Sensing

» Florian Egger, [Michael Haslinger](#), Viktorija Jonaityte, Antreas Theodosiou, Michael Muehlberger

S10A-T2-40 Contour Perturbation Stabilise Liquid Micro-Rotational Joint

» [Antoine Barbot](#), Francisco Ortiz

S10A-T2-41 A High-Yield Fabrication Process of Piezoelectrically Transduced Suspended Microchannel Resonators

» [Yara Abdelaal](#), Shulang Shen, Luis Guillermo Villanueva

S10A-T2-42 Dual Fluorescence Enhancement by rectangular lattice photonic crystals applied to Zinc-protoporphyrin II emission

» [Minahil Khan](#)

S10A-T2-43 Tuning Surface Properties of Carbonised Cotton Knits via Sustainable Pre-Carbonisation Treatments

» Khalid Ibrahim A Abu Wardah, Geoff Fowler, [Kritel Fobelets](#)

S10A-T2-44 Development of a fluidic μ -transistor based on the elasto-capillary effect

» [Marc Prudhomme](#), Quentin Lahondes, Aude Boloignon, Antoine Barbot

S10A-T2-45 Fabrication of Flexible Force Sensors Using Femtosecond Laser-Induced Graphene for Rehabilitation Assistance and Robotic Applications

» Tien-Li Chang, [Chun-Ta Chen](#), Wen-Tse Hsiao, Mei-Yung Chen, Shih-Feng Tseng

S10A-T2-46 Mid-Infrared Extreme Grazing Brewster Effect in Natural Crystals for Surface-Enhanced Molecular Spectroscopy

» [Shuwen Xue](#), Yu Xie, Dongli Liu, Fengjiang Liu, Chuanjie Hu, Xiaoyu Sun, Shan Zhu, Huanyang Chen, Min Qiu

16:00

Poster : S10A-T3

POSTER 2 - EVEN - T3

Venue - Auditorium Foyer OG - T3

Organised by: Katharina Maniura

S10A-T3-1 Evaluation of the effect of Protein Adsorption on the Mechanical Bactericidal Performance of Nanostructured COP Film

» [Takeshi Ito](#)

S10A-T3-2 Dry etching bacteria-sized features into silicon wafers for the fabrication of microfluidic devices

» [Maria Portela](#), Florent Seichepine, Claire Stanley

S10A-T3-3 Plasma-Free Wettability Control of PMMA Capillary Microfluidics Using Tween 20 for Field-Compatible Bioassays

» [Zhuoyue Wang](#), Azadeh Hashemi, Sarah Sale, Daniel Mak, Renwick Dobson, Claudia Meisrimler, Volker Nock

S10A-T3-4 Harnessing Artificial Cilia Generated Flow to Study Cancer Cell Migration

» [Phani Krishna Sudarsanam](#), Yiqing Sun, Jaap Den Toonder, Ye Wang

S10A-T3-5 Upscaling of compartmentalized PDMS microfluidics processing for in vitro brain models: methods comparison for efficient, precise and biocompatible fabrication

» [Claudia Villarreal](#), Samuel Maraschin, Surangrat Thongkorn, Arto Heiskanen, Jenny Emnéus, Stephan Sylvest Keller

S10A-T3-6 EBL lithography and plasmonic analysis for detection of single amino acid mutation

» [Alberto Ballesio](#), Antonio Macrina, Vito Trevisi, Daniele Pescatore, Massimo D'Angelo, Enzo Di Fabrizio, Simone Luigi Marasso

S10A-T3-7 Evaluation of graphene degradation in graphene based-solution gated field effect transistors technology: implications in biomedical applications

» [Leo Salgado-Chane](#), Laura Bono-Ros, Marta Delgà, Sergi Valero, Xavi Illa, Elena Del Corro, Rosa Villa, Elisabet Prats-Alfonso, Sergi Brosel-Oliu, Anton Guimerà-Brunet



Continued from Wednesday, 23 September

S10A-T3-8 An in vitro neuroelectronic platform integrating bilayer X-Cut LiNbO3 PMUTs for in situ monitoring of focused ultrasound stimulation (FUS)

» [Stefania Tsilivaki](#), Xiaoxi Zhao, Tomás Manzaneque, Vasiliki Giagka

S10A-T3-9 Long-term operation system for micro passive pumps

» [Katsuo Mogi](#), Reo Shimada, Hiroyuki Kimura, Naoki Takada

S10A-T3-10 Effect of Oxygen Flow Rate on Biomimetic Microstructure Formation on Commercial PMMA Plates by Atmospheric Pressure Low-Temperature Plasma

» [Masashi Yamamoto](#), Ayumu Takada, Akihiro Kawata, Atushi Sekiguchi

S10A-T3-11 Ultra-sensitive Detection of Citrullinated Histone H3 using Rh-PG-based SERS on Hydrophobic SU-8 Nanopillar Substrates

» [Wen-Huei Chang](#), Yu-Cheng Wu, Wei-Chen Kuo, Kuan-Ting Kuo, Min-Ling Chen, Chih-Chia Huang, Chun-Hung Lin

S10A-T3-12 Probing Cell Mechanosensitivity in Microengineered 3D Scaffolds

» [Aída Gabriela Fernández Contreras](#), Boudewijn van der Sanden, Olivier Stephan, Jean-Hervé Tortai, Alice Nicolas

S10A-T3-13 Nanofibrous microparticles and microporous nanofibers for diverse biomedical applications

» [Fatemeh Ajallouei](#)

S10A-T3-14 Spectroscopy and Machine Learning for Early Detection of Chronic Wound Biomarkers

» [Guanting Guo](#)

16:00

Poster : S10A-T4

POSTER 2 - EVEN - T4

Venue - Auditorium Foyer OG - T4

Organised by: Cyrille Hibert

S10A-T4-1 Single-Layer Colored Radiative Cooling Paint Enabled by Ultrahigh NIR Reflectance

» [Jaemin Park](#), Seongwoo Park, Hangyu Lim, Jisung Ha, Sangho Kang, Deokhwan Lee, Heon Lee

S10A-T4-2 Life-cycle assessment of a MEMS optomechanical technological process

» Mathis Lefebvre, Laura Vauche, Marc Gély, [Marc Sansa](#)

S10A-T4-3 Novel positive-tone photoresists for sustainable 193 nm lithography

» [Theodoros Manouras](#), Georgia Markozanne, Alexandros Vasilakis, Vasilios Sarakatsianos, Angeliki-Sofia Foscolos, Stavros Pissadakis, Panagiotis Argitis, Veroniki P Vidali, Maria Vamvakaki

S10A-T4-4 Recyclable digital microfluidic chips for sustainability in bioassays

» [Mert Ozden](#), Jaap Den Toonder, Burcu Gumuscu

S10A-T4-5 Carbon Nanotube Composite Paper as a Flexible Platform for Paper-Dye-Sensitized Solar Cells

» [Yi Kou](#), Takahide Oya

S10A-T4-6 Real-Time EI-TOF-MS Monitoring of Byproducts during ICP Etching of GeSn- and Ge-on-Si

» [Ira Villinger](#), Rutuja Rajendra Mandavkar, Simone Iadanza, Kirsten Moselund, Stephan Pfister

S10A-T4-7 Real-Time Airborne Molecular Contamination Monitoring for Advanced Micro- and Nano-Fabrication

» [Priyanka Bansal](#), Carla Frege, Gabrielle Macgregor, Urs Rohner, Felipe Lopez-Hilfiker

S10A-T4-8 Novel bio-sourced resists for near-UV lithography towards environment-friendly semiconductor manufacturing processes

» Dipti RANI, Kylian Virieux, Stephane Trombotto, Charalampos Katsogridakis, Angeliki Sofia Foscolos, Anastasia Soultati, Veroniki P Vidali, Corinne GABLIN, Didier Leonard, Magin Benedict Ferrer, Olivier Soppera, Panagiotis Argitis, [Yann Chevolut](#), [Jean-louis leclercq](#)



Continued from **Wednesday, 23 September**

S10A-T4-9 Fabrication of new electrodes for high performance Li ion Battery

» [Seungmin Hyun](#), Hye-Mi So, Areum Kim, Jin Young Lee, Minsub Oh

S10A-T4-10 Cu-Ni Electroplating on Carbon Microelectrodes for Silver free Solar Cells

» [Jens Munk Nielsen](#), Stephan Sylvest Keller, Rasmus Schmidt Davidsen

S10A-T4-11 Plasma free etching of silicon to ultra-high aspect ratios with metal assisted chemical etching

» [Bryan Benz](#), Marco Stambanoni, Martino Poggio, Lucia Romano

S10A-T4-12 Electrical nanoprobe role in developing new, efficient, and sustainable energy solutions.

» [Anyu Grushina](#), [Karl Boche](#)

S10A-T4-13 Superhydrophobic SERS Substrates with Patterned Superhydrophilic Regions for Localized Analyte Enrichment

» [Tzu-Yu Chiu](#), Wen-Huei Chang, Wei-Chen Kuo, Chun-Hung Lin

S10A-T4-14 Chitosan-based resists toward sustainable DUV 248 nm photolithography

» [Jeanne Aigo](#), Anaïs Delehelle d'Affroux, Kylian Virieux, Veroniki Vidali, Charalampos Katsogridakis, Angeliki-Sofia Foscolos, Anastasia Soultati, Panagiotis Argitis, Stéphane Trombotto, Ivane Mendes

S10A-T4-15 Electrodeposition-driven tuning in chitosan semi-crystalline structure and implications on piezoelectric performances

» [Valeria D'Errico](#), Gaia de Marzo, Antonio Qualtieri, Massimo De Vittorio

S10A-T4-16 3D pyrolytic carbon electrodes as biophotoanodes in microbial solar cells

» [Rikke Andersen](#), Stephan Sylvest Keller, Jenny Zhang, Jenny Emnéus, Mohammad Ramezannezhad, Linying Shang, Rachel Egan

S10A-T4-17 Cradle-to-gate Life Cycle Assessment (LCA) of Silver-Nanoparticle-Decorated Laser-Induced Graphene (LIG) Environmental Sensors

» [Ivan Ling](#), Rou Xuan Goh, Ishant Patil, Suan Hui Pu, Harold Chong

19:00

General : MNE-BANQUET

MNE Conference BANQUET

Venue - Kongress-Saal

Organised by: Johanna Antoch

Thursday, 24 September

08:55

General : SNC WELCOME

SNC WELCOME

Venue - Auditorium

Organised by: Lorenz Herrmann

09:00

Oral : S11A-T5

SNC Photonics

Venue - Auditorium

Organised by: Tobias Lamprecht

S11A-T5-1 III-V Photonic Devices Monolithically Integrated on Silicon

» [Kirsten Moselund](#)

S11A-T5-2 Tip-enhanced Raman spectroscopy (TERS) for Nanoscale Analysis

» [Naresh Kumar](#)



Continued from Thursday, 24 September

S11A-T5-3 Solid-State Cavity-QED / Tunable Micro-Cavity

» [Richard Warburton](#)

09:00

Oral : S11B-T1

3D Lithography

Venue - Theatersaal

Organised by: Dimitrios Kazazis

S11B-T1-1 3D ice lithography printed structures using gold organometallic precursor and post-processing purification

» [Guilherme Ferreira](#), Bingdong Chang, Gwendoline A. E. Anand, Xiyuan Liu, Hoà Lê Than, Thomas Willum Hansen, Jose María de Teresa, Anpan Han

S11B-T1-2 A Framework for the Controlled Tip-Surface Approach in Tip-based Electron Beam Induced Deposition

» [Johannes Krech](#), Steffen Strehle, Richard Draxler

S11B-T1-3 Two-photon polymerized protein imprinted 3D microstructures for biosensing applications

» [Miriam Polano](#), Valentina Bertana, Francesca Frascella, Simone Luigi Marasso

S11B-T1-4 Staircase Based Design for Optimization of Hollow Microneedle Fabrication by Projection Micro Stereolithography

» [Beatriz Viegas](#), Stephan Sylvest Keller, Ada-Ioana Bunea, Line Hagner Nielsen

S11B-T1-5 Dual Photoresist Maskless UV lithography of Multi-Level 3D Suspended Microstructures for Pyrolytic Carbon Microelectrode Fabrication

» [Mohammad Ramezannezhad](#), Stephan Sylvest Keller, Mohammad Khoskalam, Babak Rezaei, Ivano Eligio Castelli, Rasmus Zarp Lintrup

09:00

Oral : S11C-T3

Bioiontronics and Organ-on-Chip

Venue - Brünig 1+2

Organised by: Katharina Maniura

S11C-T3-1 Bioiontronics for biointerfaces and future medicine

» [Yujia Zhang](#)

S11C-T3-2 Micro-Coil Neuromodulation for Inhibiting Natural Neuroactivity, Neutralizing Electric Neural Excitation, and Suppressing Seizures

» [Su Geneliloglu](#), Kayeon Kim, Xiyuan Liu, Bingdong Chang, Guanghui Li, Gwendoline A. E. Anand, Alexandra Katherine Isis Yonza, Andrew J. Whalen, Rune W. Berg, Shelley I. Fried, Changsi Cai, Anpan Han

S11C-T3-3 Ultrasound-actuated piezoelectric microdevice for remote electrical cell stimulation

» [Marc Navarro](#), Laura Lefaix, Marcos Duque, Andreu Blanquer, Gonzalo Murillo

S11C-T3-4 A precise lesion localization system with integrated battery and wireless communication capabilities

» [Woojin Yun](#), Gapseop Sim, Hae Chul Hwang, Hyungbo Jin, Young Jin Seo, Hyeonjune Kim

09:00

Oral : S11D-T2

Neuromorphic & Mox Devices

Venue - Grimsel 1+2

Organised by: Luis Guillermo Villanueva

S11D-T2-1 How to engineer photocatalytic metal-oxide surfaces

» [Rafael Taboryski](#), Rucha Deshpande, Jesper Navne, David Christoffer Bisp Nielsen, Mathias Adelmarm

S11D-T2-2 Fully Integrated pH-Triggered Smart Microbatteries via ALD-alumina growth

» [Orlane Nicolardot](#), Sandra Perez-Jimenez, Julia Gonzalez, Jaume Esteve, Neus Sabaté, Ferran Pujol



Continued from **Thursday, 24 September**

S11D-T2-3 Transient Threshold-Switching Dynamics of a Bidirectional TaOx Memdiode for Event-Driven Vision Systems

» [Zohreh Hajiabadi](#), Aiden Graham, Harold Chong, David Thomas, Firman Simanjuntak

S11D-T2-4 Microstructure Evolution of doped Ge-rich GeSbTe Heterostructures under Nanosecond and Microsecond Laser Cycling

» [Nicolas Bottin](#), Mathieu Abel, Yannick Le-Friec, David Grojo, Isabelle Berbezier

10:45

Keynote : S12A-T5

SNC Watch Tec

Venue - Auditorium

Organised by: Lorenz Herrmann

S12A-T5-1 Bridging heritage and innovation: Pioneering technologies and advanced materials for the watchmaking industry

» [Xavier Multone](#)

S12A-T5-2 MEMS miniaturization over the last 40 years at Bosch

» [Heiko Stahl](#)

13:15

Oral : S13A-T5

SNC Nano Bio

Venue - Auditorium

Organised by: Barbara Rothen-Rutishauser

S13A-T5-1 Designs substrates to steer cell reactions

» [Alke Fink](#)

S13A-T5-2 Principles in Tissue Engineering

» [Katharina Maniura](#)

S13A-T5-3 Intervertebral disc repair using biomaterials as scaffolds

» [Benjamin Gantenbein](#)

S13A-T5-4 Molecular design rules at the bio-interface

» [Maartje Bastings](#)

13:15

Oral : S13B-T1

UV and Laser Lithography

Venue - Theatersaal

Organised by: Dimitrios Kazazis

S13B-T1-1 Laser-Induced Re-entrant Nanobead Structures for Hydrophobic Transparent Surfaces

» [Ren Goto](#), Masaki Yamaguchi

S13B-T1-2 Monolithic fabrication and integration of complementary organic mixed ionic-electronic circuits using direct photo-patterning

» [Charles-Théophile Coen](#), Niels Burghoorn, Jaap Den Toonder, Yoei van de Burgt

S13B-T1-3 UV-lithography on rough and industrially relevant surfaces

» [Emelie Haettner](#), Susanne Norgren, Rachid M'Saoubi, Adam Burke, Anders Mikkelsen, Ivan Maximov

S13B-T1-4 First experimental results of holographic single-exposure patterning in spray coated resist on structured Si-wafers with 100µm deep etched cavities

» [Mikhail Borisov](#), [Vitaly Chernik](#), Vadim Rakhovsky, Alexey Shamaev, Sebastian Schermer, Christian Helke, Danny Reuter

S13B-T1-5 Quasi-periodic masks for enhanced Displacement Talbot Lithography

» [Leo Nind](#), Pengfei Fan, Pierre Chausse, [Philip Shields](#)



Continued from **Thursday, 24 September**

13:15 **Oral : S13C-T3**
Microneedles and Sensing
Venue - Brünig 1+2
 Organised by: Katharina Maniura

S13C-T3-1 Organic Electrochemical Transistors for Enhanced Potentiometric Sensing of Neurochemicals

» Emily Schafer, Timothe Dufour, Sandra Hernandez Escobar, Alexandra Banbanaste, Niel Mistry, Nako Nakatsuka

S13C-T3-2 High-resolution SLA 3D-printed cochlear twins with scala tympani and vestibuli for electrode insertion force analysis and surgical optimization

» Chloé Morice, Margaud Rivi re, Niels Brun, Christophe Guissard, Adrian Laborde, Laurent Malaquin, Guillaume TOURREL, Julie Foncy

S13C-T3-3 Bi-directional Nanoelectrode Array Platform for High-Resolution Interfacing of in-vitro Neural Network

» Nathan Andler, Ines Muguet, Emilie Belot, Fabrice Mathieu, Marie-Charline Blatche, Laurent Mazenq, Guilhem Larrieu

S13C-T3-4 Organ-on-a-Chip Integration of a Fluorescent-Nanodiamond/Collagen Porous Membrane for All-Optical Extracellular Thermometry

» Momoka Yoshitake, Daiki Ueshima, Taiichi Shikama, Kenichiro Kamei, Osamu Tabata, Yoshikazu Hirai

S13C-T3-5 High-density flexible neural implants with submicron feedline resolution

» Lina Koschinski, George Malliaras, Andreas Offenh usser, Viviana Rincon Montes

13:15 **Oral : S13D-T2**
Quantum and Novel Devices
Venue - Grimsel 1+2
 Organised by: Luis Guillermo Villanueva

S13D-T2-1 Towards in-plane monolithic integration of Ge on SOI for photodetector architectures

» Mariona Bon s Vera, Ludovica Lunghi, Beiqi Ding, Simone Iadanza, Anna Fontcuberta i Morral, Kirsten Moselund

S13D-T2-2 Laser-based Local Contacts Activation of Carbon Nanotube Field Effect Transistors

» Ines Kraiem, Michael Young, David Wolf, Christofer Hierold, Miroslav Haluska

S13D-T2-3 InP Micropillar Single-Photon Sources at Telecom Wavelengths: Selective-Area Epitaxy Toward Deterministic Quantum Dots

» Konstantinos Papatryfonos, Louis Thomas, Ludovic Desplanque

S13D-T2-4 Electron-beam defined MEMS break junctions for controlled single-molecule measurements

» Peter Lendway, Ute Drechsler, Antonis Olziersky, Christofer Hierold, Michel Calame, Mickael L. Perrin

S13D-T2-5 Development of Suspended Graphene Bridges as High-Brightness Cold Field Emission Cathodes

» Soheil Hajibaba, Takatoshi Yamada, Christof Schneider, Narmadha Devi Suresh Kumar, Thomas Jung, Soichiro Tsujino

15:00 **Oral : S14A-T5**
SNC Awards
Venue - Auditorium
 Organised by: Lorenz Herrmann

15:00 **Oral : S14B-T1**
Deep Learning
Venue - Theatersaal
 Organised by: Dimitrios Kazazis

S14B-T1-1 Deep Learning Prediction and Optimisation of Nanolithography Processes

» Ismaeil Alnaab, Ying Tran, Ben Mills, Yasir Noori



Continued from Thursday, 24 September

S14B-T1-2 A Hybrid Physics-Machine Learning Framework for Fast, Predictive Low-Pressure Plasma Etching Models

» Eleri Boniakou, Sotiris Mouchtouris, Chloi Zormpa, Katerina Oikonomou, Alex Kondi, Vassilios Constantoudis, [Evangelos Gogolides](#), George Kokkoris

S14B-T1-3 Learning 3D Line/Space Topography from SEM Images with AFM-Based Validation

» [Alex Kondi](#), Efi-Maria Papia, Vassilios Constantoudis, Evangelos Gogolides, Jean-David Isasa, Yasin Ekinici, Dimitrios Kazazis, Benedicte Mortini, Jan Thiesler, Dorothee Hüser, Gaoliang Dai

15:00

Oral : S14C-T3

Microfluidics 2

Venue - Brünig 1+2

Organised by: Katharina Maniura

S14C-T3-1 Additive manufacturing of thin-film heater integrated for microfluidic loop-mediated isothermal amplifications

» [Namwon Kim](#)

S14C-T3-2 Miniaturized Self-Unfolding Foil for Oral Gastric Mucosal Vaccination Against H. pylori

» [Johnson Ebenezer Rajendran](#), Juliane Fjelrad Christfort, Anja Boisen

S14C-T3-3 Toward Brain Organoid-on-a-Chip: 3D Nanoprinted Structures Drive Robust Integration of Brain Organoids

» [Tobias Müller](#), Malte Siegmund, Emma Wollesen, Kim Krieg, Maya Luongo, Wolfgang Parak, Ole Pleß, Jan Hahn, Robert Zierold, Robert Blick

15:00

Oral : S14D-T2

Chemical Sensors and Simulation

Venue - Grimsel 1+2

Organised by: Luis Guillermo Villanueva

S14D-T2-1 Coupled lattice Boltzmann-discrete element modeling of deterministic lateral displacement devices

» [Alap Mundayoor](#), Samuel Kemmler, Christian Schwemmer, Andreas Erdmann, Harald Koestler, John T. Fourkas

S14D-T2-2 Reactive ion etching-based fabrication of pyrolytic carbon interdigitated microelectrodes for electrochemical redox cycling amplification

» [Nicolai Støvring](#), Mohammad Ramezannezhad, Marc Bernet I Garcia, Henri Jansen, Stephan Sylvest Keller

S14D-T2-3 Humidity-Driven Wrinkling of Plasma-Oxidized PDMS Bilayers for Reversible Optical Sensing

» [Zain Ahmad](#), Christopher Stafford, Jack Douglas, Jerry Heng, Joao Cabral

16:00

Keynote : S15A-T3

Microfluidics 3

Venue - Auditorium

Organised by: Nako Nakatsuka, Katharina Maniura, and Michel Calame

S15A-T3-1 BioMEMS and microfluidics

» [Ellis Meng](#)

S15A-T3-2 Microfluidic technologies for high throughput biological experimentation

» [Andrew deMello](#)

17:30

General : MNE-CLOSING

MNE Closing CEREMONY

Venue - Auditorium

Organised by: Yasin Ekinici and Nako Nakatsuka