Monday, 25 September

6pm **Welcome Reception**
Atrium

Tuesday, 26 September

7:30am **Reception/Registration**
Atrium

8:30am **Opening Ceremony**
Plenary Hall (MOA12/08/07)

8:45am **Keynote Andreas Tünnermann**
Plenary Hall (MOA12/08/07)

Micro- and nano-optics – enabler of revolutionary changes in photonics

9:25am **Keynote Bernard Kress**
Plenary Hall (MOA12/08/07)

Pushing the limits of micro- and nanofabrication for immersive displays

10:05am **Coffee Break**
Atrium

10:35am **Keynote Thomas Glinsner**
Plenary Hall (MOA12/08/07)

Nanoimprint Lithography – Unleashing its Potential

11:15am **Break**

11:30am **Track1 - Novel Developments in Nano/Micro Fabrication Methods and Processes**
MOA12
Chaired by: Dr. Ralf Steingrüber and Ines Stolberg

11:30am **O-S11-T1-1 Scalable, Full-Wafer Fabrication of High Performance, All-Inorganic Metalenses, Waveguides and Diffractive Optics via Nanoimprint Lithography**
» Dr. Dae Eon Jung (University of Massachusetts Amherst), Dr. Vincent Einck (University of Massachusetts Amherst), Mr. Lucas Verrastro (University of Massachusetts Amherst), Prof. Amir Arbabi (University of Massachusetts Amherst), Prof. James Watkins (University of Massachusetts Amherst)

11:45am **O-S11-T1-2 Investigation of different focused ion beam systems and milling strategies for structuring crystalline semiconductors and polycrystalline metal layers**
» Dr. Thomas Loeber (RPTU Kasierslautern - Landau), Dr. Bert Laegel (RPTU Kasierslautern - Landau), Prof. Georg von Freymann (RPTU Kasierslautern - Landau)

12pm **O-S11-T1-3 Research and Development Activities of EUVL at NewSUBARU Synchrotron Light Facility**
» Prof. Takeo Watanabe (University of Hyogo), Dr. Tetsuo Harada (Center for EUVL, Laboratory of Advanced Science and Technology for Industry, University of Hyogo), Dr. Shinji Yamakawa (Center for EUVL, Laboratory of Advanced Science and Technology for Industry, University of Hyogo)

12:15pm **O-S11-T1-4 Nano-antennas with decoupled transparent leads for opto-electronic studies**
» Ms. Melanie Sommer (University of Tübingen), Dr. Florian Laible (University of Tübingen), Dr. Kai Braun (University of Tübingen), Prof. Alfred Meixner (University of Tübingen), Prof. Monika Fleischer (University of Tübingen)

Continued from **Tuesday, 26 September**

11:30am **Track2 - Fabrication and Integration of Micro/Nano Structures, Devices and Systems**

MOA4/5

Chaired by: Prof. Regina Luttge and Dr. Jean-Francois de Marneffe

11:30am **O-S12-T2-1 Plasmonic black coatings with broadband absorption**

» Dr. Mario Ziegler (Leibniz Institute for Photonic Technology e.V.), Dr. David Zanders (Ruhr University Bochum), Mr. Valentin Ripka (Leibniz Institute for Photonic Technology e.V.), Mr. Hanjörg Wagner (Leibniz Institute for Photonic Technology e.V.), Ms. Vilborg Vala Sigurjónsdóttir (Leibniz Institute for Photonic Technology e.V.), Prof. Anjana Devi (Ruhr University Bochum), Dr. Uwe Hübner (Leibniz Institute for Photonic Technology e.V.)

11:45am **O-S12-T2-2 A spin-on-carbon/thin-metal based metasurface for broadband light modulation**

» Mr. Shuoqiu Tian (Fudan university), Prof. Yifang Chen (Fudan university)

12pm **O-S12-T2-3 Durable Icephobic Superhydrophobic Silicon Nanowires Surfaces**

» Mr. Miika Heikkilä (Aalto University), Ms. Laura Fieber (Aalto University), Mr. Seyed Mehran Mirmohammadi (Aalto University), Dr. Ville Jokinen (Aalto University), Prof. Sami Franssila (Aalto University)

12:15pm **O-S12-T2-4 Photoinduced reconfigurable hydrophilic pattern generation in thin film metal oxides**

» Mr. Jesper Navne (Technical University of Denmark), Ms. Rucha A. Deshpande (Technical University of Denmark), Mr. Mathias Adelmark (Technical University of Denmark), Mr. Evgeniy Shkondin (DTU Nanolab), Prof. Julien Bachmann (Friedrich-Alexander-Universität Erlangen-Nürnberg), Prof. Rafael Taboryski (Technical University of Denmark)

11:30am **Track2 - Fabrication and Integration of Micro/Nano Structures, Devices and Systems**

MOA6

Chaired by: Dr. Helmut Schift and Prof. Uzodinma Okoroanyanwu

11:30am **O-S13-T2-1 3D Printing of Molecularly Imprinted Polymers by Digital Light Processing for antibiotics recovery**

» Ms. Elena Camilli (Politecnico di Torino), Mr. Wei Tang (The University of Tokyo), Dr. Ignazio Roppolo (Politecnico di Torino), Dr. Francesca Frascella (Politecnico di Torino), Mrs. Valentina Bertana (Politecnico di Torino), Prof. Matteo Cocuzza (Politecnico di Torino), Prof. Tsuyoshi Minami (The University of Tokyo), Dr. Simone Luigi Marasso (CNR)

11:45am **O-S13-T2-2 Fully inkjet printed and metallized waveguide antenna for RADAR application**

» Mr. Peter Bauer (PROFACTOR GmbH), Mr. Gerald Stubauer (PROFACTOR GmbH), Dr. Pavel Kulha (PROFACTOR GmbH), Dr. Michael Haslinger (PROFACTOR GmbH), Mr. Christian Debatin (Notion Systems GmbH), Mr. Jochen Seeser (Notion Systems GmbH), Dr. Alexander Fischer (Robert Bosch GmbH), Dr. Istvan Denes (Robert Bosch GmbH), Dr. Dieter Holzinger (TIGER Coatings GmbH & Co KG), Dr. Doron Gurovich (PV Nano Cell Ltd), Mr. Semyon Melamed (PV Nano Cell Ltd)

12pm **O-S13-T2-3 Focused Ion Beam sample preparation for Reverse Tip Sample SPM applications**

» Mr. Pieter Lagrain (IMEC), Mr. Lennaert Wouters (IMEC), Mr. Kris Paulussen (IMEC), Dr. Eva Grieten (IMEC), Dr. Geert Van den Bosch (IMEC), Dr. Sana Rachidi (IMEC), Dr. Didit Yudistira (IMEC), Dr. Thomas Hantschel (IMEC)

12:15pm **O-S13-T2-4 Block copolymer nanostructured Si thin films for thermoelectric enhancement**

» Mr. Alex Rodriguez-Iglesias (Institute of Microelectronics of Barcelona (IMB-CNM-CSIC)), Dr. Iñigo Martín-Fernández (Institute of Microelectronics of Barcelona (IMB-CNM-CSIC)), Dr. Francesc Perez-Murano (Institute of Microelectronics of Barcelona (IMB-CNM-CSIC)), Dr. Joaquín Santander (Institute of Microelectronics of Barcelona (IMB-CNM-CSIC)), Dr. F. Xavier Álvarez (Universitat Autònoma de Barcelona (UAB)), Dr. Aitor F. Lopeandia (Universitat Autònoma de Barcelona (UAB)), Dr. Luis Fonseca (Instituto de Microelectrónica de Barcelona (IMB-CNM, CSIC)), Dr. Libertad Abad (Instituto de Microelectrónica de Barcelona (IMB-CNM, CSIC)), Dr. Marc Salleras (Instituto de Microelectrónica de Barcelona (IMB-CNM, CSIC)), Dr. Marta Fernández-Regúlez (Instituto de Microelectrónica de Barcelona (IMB-CNM, CSIC))

Continued from **Tuesday, 26 September**

11:30am **Invited Talk Claudia Bock**
MOA9
Chaired by: Prof. Dieter P. Kern and Dr. Angelo Accardo

O-S14-T4-1 Toward ohmic contacts on plasma-enhanced atomic layer deposited molybdenum disulfide

12pm **Track4 - Micro/Nano Engineering for Physical and Chemical Applications**
MOA9
Chaired by: Prof. Dieter P. Kern and Dr. Angelo Accardo

12pm

O-S14-T4-2 Group IV nanowires for nano-/optoelectronic and sensing applications
» Dr. Muhammad Bilal Khan (Institute of Ion Beam Physics and Materials Research, Helmholtz-Zentrum Dresden-Rossendorf (HZDR)), Mr. Ahmad Echresh (Institute of Ion Beam Physics and Materials Research, Helmholtz-Zentrum Dresden-Rossendorf (HZDR)), Mr. Sayantan Ghosh (Institute of Ion Beam Physics and Materials Research, Helmholtz-Zentrum Dresden-Rossendorf (HZDR)), Mr. Oliver Steuer (Institute of Ion Beam Physics and Materials Research, Helmholtz-Zentrum Dresden-Rossendorf (HZDR)), Mr. Muhammad Moazzam Khan (Institute of Ion Beam Physics and Materials Research, Helmholtz-Zentrum Dresden-Rossendorf (HZDR)), Dr. Slawomir Prucnal (Institute of Ion Beam Physics and Materials Research, Helmholtz-Zentrum Dresden-Rossendorf (HZDR)), Dr. Lars Rebohle (Institute of Ion Beam Physics and Materials Research, Helmholtz-Zentrum Dresden-Rossendorf (HZDR)), Dr. Shengqiang Zhou (Institute of Ion Beam Physics and Materials Research, Helmholtz-Zentrum Dresden-Rossendorf (HZDR)), Prof. Manfred Helm (Institute of Ion Beam Physics and Materials Research, Helmholtz-Zentrum Dresden-Rossendorf (HZDR)), Prof. Artur Erbe (Institute of Ion Beam Physics and Materials Research, Helmholtz-Zentrum Dresden-Rossendorf (HZDR)), Dr. Yordan Georgiev (Institute of Ion Beam Physics and Materials Research, Helmholtz-Zentrum Dresden-Rossendorf (HZDR))

12:15pm **O-S14-T4-3 Gas sensing properties of thin Carbyne-enriched coatings on micro- InterDigitated Electrodes**
» Dr. Ioannis Raptis (NCSR Demokritos), Dr. Petros Oikonomou (Institute of Nanoscience and Nanotechnology, NCSR Demokritos, Aghia Paraskevi 15341, Attiki, Greece), Mr. Athanasios Botsialas (Institute of Nanoscience and Nanotechnology, NCSR Demokritos, Aghia Paraskevi 15341, Attiki, Greece), Prof. Mariya Aleksandrova (TU Sofia), Dr. Angeliki Tserepi (Institute of Nanoscience and Nanotechnology, NCSR Demokritos, Aghia Paraskevi 15341, Attiki, Greece), Dr. Evangelos Gogolides (NCSR Demokritos)

12:30pm **Lunch Break**

1:30pm **Invited Talk Marc A. Verschuuren**
MOA12
Chaired by: Prof. Urs Staufer and Julian Hartbaum

O-S21-T1-1 Full wafer based soft-NIL of functional materials for photonics and bio applications

1:30pm **Focus Track - Next Generation Quantum Computing and related Materials**
MOA4/5
Chaired by: Dr. Jens Bolten and Prof. Harold Chong

1:30pm **O-S22-FT-1 Optimizing Josephson Junction manufacturing to increase yield and throughput in Qubit fabrication**
» Dr. Marcus Rommel (Chalmers University of Technology)

1:45pm **O-S22-FT-2 Nanofabrication methodology and optimization for photon extraction on diamonds' NV center**
» Dr. Mohammad Soltani (Institute for quantum computing (IQC), University of Waterloo), Dr. Behrooz Semnani (Institute for quantum computing (IQC), University of Waterloo), Mr. AbdolReza Pasharavesh (Institute for quantum computing (IQC), University of Waterloo), Mr. Vinodh Raj Rajagopal Muthu (Institute for quantum computing (IQC), University of Waterloo), Prof. Christopher Wilson (Institute for quantum computing (IQC), University of Waterloo), Prof. Michal Bajcsy (Institute for quantum computing (IQC), University of Waterloo)

Continued from **Tuesday, 26 September**

2pm

O-S22-FT-3 Integrated superconducting single photon detectors for trapped ion quantum computers

» Mr. Philipp Hoffmann (Physikalisch-Technische Bundesanstalt (PTB)), Dr. Alexander Fernandez Scarioni (Physikalisch-Technische Bundesanstalt (PTB)), Dr. Sebastian Raupach (Physikalisch-Technische Bundesanstalt (PTB)), Mr. Peter Hinze (Physikalisch-Technische Bundesanstalt (PTB)), Dr. Thomas Weimann (Physikalisch-Technische Bundesanstalt (PTB)), Dr. Mark Bieler (Physikalisch-Technische Bundesanstalt (PTB))

2:15pm

O-S22-FT-4 Design, fabrication and characterization of diamond nanophotonic structures for quantum networks applications

» Mrs. Nina Codreanu (QuTech and Kavli Institute of Nanoscience, Delft University of Technology), Dr. Lorenzo De Santis (QuTech and Kavli Institute of Nanoscience, Delft University of Technology), Mr. Matteo Pasini (QuTech and Kavli Institute of Nanoscience, Delft University of Technology), Mrs. Julia Brevoord (QuTech and Kavli Institute of Nanoscience, Delft University of Technology), Mr. Christian Primavera (QuTech and Kavli Institute of Nanoscience, Delft University of Technology), Mr. Adria Riera-Moral (QuTech and Kavli Institute of Nanoscience, Delft University of Technology), Prof. Ronald Hanson (QuTech and Kavli Institute of Nanoscience, Delft University of Technology), Prof. Simon Groeblacher (Department of Quantum Nanoscience and Kavli Institute of Nanoscience, Delft University of Technology)

2:30pm

O-S22-FT-5 MOCVD of 2D Materials and Heterostructures

» Mr. Jan Mischke (AIXTRON SE), Dr. Simonas Krotkus (AIXTRON SE), Dr. Sergej Pasko (AIXTRON SE), Mr. Haonan Tang (AIXTRON SE), Dr. Xiaochen Wang (AIXTRON Ltd.), Mr. Ben Conran (AIXTRON Ltd.), Dr. Clifford McAleese (AIXTRON Ltd.), Dr. Richard John Walker (AIXTRON Ltd.), Dr. Alexander Henning (AIXTRON SE), Prof. Prof. Dr. Michael Heuken (AIXTRON SE)

1:30pm

Track2 - Fabrication and Integration of Micro/Nano Structures, Devices and Systems

MOA6

Chaired by: Dr. Michel DESPONT and Mr. Dominique Colle

1:30pm

O-S23-T2-1 Integrating top-down nanopatterning with bottom-up self-assembly to fabricate photonic cavities with atomic-scale dimensions

» Mr. Ali Nawaz Babar (DTU Electro, Department of Electrical and Photonics Engineering, Technical University of Denmark, Kgs. Lyngby, Denmark.), Mr. Thor August Schimmell Weis (DTU Electro, Department of Electrical and Photonics Engineering, Technical University of Denmark, Kgs. Lyngby, Denmark.), Mr. Konstantinos Tsoukalas (DTU Electro, Department of Electrical and Photonics Engineering, Technical University of Denmark, Kgs. Lyngby, Denmark.), Dr. Shima Kadkhodazadeh (DTU Nanolab, Technical University of Denmark, Kgs. Lyngby, Denmark.), Dr. Guillermo Arregui (DTU Electro, Department of Electrical and Photonics Engineering, Technical University of Denmark, Kgs. Lyngby, Denmark.), Dr. Babak Vosoughi Lahijani (DTU Electro, Department of Electrical and Photonics Engineering, Technical University of Denmark, Kgs. Lyngby, Denmark.), Dr. Søren Stobbe (DTU Electro, Department of Electrical and Photonics Engineering, Technical University of Denmark, Kgs. Lyngby, Denmark.)

1:45pm

O-S23-T2-2 Evaluation of the van der Waals force on the CNT Slipping Process in Transmission Electron Microscope

» Mr. Keisuke Higashitani (University of Tsukuba), Prof. Samel Jeong (University of Tsukuba), Prof. Keishi Akada (University of Tsukuba), Dr. Toshihiko Fujimori (Sumitomo Electric Industries, Ltd.), Prof. Fujita Jun-ichi (University of Tsukuba)

2pm

O-S23-T2-3 Harvesting and optical manipulation of 4D printed hydrogel microrobots

» Mr. Stefan Sützl (Technical University of Denmark), Mr. Daniel Maher (Technical University of Denmark), Mr. Marcin Piekarczyk (Technical University of Denmark), Dr. Colm Delaney (Trinity College Dublin), Dr. Larisa Florea (Trinity College Dublin), Dr. Ada-Ioana Bunea (Technical University of Denmark)

2:15pm

O-S23-T2-4 Conventional fabrication techniques with high yield for a tuneable room temperature single-electron transistor and field-effect transistor

» Mr. Kai-Lin Chu (Imperial College London), Dr. Faris Abualnaja (Imperial College London), Mr. Wenkun He (Imperial College London), Dr. Mervyn Jones (Imperial College London), Dr. Zahid Durrani (Imperial College London)

Continued from **Tuesday, 26 September**

2:30pm **O-S23-T2-5 Structural and morphological study on a-Ge based nanostructures: dewetting from flat to patterned films**
» Dr. Sonia Freddi (Institute of Photonics and Nanotechnology (IFN) – CNR), Mr. Michele Gherardi (Department of Physics, Politecnico di Milano), Dr. Dominique Chatain (Aix-Marseille Univ, CNRS, CINaM), Prof. Gianfranco Sfuncia (Istituto per la microelettronica e microsistemi (IMM) -CNR), Prof. Giuseppe Nicotra (Istituto per la microelettronica e microsistemi (IMM) -CNR), Dr. Mohammed Bouabdellaoui (Aix-Marseille Univ, CNRS, CINaM and Solnil), Ms. Chiara Barri (Department of Physics, Politecnico di Milano), Mr. Luca Fagiani (Politecnico di Milano), Dr. Alexey Fedorov (Department of Physics, Politecnico di Milano), Dr. Marco Abbarchi (Aix Marseille Univ, Université de Toulon and Solnil), Dr. Monica Bollani (CNR)

1:30pm **Track4 - Micro/Nano Engineering for Physical and Chemical Applications**
MOA9
Chaired by: Dr. John Randall and Dr. Anya Grushina

1:30pm **O-S24-T4-1 Micro-scaled chemical oscillator networks - towards chemical computing**
» Ms. Jacqueline Figueiredo da Silva (IBM Research Zurich), Dr. Robert Lovchik (IBM Research Zurich), Dr. Vesna Bacheva (IBM Research Zurich), Ms. Ute Drechsler (IBM Research Zurich), Mr. Steffen Reidt (IBM Research Zurich), Prof. Juan Perez-Mercader (Harvard University), Dr. Armin Knoll (IBM Research Zurich), Dr. Heiko Wolf (IBM Research Zurich)

1:45pm **O-S24-T4-2 Laser production of clean energy by laser micro and nano-bubbling in liquids**
» Prof. G.W. Yang (School of Materials Science & Engineering, Sun Yat-sen University, Guangzhou 510275, P. R. China)

2pm **O-S24-T4-3 Fabrication of self-powered wearable pressure sensing system based on PVDF-TrFE and ionic liquid**
» Prof. Je Hoon Oh (Hanyang University), Ms. Chaeeun Lee (Hanyang University), Mr. Changwoo Cho (Hanyang University)

2:15pm **O-S24-T4-4 Resonance tuning in plasmonic nanorings**
» Mr. Wei Tao (University of Technology of Troyes), Dr. Florian Laible (University of Tübingen), Dr. Abdelhamid Hmima (University of Technology of Troyes), Ms. Oceane Guillot (University of Tübingen), Prof. Thomas Maurer (University of Technology of Troyes), Prof. Monika Fleischer (University of Tübingen)

2:30pm **O-S24-T4-5 Fabrication of silicon gratings for an X-ray free electron laser spectrometer**
» Dr. Joan Vila-Comamala (Paul Scherrer Institute), Dr. Elisabeth Marie Skoropata (Paul Scherrer Institute), Dr. Cristian Svetina (IMDEA Nanociencia), Prof. Luc Patthey (Paul Scherrer Institute), Dr. Konstantins Jefimovs (Paul Scherrer Institute), Dr. Elia Razzoli (Paul Scherrer Institute), Dr. Christian David (Paul Scherrer Institute)

2pm **Track1 - Novel Developments in Nano/Micro Fabrication Methods and Processes**
MOA12
Chaired by: Prof. Urs Staufer and Julian Hartbaum

2pm **O-S21-T1-2 An effective and promising process for manufacturing nanofluidic channels in large scale**
» Mr. Wentao Yuan (Fudan university), Mr. Shuoqiu Tian (Fudan university), Prof. Yifang Chen (Fudan university)

2:15pm **O-S21-T1-3 3D laser direct lithography for maskless patterning on large-format complex surfaces**
» Mr. Julian Hürtgen (Fraunhofer ILT)

2:30pm **O-S21-T1-4 Rapid Tooling for Injection Moulding with DLP 3D Printing**
» Mr. Duarte Menezes (University of Glasgow), Ms. Alysha Hunter (University of Glasgow), Prof. Nikolaj Gadegaard (University of Glasgow)

2:45pm **Break**

Continued from **Tuesday, 26 September**

3pm **Track1 - Novel Developments in Nano/Micro Fabrication Methods and Processes**
MOA12
Chaired by: Prof. JaeJong Lee and Dr. Anja Voigt

3pm **O-S31-T1-1 A Unique New Correlative Microscopy Platform for Combined Nanoscale Microscopy by Combination of AFM and SEM**
» Dr. Christian Schwalb (Quantum Design Microscopy GmbH)

3:15pm **O-S31-T1-2 Millimeter-Scale Van Der Waals Graphene-MoS2 Heterostructures Verified by Raman Spectroscopy**
» Mr. Nico Rademacher (Chair of Electronic Devices, RWTH Aachen University), Mr. Eros Reato (Chair of Electronic Devices, RWTH Aachen University), Ms. Annika Grundmann (Compound Semiconductor Technology, RWTH Aachen University), Prof. Prof. Dr. Michael Heuken (AIXRT), Dr. Holger Kalisch (Compound Semiconductor Technology, RWTH Aachen University), Prof. Andrei Vescan (Compound Semiconductor Technology, RWTH Aachen University), Dr. Alwin Daus (Chair of Electronic Devices, RWTH Aachen University), Prof. Max C. Lemme (Chair of Electronic Devices, RWTH Aachen University and AMO GmbH, Advanced Microelectronic Center Aachen)

3:30pm **O-S31-T1-3 Wafer-Level Zone Casting of Additive-Free Graphene Dispersion**
» Mr. Marc Stevens (Fraunhofer ENAS), Dr. Sascha Hermann (Fraunhofer ENAS)

3:45pm **O-S31-T1-4 Damage-free Plasma-assisted Atomic Layer Deposition of High-quality Dielectrics on 2D Materials**
» Dr. Sarah Riazimehr (Oxford Instruments), Dr. Harm Knoops (Oxford Instruments), Mrs. Ardeshir Esteki (RWTH Aachen), Dr. Gordon Rinke (AMO GmbH), Mr. Martin Otto (AMO GmbH), Dr. Zhenxing Wang (AMO GmbH), Prof. Max Lemme (AMO GmbH), Dr. Katie Hore (Oxford Instruments)

4pm **O-S31-T1-5 Synthesis of super-flat graphene on substrates selected by molecular dynamics calculation**
» Dr. Satoru Kaneko (KISTEC), Prof. Takashi Tokumasu (Tohoku University), Dr. Satomi Tanaka (KISTEC), Dr. Chihiro Kato (KISTEC), Dr. Manabu Yasui (KISTEC), Dr. Masahito Kurouchi (KISTEC), Dr. Daishi Shiojiri (aaa), Mr. Masahiko Mitsuhashi (KISTEC), Prof. Ruei-Sung Yu (Asia University), Dr. Shihgeo Yasuhara (Japan Advanced Chemicals), Prof. Musa Can (Istanbul University), Dr. Kripasindhu Sardar (National Cheng Kung University), Dr. Sumanta Sahoo (Radhakrishna Institute of Technology and Engineering), Prof. Masahiro Yoshimura (National Cheng Kung University), Dr. Akifumi Matsuda (Tokyo Institute of Technology), Prof. Mamoru Yoshimoto (T)

3pm **Invited Talk Michael Heuken**
MOA4/5
Chaired by: Dr. Frank Dirne and Dr. Michael Hornung

O-S32-T2-1 Review on recent MOCVD developments

3pm **Track2 - Fabrication and Integration of Micro/Nano Structures, Devices and Systems**
MOA6
Chaired by: Dr. Francesc Perez-Murano and Dr. Ioannis Raptis

3pm **O-S33-T2-1 Dry release of MEMS Al2O3 origami for facet-based device integration with assistance of SU-8 reinforcement and folding stopping bars**
» Mr. Jianran Zhang (Dresden University of Technology Center for Advancing Electronics Dresden), Dr. Carsten Strobel (TU Dresden), Prof. Thomas Mikolajick (Dresden University of Technology Center for Advancing Electronics Dresden), Dr. Robert Kirchner (Dresden University of Technology Center for Advancing Electronics Dresden)

Continued from **Tuesday, 26 September**

3:15pm

O-S33-T2-2 Near-infrared photodetectors based on single germanium nanowires

» Mr. Ahmad Echresh (Institute of Ion Beam Physics and Materials Research, Helmholtz-Zentrum Dresden-Rossendorf (HZDR)), Mr. Mohd Saif Shaikh (Institute of Ion Beam Physics and Materials Research, Helmholtz-Zentrum Dresden-Rossendorf (HZDR)), Prof. Manfred Helm (Institute of Ion Beam Physics and Materials Research, Helmholtz-Zentrum Dresden-Rossendorf (HZDR)), Prof. Artur Erbe (Institute of Ion Beam Physics and Materials Research, Helmholtz-Zentrum Dresden-Rossendorf (HZDR)), Dr. Yonder Berencén (Institute of Ion Beam Physics and Materials Research, Helmholtz-Zentrum Dresden-Rossendorf (HZDR)), Dr. Lars Rebohle (Institute of Ion Beam Physics and Materials Research, Helmholtz-Zentrum Dresden-Rossendorf (HZDR)), Dr. Yordan Georgiev (Institute of Ion Beam Physics and Materials Research, Helmholtz-Zentrum Dresden-Rossendorf (HZDR))

3:30pm

O-S33-T2-3 The coexistence of volatile and non-volatile resistive switching in WTe2 conductive bridge random access memory devices for neuromorphic computing

» Dr. Haider Abbas (Nanyang Technological University), Dr. Asif Ali (Nanyang Technological University), Mr. Jiayi Li (Nanyang Technological University), Prof. Diing Shenp Ang (Nanyang Technological University)

3:45pm

O-S33-T2-4 Development of thermal rectification on asymmetric defect engineered graphene device

» Dr. Mohammad Razzakul Islam (Japan Advanced Institute of Science and Technolgy), Dr. Afsal Kareekunnam (Japan Advanced Institute of Science and Technolgy), Prof. Hiroshi Mizuta (Japan Advanced Institute of Science and Technolgy)

4pm

O-S33-T2-5 2D BDiode – A Switchable Bidirectional Diode for Analog Electronic Circuits Fabricated Entirely from 2D Materials

» Dr. Christian Matthus (Chair for Circuit Design and Network Theory, Technische Universität Dresden), Mr. Phanish Chava (Institute of Ion Beam Physics and Materials Research, Helmholtz-Zentrum Dresden-Rossendorf (HZDR)), Dr. Kenji Watanabe (Research Center for Functional Materials, National Institute for Materials Science, 1-1 Namiki, Tsukuba 305-0044, Japan), Dr. Takashi Taniguchi (Internat. Center for Materials Nanoarchitectonics, National Institute for Materials Science, 1-1 Namiki,), Prof. Thomas Mikolajick (Dresden University of Technology Center for Advancing Electronics Dresden), Prof. Artur Erbe (Institute of Ion Beam Physics and Materials Research, Helmholtz-Zentrum Dresden-Rossendorf (HZDR))

3pm

Track4 - Micro/Nano Engineering for Physical and Chemical Applications

MOA9

Chaired by: Dr. Robert Kirchner and Dr. Irene Fernandez-Cuesta

3pm

O-S34-T4-1 3D printed diffractive optical elements for rapid prototyping.

» Dr. Daniel Fan (University of Melbourne), Dr. Sejeong Kim (University of Melbourne)

3:15pm

O-S34-T4-2 Bowtie photonic-crystal waveguides as strong light-matter interfaces

» Dr. Guillermo Arregui (Technical University of Denmark), Mr. Ali Nawaz Babar (Technical University of Denmark), Ms. Anastasiia Vladimirova (Technical University of Denmark), Mr. Christian Anker Rosiek (Technical University of Denmark), Dr. Babak Vosoughi Lahijani (Technical University of Denmark), Dr. Søren Stobbe (Technical University of Denmark)

3:30pm

O-S34-T4-3 qBIC-based metasurfaces on SOI for light polarization control

» Mr. Luca Fagiani (Politecnico di Milano), Dr. Luca Bolzonello (ICFO - Institut de Ciencies Fotoniques), Dr. Johann Osmond (ICFO - Institut de Ciencies Fotoniques), Prof. Domenico de Ceglia (University of Brescia), Prof. Niek Van Hulst (ICFO - Institut de Ciencies Fotoniques), Dr. Monica Bollani (Institute of Photonics and Nanotechnologies - Consiglio Nazionale delle Ricerche (IFN-CNR)), Dr. Maria Antonietta Vincenti (University of Brescia)

Continued from **Tuesday, 26 September**

3:45pm **O-S34-T4-4 UV-NIL based High-Throughput, Reproducible, and Cost-Effective SERS Platforms**

» Dr. Firehun Dullo (SINTEF), Dr. Karolina Milenko (SINTEF), Dr. Christopher Dirdal (SINTEF), Mr. Paul Thrane (SINTEF), Mr. Zeljko Skokic (SINTEF)

4pm **O-S34-T4-5 High aspect ratio silicon-based micro- and nano-fabrication of optics for X-ray diagnostic imaging**

» Dr. Lucia Romano (ETH Zurich and PSI), Mr. Qihui Yu (ETH Zurich and PSI), Dr. Jelena Petrovic (ETH Zurich and PSI), Dr. Konstantins Jefimovs (Paul Scherrer Institute), Dr. Craig Lawley (ETH Zurich and PSI), Prof. Marco Stampanoni (ETH Zurich and PSI)

3:30pm **Track2 - Fabrication and Integration of Micro/Nano Structures, Devices and Systems / Track1 - Novel Developments in Nano/Micro Fabrication Methods and Processes**

MOA4/5

Chaired by: Dr. Frank Dirne

3:30pm **O-S32-T2-2 Scalable, Flame-resistant, Superhydrophobic Ceramic Metafibers for Sustainable All-day Radiative Cooling**

» Ms. Ching Wen Hwang (National Tsing Hua University), Ms. Meng-Ting Tsai (National Tsing Hua University), Ms. Pin-Hui Lan (National Tsing Hua University), Ms. Tai-Chi Chen (National Tsing Hua University), Prof. Dehui Wan (National Tsing Hua University)

3:45pm **O-S32-T1-3 Additive manufacturing-derived 3D pyrolytic carbon electrodes with hierarchical micro- and nanostructures for on-chip microsupercapacitors**

» Ms. Swetha Vasudevan Kanakkottu (Technical University of Denmark), Prof. Babak Rezaei (Technical University of Denmark), Prof. Stephan Sylvest Keller (Technical University of Denmark)

4pm **O-S32-T1-4 Harnessing Particle Raytracing for Real-Time Vapor Deposition Simulations in Evolving Topographies**

» Mr. Erik E. Lorenz (Fraunhofer ENAS), Mrs. Linda Jäckel (Fraunhofer ENAS), Dr. Jörg Schuster (Fraunhofer ENAS)

4:15pm **Poster Session1.1: Focus Track/Track1/Track3**

MOA10/11

P-S11-01-T1 Design and preparation of one-dimensional LiFePO4 cathode by electrophoretic deposition method for flexible knitted batteries

» Ms. Nuray Zhalgas (Department of Chemical and Materials Engineering, School of Engineering and Digital Sciences, Nazarbayev University), Dr. Almagul Mentbayeva (Department of Chemical and Materials Engineering, School of Engineering and Digital Sciences, Nazarbayev University), Dr. Batukhan Tatukayev (Department of Chemical and Materials Engineering, School of Engineering and Digital Sciences, Nazarbayev University)

P-S11-02-T1 Recent Developments in Processing Large Area 2D Materials, Dielectrics, and Metals via CVD and ALD for Functional Applications

» Dr. Nils Boysen (Fraunhofer IMS, 47057 Duisburg, Germany), Ms. Rahel-Manuela Neubieser (Fraunhofer IMS, 47057 Duisburg, Germany), Mr. Jan-Lucas Wree (Ruhr University Bochum), Dr. David Zanders (Ruhr University Bochum), Mr. Florian Zimmermann (University of Wuppertal), Dr. Kai Oliver Brinkmann (University of Wuppertal), Dr. Marvin Michel (Fraunhofer IMS, 47057 Duisburg, Germany), Prof. Thomas Riedl (University of Wuppertal), Prof. Anjana Devi (Ruhr University Bochum)

P-S11-03-T1 A new tool for single ion implantation and nanoscale materials engineering: System design and source development

» Dr. Gianfranco Aresta (Ionopotika Ltd)

P-S11-04-T1 Challenges in adapting an established lift-off process based on e-beam lithography (EBL) for use with less harmful developers and removers

» Dr. Silvia Diewald (KIT), Prof. Gernot Goll (KIT)

Continued from **Tuesday, 26 September**

P-S11-05-T1 Patterning of Ormostamp films at the nanometer scale for large scale surface functionalization

» Ms. Olga Muntada-Lopez (Instituto de Microelectrónica de Barcelona (IMB-CNM, CSIC)), Mr. Alex Rodriguez-Iglesias (Institute of Microelectronics of Barcelona (IMB-CNM-CSIC)), Dr. Francesc Perez-Murano (Instituto de Microelectrónica de Barcelona (IMB-CNM, CSIC)), Dr. Marta Fernández-Regúlez (Instituto de Microelectrónica de Barcelona (IMB-CNM, CSIC))

P-S11-06-T1 Positioning accuracy of the direct laser lithography for a large-scale Fresnel Zone Plate

» Mr. Viacheslav Vlasenko (Raith GmbH), Dr. Kahraman Keskinbora (Raith GmbH), Dr. Leonid Litvin (Raith GmbH), Dr. Michael Kahl (Raith GmbH), Mr. Jacco Houter (Raith Laser Systems B.V.)

P-S11-07-T1 Resistless lithography on Si surfaces by EUV-induced surface modification

» Dr. Prajith Karadan (Paul Scherrer Institute), Dr. Yasin Ekinci (Paul Scherrer Institute), Dr. Dimitrios Kazazis (Paul Scherrer Institute)

P-S11-08-T1 Study reactive ion etching- transformer coupled plasma (RIE-TCP) mode for patterning of MgZnO alloys, used for computing and memory applications

» Ms. Leila Ghorbani (Ku Leuven, Celestijnenlaan 200f, Leuven, 3001, Belgium, IMEC, Kapeldreef 75, Leuven, 3001, Belgium), Dr. Shreya kundu (IMEC, Kapeldreef 75, Leuven, 3001, Belgium), Dr. Frederic Lazzarino (IMEC, Kapeldreef 75, Leuven, 3001, Belgium), Prof. Stefan De Gendt (Ku Leuven, Celestijnenlaan 200f, Leuven, 3001, Belgium, IMEC, Kapeldreef 75, Leuven, 3001, Belgium)

P-S11-09-T1 Realization of Highly Uniform Surface Functionalization and Applications to Organic Transistors

» Dr. Ming Chen (Southern University of Science and Technology), Prof. Xing Cheng (Southern University of Science and Technology)

P-S11-10-T1 Wafer scale fabrication of pyrolytic carbon sub-100 nm nanogap electrodes for electrochemistry by etching of insulating oxides

» Mr. Nicolai Støvring (Technical University of Denmark), Prof. Stephan Sylvest Keller (Technical University of Denmark), Prof. Jenny Emnéus (Technical University of Denmark), Dr. Arto Heiskanen (Technical University of Denmark)

P-S11-11-T1 Patterning of Novolac-based negative resist using EBL and its performance as etch mask for DRIE of silicon

» Mr. Rahul Singh (Technical University of Denmark), Mr. Christian Vinther Bertelsen (Technical University of Denmark), Dr. Maria Dimaki (Technical University of Denmark), Prof. Winnie Edith Svendsen (Technical University of Denmark)

P-S11-12-T1 Ion incidence angle-dependent pattern formation on AZ® 4562 photoresist by (reactive) ion beam etching

» Mr. Tom Rüdiger (Leibniz Institute of Surface Engineering e.V. (IOM)), Mr. Martin Mitzschke (Leibniz Institute of Surface Engineering e.V. (IOM)), Dr. Carsten Bundesmann (Leibniz Institute of Surface Engineering e.V. (IOM)), Ms. Andrea Prager (Leibniz Institute of Surface Engineering e.V. (IOM)), Dr. Ying Liu (University of Science and Technology of China), Prof. Bernd Abel (University Leipzig), Dr. Agnes Schulze (Leibniz Institute of Surface Engineering e.V. (IOM)), Dr. Frank Frost (Leibniz Institute of Surface Engineering e.V. (IOM))

P-S11-13-T1 Selective ion-assisted nanostructuring process of silicon devices

» Mr. Alessandro Cian (FBK, Fondazione Bruno Kessler), Dr. Elia Scattolo (FBK, Fondazione Bruno Kessler), Dr. Michele Crivellari (FBK, Fondazione Bruno Kessler), Dr. Jordi Llobet (Alba CELLS Synchrotron), Dr. Francesc Perez-Murano (Instituto de Microelectrónica de Barcelona (IMB-CNM, CSIC)), Dr. Lorenza Ferrario (FBK, Fondazione Bruno Kessler), Mr. Damiano Giubertoni (FBK, Fondazione Bruno Kessler)

Continued from **Tuesday, 26 September**

P-S11-14-T1 Plasma conversion of polydimethylsiloxane and perhydropolysilazane precursor layers by a pulsed atmospheric pressure plasma jet to a silicon oxide thin film

» Dr. Patrick With (Leibniz Institute of Surface Engineering e.V. (IOM)), Dr. Martin Rudolph (Leibniz Institute of Surface Engineering e.V. (IOM)), Mr. Peter Birtel (Leibniz Institute of Surface Engineering e.V. (IOM)), Prof. Thomas Arnold (Leibniz Institute of Surface Engineering e.V. (IOM)), Ms. Andrea Prager (Leibniz Institute of Surface Engineering e.V. (IOM)), Dr. Sergej Naumov (Leibniz Institute of Surface Engineering e.V. (IOM)), Dr. Ulrike Helmstedt (Leibniz Institute of Surface Engineering e.V. (IOM)), Prof. Andre Anders (Leibniz Institute of Surface Engineering e.V. (IOM))

P-S11-15-T1 Comparative Study of NbN Deposition via Magnetron Sputtering and Atomic Layer Deposition (ALD)

» Dr. Rodolfo Previdi (ISTA)

P-S11-16-T1 Optical waveguides made of inkjet-able high refractive index materials using Nanoimprint Lithography

» Dr. Michael Haslinger (PROFACTOR GmbH), Mr. Gerald Stubauer (PROFACTOR GmbH), Mr. Peter Bauer (PROFACTOR GmbH), Mr. Sebastian Kauscheder (PROFACTOR GmbH), Ms. Viktorija Jonaityte (PROFACTOR GmbH), Ms. Katerina Masopustova (PROFACTOR GmbH), Ms. Sonja Kopp (PROFACTOR GmbH), Dr. Michael Muehlberger (PROFACTOR GmbH)

P-S11-17-T1 No more macros: Open-source method for layout cell parameterization through feature recognition for procedural generation of lithography files

» Mr. Tom Maslin (University of Canterbury), Dr. Stefanie Gutschmidt (University of Canterbury)

P-S11-18-T1 Lithographic Patterning of Electrochemical Sensors on Flexible Substrates

» Mr. Faraz Kaiser Malik (Imperial College London), Dr. Florent Seichepine (Imperial College London), Prof. Kristel Fobelets (Imperial College London)

P-S11-19-T1 Extracting extra information from STM images using machine learning

» Dr. Ehud Fuchs (Zyvex Labs), Dr. John Randall (Zyvex Labs), Dr. James Owen (Zyvex Labs)

P-S11-20-T1 Degradable PVAc-graphene nanofibrous membrane for flexible piezocapacitive sensors

» Dr. Debarun Sengupta (University of Groningen), Prof. Ajay Kottapalli (University of Groningen)

P-S11-21-T1 SiO2 & SiNx Thin Film Deposition by Plasma Enhanced Spatial Atomic Layer Deposition Processes

» Mr. Jaehee Kim (Department of Semiconductor and Display Engineering, Sungkyunkwan University), Mr. Hyeonjin Choi (School of Chemical Engineering, Sungkyunkwan University), Mr. Jinmyeong Kim (School of Chemical Engineering, Sungkyunkwan University), Prof. Heeyeop Chae (School of Chemical Engineering, Sungkyunkwan University)

P-S11-22-T1 Plasma Atomic Layer Etching of SiO2 with Low-Global Warming Perfluoroisopropyl Vinyl Ether (PIPVE)

» Ms. Jihye Kim (School of Chemical Engineering, Sungkyunkwan University), Mr. Hojin Kang (School of Chemical Engineering, Sungkyunkwan University), Mr. Minsuk Choi (School of Chemical Engineering, Sungkyunkwan University), Ms. Daeun Hong (School of Chemical Engineering, Sungkyunkwan University), Ms. Yongsun Cho (Samsung Electronics), Mr. Junsik Hong (Samsung Electronics), Prof. Heeyeop Chae (School of Chemical Engineering, Sungkyunkwan University)

P-S11-23-T1 Fabrication of Flexible Transparent Silver Electrodes via Maskless Evaporation

» Mr. Sihai Luo (Norwegian University of Science and Technology), Mr. Enkui Lian (Norwegian University of Science and Technology), Prof. John De Mello (Norwegian University of Science and Technology)

Continued from **Tuesday, 26 September**

P-S11-24-T1 A comparison of granular aluminum deposited via electron beam evaporator and sputtering

» Dr. Bruno Martins Magalhaes (Institute of Science and Technology Austria (ISTA)), Dr. Salvatore Bagiante (Institute of Science and Technology Austria (ISTA)), Dr. Rodolfo Previdi (ISTA), Dr. Lubuna Shafeek (Institute of Science and Technology Austria (ISTA)), Mr. Abdulhamid Baghdadi (Institute of Science and Technology Austria (ISTA))

P-S11-25-T1 Measurement of short range PSF in EBL

» Dr. Leonid Litvin (Raith GmbH, Dortmund, 44263, Germany), Dr. Michael Kahl (Raith GmbH), Ms. Julia Shapiro (Raith GmbH, Dortmund, 44263, Germany)

P-S11-26-T1 Additive Processes for Micro Fabrication: Making an Impact with Inkjet

» Dr. Kai Keller (Notion Systems GmbH)

P-S11-27-T1 Micro/nano fabrication of Bio wells: Comparison between Nanoimprint lithography and nano 3D printing

» Dr. Lubuna Shafeek (Institute of Science and Technology Austria (ISTA)), Dr. Salvatore Bagiante (Institute of Science and Technology Austria (ISTA)), Dr. Jack Merrin (Institute of Science and Technology Austria (ISTA))

P-S11-28-T1 Resist based Ion Beam Lithography with light ions from Liquid Metal Alloy Ion Sources

» Dr. Achim Nadzeyka (Raith GmbH), Dr. Paul Mazarov (Raith GmbH), Mr. Torsten Richter (Raith GmbH), Dr. Michael Kahl (Raith GmbH)

P-S11-29-T1 Ion Beam Planarization Using Solvent-Free Polymer Coatings

» Mr. Lukas Paul Lingenfelder (Leibniz Institute of Surface Engineering e.V. (IOM))

P-S11-30-T1 3D Ice Lithography Software and Control

» Mr. Joachim Lyngholm-Kjærby (Technical University of Denmark), Mr. Affan Kaysa Waafi (Technical University of Denmark), Dr. Anpan Han (Technical University of Denmark)

P-S11-31-T1 SiOxNy Low Temperature Deposition at PECVD using Carbon-free Precursor

» Mr. Youngju Ko (Department of Semiconductor and Display Engineering, Sungkyunkwan University), Mr. Hyeonjin Choi (School of Chemical Engineering, Sungkyunkwan University), Mr. Jaehee Kim (Department of Semiconductor and Display Engineering, Sungkyunkwan University), Mr. Jinmyeong Kim (School of Chemical Engineering, Sungkyunkwan University), Mr. Namgun Kim (Department of Semiconductor and Display Engineering, Sungkyunkwan University), Prof. Heeyeop Chae (School of Chemical Engineering, Sungkyunkwan University)

P-S11-32-T1 AI-assisted design of charged particle optics

» Dr. Aydin Sabouri (University College London), Dr. Carla Perez Martinez (University College London)

P-S11-33-T1 Nonlinear parameter-evolution approach for achieving high aspect ratio in nanoscale etching.

» Mr. Arjun Moothedath Sethumadhavan (Oxford Instruments), Mr. Zhong Ren (Oxford Instruments)

P-S11-34-T1 Fabrication of micro-patterned β-Ga2O3 thin films by selective solid-phase crystallization via room-temperature excimer laser annealing

» Dr. Daishi Shiojiri (Kanagawa Institute of Industrial Science and Technology), Dr. Satoru Kaneko (KISTEC), Mr. Ryoya Kai (Department of Materials Science and Engineering, Tokyo Institute of Technology), Dr. Akifumi Matsuda (Tokyo Institute of Technology), Prof. Mamoru Yoshimoto (Department of Materials Science and Engineering, Tokyo Institute of Technology)

P-S11-35-T1 Enhancing Electroplating Uniformity for 30 nm Resolution Charts through Graphic Auxiliary Approach

» Mr. Qiucheng Chen (Fudan university), Mr. Xujie Tong (Fudan university), Mr. Chengyang Mu (Fudan university), Ms. Qingxin Wu (Fudan university), Mr. Jun Zhao (Fudan university), Prof. Yifang Chen (Fudan university)

Continued from **Tuesday, 26 September**

P-S11-36-T1 Nanofabrication of randomly distributed hole array for coherent diffraction imaging in soft X-ray

» Mr. Xujie Tong (Fudan university), Mr. Chengyang Mu (Fudan university), Dr. Yijie Li (Fudan university), Prof. Yifang Chen (Fudan university)

P-S11-37-T1 Nanofabrication of 10 nm resolution compound Kinoform zone plate with high efficiency in soft X-ray

» Mr. Xujie Tong (Fudan university), Mr. Chengyang Mu (Fudan university), Dr. Qiucheng Chen (Fudan university), Prof. Yifang Chen (Fudan university)

P-S11-38-T1 UV-Nanoimprinting of Ceramics

» Ms. Sonja Kopp (PROFACTOR GmbH), Dr. Abhijeet Lale (Lithoz GmbH), Ms. Viktorija Jonaityte (PROFACTOR GmbH), Dr. Michael Haslinger (PROFACTOR GmbH), Dr. Martin Schwentenwein (Lithoz GmbH), Prof. Francesco Moscato (Medical University of Vienna), Dr. Michael Muehlberger (PROFACTOR GmbH)

P-S11-39-T1 Advanced electron-beam grayscale lithography by using optimized dose gradients in the pattern design

» Dr. Kevin Hofhuis (Paul Scherrer Institute), Dr. Nazanin Samadi (Paul Scherrer Institute), Dr. Christian David (Paul Scherrer Institute), Dr. Analía Fernández Herrero (Helmholtz-Zentrum Berlin für Materialien und Energie), Mr. Bas Ketelaars (Raith B.V.), Dr. Christiaan Zonnevylle (Raith B.V.), Dr. Vitaliy A. Guzenko (Paul Scherrer Institute)

P-S11-40-T1 Fabrication and Characterization of High-Transmittance, Low-Resistance Transparent Devices based on AgNW using Nanoimprint Lithography

» Mrs. YEONJOO HA (Korea), Dr. Jaelong Lee (Korea), Mr. Jee-Hoon Seo (Korea)

P-S11-41-T1 Atomic Layer Etching of Silicon Nitride with Plasma Oxidation and HF/NH3 Selective Gas Phase Etching

» Mr. Sangwoo Kim (Department of Semiconductor and Display Engineering, Sungkyunkwan University), Mr. Ohchel Kwon (Samsung Electronics), Mr. Hyeongkwon Jeong (Samsung Electronics), Mr. Suhwan Park (Samsung Electronics), Mr. Gwanwoo Min (Samsung Electronics), Ms. Hyunseo Shim (Samsung Electronics), Prof. Heeyeop Chae (School of Chemical Engineering, Sungkyunkwan University)

P-S11-42-T1 Simulation study of three-dimensional grayscale ice lithography on amorphous solid water for blazed gratings

» Mr. Jinyu Guo (Fudan university), Mr. Shuoqiu Tian (Fudan university), Mr. Rui Zheng (Westlake University), Ms. Shan Wu (Westlake University), Dr. Ding Zhao (Westlake University), Prof. Yifang Chen (Fudan university), Prof. Min Qiu (Westlake University), Mr. Wentao Yuan (Fudan university)

P-S11-43-T1 Metallization of UHMW-PE Fibers by Supercritical CO2 Catalyzation toward Weavable Devices

» Mr. Hikaru Kondo (Tokyo Institute of Technology), Dr. Tomoyuki Kurioka (Tokyo Institute of Technology), Dr. Wan-Ting Chiu (Tokyo Institute of Technology), Dr. Chun-Yi Chen (Tokyo Institute of Technology), Prof. Mark Chang (Tokyo Institute of Technology), Ms. Machiko Yagaguchi (Nara Women's University), Ms. Arisa Jinno (Nara Women's University), Prof. Hiromichi Kurosu (Nara Women's University), Prof. Masato Sone (Tokyo Institute of Technology)

P-S11-44-T1 PbS quantum dot thin film dry etching

» Mr. Nicolas Le Brun (PhD STUDENT), Dr. Gilles Cunge (Univ. Grenoble Alpes, LTM, F-38054 Grenoble-France), Mr. Pascal Gouraud (STMicroelectronics), Mrs. Camille Petit-Etienne (CNRS), Mrs. Linda Parmigiani (STMicroelectronics), Dr. Stéphane Allegret-Maret (STMicroelectronics), Dr. Jonathan Steckel (STMicroelectronics)

P-S11-45-T1 Preparation of gold nanoparticle-hydrogel composite by room temperature electron reduction for catalytic applications

» Prof. Changjun Liu (Tianjin University)

Continued from **Tuesday, 26 September**

P-S11-46-T1 Parallel Printing of Nanoliter Droplets with PDMS Nozzles Under Fluorinated Liquid

» Mr. Muhammad Awais Maqbool (Toyohashi University of Technology), Prof. Takayuki Shibata (Toyohashi University of Technology), Dr. Okamoto Shunya (Toyohashi University of Technology), Prof. Moeto Nagai (Toyohashi University of Technology)

P-S11-47-T1 Selective Atomic Layer Etching(ALE) of Germanium to Silicon using control parameter

» Mr. Hyo Jun Kim (PSK), Mr. Hee-woong Shin (PSK), Dr. Chang Weon Lee (PSK)

P-S11-48-T1 Grayscale exposure challenges using direct-write laser exposure on thick photosensitive positive resist

» Ms. Gerda Ekindorf (Heidelberg Instruments Microtechnik GmbH), Dr. Christine Schuster (micro resist technology GmbH), Mr. Dominique Colle (Heidelberg Instruments Microtechnik GmbH), Dr. Peter Heyl (Heidelberg Instruments Microtechnik GmbH), Dr. Anja Voigt (micro resist technology GmbH)

P-S11-49-T1 3D-microstructured Interpenetrating networks with tuned thermal and mechanical properties

» Dr. Dorothee Silbernagl (Federal Institute for Material Research and Testing, BAM Berlin), Dr. Paulina Szymoniak (Federal Institute for Material Research and Testing, BAM Berlin), Ms. Zeynab Tavasolyzadeh (Federal Institute for Material Research and Testing, BAM Berlin), Prof. Heinz Sturm (Federal Institute for Material Research and Testing, BAM Berlin), Dr. Ievgeniia Topolniak (Federal Institute for Material Research and Testing, BAM Berlin)

P-S11-50-T1 Ni-P Electroless Plating of PET Parts with Complex 3D Structure by Supercritical CO2 Assisted Catalyzation

» Ms. Ami Iwasaki (Tokyo Institute of Technology), Mr. Po-Wei Cheng (Tokyo Institute of Technology), Dr. Tomoyuki Kurioka (Tokyo Institute of Technology), Dr. Chun-Yi Chen (Tokyo Institute of Technology), Prof. Mark Chang (Tokyo Institute of Technology), Prof. Kei Takase (Tohoku University), Prof. Hiroshi Ishihata (Tohoku University), Prof. Masato Sone (Tokyo Institute of Technology)

P-S11-51-T1 Resolution enhancement techniques on a DUV Stepper for roll-to-roll nanofabrication of plasmonic solar light absorbers

» Ms. Maria Serra González (Technical University of Denmark), Mr. Matthias Keil (Technical University of Denmark), Ms. Nastasia Okulova (Inmold), Ms. Rucha A. Deshpande (Technical University of Denmark), Prof. Rafael Taboryski (Technical University of Denmark)

P-S11-52-T1 Vacuum-Assisted filling of high aspect ratio Silicon trenches with Polymers for surface planarization for micromachining of complex microsystems.

» Dr. Jose Fernandes (International Iberian Nanotechnology Laboratory), Mr. Tiago Oliveira (International Iberian Nanotechnology Laboratory), Mr. Helder Fonseca (International Iberian Nanotechnology Laboratory), Mr. Vitor Silva (International Iberian Nanotechnology Laboratory), Mr. Jose Rodrigues (International Iberian Nanotechnology Laboratory), Dr. Andrea Gouvea (International Iberian Nanotechnology Laboratory), Dr. Carlos Alberto Calaza Cabanas (International Iberian Nanotechnology Laboratory)

P-S11-53-T1 Microfabrication of thin film structures by two-photon polymerization for in situ electron microscopy studies

» Ms. Chloé Chemin (Technical University of Denmark), Prof. Babak Rezaei (Technical University of Denmark), Dr. Alice Bastos Da Silva Fanta (Technical University of Denmark), Dr. Ada-Ioana Bunea (Technical University of Denmark), Prof. Stephan Sylvest Keller (Technical University of Denmark), Prof. Thomas Willum Hansen (Technical University of Denmark)

Continued from **Tuesday, 26 September**

P-S11-54-T1 Constant defocus approximation in mask data-preparation for grayscale patterning of microlens

» Ms. Marie-Line Pourteau (Univ. Grenoble Alpes, CEA, Leti, F-38000 Grenoble, France), Mr. Aurélien Fay (Univ. Grenoble Alpes, CEA, Leti, F-38000 Grenoble, France), Mr. Sébastien Bérard-Bergery (STMicroelectronics, 850 rue Jean Monnet, 38926 Crolles Cedex, France), Mr. Florian Tomaso (Univ. Grenoble Alpes, CEA, Leti, F-38000 Grenoble, France), Mr. Rémi Coquand (Univ. Grenoble Alpes, CEA, Leti, F-38000 Grenoble, France), Mr. Ujwol Palanchoke (Univ. Grenoble Alpes, CEA, Leti, F-38000 Grenoble, France), Ms. Charlotte Beylier (STMicroelectronics, 850 rue Jean Monnet, 38926 Crolles Cedex, France), Mr. Guillaume Claveau (STMicroelectronics, 850 rue Jean Monnet, 38926 Crolles Cedex, France), Mr. Samir Guerroudj (STMicroelectronics, 850 rue Jean Monnet, 38926 Crolles Cedex, France)

P-S11-55-T1 Tailoring vertical sidewalls and draft angles for demolding in the same mold by direct write lithography in thick epoxy resist

» Dr. Muhammad Refatul Haq (Paul Scherrer Institute), Dr. Helmut Schift (Paul Scherrer Institute)

P-S11-56-T1 Room temperature imprint of water-based microparticle inks towards glass microfluidic devices

» Dr. Muhammad Refatul Haq (Paul Scherrer Institute), Dr. Babak Mazinani (Ecole Polytechnique Federale de Lausanne (EPFL)), Prof. Vivek Subramanian (Ecole Polytechnique Federale de Lausanne (EPFL)), Dr. Helmut Schift (Paul Scherrer Institute)

P-S11-57-FT Penning vacuum gauge with high-efficiency plasma source for a miniature ultra-high vacuum cell

» Dr. Yuichi Kurashima (National Institute of Advanced Industrial Science and Technology (AIST)), Dr. Taisei Motomura (National Institute of Advanced Industrial Science and Technology (AIST)), Dr. Takashi Matsumae (National Institute of Advanced Industrial Science and Technology (AIST)), Mr. Atsuhiko Maeda (National Institute of Advanced Industrial Science and Technology (AIST)), Dr. Shinya Yanagimachi (National Institute of Advanced Industrial Science and Technology (AIST)), Dr. Hideki TAKAGI (National Institute of Advanced Industrial Science and Technology (AIST)), Mr. Naoto Oshima (Nihon University), Dr. Mitsuhiro Watanabe (Nihon University)

P-S11-58-T1 The Effect of Damaged Layer Removal Process on Si Atomic Layer Etching

» Mr. Namgun Kim (Department of Semiconductor and Display Engineering, Sungkyunkwan University), Mr. Whan Kyun Kim (Department of Semiconductor and Display Engineering, Sungkyunkwan University), Mr. Dongjun Shin (Samsung Electronics), Dr. Jongkyu Kim (Samsung Electronics), Mr. Kukhan Yoon (Samsung Electronics), Mr. Youngju Ko (Department of Semiconductor and Display Engineering, Sungkyunkwan University), Prof. Heeyeop Chae (School of Chemical Engineering, Sungkyunkwan University)

P-S11-59-T1 Perspective of Unconventional Holographic Lithography and Ion Bombardment

» Dr. Ying Liu (University of Science and Technology of China)

P-S11-60-T1 Nano-scale Zirconia Ceramics printed via Two-Photon-Polyemerization from a transparent nano-particle containing Feedstock

» Dr. Johanna Sänger (Chair of Structural and Functional Ceramics, Montanuniversität Leoben), Dr. Birte Riechers (Federal Institute for Material Research and Testing, BAM Berlin), Prof. Raúl Bermejo (Chair of Structural and Functional Ceramics, Montanuniversität Leoben), Prof. Jens Günster (Federal Institute for Material Research and Testing, BAM Berlin)

Continued from **Tuesday, 26 September**

P-S11-61-T1 Broad beam ion erosion of silicon with metal-co-deposition: experimental and simulation results

» Mr. Felix Linß (Leibniz Institute of Surface Engineering e.V. (IOM)), Dr. Carsten Bundesmann (Leibniz Institute of Surface Engineering e.V. (IOM)), Dr. Frank Frost (Leibniz Institute of Surface Engineering e.V. (IOM))

P-S11-62-T3 Aptamer-Decorated Graphene Channel Array with Liquid-Gating for Sensing Cortisol Stress Hormone

» Mr. Ali Gilani (Ecole Polytechnique Federale de Lausanne (EPFL)), Dr. Shokoofeh Sheibani (Ecole Polytechnique Federale de Lausanne (EPFL)), Dr. Johan Frédéric Longo (EPFL), Dr. Ali Saeidi (EPFL), Mr. Sadegh Kamaei Bahmaei (EPFL), Mr. Yann Christophe Sprunger (EPFL), Mr. Stefan Razvan Anton (University POLITEHNICA of Bucharest), Prof. George Sanciu (University POLITEHNICA of Bucharest), Prof. Adrian Mihai Ionescu (EPFL)

P-S11-63-T3 2-Photon Lithography for bio-inspired 3D microstructures for in vitro neuroelectronic devices

» Dr. Valeria Criscuolo (Faculty of Electrical Engineering and IT, RWTH, Aachen 52074, Germany. Institute of Biological Information Processing—Bioelectronics, IBI-3, Forschungszentrum, Juelich 52428, Germany), Ms. Claudia Latte Bovio (Tissue Electronics, Istituto Italiano di Tecnologia, 80125 Naples, Italy. Dipartimento di Chimica, Materiali e Produzione Industriale, Università di Napoli Federico II, 80125 Naples, Italy), Prof. Francesca Santoro (Faculty of Electrical Engineering and IT, RWTH, Aachen 52074, Germany. Institute of Biological Information Processing—Bioelectronics, IBI-3, Forschungszentrum, Juelich 52428, Germany)

P-S11-64-T3 Controlled wettability of mixed surfaces for enhanced water harvesting

» Ms. Joyce Estephan (CNRS), Mrs. Cécile Gourgon (CNRS), Mr. Jean-Hervé Tortai (CNRS), Mrs. Marie Panabière (CNRS), Mrs. Camille Petit-Etienne (CNRS), Mr. Léo Bon (CNRS)

P-S11-65-T3 Leveraging The Elastic Deformability of Polydimethylsiloxane Microfluidic Channels for Efficient Intracellular Delivery

» Dr. Hashim Alhmoud (Bilkent University), Mr. Mohammed Alkhaled (Bilkent University), Mr. Batuhan E. Kaynak (Bilkent University), Prof. Mehmet Selim Hanay (Bilkent University), Ms. Enise Kartal (Bilkent University), Ms. Yagmur Ceren Alatas (Bilkent University)

P-S11-66-T3 Microwave Sensors Integrated with 3D Microelectrodes to Eliminate Position-Dependent Particle Response in Microfluidics

» Ms. Yagmur Ceren Alatas (Bilkent University), Mr. Uzay Tefek (Bilkent University), Mr. Burak Sari (Sabanci University), Prof. Mehmet Selim Hanay (Bilkent University)

P-S11-67-T3 Fabrication and characterization of Nafion/PANI composite membrane-based micropump for Insulin administration

» Ms. Shatavisha Biswas (Indian Institute of Technology, Kharagpur), Mr. Arkaprava Datta (Indian Institute of Technology, Kharagpur), Prof. Tarun Kanti Bhattacharyya (Indian Institute of Technology, Kharagpur)

P-S11-68-T3 A wearable microfluidic device with a built-in micropump for reliable sweat collection for health monitoring

» Mr. Zhuodan Chen (Southern University of Science and Technology), Dr. Weihao Li (Southern University of Science and Technology), Prof. Xing Cheng (Southern University of Science and Technology)

P-S11-69-T3 A planar integrated astable microfluidic circuit for square pressure waveform generation

» Dr. Weihao Li (Southern University of Science and Technology), Mr. Zhuodan Chen (Southern University of Science and Technology), Prof. Xing Cheng (Southern University of Science and Technology)

Continued from **Tuesday, 26 September**

P-S11-70-T3 Fabrication of switchable biocompatible, nano-fluidic devices using a thermoresponsive polymer on nano-patterned surfaces

» Mr. Christopher Bickmann (Technische Universität Chemnitz, Center for Microtechnologies, Reichenhainer Str. 70, 09126 Chemnitz, Germany), Dr. Christoph Robert Meinecke (Technische Universität Chemnitz, Center for Microtechnologies, Reichenhainer Str. 70, 09126 Chemnitz, Germany), Dr. Christian Helke (Technische Universität Chemnitz, Center for Microtechnologies, Reichenhainer Str. 70, 09126 Chemnitz, Germany), Ms. Susanne Hartmann (Technische Universität Chemnitz, Center for Microtechnologies, Reichenhainer Str. 70, 09126 Chemnitz, Germany), Dr. Till Korten (Physics of Life, Technische Universität Dresden, Dresden 01069, Germany), Prof. Stefan Diez (Technische Universität Dresden, B CUBE - Center for Molekular Bioengeneering), Dr. Danny Reuter (Technische Universität Chemnitz, Center for Microtechnologies, Reichenhainer Str. 70, 09126 Chemnitz, Germany)

P-S11-71-T3 3D Integration of a micro-perforated membrane for combined in-situ electrical analysis and real time imaging of living cells.

» Mr. Matthieu Sagot (LAAS-CNRS), Dr. Bastien Venzac (LAAS-CNRS), Mr. David Bourrier (LAAS-CNRS), Dr. Aurélie Lecestre (LAAS-CNRS), Mr. Adrian Laborde (LAAS-CNRS), Dr. Aline Cerf (SmartCatch), Prof. Hervé Aubert (LAAS-CNRS), Prof. Christophe Vieu (LAAS-CNRS)

P-S11-72-T3 Picking microorganisms by impedance flow Cytometry

» Mrs. Mohadeseh Mozafari (Technische Universität Braunschweig, Institut für Mikrotechnik, Alte Salzdahlumer Str. 203, 38124 Braunschweig, Germany), Mr. Peer Erfle (Technische Universität Braunschweig, Institut für Mikrotechnik, Alte Salzdahlumer Str. 203, 38124 Braunschweig, Germany), Mr. Jonathan Block (BRICS Braunschweig Integrated Centre of Systems Biology), Dr. Rainer Krull (BRICS Braunschweig Integrated Centre of Systems Biology), Prof. Andreas Dietzel (Institute of Microtechnology, Braunschweig, 38124, Germany)

P-S11-73-T3 Rapid prototyping of self-filling microfluidic chips for Sars-CoV-2 RNA detection by isothermal amplification

» Mr. Filip Staniszewski (AIT Austrian Institute of Technology GmbH), Dr. Christina Schmidleithner (AIT Austrian Institute of Technology GmbH), Dr. Stefan Schrittwieser (AIT Austrian Institute of Technology GmbH), Ms. Barbara Posch (AIT Austrian Institute of Technology GmbH), Dr. Lidiya Osinkina (HP), Dr. Maximilian Westenthanner (HP), Dr. Joachim Stehr (HP), Dr. Johannes Peham (AIT Austrian Institute of Technology GmbH)

P-S11-74-T3 Hydrocarbon-Mediated Shrinkage of Silicon Nitride Nanopores

» Mr. Debmalya Roy (Indian Institute of Technology, Kharagpur), Mr. Aniruddha Guha (Indian Institute of Technology, Kharagpur), Dr. James Yates (ITQB NOVA), Prof. Suman Chakraborty (Indian Institute of Technology, Kharagpur)

P-S11-75-T3 Reversible Manipulation of Effective Pore Diameter in Silicon Nitride Nanopores

» Mr. Aniruddha Guha (Indian Institute of Technology, Kharagpur), Mr. Debmalya Roy (Indian Institute of Technology, Kharagpur), Dr. James Yates (ITQB NOVA), Dr. Chirodeep Bakli (Indian Institute of Technology, Kharagpur), Prof. Suman Chakraborty (Indian Institute of Technology, Kharagpur)

P-S11-76-T3 The Effects of 3D Nozzle Injection Shape on Precipitated Lipid Nanoparticles in a Low Aspect Ratio Lamination Mixer (LARM)

» Mr. Ebrahim Taiedinejad (Technische Universität Braunschweig, Institut für Mikrotechnik, Alte Salzdahlumer Str. 203, 38124 Braunschweig, Germany), Ms. Alshaimaa Abdellatif (Technische Universität Braunschweig, Institut für Mikrotechnik, Alte Salzdahlumer Str. 203, 38124 Braunschweig, Germany), Prof. Andreas Dietzel (Institute of Microtechnology, Braunschweig, 38124, Germany)

P-S11-77-T3 Development of an automatic reagent drip system for passive pumps

» Prof. Katsuo Mogi (Tokyo Denki University), Mr. Reo Shimada (Tokyo Denki University), Mr. Hiroyuki Kimura (Kyoto Pharmaceutical University), Mr. Naoki Takada (National Institute of Advanced Industrial Science and Technology, Tsukuba)

Continued from **Tuesday, 26 September**

P-S11-78-T3 Durable carbyne-coated micro and nanotextured surfaces for antibacterial control

» Mr. Dimitris Nioras (Institute of Nanoscience and Nanotechnology, NCSR "Demokritos"), Mr. Dionysia Kefallinou (Institute of Nanoscience and Nanotechnology, NCSR "Demokritos"), Mr. Dimosthenis Ioannou (Institute of Nanoscience and Nanotechnology, NCSR Demokritos, Aghia Paraskevi 15341, Attiki, Greece), Dr. Andrey Brigadin (Swissimpianti Sagl, 6828 Balerna, Switzerland), Dr. Angeliki Tserepi (Institute of Nanoscience and Nanotechnology, NCSR Demokritos, Aghia Paraskevi 15341, Attiki, Greece), Dr. Evangelos Gogolides (NCSR Demokritos)

P-S11-79-T3 On the Micromixing Mechanism by Active and Passive Methods

» Prof. Levent Trabzon (Istanbul Technical University)

P-S11-80-T3 Micropatterned polymeric chips for enhanced production of the antibacterial compound TDA by Phaeobacter inhibens biofilms

» Ms. Yuyan Liu (DTU Nanolab), Dr. Ariadni Droumpali (DTU Nanolab), Mr. Xavier Florensa (Technical University of Denmark), Prof. Paul Kempen (DTU Nanolab), Dr. Maria Dimaki (Technical University of Denmark), Prof. Claus Sternberg (Technical University of Denmark), Prof. Lone Gram (Technical University of Denmark), Prof. Rafael Taboryski (Technical University of Denmark)

P-S11-81-T3 Lab-on-a-phone – plasmonic biosensing in 3D scaffolds using a smartphone

» Dr. Florian Laible (University of Tübingen), Ms. Melanie Sommer (University of Tübingen), Prof. Monika Fleischer (University of Tübingen)

P-S11-82-T3 Iridium oxide thin film electrodes for highly sensitive impedance biomass detection

» Mr. Sven Meinen (Institute of Microtechnology, Technische Universität Braunschweig), Prof. Andreas Dietzel (Institute of Microtechnology, Technische Universität Braunschweig), Dr. Rainer Krull (Institute of Biochemical Engineering, Technische Universität Braunschweig), Mr. Kevin Viebrock (Institute of Biochemical Engineering, Technische Universität Braunschweig)

P-S11-83-T3 Fabrication of Surface Microstructures and Investigation of their Influence on the Interaction with Blood for Application in a Left Ventricular Assist Device

» Ms. Marta Bonora (Medical University of Vienna), Mr. Stjepan Perak (UpNano GmbH), Ms. Sonja Kopp (PROFACTOR GmbH), Ms. Sarah Linnemeier (Medical University of Vienna), Mr. Richard Benauer (bionic surface technologies GmbH), Dr. Markus Lunzer (UpNano GmbH), Prof. Francesco Moscato (Medical University of Vienna), Dr. Marcus Granegger (Medical University of Vienna), Dr. Michael Muehlberger (PROFACTOR GmbH)

P-S11-84-T3 Development of a Microfluidic Lab-on-PCB Device to Preconcentrate Proteins through the Control of pH using Electrochemically Generated Acid

» Ms. Grace Maxted (University of Bath), Prof. Pedro Estrela (University of Bath), Dr. Despina Moschou (University of Bath)

4:15pm **Poster Session 1.2: Track3, Track4**

MOA3

P-S12-01-T3 Photolithographic production of smart water filters able to detect bacteria

» Dr. Amparo Ferrer-Vilanova (Institute of Microelectronics of Barcelona (IMB-CNM-CSIC)), Dr. Josune J. Ezenarro (Institute of Microelectronics of Barcelona (IMB-CNM-CSIC)), Dr. Nuria Vigues (Universitat Autònoma de Barcelona (UAB)), Prof. Jordi Mas (Universitat Autònoma de Barcelona (UAB)), Dr. Gonzalo Guirado (Universitat Autònoma de Barcelona (UAB)), Dr. Xavier Munoz-Berbel (Instituto de Microelectrónica de Barcelona (IMB-CNM, CSIC))

P-S12-02-T3 A novel method for real time monitoring of wetting transition of underwater superhydrophobic surfaces and membranes: Application in membrane desalination

» Mr. Dimosthenis Ioannou (Institute of Nanoscience and Nanotechnology, NCSR Demokritos, Aghia Paraskevi 15341, Attiki, Greece), Dr. Kosmas Ellinas (University of the aegean), Dr. Evangelos Gogolides (NCSR Demokritos)

Continued from **Tuesday, 26 September**

P-S12-03-T3 Intracranial Magnetic Stimulation Micro-coil Probes for Two-photon Excitation Microscopy

» Mr. Xiyuan Liu (Technical university of Denmark), Dr. Kayeon Kim (University of Copenhagen), Dr. Changsi Cai (University of Copenhagen), Dr. Shelley Fried (Technical University of Denmark), Dr. Anpan Han (DTU)

P-S12-04-T3 The development of bile duct stent

» Dr. Atushi Sekiguchi (Litho Tech Japan Corporation)

P-S12-05-T3 Evaluation of echinoid-shaped nanostructures for reusable mechano-bactericidal and bacterial filtration

» Mr. Hee-Kyeong Kim (wonkwang university), Prof. Young-Sam Cho (wonkwang university), Prof. Hyun-Ha Park (wonkwang university)

P-S12-06-T3 Highly Flexible, Ultra-long SEEG Probes with IrOx Micro Electrodes Realized using Compact Bond Interfaces

» Mr. Marc Keller (IMTEK - University of Freiburg), Prof. Oliver Paul (IMTEK, University of Freiburg), Dr. Patrick Ruther (IMTEK - University of Freiburg)

P-S12-07-T3 Reflectance-Based Optical Biosensor Platform with Residual-Layer-Free Nanoimprint Lithography

» Dr. Junhyoung Ahn (Korea Institute of Machinery & Materials), Dr. Yunji Eom (Korea Institute of Machinery & Materials), Dr. Soonkeun Kwon (Korea Institute of Machinery & Materials), Dr. Hak-Jong Choi (Korea Institute of Machinery & Materials), Dr. SungHwi Lee (Korea Institute of Machinery & Materials), Dr. Hyungjun Lim (Korea Institute of Machinery & Materials), Dr. JaeJong Lee (Korea Institute of Machinery & Materials)

P-S12-08-T3 Design and fabrication of polymer microstructures with embedded electrodes for 3D measurements

» Mr. João Serra (Instituto Superior Técnico), Dr. João Ventura (IFIMUP - Instituto de Física de Materiais Avançados, Nanotecnologia e Fotónica da Universidade do Porto), Dr. Paulo Aguiar (i3S - Instituto de Investigação e Inovação em Saúde, Universidade do Porto), Dr. Susana Cardoso De Freitas (INESC Microsistemas e Nanotecnologias), Dr. Diana C. Leitao (Department of Applied Physics, Eindhoven University of Technology)

P-S12-09-T3 Patterning of bio-doped silk films at wafer level for the sustainable and scalable production of biosensors

» Dr. Sara Santiago Malagón (Instituto de Microelectrónica de Barcelona (IMB-CNM, CSIC)), Dr. Marcin Procek (Department of Optoelectronics, Silesian University of Technology), Dr. Augusto Márquez (Instituto de Microelectrónica de Barcelona (IMB-CNM, CSIC)), Dr. Salvador David Aznar Cervantes (instituto murciano de investigación y desarrollo agrario y medioambiental), Dr. Gonzalo Guirado (Universitat Autònoma de Barcelona (UAB)), Dr. Carlos Domínguez Horna (Instituto de Microelectrónica de Barcelona (IMB-CNM, CSIC)), Dr. Xavier Munoz-Berbel (Instituto de Microelectrónica de Barcelona (IMB-CNM, CSIC))

P-S12-10-T3 Simultaneous detection of SARS-CoV-2 nucleoprotein and receptor-binding domain by a Multi-Area Reflectance Spectroscopy (MARS) immunosensor

» Dr. Dimitra Tsounidi (NCSR Demokritos), Dr. Nikos Papanikolaou (NCSR Demokritos), Dr. Ioannis Raptis (NCSR Demokritos), Dr. Sotirios Kakabakos (NCSR Demokritos), Dr. Panagiota Petrou (NCSR Demokritos)

P-S12-11-T3 3D printed microstructures as bacterial biofilm carriers

» Mrs. Carmen Lopéz Vizcaino (University of Copenhagen), Dr. Rocio Espinosa Portero (University of Copenhagen), Dr. Sebastian J Kjeldgaard-Nintemann (University of Copenhagen), Dr. Henriette Lyng-Røder (University of Copenhagen), Dr. Ada-Ioana Bunea (Technical University of Denmark)

Continued from **Tuesday, 26 September**

P-S12-12-T3 Evaluation of microneedle patches for improved intradermal delivery of molecularly-defined cancer vaccines

» Dr. Francesco La Malfa (TU Delft), Dr. Koen van der Maaden (Leiden University Medical Center), Prof. Ferry Ossendorp (Leiden University Medical Center), Prof. Urs Staufer (Delft University of technology)

P-S12-13-T3 Biomolecular Gradient patterning on Cell-compatible Polymer Brushes

» Mr. Yoan Mimoun (ECOLE NORMALE SUPERIEURE), Dr. Emmanuelle Marie (ECOLE NORMALE SUPERIEURE), Dr. Mathieu Morel (ECOLE NORMALE SUPERIEURE)

P-S12-14-T3 Synthetic route of Au-Fe3O4 Janus nanoparticles for continuous separation and purification of targeted biomaterials

» Dr. Yunji Eom (Daegu Gyeongbuk Institute of Science & Technology), Dr. Hak-Jong Choi (Korea Institute of Machinery & Materials), Dr. Junhyoung Ahn (Korea Institute of Machinery & Materials), Dr. SungHwi Lee (Korea Institute of Machinery & Materials), Dr. CheolGi Kim (Daegu Gyeongbuk Institute of Science & Technology), Dr. JaeJong Lee (Korea Institute of Machinery & Materials)

P-S12-15-T3 Paper-based microfluidics with internal calibration as a rapid assay for the quantitative measurement of antidepressants

» Mr. Esteban Builes-Münden (Institute of Microtechnology, Braunschweig, 38124, Germany), Ms. Monika Conrad (IPTC - University of Tübingen), Mr. Markus Franz Wieghaus (OFFIS - Institut für Informatik), Prof. Günter Gauglitz (IPTC - University of Tübingen), Prof. Andreas Dietzel (Institute of Microtechnology, Braunschweig, 38124, Germany)

P-S12-16-T3 Fabrication of flexible microsensor arrays with ASIC integration for respiratory monitoring

» Mr. Maolei Zhou (Institute of Microtechnology, Braunschweig, 38124, Germany), Ms. Yadi Zhen (Institute of Microtechnology, Braunschweig, 38124, Germany), Prof. Andreas Dietzel (Institute of Microtechnology, Braunschweig, 38124, Germany)

P-S12-17-T3 Recording of somatosensory evoked potentials by ultraconformable μEcoG multielectrodes array with 3D PEDOT:PSS micropillars-integrated microelectrodes

» Ms. Alice Lunghi (Istituto Italiano di Tecnologia), Dr. Pierpaolo Greco (University of Ferrara), Dr. Mauro Murgia (Istituto Italiano di Tecnologia), Dr. Riccardo Viaro (University of Ferrara), Ms. Sonia Guzzo (Istituto Italiano di Tecnologia), Dr. Michele Di Lauro (Istituto Italiano di Tecnologia), Prof. Luciano Fadiga (University of Ferrara), Prof. Fabio Biscarini (Istituto Italiano di Tecnologia), Dr. Michele Bianchi (University of Modena and Reggio Emilia)

P-S12-18-T3 Investigating the effect of nanostructures effective shear modulus on the propagation of the neuronal growth cone

» Dr. George Flamourakis (Delft University of technology), Ms. Selina Teurlings (Delft University of technology), Mr. Dimitri Kromm (Delft University of technology), Dr. Daan Brinks (Delft University of technology), Dr. Carlas Smith (Delft University of technology), Dr. Angelo Accardo (Delft University of technology)

P-S12-19-T3 Nano-needles transform plant cells and tissues with high efficiency without tissue damage

» Prof. Andy Kah Ping Tay (National University of Singapore)

P-S12-20-T4 Versatile and highly efficient all-day radiative cooler based on optimized polymer-ceramic composite fabricated via facile process

» Mr. Jaein Park (korea university), Mr. Dongwoo Chae (korea university), Mr. Hangyu Lim (korea university), Mr. Jisung Ha (korea university), Prof. heon lee (korea university)

P-S12-21-T4 Fluoropolymer based radiative cooler having High durability for external environment

» Mr. Jisung Ha (korea university), Mr. Dongwoo Chae (korea university), Mr. Hangyu Lim (korea university), Mr. Jaein Park (korea university), Prof. heon lee (korea university)

P-S12-22-T4 High-performance semi-transparent perovskite solar cells based on 3D-patterned FTO

» Mr. sucheol ju (korea university), Mr. jaemin park (korea university), Prof. heon lee (korea university)

Continued from **Tuesday, 26 September**

P-S12-23-T4 Deep Eutectic Solvent Supported Polymer-Based High Performance Anion Exchange Membrane for Alkaline Fuel Cells

» Ms. Aida Barlybayeva (Department of Chemical and Materials Engineering, School of Engineering and Digital Sciences, Nazarbayev University), Dr. Bauyrzhan Myrzakhmetov (Laboratory of Advanced Materials and Systems for Energy Storage, Center for Energy and Advanced Materials Science, National Laboratory Astana, Nazarbayev University), Mr. Mirat Karibayev (Department of Chemical and Materials Engineering, School of Engineering and Digital Sciences, Nazarbayev University), Dr. Almagul Mentbayeva (Department of Chemical and Materials Engineering, School of Engineering and Digital Sciences, Nazarbayev University)

P-S12-24-T4 Affordable and effective method for measuring key parameters of micro and nanostructured triboelectric energy harvesters

» Dr. Luca Fachechi (Istituto Italiano di Tecnologia), Dr. Vincenzo Mastronardi (Istituto Italiano di Tecnologia; Department of Innovation Engineering, Unisalento), Dr. Laura Blasi (National Research Council of Italy), Dr. Gaia de Marzo (Istituto Italiano di Tecnologia), Prof. Massimo De Vittorio (Istituto Italiano di Tecnologia; Department of Innovation Engineering, Unisalento), Dr. Maria Teresa Todaro (Istituto Italiano di Tecnologia; Institute of Nanotechnology, CNR Lecce)

P-S12-25-T4 Improvement of Mechanical/Electrical Properties of Nano-Metal Film for Neural Electrode with Curing Rate Adjustment of Photosensitive Polyimide

» Dr. HyungDal Park (Korea Institute of Science and Technology), Dr. Seonho Seok (University-Paris-Saclay), Dr. Jinseok Kim (Korea Institute of Science and Technology)

P-S12-26-T4 Eco-friendly transparent silk fibroin radiative cooling film for thermal management of optoelectronics

» Ms. Ching Wen Hwang (National Tsing Hua University), Ms. Yu-Hsuan Chen (National Tsing Hua University), Prof. Dehui Wan (National Tsing Hua University)

P-S12-27-T4 Effects of copper surface roughness on inkjet printing of PCB resist ink

» Mr. KWON YONG SHIN (Korea Institute of Industrial Technology), Dr. Sang-Ho Lee (Korea Institute of Industrial Technology)

P-S12-28-T4 On chip synthesis of Ag nanoparticles assisted by resonating microwave heating using a post-wall waveguide

» Mr. Kaito Fujitani (University of Hyogo), Mr. Hiroshi Nakamura (University of Hyogo), Dr. Akinobu Yamaguchi (University of Hyogo), Dr. Mitsuyoshi Kishihara (Okayama Prefectural University), Dr. Yuichi Utsumi (University of Hyogo)

Wednesday, 27 September

8am	**Reception/Registration** *Atrium*
8:55am	**Opening** *Plenary Hall (MOA12/08/07)*
9am	**Greeting by the representative of the Berlin Senate for Economy** *Plenary Hall (MOA12/08/07)*
9:15am	**MNE-Award** *Plenary Hall (MOA12/08/07)*
9:25am	**Keynote Kurt Ronse** *Plenary Hall (MOA12/08/07)*

Continued dimensional scaling through projection Lithography

Continued from **Wednesday, 27 September**

10:05am **Coffee Break**
Atrium

10:35am **Keynote Francesca Santoro**
Plenary Hall (MOA12/08/07)

Neurohybrid Electronics

11:15am **break**

11:30am **Track1 - Novel Developments in Nano/Micro Fabrication Methods and Processes**
MOA12
Chaired by: Dr. Michael Muehlberger and Dr. Christian Helke

11:30am

O-S41-T1-1 Junctionless Nanowire Transistor: From Devices to Sensing Applications
» Mr. Sayantan Ghosh (Institute of Ion Beam Physics and Materials Research, Helmholtz-Zentrum Dresden-Rossendorf (HZDR)), Dr. Muhammad Bilal Khan (Institute of Ion Beam Physics and Materials Research, Helmholtz-Zentrum Dresden-Rossendorf (HZDR)), Mr. Ahmad Echresh (Institute of Ion Beam Physics and Materials Research, Helmholtz-Zentrum Dresden-Rossendorf (HZDR)), Mr. Ulrich Kentsch (Institute of Ion Beam Physics and Materials Research, Helmholtz-Zentrum Dresden-Rossendorf (HZDR)), Dr. Slawomir Prucnal (Institute of Ion Beam Physics and Materials Research, Helmholtz-Zentrum Dresden-Rossendorf (HZDR)), Ms. Vaishali Vardhan (University College Cork), Dr. Subhajit Biswas (University College Cork), Dr. John Wenger (University College Cork), Dr. Stig Hellebust (University College Cork), Prof. Justin Holmes (University College Cork), Prof. Artur Erbe (Institute of Ion Beam Physics and Materials Research, Helmholtz-Zentrum Dresden-Rossendorf (HZDR)), Dr. Yordan Georgiev (Institute of Ion Beam Physics and Materials Research, Helmholtz-Zentrum Dresden-Rossendorf (HZDR))

11:45am **O-S41-T1-2 Two-photon laser 3D printing enhancement by quantum dots and in-situ exchange**
» Dr. Ye Yu (HETEROMERGE GmbH, Gostritzer Str. 61, 01217 Dresden, Germany), Dr. Anatol Prudnikau (Center for Advancing Electronics Dresden (cfaed), Technische Universität Dresden, Helmholtzstr. 18, 01069 Dresden, Germany), Dr. Vladimir Lesnyak (Physical Chemistry, Technische Universität Dresden, Zellescher Weg 19, 01069 Dresden, Germany), Mr. Man Ho Wong (HETEROMERGE GmbH, Gostritzer Str. 61, 01217 Dresden, Germany), Ms. Madhuri Chennur (HETEROMERGE GmbH, Gostritzer Str. 61, 01217 Dresden, Germany), Ms. Tanya Saxena (HETEROMERGE GmbH, Gostritzer Str. 61, 01217 Dresden, Germany), Mr. Josua Zscheile (HETEROMERGE GmbH, Gostritzer Str. 61, 01217 Dresden, Germany), Dr. Robert Kirchner (TU Dresden)

12pm **O-S41-T1-3 Combining thermal scanning probe lithography and dry etching for grayscale nanopatterns amplification in SiO2**
» Mr. Berke Erbas (Ecole Polytechnique Federale de Lausanne (EPFL)), Dr. Ana Conde Rubio (ICMAB-CSIC), Dr. Xia Liu (Beijing Institute of Technology), Prof. Giovanni Boero (Ecole Polytechnique Federale de Lausanne (EPFL)), Prof. Jürgen Brugger (Ecole Polytechnique Federale de Lausanne (EPFL))

12:15pm **O-S41-T1-4 Multi-process compatibility of hybrid polymers allowing advanced micro- and nano-patterning**
» Mr. Johannes Wolf (micro resist technology GmbH), Dr. Arne Schleunitz (micro resist technology GmbH), Dr. Maria RUssew (micro resist technology GmbH), Mrs. Gabi Grützner (micro resist technology GmbH)

11:30am **Track2 - Fabrication and Integration of Micro/Nano Structures, Devices and Systems**
MOA4/5
Chaired by: Prof. Monika Fleischer and Dr. Armin Knoll

11:30am **O-S42-T2-1 Fabrication of electron transparent membranes and nanostructures in fluidic devices by nanoimprint lithography and "Flow-Through"-gas phase deposition**
» Mr. Jeremy Teuber (Universität Hamburg), Mr. Manuel Müller (Universität Hamburg), Mr. Rukan Nasri (Universität Hamburg), Dr. Arwen Pearson (Universität Hamburg), Ms. Judith Estengre-Perez (Universität Hamburg), Dr. Irene Fernandez-Cuesta (Universität Hamburg)

Continued from **Wednesday, 27 September**

11:45am

O-S42-T2-2 The performance improvement of multi-layered ZnO/SnO2 thin-film transistors by varying growth temperatures

» Mr. Chan-Yeong Park (Department of Electrical and Electronics Engineering, Pusan National University), Mr. Se-Hyeong Lee (Department of Electrical and Electronics Engineering, Pusan National University), Ms. So-Young Bak (Department of Electrical and Electronics Engineering, Pusan National University), Mr. Dongki Baek (Department of Electrical and Electronics Engineering, Pusan National University), Mr. Hyeongrok Jang (Department of Electrical and Electronics Engineering, Pusan National University), Mr. Jinwoo Lee (Department of Electrical and Electronics Engineering, Pusan National University), Prof. Moonsuk Yi (Department of Electrical and Electronics Engineering, Pusan National University)

11:30am

Track3 - Micro/Nano Engineering for Life Sciences

MOA6

Chaired by: Dr. Irene Fernandez-Cuesta and Dr. Francesco La Malfa

11:30am

O-S43-T3-1 Nanowell field-effect transistors for biomolecule sensing

» Dr. Lijun Liu (Ku Leuven, Celestijnenlaan 200f, Leuven, 3001, Belgium, IMEC, Kapeldreef 75, Leuven, 3001, Belgium), Dr. Sybren Santermans (imec v.z.w.), Dr. David Barge (imec v.z.w.), Mr. Jacobus Delport (imec v.z.w.), Mr. Ashesh Raychaudhuri (imec v.z.w.), Dr. Simone Severi (imec v.z.w.), Prof. Pol Van Dorpe (IMEC), Dr. Koen Martens (IMEC)

11:45am

O-S43-T3-2 Self-powered bioelectronic nanogenerators and microdevices for cell stimulation

» Dr. Gonzalo Murillo Rodríguez (Instituto de Microelectrónica de Barcelona (IMB-CNM, CSIC))

12pm

O-S43-T3-3 High resolution µGrid-LED array with 15 µm pixels for optogenetic research

» Mr. Eric Klein (IMTEK - University of Freiburg), Prof. Oliver Paul (IMTEK, University of Freiburg), Dr. Patrick Ruther (IMTEK, University of Freiburg)

12:15pm

O-S43-T3-4 A Microfluidic-Based Quantitative Analysis System for the Multiplexed Genetic Diagnosis of Viral Infections in Multiple Samples

» Mr. Daigo Natsuhara (Toyohashi University of Technology), Prof. Shunya Okamoto (Toyohashi University of Technology), Prof. Moeto Nagai (Toyohashi University of Technology), Prof. Masaru Ihira (Fujita Health University), Prof. Takayuki Shibata (Toyohashi University of Technology)

11:30am

Track2 - Fabrication and Integration of Micro/Nano Structures, Devices and Systems

MOA9

Chaired by: Dr. James Alexander Liddle and Dr. Uwe Hübner

11:30am

O-S44-T2-1 Integration of hard magnetic materials in MEMS devices

» Dr. Federico Maspero (Politecnico di Milano), Mr. Simone Cuccurullo (Politecnico di Milano), Dr. Alejandro Plaza (Politecnico di Milano), Ms. Francesca Marson (Politecnico di Milano), Ms. Oksana Koplak (Politecnico di Milano), Mr. Andrea Del Giacco (Politecnico di Milano), Ms. Maria Cocconcelli (Politecnico di Milano), Ms. Giulia Pavese (Politecnico di Milano), Prof. Andrea Cattoni (Politecnico di Milano), Prof. Riccardo Bertacco (Politecnico di Milano)

11:45am

O-S44-T2-2 Simultaneous Estimation of dI/dV and dI/dZ with Ultrafast feedback loop for Scanning Tunnelling Microscopy

» Ms. Richa Mishra (The University of Texas at Dallas), Prof. S. O. Reza Moheimani (The University of Texas at Dallas), Dr. Ehud Fuchs (Zyvex Labs), Dr. James Owen (Zyvex Labs), Dr. John Randall (Zyvex Labs)

12pm

O-S44-T2-3 Through Silicon MEMS inspection with a near infrared laser scanning setup

» Dr. Diogo E. Aguiam (International Iberian Nanotechnology Laboratory), Ms. Inês S. Garcia (International Iberian Nanotechnology Laboratory), Ms. Joana D. Santos (International Iberian Nanotechnology Laboratory), Dr. Filipe S. Alves (International Iberian Nanotechnology Laboratory)

Continued from **Wednesday, 27 September**

12:15pm

O-S44-T2-4 Advanced defect detection procedure in immersion lithography for minimizing yield-killing defect classes through high sensitivity optical inspection, guided e-beam inspection, and AI technology by track parameters optimization

» Dr. Jorge Pablo Nacenta Mendivil (Univ. Grenoble Alpes, CEA, Leti, F-38000 Grenoble, France), Mr. Alexis ROYER (Univ. Grenoble Alpes, CEA, Leti, F-38000 Grenoble, France), Mrs. Karine JULLIAN (Univ. Grenoble Alpes, CEA, Leti, F-38000 Grenoble, France), Dr. Michael MAY (Univ. Grenoble Alpes, CEA, Leti, F-38000 Grenoble, France), Mr. Fabrice KOUEMENI-TCHOUAKE (Univ. Grenoble Alpes, CEA, Leti, F-38000 Grenoble, France), Prof. Raluca TIRON (Univ. Grenoble Alpes, CEA, Leti, F-38000 Grenoble, France), Mr. Laurent Couturier (Applied Materials France, 864 Chem. des Fontaines, 38190 Bernin, France), Mr. Yuji Tanaka (SCREEN Semiconductor Solutions Co., Ltd. 480-1 Takamiya-cho, Hikone, Shiga, Japan), Mr. Christophe Couderc (Univ. Grenoble Alpes, CEA, Leti, F-38000 Grenoble, France), Dr. Masahiko Harumoto (SCREEN Semiconductor Solutions Co., Ltd. 480-1 Takamiya-cho, Hikone, Shiga, Japan), Mr. Masanes Masanes (Univ. Grenoble Alpes, CEA, Leti, F-38000 Grenoble, France)

12pm

Invited Talk Regina Luttge

MOA4/5

Chaired by: Prof. Monika Fleischer and Dr. Armin Knoll

O-S42-T2-3 Smarter microsystems by neuro-nanoscale interactions?

12:30pm **Lunch Break**

1:25pm

Honoring MNE Pioneer

Plenary Hall (MOA12/08/07)

1:35pm

Keynote Uzodinma Okoroanyanwu

Plenary Hall (MOA12/08/07)

Amazing Lithographic Resists

2:15pm **Break**

2:20pm

Track1 - Novel Developments in Nano/Micro Fabrication Methods and Processes

MOA12

Chaired by: Dr. Søren Stobbe and Dr. Marcus Rommel

2:20pm

O-S51-T1-1 New high-resolution SiO2-based positive-tone resist for electron beam lithography

» Prof. Andrea Cattoni (Politecnico di Milano), Dr. Dominique Mailly (Centre de Nanosciences et de Nanotechnologies (C2N) CNRS, Université Paris-Saclay), Prof. Ivan Maximov (Lund University)

2:35pm

O-S51-T1-2 Greyscale lithography beyond 100 µm pattern depth facilitated by a novel photoresist and optimized processing

» Dr. Christine Schuster (micro resist technology GmbH), Ms. Marina Heinrich (micro resist technology GmbH), Ms. Gerda Ekindorf (Heidelberg Instruments Mikrotechnik GmbH), Dr. Anja Voigt (micro resist technology GmbH), Dr. Arne Schleunitz (micro resist technology GmbH), Mrs. Gabi Grützner (micro resist technology GmbH)

2:20pm

Track2 - Fabrication and Integration of Micro/Nano Structures, Devices and Systems

MOA4/5

Chaired by: Dr. Christopher Dirdal and Dr. Helmut Schift

2:20pm

O-S52-T2-1 3D Printed Microscale Static Geometry Check Valve

» Prof. (Edwin) En-Te Hwu (Technical University of Denmark), Mr. Dali Reda (Technical University of Denmark), Dr. Tien-Jen Chang (Technical university of Denmark), Prof. Nikolaj Gadegaard (University of Glasgow), Prof. Anja Boisen (Technical University of Denmark)

Continued from **Wednesday, 27 September**

2:35pm

O-S52-T2-2 Design and All-In-One Etch of Silicon Metalens for Near-Infrared Focusing

» Dr. Bingrui Lu (Technical University of Denmark), Mr. Søren Engelberth Hansen (Technical University of Denmark), Mr. Thor August Schimmell Weis (Technical University of Denmark), Dr. Guillermo Arregui (Technical University of Denmark), Dr. Søren Stobbe (Technical University of Denmark)

2:20pm

Track3 - Micro/Nano Engineering for the Life Sciences

MOA6

Chaired by: Mr. Manuel Müller and Dr. Maria RUssew

2:20pm

O-S53-T3-1 Motor protein driven, active, on-chip transport and detection of nanoscaled, biomolecular cargo

» Mr. Tim Erichlandwehr (Universität Hamburg), Dr. Marko Usaj (Linnaeus University), Prof. Alf Månsson (Linnaeus University), Dr. Irene Fernandez-Cuesta (Universität Hamburg)

2:35pm

O-S53-T3-2 Adaptive resolution two-photon 3D printing with X-ray tomographic resolution optimization of ultracompact 3D microfluidics

» Dr. Markus Lunzer (UpNano GmbH), Mr. Andrew Nelson Butterfield (Institute of Biomaterials and Biomolecular Systems, University of Stuttgart), Mr. Konstantinos Karpos (Department of Physics and The Biodesign Institute, Arizona State University), Dr. Christian Matthias Schlepütz (Swiss Light Source, Paul Scherrer Institute), Prof. Richard Kirian (Department of Physics and The Biodesign Institute, Arizona State University), Prof. Michael Heymann (Institute of Biomaterials and Biomolecular Systems, University of Stuttgart)

2:20pm

Track3 - Micro/Nano Engineering for the Life Sciences

MOA9

Chaired by: Dr. Celestino Padeste and Dr. Arne Schleunitz

2:20pm

O-S54-T3-1 Microfabrication of leaky optrode for cell replacement therapy in the brain

» Ms. Celine Dinesen (Technical University of Denmark), Dr. Arto Heiskanen (Technical University of Denmark), Prof. Jenny Emnéus (Technical University of Denmark), Prof. Stephan Sylvest Keller (Technical University of Denmark)

2:35pm

O-S54-T3-2 Tuning the mechanical properties and feature resolution of two-photon polymerized soft elastomeric 3D biomaterials for (neuro)mechanobiology

» Mr. Pieter van Altena (Delft University of technology), Dr. Angelo Accardo (Delft University of technology)

2:50pm

Break

3pm

Track1 - Novel Developments in Nano/Micro Fabrication Methods and Processes

MOA12

Chaired by: Dr. Salvatore Bagiante and Prof. Prof. Dr. Michael Heuken

3pm

O-S61-T1-1 Additive micro-structuring of non-planar optical waveguides for multifunctional neural interfaces

» Dr. Marco Bianco (Istituto Italiano di Tecnologia), Dr. Antonio Balena (Istituto Italiano di Tecnologia), Dr. Marco Pisanello (OptogeniX s.r.l.), Dr. Elisa Scarpa (Istituto Italiano di Tecnologia), Dr. Filippo Pisano (Istituto Italiano di Tecnologia), Dr. Barbara Spagnolo (Istituto Italiano di Tecnologia), Ms. Maria Samuela Andriani (Istituto Italiano di Tecnologia), Mr. Miroslav Stiburek (Institute of scientific instruments of Czech Republic, Complex photonics), Dr. Petra Kolbabkova (Institute of scientific instruments of Czech Republic, Complex photonics), Dr. Hana Uhlirova (Institute of scientific instruments of Czech Republic, Complex photonics), Prof. Tomas Cizmar (Leibniz institute of photonic technology), Dr. Ferruccio Pisanello (Istituto Italiano di Tecnologia), Prof. Massimo De Vittorio (Istituto Italiano di Tecnologia)

3:15pm

O-S61-T1-2 Guided Domino Lithography for Uniform Ultra-Sharp Nanoantenna Arrays

» Mr. Dong Kyo Oh (pohang university of science and technology), Mr. Jaekyung Kim (pohang university of science and technology), Ms. Jihae Lee (pohang university of science and technology), Prof. Junsuk Rho (pohang university of science and technology)

Continued from **Wednesday, 27 September**

3:30pm **O-S61-T1-3 Intra-level Mix and Match Approach of the Photoresist mr-EBL 6000.5 using E-Beam and i-line Stepper Lithography for PICs**

» Mr. Sebastian Schermer (Fraunhofer ENAS, Technologie Campus 3, 09126 Chemnitz), Mr. Markus Reinhardt (Fraunhofer ENAS, Technologie Campus 3, 09126 Chemnitz), Dr. Christian Helke (Fraunhofer ENAS, Technologie Campus 3, 09126 Chemnitz), Ms. Susanne Hartmann (Technische Universität Chemnitz, Center for Microtechnologies, Reichenhainer Str. 70, 09126 Chemnitz, Germany), Dr. Georg Heldt (Fraunhofer ENAS, Technologie Campus 3, 09126 Chemnitz), Mr. Franz Tank (Technische Universität Chemnitz, Center for Microtechnologies, Reichenhainer Str. 70, 09126 Chemnitz, Germany), Dr. Anja Voigt (micro resist technology GmbH), Dr. Danny Reuter (Fraunhofer ENAS)

3:45pm **O-S61-T1-4 Novel Fabrication of Arbitrary Optical Probe Array by 4D Printing**

» Dr. Dominique Decanini (C2N/CNRS-University Paris-Saclay), Mr. Abdelmounaim Harouri (C2N/CNRS-University Paris-Saclay), Ms. Ayako Mizushima (The University of Tokyo), Dr. Jongho Park (The University of Tokyo), Prof. Beomjoon Kim (The University of Tokyo), Prof. Yoshio Mita (The University of Tokyo), Dr. Gilgueng Hwang (LIMMS/CNRS-The University of Tokyo)

4pm **O-S61-T1-5 Penrose Patterns for Error Measurement in Electron Beam Lithography**

» Dr. Paul Reynolds (University of Glasgow), Dr. Stephen Thoms (University of Glasgow)

3pm **Track2 - Fabrication and Integration of Micro/Nano Structures, Devices and Systems**

MOA4/5

Chaired by: Dr. Holger Sailer and Dr. Vijay Ramya Kolli

3pm **O-S62-T2-1 Development of surface acoustic wave phase modulators for physical reservoir computing**

» Mr. Taiki Ijima (Kyoto University), Dr. Claude Meffan (Kyoto University), Prof. Amit Banerjee (Kyoto University), Dr. Jun Hirotani (Kyoto University), Prof. Toshiyuki Tsuchiya (Kyoto University)

3:15pm **O-S62-T2-2 A silicon carbide (SiC) carbon nanotube (CNT) composite for high aspect ratio harsh environment MEMS**

» Mr. Jiarui Mo (Delft University of Technology), Mr. Shreyas Shankar (Delft University of Technology), Dr. Sten Vollebregt (Delft University of Technology)

3:30pm **O-S62-T2-3 Parallel In-Plane Electrothermal Actuators**

» Ms. Yen Nee Ho (UNSW Sydney), Dr. Aron Michael (UNSW Sydney), Prof. Chee Yee Kwok (UNSW Sydney), Dr. Cibby Pulikkaseril (Baraja)

3:45pm **O-S62-T2-4 Fabrication of On-Chip Carbon Microelectrodes by Catalytic Graphitization of 3D Printed Polymers**

» Mrs. Zoi Maria Papadopoulou (National Centre for Nano Fabrication and Characterization, DTU Nanolab, Technical University of Denmark, 2800 Lyngby, Denmark), Ms. Swetha Vasudevan Kanakkottu (Technical University of Denmark), Prof. Babak Rezaei (Technical University of Denmark), Prof. Stephan Sylvest Keller (Technical University of Denmark)

4pm **O-S62-T2-5 Flexible photonic integrated circuit technology and characterization platform**

» Mr. Franz Tank (Technische Universität Chemnitz, Center for Microtechnologies, Reichenhainer Str. 70, 09126 Chemnitz, Germany), Mrs. Julia Wecker (Fraunhofer ENAS, Technologie Campus 3, 09126 Chemnitz), Dr. Chris Stöckel (Fraunhofer ENAS; Technische Universität Chemnitz, Center for Microtechnologies, Germany), Dr. Christian Helke (Fraunhofer ENAS; Technische Universität Chemnitz, Center for Microtechnologies, Germany), Mrs. Alexey Shaporin (Fraunhofer ENAS, Technologie Campus 3, 09126 Chemnitz), Dr. Joerg Martin (Fraunhofer ENAS, Technologie Campus 3, 09126 Chemnitz), Mr. Sebastian Schermer (Fraunhofer ENAS, Technologie Campus 3, 09126 Chemnitz), Mr. Toni Großmann (Fraunhofer ENAS, Technologie Campus 3, 09126 Chemnitz), Dr. Karla Hiller (Fraunhofer ENAS; Technische Universität Chemnitz, Center for Microtechnologies, Germany), Dr. Danny Reuter (Fraunhofer ENAS; Technische Universität Chemnitz, Center for Microtechnologies, Germany), Mr. Micha Haase (Fraunhofer ENAS; Technische Universität Chemnitz, Center for Microtechnologies, Germany), Dr. Alexander Weiss (Fraunhofer ENAS, Technologie Campus 3, 09126 Chemnitz)

Continued from **Wednesday, 27 September**

3pm

Track3 - Micro/Nano Engineering for Life Sciences / Track4 - Micro/Nano Engineering for Physical and Chemical Applications

MOA6

Chaired by: Dr. Danny Reuter and Dr. Kevin Hofhuis

3pm

O-S63-T3-1 Electrode Design Using Multi-Material Topology Optimization for Accurate Measurement of Trans-Epithelial Electrical Resistance in Organ-on-a-Chip

» Mr. Haruki Goda (Kyoto University), Mr. Naoyuki Ishida (Kyoto University), Dr. Kozo Furuta (Kyoto University), Prof. Kazuhiro Izui (Kyoto University), Prof. Fred van Keulen (Delft University of technology), Dr. Ken-ichiro Kamei (Kyoto University), Prof. Toshiyuki Tsuchiya (Kyoto University), Prof. Osamu Tabata (Kyoto University of Advanced Science), Dr. Yoshikazu HIRAI (Kyoto University)

3:15pm

O-S63-T3-2 The dual role of topographical and mechanical cues: a multi-modal platform for in vitro mimicking of cardiac microenvironment

» Ms. Denise Pagliara (Università degli Studi di Napoli "Federico II"), Dr. Raffaele Vecchione (Istituto Italiano di Tecnologia), Prof. Paolo Antonio Netti (Università degli Studi di Napoli "Federico II")

3:30pm

O-S63-T3-3 Engineering Ultrathin Si Membranes with sub-20 nm Pores at Wafer Scale

» Dr. Cian Cummins (imec v.z.w.), Dr. Sandeep Seema Saseendran (imec v.z.w.), Mrs. Aurelie Humbert (imec v.z.w.), Dr. Lubuna Shafeek (ISTA), Dr. Salvatore Bagiante (Institute of Science and Technology Austria (ISTA)), Dr. Lucas Lindeboom (Imec The Netherlands), Dr. Fokko Wieringa (Imec The Netherlands), Dr. Roberto Garcia van der Westen (Imec The Netherlands), Dr. Swathi Suran (Imec The Netherlands), Dr. Jeroen Vollenbroek (University of Twente), Dr. Geert Langereis (Imec The Netherlands), Dr. Patrick van Deursen (Imec The Netherlands), Dr. Simone Severi (imec v.z.w.)

3:45pm

O-S63-T4-4 Focused gold ion beam for the fabrication of sub-100 nm length InGaZnO thin film transistors on flexible substrates

» Dr. Elia Scattolo (FBK, Fondazione Bruno Kessler), Ms. Federica Catania (Free University of Bozen), Mr. Alessandro Cian (FBK, Fondazione Bruno Kessler), Dr. Niko Muenzenrieder (Free University of Bozen), Dr. Giuseppe Cantarella (University of Modena and Reggio Emilia), Prof. Paolo Lugli (Free University of Bozen), Prof. Luisa Petti (Free University of Bozen), Mr. Damiano Giubertoni (FBK, Fondazione Bruno Kessler)

4pm

O-S63-T4-5 PEDOT:PSS deposition in OECTs: inkjet printing, aerosol jet printing and spin coating

» Ms. Giorgia Rinaldi (Politecnico di Torino), Dr. GIUSEPPE TARABELLA (CNR), Dr. Pasquale D'Angelo (CNR), Dr. Simone Luigi Marasso (CNR), Prof. Matteo Cocuzza (Politecnico di Torino), Prof. Fabrizio Pirri (Politecnico di Torino), Dr. Matteo Parmeggiani (Politecnico di Torino)

3pm

Invited Talk Irene Fernandez

MOA9

Chaired by: Prof. Christophe Vieu and Dr. Irene Taurino

O-S64-T3-1 DNA in nanochannels: molecular flow analysis and applications

3:30pm

Track3 - Micro/Nano Engineering for Life Sciences

MOA9

Chaired by: Prof. Christophe Vieu and Dr. Irene Taurino

3:30pm

O-S64-T3-2 Downscaling Roadmap for Single-Molecule Detection with Silicon Field-Effect Transistors

» Dr. Sybren Santermans (IMEC), Dr. Geert Hellings (IMEC), Dr. Willem Van Roy (IMEC), Prof. Pol Van Dorpe (IMEC), Dr. Koen Martens (IMEC)

Continued from **Wednesday, 27 September**

3:45pm

O-S64-T3-3 Biocompatible AlN Thin Films for Continuous Pulse Wave Velocity Assessment Applied to Cardiovascular Health

» Ms. Angela Tafadzwa Shumba (Istituto Italiano di Tecnologia), Mr. Suleyman Mahircan Demir (Istituto Italiano di Tecnologia), Dr. Gaia de Marzo (Istituto Italiano di Tecnologia), Dr. Valeria Carluccio (Istituto Italiano di Tecnologia), Dr. Vincenzo Mastronardi (Istituto Italiano di Tecnologia), Dr. Luca Fachechi (Istituto Italiano di Tecnologia), Dr. Francesco Rizzi (Istituto Italiano di Tecnologia), Prof. Paolo Motto Ros (Politecnico di Torino), Prof. Danilo Demarchi (Politecnico di Torino), Prof. Luigi Patrono (University of Salento), Prof. Massimo De Vittorio (Istituto Italiano di Tecnologia)

4pm

O-S64-T3-4 Engineering of 3D printed pyrolytic carbon microneedle biosensors

» Mr. Filip Angelov (DTU Nanolab), Dr. Stephanie Bisgaard (DTU Nanolab), Dr. Jesper Yue pan (Technical University of Denmark), Prof. Babak Rezaei (Technical University of Denmark), Dr. Arto Heiskanen (Technical University of Denmark), Prof. Yi Sun (Technical University of Denmark), Prof. Stephan Sylvest Keller (Technical University of Denmark)

4:15pm **Poster Session2.1: Track 2**

MOA10/11

P-S21-01-T2 Hollow Silicon-based Microneedle Array for Dermal Interstitial Fluid Extraction Fabricated by Only Dry Etching in Wafer Scale

» Mr. Ali Gilani (Ecole Polytechnique Federale de Lausanne (EPFL)), Dr. Hervé Elettro (xsensio), Mr. Nicolas Humblot (xsensio), Prof. Adrian Mihai Ionescu (EPFL)

P-S21-02-T2 Energy Efficient Coloration of Solar Panels

» Mr. Oskar Darselius Berg (Stensborg A/S), Mr. Markus Babin (DTU Electro, Department of Electrical and Photonics Engineering, Technical University of Denmark, Kgs. Lyngby, Denmark.), Ms. Irina Vyalih (The University of Southern Denmark, Mads Clausen Institute), Ms. Nanna Lysgaard Andersen (DTU Electro, Department of Electrical and Photonics Engineering, Technical University of Denmark, Kgs. Lyngby, Denmark.), Prof. Morten Madsen (The University of Southern Denmark, Mads Clausen Institute), Mr. Peter Behrensdorff Poulsen (DTU Electro, Department of Electrical and Photonics Engineering, Technical University of Denmark, Kgs. Lyngby, Denmark.), Mr. Sune Thorsteinsson (DTU Electro, Department of Electrical and Photonics Engineering, Technical University of Denmark, Kgs. Lyngby, Denmark.), Mr. Jan Stensborg (Stensborg A/S)

P-S21-03-T2 Heavy metal ion detection by an impedance sensor based on Platinum nanoparticles/DNAzymes network

» Dr. Evangelos Aslanidis (Department of Applied Sciences, National Technical University of Athens, Zografou 15780, Greece), Dr. Evangelos Skotadis (Department of Applied Sciences, National Technical University of Athens, Zografou 15780, Greece), Ms. Georgia Tzourmana (Department of Applied Sciences, National Technical University of Athens, Zografou 15780, Greece), Ms. Chryssi Panagopoulou (Department of Applied Sciences, National Technical University of Athens, Zografou 15780, Greece), Ms. Annita Rapesi (Biomedical Research Foundation of the Academy of Athens, Athens 11527, Greece), Dr. George Tsekenis (Biomedical Research Foundation of the Academy of Athens, Athens 11527, Greece), Dr. STAVROS CHATZANDROULIS (Institute of Nanoscience and Nanotechnology, NCSR Demokritos, Aghia Paraskevi 15341, Attiki, Greece), Prof. Dimitris Tsoukalas (National Technical University of Athens)

P-S21-04-T2 Fabrication of Silicon nano-pillars to enlarge their implementation in future integrated circuits and systems

» Dr. Alberto del Moral (Institute of Microelectronics of Barcelona (IMB-CNM-CSIC)), Mr. Raul Ramos (Institute of Microelectronics of Barcelona (IMB-CNM-CSIC)), Dr. Borja Sepúlveda (Institute of Microelectronics of Barcelona (IMB-CNM-CSIC)), Dr. Esteve Amat (Institute of Microelectronics of Barcelona (IMB-CNM-CSIC))

Continued from **Wednesday, 27 September**

P-S21-05-T2 Dual photoresist maskless UV photolithography process to fabricate 3D suspended microstructures for pyrolytic carbon microelectrodes

» Mr. Mohammad Ramezannezhad (Technical University of Denmark), Prof. Babak Rezaei (Technical University of Denmark), Prof. Stephan Sylvest Keller (Technical University of Denmark)

P-S21-06-T2 Mass Spectrometry by Single Mode Nanoelectromechanical Systems at Atmospheric Conditions

» Mr. Batuhan E. Kaynak (Bilkent University), Mr. Mohammed Alkhaled (Bilkent University), Ms. Enise Kartal (Bilkent University), Dr. Cenk Yanik (Sabanci University), Prof. Mehmet Selim Hanay (Bilkent University)

P-S21-07-T2 Tuneable refractive index polymer waveguides for photonic sensor platforms using wavelengths from 400 nm to 1650 nm.

» Mr. Harry Biller (Allresist GmbH), Dr. Mandy Sendel (Allresist GmbH), Dr. Maik Gerngroß (Allresist GmbH), Mr. Matthias Schirmer (Allresist GmbH), Mr. Robin Kraft (Fraunhofer Heinrich Hertz Institute), Mr. Crispin Zawadzki (Fraunhofer Heinrich Hertz Institute)

P-S21-08-T2 A Method for the automated Replication of Diffractive Optical Elements with Strong Curvature

» Mr. Constantin Rödel (Technische Universität Berlin), Mr. Paul Kastl (Technische Universität Berlin), Dr. Stefan Kühne (Technische Universität Berlin), Mr. Johannes Wolf (micro resist technology GmbH), Dr. Thomas Krist (NOB nano optics berlin GmbH), Prof. Dirk Oberschmidt (Technische Universität Berlin)

P-S21-09-T2 Batch Fabrication of nanoscale fin-type FETs using thermal Scanning Probe Lithography

» Dr. Armin Knoll (IBM Research Zurich), Dr. Jana Chaaban (Heidelberg Instruments Nano AG), Dr. Nicholas Hendricks (Heidelberg Instruments Nano AG), Dr. Emine Cagin (Heidelberg Instruments Nano AG), Dr. Chloé Bureau-Oxton (IBM Research Zurich), Dr. Heiko Wolf (IBM Research Zurich), Mr. Daniel Widmer (IBM Research Zurich), Ms. Ute Drechsler (IBM Research Zurich)

P-S21-10-T2 Low-cost nanostructures for contactless structural monitoring

» Dr. Javier Bravo Larrea (NAITEC), Mr. Julio Peña (NAITEC)

P-S21-11-T2 Al-SWG reflectors for tuneable VIS filters and spectroscopy applications

» Dr. Christian Helke (Fraunhofer ENAS, Technologie Campus 3, 09126 Chemnitz), Mr. Christian Behl (Fraunhofer ENAS), Dr. Regine Behlert (Fraunhofer ENAS), Ms. Susanne Hartmann (Technische Universität Chemnitz, Center for Microtechnologies, Reichenhainer Str. 70, 09126 Chemnitz, Germany), Mr. Micha Haase (Fraunhofer Institute for Electronic Nano Systems), Dr. Jörg Martin (Fraunhofer ENAS), Dr. Danny Reuter (Fraunhofer ENAS), Dr. Karla Hiller (Fraunhofer ENAS; Technische Universität Chemnitz, Center for Microtechnologies, Germany)

P-S21-12-T2 Characterization of hybrid nanowire-MEMS force sensors using direct actuation

» Mr. Bartosz Pruchnik (Department of Nanometrology, Wrocław University of Science and Technology, Wroclaw, 50-370, Poland), Mr. Krzysztof Kwoka (Department of Nanometrology, Wrocław University of Science and Technology, Wroclaw, 50-370, Poland), Dr. Tomasz Piasecki (Department of Nanometrology, Wrocław University of Science and Technology, Wroclaw, 50-370, Poland), Mr. Masoud Jedari Ghourichaei (Department of Mechanical Engineering, Koç University, Istanbul, 34450, Turkey), Dr. Mehrdad Karimzadehkhouei (Dept. of Mechanical Engineering, Koç University, Istanbul, 34450, Turkey), Mr. Cemal Aydogan (Institute of Micro- and Nanoelectronics, Ilmenau University of Technology, Ilmenau, 98693, Germany), Prof. Ivo W. Rangelow (Technische Universität Ilmenau), Prof. Halil Bayraktar (Dept. of Molecular Biology and Genetics, Istanbul Technical University, Maslak, Istanbul, 34467, Turkey), Prof. B. Erdem Alaca (Department of Mechanical Engineering, Koç University, Istanbul, 34450, Turkey), Prof. Teodor Gotszalk (Department of Nanometrology, Wrocław University of Science and Technology, Wroclaw, 50-370, Poland)

P-S21-13-T2 Understanding of Ta doping effect into the Sb2Te3 for high-speed phase change memory

» Mr. jaemin park (korea university), Mr. sucheol ju (korea university), Prof. heon lee (korea university)

Continued from **Wednesday, 27 September**

P-S21-14-T2 Direct Vacuum Wafer Bonding for 1310 nm Bidirectional Tunable MEMS VCSEL

» Mr. Masoud Payandeh (Technical university of Denmark), Dr. Hitesh Kumar Sahoo (Technical University of Denmark), Dr. Elizaveta Semonova (Technical University of Denmark), Prof. Kresten Yvind (Technical University of Denmark)

P-S21-15-T2 Encapsulation Strategy for Ultrathin Electronics Incorporated in a Flexible Polymer Film

» Mrs. Ulrike Passlack (Institut für Mikroelektronik Stuttgart (IMS CHIPS)), Mr. Nicolai Simon (Institute for microsystems technolgoy (iMST)), Prof. Volker Bucher (Institute for microsystems technolgoy (iMST)), Dr. Christine Harendt (Institut für Mikroelektronik Stuttgart (IMS CHIPS)), Prof. Joachim Burghartz (Institut für Mikroelektronik Stuttgart (IMS CHIPS))

P-S21-16-T2 Fabrication of GST metasurface spectral filters using nanoimprint lithography

» Dr. Jorge Ramiro (Tekniker), Mr. Aritz Juarros (Tekniker), Dr. Rocio Ortiz (Tekniker), Mrs. Alazne Martinez (Tekniker), Dr. Borja Pozo (Tekniker)

P-S21-17-T2 Shape-engineering of 2D TMD semiconductors via thermal-Scanning Probe Lithography

» Mr. Giorgio Zambito (University of Genoa), Dr. Matteo Gardella (University of Genoa), Prof. Maria Caterina Giordano (University of Genoa), Prof. Francesco Buatier de Mongeot (University of Genoa)

P-S21-18-T2 Room temperature bonding process of polydimethylsiloxane to titanium for biomedical applications

» Ms. Lucrezia Maini (Micro- and Nanosystems, ETH Zurich, 8092, Switzerland), Mr. Roman Furrer (Transport at Nanoscale Interfaces, EMPA, Dübendorf, 8600, Switzerland), Prof. Christofer Hierold (Micro- and Nanosystems, ETH Zurich, 8092, Switzerland), Dr. Cosmin Roman (Micro- and Nanosystems, ETH Zurich, 8092, Switzerland)

P-S21-19-T2 Harvesting the kinetic energy of raindrops with a microscale triboelectric nanogenerator

» Dr. Ali Ghaffarinejad (Sensors and Smart Systems Group, Institute of Engineering, Hanze University of Applied Sciences), Mr. Xabier Casas (Consejo Superior de Investigaciones Científicas (CSIC),)

P-S21-20-T2 Scalable meta-projector for wide viewing angle 3D imaging

» Mr. Gyeongtae Kim (pohang university of science and technology), Ms. Yeseul Kim (pohang university of science and technology), Ms. Jooyeong Yun (pohang university of science and technology), Prof. Junsuk Rho (pohang university of science and technology)

P-S21-21-T2 Quantitative characterization of nanowire verticality using SEM images

» Ms. ELENI STAI (NCSR Demokritos), Dr. Vassilios Constantoudis (NCSR Demokritos), Mr. Dimitris Nioras (NCSR Demokritos), Dr. Evangelos Gogolides (NCSR Demokritos)

P-S21-22-T2 Permittivity-Based Microparticle Classification through Integration of Impedance Cytometry and Microwave Sensing

» Mr. Uzay Tefek (Bilkent University), Mr. Burak Sari (Sabanci University), Dr. Hashim Alhmoud (Bilkent University), Prof. Mehmet Selim Hanay (Bilkent University)

P-S21-23-T2 Metalenses for generation of Perfect Vortex Beams for telecom infrared applications

» Dr. Daniele Bonaldo (University of Padova), Dr. Andrea Vogliardi (University of Padova), Dr. Gianluca Ruffato (University of Padova), Dr. Simone Dal Zilio (CNR-IOM), Prof. Filippo Romanato (University of Padova)

P-S21-24-T2 Influence of the combination of ordered 2D and random 3D structures on the reaction of Al/Ni multilayer

» Mr. Konrad Jaekel (Technische Universität Ilmenau), Ms. Yesenia Haydee Sauni Camposano (Technische Universität Ilmenau), Mr. Sebastian Matthes (Technische Universität Ilmenau), Mr. Marcus Glaser (Technische Universität Ilmenau), Prof. Jean Pierre Bergmann (Technische Universität Ilmenau), Prof. Peter Schaaf (Technische Universität Ilmenau), Prof. Jens Müller (Technische Universität Ilmenau), Dr. Heike Bartsch (Technische Universität Ilmenau)

Continued from **Wednesday, 27 September**

P-S21-25-T2 Plasma etching and roughening of inclined objects, macroscopic surfaces and microfluidic channels: experiments and modelling

» Dr. Athina S. Kastania (Institute of Nanoscience and Nanotechnology, NCSR "Demokritos"), Mr. Sotiris Mouchtouris (Institute of Nanoscience and Nanotechnology, NCSR "Demokritos"), Dr. Angelos Zeniou (Institute of Nanoscience and Nanotechnology, NCSR "Demokritos"), George Kokkoris (School of Chemical Engineering, National Technical University of Athens), Dr. Vassilios Constantoudis (Institute of Nanoscience and Nanotechnology, NCSR "Demokritos"), Dr. Angeliki Tserepi (Institute of Nanoscience and Nanotechnology, NCSR Demokritos), Dr. Gerburg Schider (Joanneum Research Forschungsgesellschaft MbH), Mr. Daniel Borstner (Joanneum Research Forschungsgesellschaft MbH), Mr. Philipp Melchior (Joanneum Research Forschungsgesellschaft MbH), Dr. Dieter Nees (Joanneum Research Forschungsgesellschaft MbH), Dr. Barbara Stadlober (Joanneum Research Forschungsgesellschaft MbH), Dr. Evangelos Gogolides (Institute of Nanoscience and Nanotechnology, NCSR "Demokritos")

P-S21-26-T2 A Simple Fabrication Process for the Integration of Microfluidics on Si based Biosensors

» Dr. Myrto-Kyriaki Filippidou (Institute of Nanoscience and Nanotechnology, NCSR Demokritos, Aghia Paraskevi 15341, Attiki, Greece), Mr. Aris Kanaris (Institute of Nanoscience and Nanotechnology, NCSR Demokritos, Aghia Paraskevi 15341, Attiki, Greece), Mr. Evangelos Aslanidis (Department of Applied Sciences, National Technical University of Athens, Zografou 15780, Greece), Ms. Annita Rapesi (Biomedical Research Foundation of the Academy of Athens, Athens 11527, Greece), Mr. Sotirios Ntouskas (Institute of Nanoscience and Nanotechnology, NCSR Demokritos, Aghia Paraskevi 15341, Attiki, Greece), Dr. Evangelos Skotadis (Department of Applied Sciences, National Technical University of Athens, Zografou 15780, Greece), Dr. George Tsekenis (Biomedical Research Foundation of the Academy of Athens, Athens 11527, Greece), Prof. Dimitris Tsoukalas (National Technical University of Athens), Dr. Angeliki Tserepi (Institute of Nanoscience and Nanotechnology, NCSR Demokritos, Aghia Paraskevi 15341, Attiki, Greece), Dr. STAVROS CHATZANDROULIS (Institute of Nanoscience and Nanotechnology, NCSR Demokritos, Aghia Paraskevi 15341, Attiki, Greece)

P-S21-27-T2 Investigation on the effect of sharp corners of AZO gate and Al2O3 insulator in ZnO Thin Film Transistors

» Mr. Jiale Zeng (jz2g19@soton.ac.uk), Dr. Ben Rowlinson (bdr1g15@soton.ac.uk), Dr. Martin Ebert (me1r18@soton.ac.uk), Prof. Karol Kalna (k.kalna@swansea.ac.uk), Dr. Christian Patzig (christian.patzig@imws.fraunhofer.de), Mr. Lutz Berthold (lutz.berthold@imws.fraunhofer.de), Prof. Harold Chong (hmhc@ecs.soton.ac.uk)

P-S21-28-T2 "Flow-Through", low-temperature gas phase deposition for conformal coating of ultra-high aspect ratio polymer micro- and nanochannels

» Mr. Manuel Müller (Universität Hamburg), Mr. Jeremy Teuber (Universität Hamburg), Mr. Rukan Nasri (Universität Hamburg), Dr. Robert Zierold (Universität Hamburg), Dr. Irene Fernandez-Cuesta (Universität Hamburg)

P-S21-29-T2 Omega Active Cantilever for traceability of localized functional properties of nanostructures

» Mr. Hans-Georg Pietscher (Nano analytik GmbH), Mr. Aditya Suryadi Tan (Nano analytik GmbH), Mr. Fabian Dietrich (Nano analytik GmbH), Mr. Robert Reichert (Nano analytik GmbH), Ms. Ewelina Gacka (Wroclaw University of Science and Technology), Mr. Bartosz Pruchnik (Wroclaw University of Science and Technology), Mr. Dominik Badura (Wroclaw University of Science and Technology), Prof. Teodor Gotszalk (Wroclaw University of Science and Technology), Dr. Stefanie Gutschmidt (University of Canterbury), Prof. Thomas Sattel (Ilmenau University of Technology), Dr. Virpi Korpelainen (National Metrology Institute VTT MIKES), Dr. Andrew Yacoot (National Physical Laboratory), Dr. Isaac Stricklin (University of New Mexico), Dr. Tito Busani (University of New Mexico), Ms. Jaqueline Stauffenberg (Ilmenau University of Technology), Prof. Thomas Fröhlich (Technische Universität Ilmenau), Prof. Eberhard Manske (Technische Universität Ilmenau), Prof. Ivo W. Rangelow (Technische Universität Ilmenau)

P-S21-30-T2 Improving Dynamic Tracking Performance of Nanopositioning Stage for Defect Review System using Iterative Learning Control

» Dr. Kyung-Rok Kim (Korea Institute of Machinery & Materials), Dr. HYUNCHANG KIM (Korea Institute of Machinery & Materials), Dr. Dongwoo Kang (Korea Institute of Machinery & Materials), Dr. Jaeyoung Kim (Korea Institute of Machinery & Materials)

Continued from **Wednesday, 27 September**

P-S21-31-T2 Soft contact pressure sensors based on randomly rough surfaces

» Mr. Luigi Portaluri (Istituto Italiano di Tecnologia; Department of Innovation Engineering, Unisalento), Dr. Luciana Algieri (Istituto Italiano di Tecnologia), Mr. Marco Bruno (Istituto Italiano di Tecnologia; Department of Innovation Engineering, Unisalento), Prof. Massimo De Vittorio (Istituto Italiano di Tecnologia; Department of Innovation Engineering, Unisalento), Prof. Michele Scaraggi (Istituto Italiano di Tecnologia; Department of Innovation Engineering, Unisalento)

P-S21-32-T2 Etch residuals after dry etching AlN with CH4/BCl3/Ar over photoresist and overlapping metal layer

» Mr. Nils Dittmar (Fraunhofer Institute for Electronic Nano Systems), Dr. Chris Stöckel (Fraunhofer Institute for Electronic Nano Systems), Mr. Micha Haase (Fraunhofer Institute for Electronic Nano Systems), Dr. Danny Reuter (Fraunhofer Institute for Electronic Nano Systems)

P-S21-33-T2 Dimensional and mechanical control of submicrometric fibers using two-photon polymerization

» Mr. Ianis DROBECQ (LAAS-CNRS), Mrs. Ophélie Thomas-Chemin (LAAS-CNRS), Mr. Pierre-Francois Calmon (LAAS-CNRS), Prof. Laurent Malaquin (LAAS-CNRS), Dr. Bastien Venzac (LAAS-CNRS)

P-S21-34-T2 Microfabrication and Silicon Integration of Epitaxial Magnetic Shape Memory Films

» Mr. Satyakam Kar (Leibniz Institute for Solid State and Materials Research Dresden), Mr. Lukas Fink (Institute of Ion Beam Physics and Materials Research, Helmholtz-Zentrum Dresden-Rossendorf (HZDR)), Prof. Kornelius Nielsch (Leibniz Institute for Solid State and Materials Research Dresden), Dr. Sebastian Fähler (Institute of Ion Beam Physics and Materials Research, Helmholtz-Zentrum Dresden-Rossendorf (HZDR)), Dr. Heiko Reith (Leibniz Institute for Solid State and Materials Research Dresden)

P-S21-35-T2 Dependence of Structural Design on Effective Young's Modulus of Ti/Au Multi-Layered Micro-Cantilevers for MEMS Capacitive Accelerometers

» Mr. Shunkai Watanabe (Tokyo Institute of Technology), Dr. Tomoyuki Kurioka (Tokyo Institute of Technology), Prof. Mark Chang (Tokyo Institute of Technology), Dr. Chun-Yi Chen (Tokyo Institute of Technology), Mr. Akira Onishi (Tokyo Institute of Technology), Dr. Parthojit Chakraborty (Tokyo Institute of Technology), Prof. Katsuyuki Machida (Tokyo Institute of Technology), Prof. Hiroyuki Ito (Tokyo Institute of Technology), Prof. Yoshihiro Miyake (Tokyo Institute of Technology), Prof. Masato Sone (Tokyo Institute of Technology)

P-S21-36-T2 Closed loop error compensation of RADAR PCBs fabrication process using inkjet printing and interoperability methods

» Mr. Abdalla Shahin (PROFACTOR GmbH), Mr. Helmut Zörrer (PROFACTOR GmbH), Mr. Peter Bauer (PROFACTOR GmbH), Mr. Gerald Stubauer (PROFACTOR GmbH), Dr. Benedikt Pressl (BESI Austria GmbH), Dr. Rolf Schneider (Notion Systems GmbH), Mr. Ferhat Aslan (Notion Systems GmbH), Mr. Jochen Seeser (Notion Systems GmbH)

P-S21-37-T2 Electronic integration of microchips via inkjet printing

» Mr. Gerald Stubauer (PROFACTOR GmbH), Mr. Peter Bauer (PROFACTOR GmbH), Dr. Pavel Kulha (PROFACTOR GmbH), Dr. Michael Haslinger (PROFACTOR GmbH), Mr. David Hahn (Notion Systems GmbH), Mr. Jochen Seeser (Notion Systems GmbH), Mr. Christian Debatin (Notion Systems GmbH), Dr. Alexander Fischer (Robert Bosch GmbH), Dr. Istvan Denes (Robert Bosch GmbH), Mr. Christian Geissler (INFINEON Technologies AG), Dr. Benedikt Pressl (BESI Austria GmbH), Dr. Birgit Brandstätter (BESI Austria GmbH), Dr. Dieter Holzinger (TIGER Coatings GmbH & Co KG), Dr. Doron Gurovich (PV Nano Cell Ltd), Mr. Semyon Melamed (PV Nano Cell Ltd)

P-S21-38-T2 From Micro to Nano: Integrating cavities in monolithic nanopore Silicon membrane by improved Nanofabrication methods for various Applications

» Mr. Sanjeev Vishal Kota (Technical University of Denmark), Prof. Rafael Taboryski (Technical University of Denmark), Prof. Henri Jansen (Technical University of Denmark), Prof. Jörg Hübner (Technical University of Denmark), Dr. Jesper Yue pan (Technical University of Denmark), Dr. Anil Thilsted (Spectro Inlets Aps)

Continued from **Wednesday, 27 September**

P-S21-39-T2 A ReRAM Optronic Physical Reservoir for Fashion Styles Recognition

» Mr. Jiayi Li (Nanyang Technological University), Dr. Haider Abbas (Nanyang Technological University), Dr. Asif Ali (Nanyang Technological University), Dr. Xin Ju (Agency for Science, Technology, and Research (A*STAR)), Prof. Diing Shenp Ang (Nanyang Technological University)

P-S21-40-T2 Optimisation of a physical reservoir computer's parameters using a genetic algorithm non-linear search

» Dr. Claude Meffan (Kyoto Univeristy), Mr. Taiki Ijima (Kyoto University), Prof. Amit Banerjee (Kyoto University), Dr. Jun Hirotani (Kyoto University), Prof. Toshiyuki Tsuchiya (Kyoto University)

P-S21-41-T2 Design, fabrication of a label-free sensor using a taquito-like MoS2 morphology as channel.

» Ms. Wendy Martinez (Universidad de Guadalajara), Dr. Orfil González-Reynoso (Universidad de Guadalajara), Dr. Gregorio Guadalupe Carbajal-Arizaga (Universidad de Guadalajara), Dr. Barbara Cortese (Univeristà di Roma "La Sapienza"), Dr. Mario Alberto Garcia-Ramirez (Universidad de Guadalajara)

P-S21-42-T2 Photo-switchable reconfigurable nanostructured surfaces for hemiwicking

» Ms. Rucha A. Deshpande (Technical University of Denmark), Mr. Jesper Navne (DTU Nanolab), Mr. Mathias Adelmark (Technical University of Denmark), Prof. Rafael Taboryski (Technical University of Denmark)

P-S21-43-T2 Improved gate oxide quality by making enhanced structure in sub-14nm DRAM

» Mrs. hyojin park (Sungkyunkwan University and Samsung Electronics), Prof. Byoungdeog Choi (Department of Semiconductor and Display Engineering, Sungkyunkwan University)

P-S21-44-T2 Thermo-mechanical behaviour of different sealing materials used as encapsulants in Power Modules

» Mrs. Chiara Spano (Politecnico di Torino), Mr. Giulio Galfré (Politecnico di Torino), Mr. Emilio Mattiuzzo (VISHAY Semiconductor Italiana S.P.A.), Mr. Lorenzo D'Ancona (VISHAY Semiconductor Italiana S.P.A.), Mrs. Valentina Bertana (Politecnico di Torino), Mr. Luciano Scaltrito (Politecnico di Torino), Mr. Sergio Ferrero (Politecnico di Torino)

P-S21-45-T2 193 nm ArF lithography for high topology InP wafer processing

» Mr. Aleksandr Zozulia (Eindhoven University of Technology), Dr. Jeroen Bolk (Eindhoven University of Technology), Dr. Samir Rihani (Huawei Technologies Research and Development (UK) Limited), Dr. Graham Berry (Huawei Technologies Research and Development (UK) Limited), Dr. Michael Robertson (Huawei Technologies Research and Development (UK) Limited), Dr. John Rawsthorne (Huawei Technologies Research and Development (UK) Limited), Prof. Kevin Williams (Eindhoven University of Technology), Dr. Yuqing Jiao (Eindhoven University of Technology)

P-S21-46-T2 Design and fabrication of an opto-mechanical antenna in the NIR range

» Mr. Daniyal Khoshmaram (Universitat Autònoma de Barcelona (UAB)), Dr. Xavier Borrisé (Institut Català de Nanociència i Nanotecnologia (ICN2)), Prof. Joan J. Garcia-Garcia (Universitat Autònoma de Barcelona (UAB)), Mr. Raul Ruiz (Universitat Autònoma de Barcelona (UAB)), Prof. Xavier Cartoixà (Universitat Autònoma de Barcelona (UAB)), Prof. Gabriel Abadal (Universitat Autònoma de Barcelona (UAB))

Continued from **Wednesday, 27 September**

P-S21-47-T2 A Hybrid Nanowire-MEMS Force Sensor

» Dr. Mehrdad Karimzadehkhouei (Department of Mechanical Engineering, Koç University, Istanbul, 34450, Turkey), Mr. Masoud Jedari Ghourichaei (Department of Mechanical Engineering, Koç University, Istanbul, 34450, Turkey), Mr. Levent Demirkazik (Department of Mechanical Engineering, Koç University, Istanbul, 34450, Turkey), Mr. Bartosz Pruchnik (Department of Nanometrology, Wrocław University of Science and Technology, Wroclaw, 50-370, Poland), Mr. Krzysztof Kwoka (Department of Nanometrology, Wrocław University of Science and Technology, Wroclaw, 50-370, Poland), Mr. Dominik Badura (Department of Nanometrology, Wrocław University of Science and Technology, Wroclaw, 50-370, Poland), Dr. Tomasz Piasecki (Department of Nanometrology, Wrocław University of Science and Technology, Wroclaw, 50-370, Poland), Dr. Onur Aydin (Department of Mechanical Engineering, Koç University, Istanbul, 34450, Turkey), Dr. Bekir Aksoy (Department of Mechanical Engineering, Koç University, Istanbul, 34450, Turkey), Mr. Cemal Aydogan (Ins. of Precision Measurement and Sensor Technology, Ilmenau Uni. of Tech., Ilmenau, 98693, Germany), Dr. Gokhan Nadar (Department of Mechanical Engineering, Koç University, Istanbul, 34450, Turkey), Prof. Ivo W. Rangelow (Technische Universität Ilmenau), Prof. Arda Yalcinkaya (Department of Electrical and Electronics Engineering, Boğaziçi University, Istanbul, 34342, Turkey), Prof. Halil Bayraktar (Dept. of Molecular Biology and Genetics, Istanbul Technical University, Maslak, Istanbul, 34467, Turkey), Prof. Teodor Gotszalk (Department of Nanometrology, Wrocław University of Science and Technology, Wroclaw, 50-370, Poland), Prof. B. Erdem Alaca (Department of Mechanical Engineering, Koç University, Istanbul, 34450, Turkey)

P-S21-48-T2 Nano-Imprinting and Air Injection System: Enabling Nano Patterns on Curved Stamp Surfaces for Biotechnology Applications

» Dr. SeokYoung Ji (Korea Institute of Machinery & Materials), Dr. Hyungjun Lim (Korea Institute of Machinery & Materials), Dr. Hak-Jong Choi (Korea Institute of Machinery & Materials), Dr. Junhyoung Ahn (Korea Institute of Machinery & Materials)

P-S21-49-T2 Improved electrical performance of ZnO thin-film transistors using 2DEG with insertion of Al2O3 layer deposited by atomic layer deposition

» Mr. Dongki Baek (Department of Electrical and Electronics Engineering, Pusan National University), Mr. Se-Hyeong Lee (Department of Electrical and Electronics Engineering, Pusan National University), Ms. So-Young Bak (Department of Electrical and Electronics Engineering, Pusan National University), Mr. Chan-Yeong Park (Department of Electrical and Electronics Engineering, Pusan National University), Mr. Hyeongrok Jang (Department of Electrical and Electronics Engineering, Pusan National University), Mr. Jinwoo Lee (Department of Electrical and Electronics Engineering, Pusan National University), Prof. Moonsuk Yi (Department of Electrical and Electronics Engineering, Pusan National University)

P-S21-50-T2 Characterization of Inkjet-printed Mask Pattern for Area-selective Atomic Layer Deposition Process

» Mr. Jun Ho Yu (Korea Institute of Industrial Technology), Dr. Sang-Ho Lee (Korea Institute of Industrial Technology)

P-S21-51-T2 Technology performance of silica nanoparticle deposition techniques over carbon-based substrates

» Mrs. Ana Coloma Velez (Polytechnic University of Catalunya), Mrs. Michelle Cedeño (PhD STUDENT), Mr. Xingqi Chan (Catalonia Institute for Energy Research), Prof. Andreu Cabot (Catalonia Institute for Energy Research), Prof. Manuel Domínguez-Pumar (Polytechnic University of Catalunya), Prof. Andriy Yaroshchuck (Polytechnic University of Catalunya), Prof. Alexandra Bermejo (Polytechnic University of Catalunya)

P-S21-52-T2 Circuit-level Macro Modeling for Behaviors of Hole Accumulated Current during ERS Operation in 3D Charge Trap Flash Memories

» Dr. Sunghwan Cho (Sungkyunkwan University and Samsung Electronics), Prof. Byoungdeog Choi (Department of Electrical and Computer Engineering, Sungkyunkwan University)

Continued from **Wednesday, 27 September**

P-S21-53-T2 Damascene Versus Etch-Back Chemical Mechanical Planarization for Resistive Memory Crossbars Back-End-Of-Line Integration

» Mr. Raphael Dawant (Université de Sherbrooke), Mr. Mathieu Gaudreau (Université de Sherbrooke), Mr. Marc-Antoine Roy (Université de Sherbrooke), Mr. Javier Arias Zapata (Université de Sherbrooke), Prof. Dominique Drouin (Université de Sherbrooke), Prof. Serge Ecoffey (Université de Sherbrooke)

P-S21-54-T2 Resolution enhancement of Scanning Electron/Atomic Force Microscope images using a computational method based on Fourier spectra stitching

» Ms. ELENI STAI (NCSR Demokritos), Dr. Vassilios Constantoudis (NCSR Demokritos), Dr. Andreas Kaidatzis (NCSR Demokritos), Dr. Evangelos Gogolides (NCSR Demokritos)

P-S21-55-T2 Calculation of magnetic force between current-carrying circular and arbitrary shaped filament: segmentation method

» Dr. Kirill Poletkin (Hefei University of Technology), Mr. Pavel Udalov (Peter the Great St. Polytechnic University), Dr. Alexei Lukin (Peter the Great St. Polytechnic University)

P-S21-56-T2 Fabrication of a thin-film adaptive electrostatic phase plate

» Mr. Mathias Adelmark (Technical University of Denmark), Dr. Ada-Ioana Bunea (Technical University of Denmark), Dr. Marco Beleggia (Technical University of Denmark), Dr. Andrei Lavrinenko (Technical University of Denmark), Prof. Rafael Taboryski (Technical University of Denmark)

P-S21-57-T2 Advanced micro- and nanoprobing combined with other analytical tools for characterizing semiconductor devices, MEMS and nanostructures

» Dr. Anya Grushina (Imina Technologies)

P-S21-58-T2 Interfacing free-space beams and suspended silicon photonic waveguides with a low back-reflection fully etched grating coupler

» Mr. Søren Engelberth Hansen (Technical University of Denmark), Dr. Guillermo Arregui (Technical University of Denmark), Mr. Ali Nawaz Babar (Technical University of Denmark), Mr. Marcus Albrechtsen (Technical University of Denmark), Dr. Babak Vosoughi Lahijani (Technical University of Denmark), Dr. Rasmus Ellebæk Christiansen (Technical University of Denmark), Dr. Søren Stobbe (Technical University of Denmark)

P-S21-59-T2 Strain Rate Dependency of Mechanical Property in Micro-Compression of Electrodeposited Gold toward Design of MEMS Components

» Mr. Shota Kanno (Tokyo Institute of Technology), Mr. taro omura (Tokyo Institute of Technology), Dr. Tomoyuki Kurioka (Tokyo Institute of Technology), Dr. Chun-Yi Chen (Tokyo Institute of Technology), Dr. Parthojit Chakraborty (Tokyo Institute of Technology), Prof. Katsuyuki Machida (Tokyo Institute of Technology), Prof. Hiroyuki Ito (Tokyo Institute of Technology), Prof. Yoshihiro Miyake (Tokyo Institute of Technology), Prof. Masato Sone (Tokyo Institute of Technology), Prof. Mark Chang (Tokyo Institute of Technology)

P-S21-60-T2 Stable superhydrophilic and superhydrophobic surfaces incorporated inside ultra-thin vapor chambers for heat transfer applications

» Ms. Efrosyni Tsounai (Department of food science and nutrition, School of the Environment, University of the Aegean, Ierou Lochou & Makrygianni St, 81400, Myrina, Lemnos, Greece), Ms. Vasiliki Tselepi (Department of food science and nutrition, School of the Environment, University of the Aegean, Ierou Lochou & Makrygianni St, 81400, Myrina, Lemnos, Greece), Dr. Evangelos Gogolides (NCSR Demokritos), Dr. Kosmas Ellinas (Department of food science and nutrition, School of the Environment, University of the Aegean, Ierou Lochou & Makrygianni St, 81400, Myrina, Lemnos, Greece)

Continued from **Wednesday, 27 September**

P-S21-61-T2 Comprehensive Evaluation of Geometric Effects on Long-Term Structure Stability of Ti/Au Multi-Layered Micro-Cantilevers toward Gold-MEMS Capacitive Accelerometer

» Mr. Ryosuke Miyai (Tokyo Institute of Technology), Dr. Tomoyuki Kurioka (Tokyo Institute of Technology), Dr. Chun-Yi Chen (Tokyo Institute of Technology), Prof. Mark Chang (Tokyo Institute of Technology), Mr. Akira Onishi (Tokyo Institute of Technology), Dr. Parthojit Chakraborty (Tokyo Institute of Technology), Prof. Katsuyuki Machida (Tokyo Institute of Technology), Prof. Hiroyuki Ito (Tokyo Institute of Technology), Prof. Yoshihiro Miyake (Tokyo Institute of Technology), Prof. Masato Sone (Tokyo Institute of Technology)

P-S21-62-T2 Enhanced Fe-FET Performance with HZO and MoS2-Based Dielectric Structures for Non-volatile Memory

» Mr. Jeehwan Lee (Department of Semiconductor and Display Engineering, Sungkyunkwan University), Mr. Do Kyung Yun (Department of Electrical and Computer Engineering, Sungkyunkwan University), Prof. Woo Jong Yu (Department of Electrical and Computer Engineering, Sungkyunkwan University)

P-S21-63-T2 Thermal characterization of IMS substrates with different design parameters for Power Modules Devices

» Mrs. Chiara Spano (Politecnico di Torino), Mr. Giulio Galfré (Politecnico di Torino), Mr. Emilio Mattiuzzo (VISHAY Semiconductor Italiana S.P.A.), Mr. Lorenzo D'Ancona (VISHAY Semiconductor Italiana S.P.A.), Mr. Luciano Scaltrito (Politecnico di Torino), Mr. Sergio Ferrero (Politecnico di Torino), Mrs. Valentina Bertana (Politecnico di Torino)

P-S21-64-T2 PZT sensor compatible with the 2D piezo-scanners dedicated to 1550 nm long-range LIDAR

» Mr. Laurent Mollard (University Grenoble Alpes, CEA, Leti)

P-S21-65-T2 High-throughput AFM inspection and metrology with "Quattro"- active cantilever

» Mr. Aditya Suryadi Tan (Nano analytik GmbH), Mr. Fabian Dietrich (Nano analytik GmbH), Mr. Hans-Georg Pietscher (Nano analytik GmbH), Prof. Teodor Gotszalk (Wroclaw University of Science and Technology), Mr. Chuan Du (Parcan NanoTech Co., Ltd.), Dr. Xiang qian Zhou (Parcan NanoTech Co., Ltd.), Mr. Fangzhou Xia (Massachusetts Institute of Technology), Mr. Kamal Youcef-Toumi (Massachusetts Institute of Technology), Dr. Andrew Yacoot (National Physical Laboratory), Mr. Ho-Se Lee (SEUM tronics), Prof. Eberhard Manske (Technische Universität Ilmenau), Dr. Thomas Kissinger (Technische Universität Ilmenau), Prof. Thomas Fröhlich (Technische Universität Ilmenau), Prof. Ivo W. Rangelow (Technische Universität Ilmenau)

P-S21-66-T2 Direct ink writing of high-detail resolution cellulose structures

» Mrs. Farnaz Rezaei (Uppsala University), Prof. Jonas Lindh (Uppsala University), Dr. Daniel Carlsson (Cytiva), Dr. Jimmy Hedin Dahlström (Cytiva), Prof. Stefan Johansson (Uppsala University)

P-S21-67-T2 A Study about Bump Non-Contact Failure of Flip Chip at sub-20nm DRAM

» Mr. Dongsik Park (Sungkyunkwan University and Samsung Electronics), Mr. Kyo Seon Choi (Samsung Electronics), Prof. Byoungdeog Choi (Department of Semiconductor and Display Engineering, Sungkyunkwan University)

P-S21-68-T2 A study on the silicon dislocation in DRAM STI structure

» Mr. Bonhwi Gu (Sungkyunkwan University and Samsung Electronics), Mr. Injae Bae (Samsung Electronics), Prof. Byoungdeog Choi (Sungkyunkwan University)

P-S21-69-T2 Spintronic Terahertz Emitter Integrated Microdevices for Terahertz Polarization Modulation

» Dr. Zhongyang Bai (Beihang university), Dr. Tong Sun (Beihang university), Dr. Zhaoying Li (Beihang university), Dr. Dong Li (Beihang university), Prof. Tianxiao Nie (Beihang university), Prof. Youguang Zhang (Beihang university), Prof. Lianggong Wen (Beihang university)

Continued from **Wednesday, 27 September**

P-S21-70-T2 Bioinspired Microfluidic Flow Sensors with Magnetic Artificial Cilia for Organ-on-Chip Applications

» Mrs. Bhavana Venkataramanachar (Eindhoven University of Technology), Mr. Max Verhoef (Eindhoven University of Technology), Dr. Tanveer ul Islam (Eindhoven University of Technology), Prof. Jaap den Toonder (Eindhoven University of Technology)

P-S21-71-T2 Ultrathin Si nanostring resonators with widely tunable dynamic behaviour

» Prof. Amit Banerjee (Kyoto University), Mr. Wei Yu (Kyoto University), Prof. Jun Hirotani (Kyoto University), Prof. Toshiyuki Tsuchiya (Kyoto University)

P-S21-72-T2 Fabrication of the atomically-stepped ultrasmooth conducting polymer thin film on the flexible transparent polyimide sheet

» Prof. Mamoru Yoshimoto (Tokyo Institute of Technology)

P-S21-73-T2 PFIB Reworking: A Cost-Effective Solution for Repairing ASICs

» Dr. Evgeny Demenev (FBK, Fondazione Bruno Kessler), Dr. David Novel (FBK, Fondazione Bruno Kessler), Dr. Lorenza Ferrario (FBK, Fondazione Bruno Kessler)

P-S21-74-T2 Adjustable arrangement of Polystyrene Micro Spheres by Using 3D Micro Printing and Colloidal Lithography

» Mr. Li-En Kang (Department of Mechanical Engineering, Chung Yuan Christian University), Mr. Yu-Sheng Xhieh (Department of Mechanical Engineering, Chung Yuan Christian University), Prof. Yeeu-Chang Lee (Department of Mechanical Engineering, Chung Yuan Christian University)

P-S21-75-T2 Calculation of magnetic stiffness over torque between two current-carrying circular filaments arbitrary oriented in the space

» Dr. Kirill Poletkin (Hefei University of Technology)

P-S21-76-T2 Synchronous vibration of 1×2 torsional micromirror array

» Mr. Mikiya Oki (Kyoto University), Prof. Amit Banerjee (Kyoto University), Prof. Jun Hirotani (Kyoto University), Prof. Toshiyuki Tsuchiya (Kyoto University)

P-S21-77-T2 Comparison of Pt- and W-based FEBID-grown nano-cones

» Dr. Cristiano Glessi (tu delft), Mr. Mike Simons (tu delft), Ms. Aya Mahgoub (tu delft), Mr. Toon van Marken (tu delft), Dr. Cornelis Hagen (Delft University of technology)

P-S21-78-T2 Transport of Droplets via Magnetically-Responsive Microwall Arrays with Path-Guide

» Ms. Soyeon Kwon (INHA University), Prof. HYUN-TAEK LEE (INHA University), Mr. Jihun Kim (INHA University), Ms. Yoobin Do (INHA University)

P-S21-79-T2 Direct Printing Process of High-Refractive-Index Polymer for Practical Fabrication of High-Performance Metasurfaces

» Mr. Dong Kyo Oh (pohang university of science and technology), Mr. Joohoon Kim (pohang university of science and technology), Ms. Hyunjung Kang (pohang university of science and technology), Prof. Junsuk Rho (pohang university of science and technology)

P-S21-80-T2 Design and Simulation of Miniatured Piezoresistive Diaphragm Pressure Sensor for High Vacuum Applications

» Dr. Jian LU (National Institute of Advanced Industrial Science and Technology (AIST)), Dr. Lan ZHANG (National Institute of Advanced Industrial Science and Technology (AIST)), Dr. Yuichi Kurashima (National Institute of Advanced Industrial Science and Technology (AIST)), Dr. Hideki TAKAGI (National Institute of Advanced Industrial Science and Technology (AIST))

4:15pm **Poster Session2.2: Track 4**
MOA3

Continued from **Wednesday, 27 September**

P-S22-01-T4 Design and development of a multi-sensor temperature gradient platform for accelerated characterisation of innovative materials for chemoresistive sensor applications

» Dr. Andrea Gaiardo (FBK, Fondazione Bruno Kessler), Dr. Anze Sitar (FBK, Fondazione Bruno Kessler), Dr. Matteo Valt (FBK, Fondazione Bruno Kessler), Dr. Elia Scattolo (FBK, Fondazione Bruno Kessler), Dr. Alvise Bagolini (FBK, Fondazione Bruno Kessler), Dr. Pietro Tosato (FBK, Fondazione Bruno Kessler)

P-S22-02-T4 New optical detection method of home-made explosives based on lab on paper chemical sensors

» Dr. Viktoriia Lastivka (Warsaw University of Technology), Mr. Piotr Kasprzak (Military Institute of Armament Technology), Mrs. Izabela Mazur (Military Institute of Armament Technology), Mr. Piotr Baran (Military Institute of Armament Technology), Mr. Wawrzyniec Pniewski (Military Institute of Armament Technology), Prof. Ilona Grabowska-Jadach (Warsaw University of Technology), Prof. Michal Chudy (Warsaw University of Technology), Dr. Katarzyna Tokarska (CEZAMAT), Dr. Kamil Zukowski (CEZAMAT), Prof. Artur Dybko (Warsaw University of Technology)

P-S22-03-T4 Cycling stability of elastomer composites for stretchable sensors

» Ms. LINGYU liu (INM – Leibniz Institute for New Materials, Saarbrücken, 66123, Germany), Dr. Thomas Kister (INM – Leibniz Institute for New Materials, Saarbrücken, 66123 Germany), Prof. lola gonzalez-garcia (INM-Leibniz Institute for New Materials, Campus D2 2, Saarbrücken, 66123, GermanyDepartment of Material Science and Engineering, Saarland University, Saarbrücken, 66123, Germany), Prof. Tobias Kraus (INM-Leibniz Institute for New Materials, Campus D2 2, Saarbrücken, 66123, Germany; Colloid and Interface Chemistry, Saarland University, Saarbrücken, 66123, Germany)

P-S22-04-T4 Electroplating-based engineering of plasmonic nanorod metamaterials

» Dr. Mihir Sahoo (Indian Institute of Technology Bombay), Mr. Abhay Anand VS (Indian Institute of Technology Bombay), Prof. Anshuman Kumar Srivastava (Indian Institute of Technology Bombay)

P-S22-05-T4 Solid-state ionic synaptic transistors for neuromorphic computing applications

» Dr. Nerea Alayo (Catalan Institute of Energy Research)

P-S22-06-T4 Color imaging-based Optomechanical system for gas sensing

» Dr. Ferran Pujol-Vila (Instituto de Microelectrónica de Barcelona (IMB-CNM, CSIC)), Dr. Mar Alvarez (Institute of Microelectronics of Barcelona (IMB-CNM-CSIC))

P-S22-07-T4 Benchmarking of ion-based nanopatterning techniques on stainless steel injection molding inlays for automotive applications

» Mr. Florian Schlachter (AMO GmbH), Dr. Jens Bolten (AMO GmbH), Mrs. Olatz Adarraga (TECNALIA Basque Research and Technology Alliance (BRTA)), Dr. Yordan Georgiev (Institute of Ion Beam Physics and Materials Research, Helmholtz-Zentrum Dresden-Rossendorf (HZDR)), Mr. Tommy Schönherr (Institute of Ion Beam Physics and Materials Research, Helmholtz-Zentrum Dresden-Rossendorf (HZDR)), Ms. Ana Zuzuarregui (CICnanoGUNE-External Services Department, Basque Research and Technology Alliance (BRTA)), Mr. Evgenii Modin (CICnanoGUNE-External Services Department, Basque Research and Technology Alliance (BRTA)), Prof. Max Lemme (AMO GmbH)

P-S22-08-T4 Optimization of the nanofabrication process of superhydrophobic fluidic concentrator coupled with metallic plasmonic nano-antennas for SERS analysis in the sub-femtomolar range.

» Mr. Sofien Ramos (LAAS-CNRS), Mr. Victor Fabre (LAAS-CNRS), Mr. Matthieu Arribat (LAAS-CNRS), Ms. Aurélie Lecestre (LAAS-CNRS), Mr. Adrian Laborde (LAAS-CNRS), Mr. Franck Carcenac (LAAS-CNRS), Dr. Philippe Louarn (IRAP), Prof. Christophe Vieu (Toulouse University), Ms. Emmanuelle Trevisiol (TBI)

Continued from **Wednesday, 27 September**

P-S22-09-T4 Flexibly printed bioactive gold-polythiophene hybrid nanoparticles for electrochemical biosensing

» Ms. Muniba Shahzad Bhatti (INM-Leibniz Institute for New Materials, Campus D2 2, Saarbrücken, 66123, Germany; Colloid and Interface Chemistry, Saarland University, Saarbrücken, 66123, Germany), Ms. Indra Backes (INM-Leibniz Institute for New Materials, Campus D2 2, Saarbrücken, 66123, Germany;), Mr. Michael Alexander Horst Klos (INM-Leibniz Institute for New Materials, Campus D2 2, Saarbrücken, 66123, Germany; Colloid and Interface Chemistry, Saarland University, Saarbrücken, 66123, Germany), Mr. Yannic Brasse (INM-Leibniz Institute for New Materials, Campus D2 2, Saarbrücken, 66123, Germany), Prof. lola gonzalez-garcia (INM-Leibniz Institute for New Materials, Campus D2 2, Saarbrücken, 66123, GermanyDepartment of Material Science and Engineering, Saarland University, Saarbrücken, 66123, Germany), Prof. Tobias Kraus (INM-Leibniz Institute for New Materials, Campus D2 2, Saarbrücken, 66123, Germany; Colloid and Interface Chemistry, Saarland University, Saarbrücken, 66123, Germany)

P-S22-10-T4 Development of Atomic Gold Decorated Polyaniline Derivative Electrodes toward Electrochemical Alcohol Sensing

» Dr. Tomoyuki Kurioka (Tokyo Institute of Technology), Mr. Keisuke Okamoto (Tokyo Institute of Technology), Mr. Shohei Yoshida (Tokyo Institute of Technology), Mr. Kengo Watanabe (Tokyo Institute of Technology), Dr. Chun-Yi Chen (Tokyo Institute of Technology), Dr. Parthojit Chakraborty (Tokyo Institute of Technology), Prof. Takamichi Nakamoto (Tokyo Institute of Technology), Prof. Masato Sone (Tokyo Institute of Technology), Prof. Mark Chang (Tokyo Institute of Technology)

P-S22-11-T4 Light-controlled multimaterial microrobots for microscale pH sensing

» Mr. Daniel Maher (Technical University of Denmark), Mr. Andreu Murillo Vilella (Technical University of Denmark), Mr. Marcin Piekarczyk (Technical University of Denmark), Dr. Colm Delaney (Trinity College Dublin), Dr. Larisa Florea (Trinity College Dublin), Prof. Rafael Taboryski (Technical University of Denmark), Dr. Ada-Ioana Bunea (Technical University of Denmark)

P-S22-12-T4 High-Response Ethanol Gas Sensor Based on LaFeO3/In2O3 Composite

» Prof. Zhenyu Yuan (Northeastern University), Mr. Ninghao Chu (Northeastern University)

P-S22-13-T4 Study on Variation of Main luminescence centers in Eu Doped AlN Thin Films with Annealing Temperature Increasing

» Mr. Yingda Qian (Department of Physics, Tokyo University of Science), Prof. Xinwei Zhao (Department of Physics, Tokyo University of Science)

P-S22-14-T4 Spin valve effect in Fe3GeTe2/ZnO/Ni heterostructure with low resistance-area product

» Mr. Whan Kyun Kim (Department of Semiconductor and Display Engineering, Sungkyunkwan University), Mr. Namgun Kim (Department of Semiconductor and Display Engineering, Sungkyunkwan University), Mr. Yong Ha Shin (Department of Electrical and Computer Engineering, Sungkyunkwan University), Prof. Woo Jong Yu (Department of Electrical and Computer Engineering, Sungkyunkwan University)

P-S22-15-T4 4D printing of soft responsive polymer microstructures

» Mr. Marcin Piekarczyk (Technical University of Denmark), Mr. Daniel Maher (Technical University of Denmark), Ms. Yekaterina Tskhe (Trinity College Dublin), Dr. Larisa Florea (Trinity College Dublin), Dr. Colm Delaney (Trinity College Dublin), Dr. Ada-Ioana Bunea (Technical University of Denmark)

P-S22-16-T4 A novel Hall configuration with simplyfied design

» Prof. Siya Lozanova (Institute of Robotics at Bulgarian Academy of Sciences), Dr. Avgust Ivanov (Institute of Robotics at Bulgarian Academy of Sciences), Mr. Martin Ralchev (Institute of Robotics at Bulgarian Academy of Sciences), Prof. Chavdar Roumenin (Institute of Robotics at Bulgarian Academy of Sciences)

P-S22-17-T4 A New sensor phenomenon in disordered systems under uniaxial pressure

» Prof. Siya Lozanova (Institute of Robotics at Bulgarian Academy of Sciences), Mr. Martin Ralchev (Institute of Robotics at Bulgarian Academy of Sciences), Dr. Avgust Ivanov (Institute of Robotics at Bulgarian Academy of Sciences), Prof. Chavdar Roumenin (Institute of Robotics at Bulgarian Academy of Sciences)

Continued from **Wednesday, 27 September**

P-S22-18-T4 Wafer-scale Fabrication of Infrared Metalenses using DUV lithography

» Dr. Kai Sun (University of Southampton), Dr. Xingzhao Yan (University of Southampton), Mr. Chuang Sun (University of Southampton), Dr. Jun-yu Ou (University of Southampton), Prof. Otto Muskens (University of Southampton)

P-S22-19-T4 Acrylamide molecule detection by Surface-Enhanced Infrared Spectroscopy using resonant nanoantennas

» Dr. Santos Merino (Tekniker), Dr. Jorge Ramiro (Tekniker), Dr. Alberto Villar (Tekniker), Dr. Ruth Diez (Tekniker), Dr. Iban Amenabar (CIC nanoGUNE), Dr. Ralph Gay (CIC nanogune), Dr. Mario Zapata (Materials Physics Center), Prof. Javier Aizpurua (Materials Physics Center)

P-S22-20-T4 Lowering dissipation in Electro-Optomechanical resonators for quantum transducing RF to optical signals

» Dr. Enrico Serra (Istituto Nazionale di Fisica Nucleare, TIFPA, 38123 Povo (TN), Italy), Dr. Michele Bonaldi (Institute of Materials for Electronics and Magnetism, Nanoscience-Trento-FBK Division, 38123 Povo, Trento), Dr. Antonio Borrielli (Institute of Materials for Electronics and Magnetism, Nanoscience-Trento-FBK Division, 38123 Povo, Trento), Prof. Giovanni Di Giuseppe (Physics Division, School of Science and Technology, University of Camerino, I-62032 Camerino (MC), Italy), Dr. Nicola Malossi (Physics Division, School of Science and Technology, University of Camerino, I-62032 Camerino (MC), Italy), Dr. Bruno Morana (Dept. of Microelectronics and Computer Engineering /ECTM/EKL, Delft University of Technology, Feldmanweg 17, 2628 CT Delft, The Netherlands), Dr. Riccardo Natali (Physics Division, School of Science and Technology, University of Camerino, I-62032 Camerino (MC), Italy), Dr. Paolo Piergentili (Physics Division, School of Science and Technology, University of Camerino, I-62032 Camerino (MC), Italy), Prof. Lina Sarro (Dept. of Microelectronics and Computer Engineering /ECTM/EKL, Delft University of Technology, Feldmanweg 17, 2628 CT Delft, The Netherlands), Prof. David Vitali (Physics Division, School of Science and Technology, University of Camerino, I-62032 Camerino (MC), Italy)

P-S22-21-T4 Atomic PdxAuy Clusters Decorated Polyaniline for Electrochemical Sensing of 1-Propanol

» Mr. Shohei Yoshida (Tokyo Institute of Technology), Mr. Keisuke Okamoto (Tokyo Institute of Technology), Dr. Tomoyuki Kurioka (Tokyo Institute of Technology), Dr. Chun-Yi Chen (Tokyo Institute of Technology), Dr. Parthojit Chakraborty (Tokyo Institute of Technology), Prof. Takamichi Nakamoto (Tokyo Institute of Technology), Prof. Masato Sone (Tokyo Institute of Technology), Prof. Mark Chang (Tokyo Institute of Technology)

P-S22-22-T4 Fabrication and Characterization of Plasmon-Active Infra-Red Enhanced Micromembranes for Gas Diffusion Studies

» Ms. Ketki Srivastava (University of Twente), Dr. Jasper Lozeman (University of Twente), Prof. Albert van den Berg (University of Twente), Dr. Ward van der Stam (Utrecht University), Prof. Mathieu Odijk (University of Twente)

P-S22-23-T4 sensor technology development embedding nanoparticles

» Mrs. Michelle Cedeño (PhD STUDENT), Mrs. Ana Coloma Velez (PhD STUDENT), Dr. Ramon Bragos (Polytechnic University of Catalunya), Prof. Manuel Domínguez-Pumar (Polytechnic University of Catalunya), Prof. Alexandra Bermejo (Polytechnic University of Catalunya)

P-S22-24-T4 Advances in Micro- and Nanofluidic Devices for Vacuum Compatible UV Light Experiments

» Mr. Manuel Müller (Universität Hamburg), Dr. Irene Fernandez-Cuesta (Universität Hamburg), Mr. Herbert Atrian Garcia (Universität Hamburg), Mr. Jeremy Teuber (PhD STUDENT), Mr. Rukan Nasri (Universität Hamburg)

P-S22-25-T4 Enhancing Exciton Emission in Monolayer MoS2 using Electroplated Plasmonic Gold Nanodiscs

» Mr. Abhay Anand (Indian Institute of Technology Bombay), Dr. Mihir Sahoo (IIT Bombay), Prof. Anshuman Kumar Srivastava (Indian Institute of Technology Bombay)

Continued from **Wednesday, 27 September**

P-S22-26-T4 Determination of conventional and inverse magnetocaloric effect in iron oxide thin films
» Mr. Dharohar Sahadot (Mahindra Ecole Centrale - School of Engineering, Mahindra University), Mr. Prakhar Gupta (Mahindra Ecole Centrale - School of Engineering, Mahindra University), Dr. Murtaza Bohra (Mahindra Ecole Centrale - School of Engineering, Mahindra University)

P-S22-27-T4 Experimental Optical Cladding for Integrated Photonics with High-Contrast Polymer Waveguides
» Mr. Omkar Bhalerao (AMO GmbH, Advanced Microelectronic Center Aachen)

6:30pm **Transfer by Bus**

7pm **Conference Dinner**
Event Location

Thursday, 28 September

8:15am **Reception/Registration**
Atrium

8:40am **Young Investigator Award**
Plenary Hall (MOA12/08/07)

8:55am **Plenary Talk Award Winner**
Plenary Hall (MOA12/08/07)

9:25am **Keynote Robert Chau**
Plenary Hall (MOA12/08/07)

Moore's Law enabling technologies for 2030+ manufacturing

10:05am **Coffee Break**
Atrium

10:35am **Keynote Alexander Liddle**
Plenary Hall (MOA12/08/07)

10:35am **Nanofabrication from electron-beam lithography to DNA: science, technology, and lessons learned**
» Dr. James Alexander Liddle (National Institute of Standards and Technology (NIST))

11:15am **Break**

11:30am **Track1 - Novel Developments in Nano/Micro Fabrication Methods and Processes**
MOA12
Chaired by: Dr. Joan Vila-Comamala

11:30am **O-S71-T1-1 Fast Hybrid-ALE to etch amorphous carbon.**
» Ms. Atefeh Fathzadeh (KU Leuven University/ IMEC), Dr. Philippe BEZARD (IMEC), Prof. Stefan De Gendt (Ku Leuven / IMEC)

11:45am **O-S71-T1-2 Multi-layer nanoimprint lithography material system for nanopattering of functional substrates**
» Dr. Mirko Lohse (micro resist technology GmbH), Dr. Martin Messerschmidt (micro resist technology GmbH), Mrs. Nadja Heidensohn (micro resist technology GmbH), Mrs. Susanne Grützner (micro resist technology GmbH), Dr. Arne Schleunitz (micro resist technology GmbH), Mrs. Gabi Grützner (micro resist technology GmbH)

Continued from **Thursday, 28 September**

12pm **O-S71-T1-3 Plasma Parameters Impact on Carbon Microlens Shape and Surface Roughness**

» Dr. Delia Ristoiu (STMicroelectronics, 850 rue Jean Monnet, 38926 Crolles Cedex, France), Mr. Pierre Ducluzaux (STMicroelectronics, 850 rue Jean Monnet, 38926 Crolles Cedex, France), Mr. Guillaume Claveau (STMicroelectronics, 850 rue Jean Monnet, 38926 Crolles Cedex, France), Ms. Ece Aybeke (STMicroelectronics, 850 rue Jean Monnet, 38926 Crolles Cedex, France), Mr. Etienne Mortini (STMicroelectronics, 850 rue Jean Monnet, 38926 Crolles Cedex, France)

12:15pm **O-S71-T1-4 Blurred Electron Beam Induced Deposition for Direct Fabrication of Plasmonic Nanoantennas onto Tapered Optical Nanofibers towards Enhanced Single Photon Emission**

» Dr. Antonio Balena (Istituto Italiano di Tecnologia; Laboratoire Kastler Brossel), Dr. Chengjie Ding (Laboratoire Kastler Brossel), Mrs. Marianna D'Amato (Laboratoire Kastler Brossel), Dr. Muhammad Fayyaz Kashif (Istituto Italiano di Tecnologia), Dr. Filippo Pisano (Istituto Italiano di Tecnologia), Dr. Marco Pisanello (OptogeniX s.r.l.), Dr. Gaia de Marzo (Istituto Italiano di Tecnologia), Prof. Massimo De Vittorio (Istituto Italiano di Tecnologia), Prof. Alberto Bramati (Laboratoire Kastler Brossel), Dr. Ferruccio Pisanello (Istituto Italiano di Tecnologia)

11:30am **Track4 - Micro/Nano Engineering for Physical and Chemical Applications**

MOA6

Chaired by: Dr. Santos Merino and Dr. Ronny Loeffler

11:30am **O-S72-T4-1 MEMS Vibrometer for Structural Health Monitoring: Modeling and Characterization**

» Mr. Jan Niklas Haus (Technische Universität Braunschweig / Institut für Mikrotechnik), Mr. Zhengchun Zhu (Technische Universität Braunschweig / Institut für Mikrotechnik), Prof. Andreas Dietzel (Institute of Microtechnology, Braunschweig, 38124, Germany)

11:45am **O-S72-T4-2 Surface Lattice Resonances in Plasmonic Gold Nanocone Arrays**

» Mr. Lukas Lang (University of Tübingen), Prof. Monika Fleischer (University of Tübingen)

12pm **O-S72-T4-3 Highly sensitive pseudo-capacitive iontronic pressure sensor with MXene electrode to enhance ion intercalation**

» Mr. Changwoo Cho (Hanyang University), Ms. Chaeeun Lee (Hanyang University), Prof. Je Hoon Oh (Hanyang University)

12:15pm **O-S72-T4-4 Evaluation of highly sensitive vibration states of nanomechanical resonators in liquid using a convolutional neural network**

» Mr. Kazuki Bessho (The University of Tokyo), Prof. Shin'ichi Warisawa (The University of Tokyo), Prof. Reo Kometani (The University of Tokyo)

11:30am **Track2 - Fabrication and Integration of Micro/Nano Structures, Devices and Systems**

MOA9

Chaired by: Dr. Andreas Frölich

11:30am **O-S73-T2-1 Plasmonic Metamaterial Absorber for MWIR and LWIR Bispectral Microbolometers**

» Mr. Alexander Litke (Fraunhofer IMS, 47057 Duisburg), Dr. Elahe Zakizade (Fraunhofer IMS, 47057 Duisburg), Dr. Marvin Michel (Fraunhofer IMS, 47057 Duisburg), Dr. Sascha Weyers (Fraunhofer IMS, 47057 Duisburg), Prof. Anna Lena Schall-Giesecke (Fraunhofer IMS, 47057 Duisburg)

11:45am **O-S73-T2-2 Liquid crystal integrated multifunctional metasurfaces for photonic security platform**

» Mr. Gyeongtae Kim (pohang university of science and technology), Dr. Inki Kim (pohang university of science and technology), Dr. Jaehyuck Jang (pohang university of science and technology), Prof. Junsuk Rho (pohang university of science and technology)

12pm **O-S73-T2-3 The state of the art and first glimpse of wood based printed electronics**

» Dr. Václav Procházka (PROFACTOR GmbH, Im Stadtgut D1, Steyr, Austria), Dr. Thomas Geiger (EMPA, Dübendorf, 8600, Switzerland), Dr. Pavel Kulha (PROFACTOR GmbH, Im Stadtgut D1, Steyr, Austria), Dr. André van Zomeren (TNO, 1755 LE Petten, Nederlands)

Continued from **Thursday, 28 September**

12:15pm

O-S73-T2-4 UV-Nanoimprint and Bosch Deep Reactive Ion Etching of metasurfaces and integration into thin-film piezoelectric MEMS

» Dr. Christopher Dirdal (SINTEF), Dr. Karolina Milenko (SINTEF), Dr. Anand Summanwar (SINTEF), Dr. Firehun Dullo (SINTEF), Mr. Paul Thrane (SINTEF)

12:30pm **Lunch Break**

1:30pm **Track1 - Novel Developments in Nano/Micro Fabrication Methods and Processes / Track3 - Micro/Nano Engineering for Life Sciences**

MOA12

Chaired by: Dr. Michael Haslinger

1:30pm

O-S81-T1-1 Advancements in Fabricating Polymer based Microring Resonators by Nanoimprint Lithography

» Dr. Santhosh Pandian (Nanophotonics Research Group, Tampere University, Tampere), Dr. Petri Karvinen (University of Eastern Finland, Joensuu), Dr. Heikki Rekola (University of Eastern Finland, Joensuu), Dr. Subhajit Bej (Nanophotonics Research Group, Tampere University, Tampere), Dr. Paul Müllner (AIT Austrian Institute of Technology GmbH), Dr. Eggeling Moritz (AIT Austrian Institute of Technology GmbH), Dr. Rainer Hainberger (AIT Austrian Institute of Technology GmbH), Prof. Tapio Niemi (Nanophotonics Research Group, Tampere University, Tampere)

1:45pm

O-S81-T1-2 3D Ice Lithography

» Dr. Bingdong Chang (Technical University of Denmark), Mr. Affan Kaysa Waafi (Technical University of Denmark), Mr. Joachim Lyngholm-Kjærby (Technical University of Denmark), Dr. Rubaiyet Haque (Technical University of Denmark), Prof. Anpan Han (Technical University of Denmark)

2pm

O-S81-T1-3 Manipulating droplet motion on superhydrophobic glass by contact electrification

» Mr. Kuan-Ting Chen (National United University), Prof. Jiann Shieh (National United University)

2:15pm

O-S81-T3-4 Biodegradable Chitosan / Cellulose Nanocrystals free-standing device as a multifunctional sensor for health applications

» Ms. Valentina Antonaci (Istituto Italiano di Tecnologia), Dr. Gaia de Marzo (Istituto Italiano di Tecnologia), Dr. Laura Blasi (National Research Council of Italy), Dr. Virgilio Brunetti (Istituto Italiano di Tecnologia), Dr. Francesco Rizzi (Istituto Italiano di Tecnologia), Prof. Massimo De Vittorio (Istituto Italiano di Tecnologia)

1:30pm **Track4 - Micro/Nano Engineering for Physical and Chemical Applications**

MOA6

Chaired by: Dr. Jochen Zimmer and Ms. Sonja Kopp

1:30pm

O-S82-T4-1 Scalable Si-based architectures obtained by templated solid state dewetting

» Dr. Sonia Freddi (Institute of Photonics and Nanotechnologies - Consiglio Nazionale delle Ricerche (IFN-CNR)), Dr. Michele Gherardi (Politecnico di Milano), Dr. Nicoletta Granchi (University of Florence), Dr. Angelo Gatta Zini (Politecnico di Milano), Dr. Alexey Fedorov (Institute of Photonics and Nanotechnologies - Consiglio Nazionale delle Ricerche (IFN-CNR)), Dr. Marco Abbarchi (Aix Marseille Univ, Université de Toulon and Solnil), Dr. Andrea Chiappini (Institute of Photonics and Nanotechnologies - Consiglio Nazionale delle Ricerche (IFN-CNR)), Dr. Maria Antonietta Vincenti (University of Brescia), Dr. Francesca Intonti (University of Florence), Dr. Monica Bollani (Institute of Photonics and Nanotechnologies - Consiglio Nazionale delle Ricerche (IFN-CNR))

Continued from **Thursday, 28 September**

1:45pm

O-S82-T4-2 Integration of Plasmonic Structures and Controlled Multimode Optical Fibers for Advanced Endoscopic Systems: Fabrication, Characterization, and Spatially Resolved SERS Enhancement

» Ms. Linda Piscopo (Istituto Italiano di Tecnologia, Center for Biomolecular Nanotechnologies, Arnesano,73010), Dr. Liam Collard (Istituto Italiano di Tecnologia, Center for Biomolecular Nanotechnologies, Arnesano,73010, Italy), Dr. Di Zheng (Istituto Italiano di Tecnologia, Center for Biomolecular Nanotechnologies, Arnesano,73010, Italy), Dr. Filippo Pisano (Istituto Italiano di Tecnologia, Center for Biomolecular Nanotechnologies, Arnesano,73010, Italy), Dr. Antonio Balena (Istituto Italiano di Tecnologia), Dr. Marco Pisanello (OptogeniX s.r.l.), Prof. Massimo De Vittorio (Istituto Italiano di Tecnologia), Dr. Ferruccio Pisanello (Istituto Italiano di Tecnologia)

2pm

O-S82-T4-3 Towards photon-noise limited room temperature IR detection using optomechanical resonators

» Mr. Paolo Martini (Institute of Sensor and Actuator Systems TU Wien), Mr. Kostas Kannelopulos (Institute of Sensor and Actuator Systems TU Wien), Prof. Silvan Schmid (Institute of Sensor and Actuator Systems TU Wien)

2:15pm

O-S82-T4-4 Electrochemical analysis on the SERS structure using boehmite

» Mr. Shunya Saegusa (University of Hyogo), Dr. Masayuki Naya (Keio University), Mr. Takao Fukuoka (University of Hyogo), Dr. Yuichi Utsumi (University of Hyogo), Dr. Akinobu Yamaguchi (University of Hyogo)

1:30pm **Track3 - Micro/Nano Engineering for the Life Sciences**

MOA9

Chaired by: Dr. Mar Alvarez and Prof. Stephan Sylvest Keller

1:30pm

O-S83-T3-1 Growth of Vertically Aligned MoS2 with Diffused SiOx Film for Ag-Migration-Based Resistive Switching Devices

» Ms. Jimin Lee (Chair of Electronic Devices, RWTH Aachen University), Ms. Sofía Cruces (Chair of Electronic Devices, RWTH Aachen University), Mr. Benny Ku (AMO GmbH, Advanced Microelectronic Center Aachen), Dr. Satender Kataria (Chair of Electronic Devices, RWTH Aachen University), Dr. Ke Ran (Central Facility for Electron Microscopy (GFE), RWTH Aachen University), Prof. Joachim Mayer (Central Facility for Electron Microscopy (GFE), RWTH Aachen University and Ruska-Centre for Microscopy and Spectroscopy with Electrons (ER-C 2), Forschungszentrum Jülich), Dr. Alwin Daus (Chair of Electronic Devices, RWTH Aachen University), Prof. Max C. Lemme (Chair of Electronic Devices, RWTH Aachen University and AMO GmbH, Advanced Microelectronic Center Aachen)

1:45pm

O-S83-T3-2 A method for measuring the d33 piezoelectric coefficient of soft thin films under weak loads

» Dr. Gaia de Marzo (Istituto Italiano di Tecnologia), Ms. Valentina Antonaci (Istituto Italiano di Tecnologia; Department of Innovation Engineering, Unisalento), Dr. Luca Fachechi (Istituto Italiano di Tecnologia), Dr. Vincenzo Mastronardi (Istituto Italiano di Tecnologia; Department of Innovation Engineering, Unisalento), Dr. Maria Teresa Todaro (Istituto Italiano di Tecnologia; Institute of Nanotechnology, CNR Lecce), Mr. Luigi Portaluri (Istituto Italiano di Tecnologia; Department of Innovation Engineering, Unisalento), Dr. Antonio Qualtieri (Istituto Italiano di Tecnologia), Dr. Francesco Rizzi (Istituto Italiano di Tecnologia), Prof. Michele Scaraggi (Istituto Italiano di Tecnologia; Department of Innovation Engineering, Unisalento), Prof. Massimo De Vittorio (Istituto Italiano di Tecnologia; Department of Innovation Engineering, Unisalento)

2pm

O-S83-T3-3 Automatic markerless overlay with the NanoFrazor: towards batch-fabricated nanodevices

» Dr. Jana Chaaban (Heidelberg Instruments Nano AG), Dr. Antoaneta Damyanova (Heidelberg Instruments Nano AG), Mr. Jonas Vergés (Heidelberg Instruments Nano AG), Mr. Robin Erne (Heidelberg Instruments Nano AG), Dr. Emine Çağin (Heidelberg Instruments Nano AG)

Continued from **Thursday, 28 September**

2:15pm

O-S83-T3-4 An electrochemical sensor for Listeria monocytogenes detection based on 3D printing and loop mediated isothermal amplification

» Dr. Santos Merino (Tekniker), Mrs. Ane Rivas-Macho (Gaiker), Dr. Unai Eletxigerra (Tekniker), Dr. Ruth Diez (Tekniker), Mr. Antton Sanjuan (Universidad de Mondragón), Dr. M. Mounir Bou-Ali (Universidad de Mondragón), Dr. Leire Ruiz (Universidad del País Vasco), Dr. Javier Del Campo (Basque Center for Materials, Applications and Nanostructures), Dr. Jose Luis Vilas (Universidad del País Vasco), Dr. Felipe Goñi (Gaiker), Dr. Garbiñe Olabarria (Gaiker)

2:30pm **Break**

2:45pm **Track1 - Novel Developments in Nano/Micro Fabrication Methods and Processes**

MOA12

Chaired by: Dr. Mathias Hädrich

2:45pm

O-S91-T1-1 Avoiding Sidewall Redeposition when Dry Etching Nonvolatile Materials: A Reverse Liftoff Process

» Dr. David Lishan (Plasma-Therm, LLC), Mr. Vincent Genova (Cornell University (Ret.)), Dr. Samantha Norris (Axoft), Dr. Kyle Dorsey (Physical Sciences, Inc.)

3pm

O-S91-T1-2 Realization of fully independent complete field-effect devices grown all-in-situ with the innovative Shadow Wall Epitaxy technique

» Dr. Yurii Kutovyi (Forschungszentrum Jülich GmbH), Dr. Nils von den Driesch (Forschungszentrum Jülich GmbH), Ms. Christine Falter (Forschungszentrum Jülich GmbH), Mr. Felix Khamphasithivong (RWTH Aachen University), Mr. Denny Dütz (RWTH Aachen University), Dr. Lars R. Schreiber (RWTH Aachen University), Prof. Detlev Grützmacher (Forschungszentrum Jülich GmbH), Dr. Alexander Pawlis (Forschungszentrum Jülich GmbH)

3:15pm

O-S91-T1-3 FEBID field emitters for vacuum nanoelectronics

» Prof. Teodor Gotszalk (Wroclaw University of Science and Technology), Ms. Ewelina Gacka (Wroclaw University of Science and Technology), Mr. Bartosz Pruchnik (Wroclaw University of Science and Technology), Mr. Piotr Kunicki (Wroclaw University of Science and Technology), Mr. Krzysztof Kwoka (Department of Nanometrology, Wrocław University of Science and Technology, Wroclaw, 50-370, Poland), Dr. Tomasz Piasecki (Wroclaw University of Science and Technology), Prof. Ivo W. Rangelow (Technische Universität Ilmenau), Dr. Andrzej Sierakowski (Institute of Microelectronics and Photonics), Dr. Isaac Stricklin (University of New Mexico), Dr. Tito Busani (University of New Mexico)

3:30pm

O-S91-T1-4 Diffuse Reflection of Neutrals as a Mechanism for Inverse Reactive Ion Etching Lag in Semiconductor Manufacturing

» Dr. Patrick Vanraes (University of Antwerp), Dr. Syam Parayil Venugopalan (ASML), Dr. Matthieu Besemer (ASML), Prof. Annemie Bogaerts (University of Antwerp)

2:45pm **Track3 - Micro/Nano Engineering for the Life Sciences**

MOA6

Chaired by: Dr. Daniel Fan and Dr. Xavier Munoz-Berbel

2:45pm

O-S92-T3-1 Interfacing plastic antibodies on metal nanoparticles by plasmon induced photopolymerization – Application to sensors

» Mr. Amine Khitous (CNRS IS2M), Dr. Céline Molinaro (CNRS IS2M), Prof. Karsten Haupt (UTC), Dr. Olivier Soppera (CNRS IS2M)

3pm

O-S92-T3-2 Auto-fluorescence suppression of 3D scaffolds fabricated via two-photon polymerization for cell biology applications

» Mr. Ahmed Sharaf (Delft University of technology), Dr. Jean-Philippe Frimat (Leiden University Medical Center), Dr. Gert-Jan Kremers (Erasmus Optical Imaging Center), Dr. Angelo Accardo (Delft University of technology)

3:15pm

O-S92-T3-3 Microparticle-based Microneedles for mRNA delivery

» Mr. Alessandro Attanasio (Università degli Studi di Napoli "Federico II"), Dr. Raffaele Vecchione (Istituto Italiano di Tecnologia), Prof. Paolo Antonio Netti (Università degli Studi di Napoli "Federico II")

Continued from **Thursday, 28 September**

3:30pm

O-S92-T3-4 Hybrid metal-dielectric non-planar optical neural interfaces for multifunctional monitoring of brain functions

» Ms. Maria Samuela Andriani (Istituto Italiano di Tecnologia), Dr. Teresa Jurado Parras (Istituto Cajal,CSIC, Madrid), Mrs. Cinzia Montinaro (Istituto Italiano di Tecnologia, Center for Biomolecular Nanotechnologies, 73010 Arnesano), Dr. Marco Bianco (Istituto Italiano di Tecnologia), Dr. Antonio Balena (Istituto Italiano di Tecnologia), Dr. Elena Cid (Istituto Cajal,CSIC, Madrid), Dr. Barbara Spagnolo (Istituto Italiano di Tecnologia), Dr. Marco Pisanello (OptogeniX s.r.l.), Dr. Filippo Pisano (Istituto Italiano di Tecnologia), Dr. Liset M. de la Prida (Istituto Cajal,CSIC, Madrid), Prof. Massimo De Vittorio (Istituto Italiano di Tecnologia), Dr. Ferruccio Pisanello (Istituto Italiano di Tecnologia)

2:45pm

Track3 - Micro/Nano Engineering for the Life Sciences

MOA9

Chaired by: Dr. Mirko Lohse and Dr. Maria Antonietta Casulli

2:45pm

O-S93-T3-1 Pyrolytic carbon microelectrodes for electrophysiological studies with retinal tissue

» Mr. pratik Kusumanchi (DTU Nanolab), Prof. Stephan Sylvest Keller (Technical University of Denmark), Dr. Rasmus Schmidt Davidsen (Aarhus university), Dr. Jesper Guldsmed Madsen (Aarhus university), Prof. Toke Bek (Aarhus hospital univesity)

3pm

O-S93-T3-2 The 3D FlowPrint platform, a microfluidic-assisted photopolymerization method for high-resolution multimaterial hydrogel printing

» Mr. victor fournie (Fluigent), Dr. Bastien Venzac (LAAS-CNRS), Dr. Emmanuelle Trevisiol (Toulouse Biotechnology Institute), Dr. Julie Foncy (LAAS-CNRS), Dr. Julien Roul (LAAS-CNRS), Ms. Sandrine Assie-Souleille (LAAS-CNRS), Ms. Melanie Escudero (Restore), Dr. Pierre Joseph (LAAS-CNRS), Mr. Arnaud Reitz (Fluigent), Dr. Laurent Malaquin (LAAS CNRS)

3:15pm

O-S93-T3-3 Integration of mechanical cues and electrical sensing in Nervous system-on-Chip

» Mr. Rahman Sabahi-Kaviani (Eindhoven University of Technology), Ms. Marina Shiryaeva (Eindhoven University of Technology), Dr. Suzanne B.P.E. Timmermans (Eindhoven University of Technology), Mrs. Gulden Akcay (Eindhoven University of Technology), Mr. Samuel Rantataro (Aalto University), Prof. Tomi Laurila (Aalto University), Prof. Sami Franssila (Aalto University), Prof. Regina Luttge (Eindhoven University of Technology)

3:30pm

O-S93-T3-4 Novel µfluidic Brain-on-Chip instructive µenvironments

» Mrs. Gulden Akcay (Eindhoven University of Technology), Mr. Jeroen van Venrooij (Eindhoven University of Technology), Prof. Regina Luttge (Eindhoven University of Technology)

3:45pm **Break**

3:55pm **Announcements and Closing Remarks**

Plenary Hall (MOA12/08/07)