

## TailorMat Nanoparticles for Easy Clean Glass Surfaces

Mateiu, Ramona Valentina; Jensen, Henrik; Foverskov, Morten ; Brummersted Iversen, Steen

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## Conference Information

Micro- and Nano-Engineering (MNE) is an international conference on micro- and nanofabrication using lithography and related techniques. On average the MNE conference has 400-500 participants. The conference proceedings are published in Microelectronic Engineering.

The MNE 2007 conference in Copenhagen will be the 33rd in a series that started in Cambridge in 1975, most recently held in Vienna (2005) and Barcelona (2006).

MNE has a sister conference, the Electron-, Ion-, and Photon-Beam and Nanotechnology Conference (EIPBN) in the USA and the Microprocesses and the Nanotechnology Conference (MNC) in Japan. It is a tradition that the author of the "Best paper" of at least one of the sister conferences is giving an invited talk at MNE.

### Venue

The conference venue is the Radisson SAS Falconer which is a modern hotel-, meeting- and event-centre hosting major conferences, popular musicals and concerts. Public transportation, including the Copenhagen Metro subway, is within walking distance and the Copenhagen Airport is a mere 20 minute drive away.

Radisson SAS Falconer Centre  
Falconer Allé 9  
2000 Frederiksberg  
Phone: + 45 38 15 80 01

### Registration/Hospitality desk - opening hours during the conference

Sunday, 23 September 18:00-20:00 hrs.  
Monday, 24 September 08:00-17:00 hrs.  
Tuesday, 25 September 08:00-17:00 hrs.  
Wednesday, 26 September 08:00-17:00 hrs.

### Conference Structure

The MNE 2007 conference begins with a welcome reception on Sunday 23 September 2007 in the evening. The technical program starts on Monday 24 September and ends in the afternoon of Wednesday 26 September.

The program will feature plenary and invited presentations by a number of internationally recognised authors, contributed oral and poster presentations and a commercial exhibition. In addition to the plenary

sessions, there will be three parallel sessions. The oral presentations and posters have been reviewed by the International Program Committee which has also selected the plenary and invited talks.

### **Exhibition**

The MNE 2007 commercial exhibition will start on Sunday September 23, 2007 in the afternoon followed by the MNE 2007 Welcome Reception. It will continue during the MNE 2007 conference until Wednesday September 26, 2007.

### **Publication of MNE 2007 Proceedings**

The proceedings of the MNE 2007 conference will be published by Elsevier in the *Microelectronic Engineering Journal*, after the standard peer review process. Manuscripts have to be submitted on-line by 1 October 2007. Manuscripts delivered after this deadline will not be published along with the conference proceedings. Further information is available on [www.mne07.org](http://www.mne07.org).

### **Social events**

#### **Welcome reception at Radisson SAS Falconer, Sunday 23 September 19:00 hrs.**

A light buffet will be served and the exhibition will open.

#### **Reception at Copenhagen City Hall, Monday, 24 September, 19:00 hrs.**

The reception is hosted by the City Council of Copenhagen and will take place at the City Hall.

***The reception will start punctually at 19:00 hrs.***  
*Dress: Informal*

#### **Conference Dinner, Wallmans Salonger, Tuesday 25 September at 18:30 hrs.**

Wallmans Salonger put on an amazing international dinner show, held in one of the capital's wonderful historic and centrally-located buildings, The Circusbuilding. While you are enjoying a fantastic four-course menu, artists will perform on 9 different stages scattered around the restaurant. Wallmans Salonger can guarantee an unforgettable evening, including a gourmet dinner, show and entertainment at the same time.

But it doesn't stop there: After a four-hour gastronomic and musical voyage for the senses, the Circusbuilding transforms to Copenhagen's biggest nightclub. The stage and the dancefloor are left to the guests for the rest of the night.

*Dress: Informal*

## Committees

### INTERNATIONAL STEERING COMMITTEE

<b>Anja Boisen</b>	Technical University of Denmark, DK
<b>John R.A. Cleaver</b>	University of Cambridge, UK
<b>Massimo Gentili</b>	Pirelli Laboratories Milano, IT
<b>Kenji Gamo</b>	University of Osaka, JP
<b>Evangelos Gogolides</b>	NCSR Demokritos Athens, GR
<b>Dieter Kern (chair)</b>	University of Tübingen, DE
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<b>Urs Staufer</b>	University of Neuchatel, CH
<b>Emil van der Drift</b>	Delft University of Technology, NL
<b>Christophe Vieu</b>	LAAS – CNRS Toulouse, FR

### ORGANISING COMMITTEE MNE07

#### **Chair:**

Anja Boisen MIC, Technical University of Denmark, DK

#### **Co-Chair:**

Lars Montelius Lund University, SE

#### **Program Chair:**

Anders Kristensen MIC, Technical University of Denmark, DK

#### **Co-Program Chairs:**

Fredrik Höök Lund Universitet, SE

Maria Nordström, MIC, Technical University of Denmark, DK

### MNE International Program Committee

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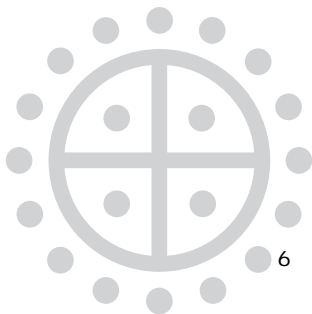
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Daniel Herr  
StellaW. Pang  
HenryI. Smith  
Steven Steen  
Grant Willson  
Stefan Wurm



## Scientific Program

### Sunday 23 September

- 18:00 - 20:00      **Registration**
- 19:00 - 20:30      **Exhibition Opening**
- 19:00                **Welcome reception.**

### Monday 24 September

#### Welcome and Opening of MNE07 conference

- Place:                Audience  
08 :30                Dr. Anja Boisen  
                          Conference Chair  
                          *Professor*  
                          *Technical University of Denmark, DK*
- Hanne Severinsen  
*Chairwoman of the parliaments Science and  
Technology Committee*
- Anders Kristensen  
Conference Program Chair  
*Associate Professor*  
*Technical University of Denmark, DK*

#### PLENARY

#### PL1 - Plenary session I

- Place:                Audience  
Session Chairs:    Dieter Kern and Anders Kristensen

**PL1-1                Low-cost MEMS for Applications in  
Medical Technology**

- 9:00                Göran Stemme  
*Royal Institute of Technology (KTH),  
STOCKHOLM, Sweden*

**PL1-2                Power of One**

- 9:45                Yan Borodovsky  
*Intel Corporation, HILLSBORO, United  
States of America*

#### 10:30                Coffee break



## Oral parallel sessions

### MONDAY 24 SEPTEMBER

#### 1A - Nanoscale Engineering & Fabrication I

Place : Audience  
Session Chairs: Gabriel Abadal Berini and Søren Dohn

**1A-1 Large Area Arrays of Metal Nanowires**

11:00

Vaida Auzelyte<sup>1</sup>, Harun H. Solak<sup>1</sup>, Yasin Ekinci<sup>1</sup>, Robert MacKenzie<sup>2</sup>, Vörös Janos<sup>2</sup>, Sven Olliges<sup>2</sup>, Ralph Spolenak<sup>2</sup>

<sup>1</sup>Paul Scherrer Institute, VILLIGEN, Switzerland

<sup>2</sup>ETH, ZÜRICH, Switzerland

**1A-2 Tunable surface plasmon resonance wavelength of gold nanoparticles embedded in lead zirconate titanate (PZT) films with an applying external electric field**

11:20

Hsuen-Li Chen, K. C. Hsieh, D. H. Wan  
National Taiwan University, TAIPEI, Taiwan

**1A-3 In-situ observation of 3-D nano-structure growth on focused-ion-beam chemical-vapor-deposition by scanning electron microscope**

11:40

Reo Kometani  
University of Hyogo, HYOGO, Japan

**1A-4 Patterned conducting polymers for all-polymer cell electroporation microsystems**

12:00

Niels Larsen<sup>1</sup>, Thomas S. Hansen<sup>2</sup>, Keld West<sup>3</sup>, Ole Hassager<sup>2</sup>, Noemi Rozlosnik<sup>1</sup>

<sup>1</sup>Risoe National Laboratory - DTU, ROSKILDE, Denmark, <sup>2</sup>Department of Chemical Engineering, DTU, LYNGBY, Denmark,

<sup>3</sup>Dept. of Chem., University of Copenhagen, COPENHAGEN, Denmark

## 1B - Process Diagnostics & Control

Place : Room 101  
Session Chairs: Helmut Schiff and NN

**1B-1 Imprintability of polymers for thermal nanoimprint**

11:00 H.-C. Scheer, N Bogdanski, M Wissen, S Möllenbeck  
*University of Wuppertal, WUPPERTAL, Germany*

**1B-2 Computationally efficient modelling of pattern dependencies in the micro-embossing of thermoplastic polymers**

11:30 H.K. Taylor<sup>1</sup>, D.S. Boning<sup>1</sup>, C. Iliescu<sup>2</sup>, B. Chen<sup>2</sup>  
<sup>1</sup>*MIT, CAMBRIDGE, United States of America*  
<sup>2</sup>*IBN, SINGAPORE, Singapore*

**1B-3 The accuracy metrology challenge for microelectronic advance node developments through CD-AFM and CD-SEM**

11:50 Johann Foucher, Pascal Faurie  
*CEA/LETI-MINATEC, GRENOBLE, France*

**1B-4 Dopant profiling and electrical junction delineation in the SEM.**

12:10 Augustus Chee<sup>1</sup>, Conny Rodenburg<sup>2</sup>, Colin Humphreys<sup>1</sup>  
<sup>1</sup>*University of Cambridge, CAMBRIDGE, United Kingdom*  
<sup>2</sup>*University of Sheffield, SHEFFIELD, United Kingdom*



## 1C - Nanodevices I

Place : Room 201  
Session Chairs: Guillermo Villanueva and Zachery Davis

### 1C-1 Fabrication of 22 nm T-gates for HEMT applications

11:00 Steven Bentley, Xu Li, David Moran, Iain Thayne  
*University of Glasgow, GLASGOW, United Kingdom*

### 1C-2 Self-assembled branched InAs nanowires for nanoelectronic applications

11:20 Dmitry Suyatin, Jie Sun, A. Fuhrer, D. Wallin, L.E. Froberg, L.S. Karlsson, I. Maximov, L.R. Wallenberg, L. Samuelson, H.Q. Xu  
*Lund University, LUND, Sweden*

### 1C-3 Toolkit for manipulation and characterization of nanostructures

11:40 Peter Bøggild, Kristian Mølhave  
*Technical University of Denmark, KGS. LYNGBY, Denmark*

### 1C-4 Vertical Devices of self-assembled hybrid organic/inorganic monolayers based on tungsten polyoxometalates: a step towards molecular electronic devices

12:10 Eleni Makarona<sup>1</sup>, Eleftherios Kapetanakis<sup>1</sup>, Dimitrios Velessiotis<sup>1</sup>, Antonios Douvas<sup>1</sup>, Panagiotis Argitis<sup>1</sup>, Pascal Normand<sup>1</sup>, Teodor Gotszalk<sup>2</sup>, Mirosław Woszczyzna<sup>2</sup>, Nikos Glezos<sup>1</sup>  
<sup>1</sup>*NCSR „Demokritos”, ATHENS, Greece*  
<sup>2</sup>*F.of Microsystem Electronics & Photonics, WROCLAW, Poland*

12:30 End of session

## Lunch

## 2A - Micro & Nanosystems for Biology I

Place : Audience  
Session Chairs: Evangelos Gogolides and Oliver Geschke

### 2A-1 Cell-based field effect devices for cell functional analysis

14:00 Toshiya Sakata<sup>1</sup>, Yuji Miyahara<sup>2</sup>  
<sup>1</sup>*The University of Tokyo, TOKYO, Japan*  
<sup>2</sup>*National Institute for Materials Science, TSUKUBA, Japan*

### 2A-2 Multiplex polymerase chain reaction (PCR) on a SU-8 chip

14:30 Troels Balmer Christensen<sup>1</sup>, Dang Doung Bang<sup>2</sup>, Anders Wolff<sup>3</sup>  
<sup>1</sup>*Technical University of Denmark, KGS. LYNGBY, Denmark*  
<sup>2</sup>*Department of Poultry, Fish and Fur Anim, DK-8200 ÅRHUS N., Denmark*  
<sup>3</sup>*MIC - Department of Micro and Nanotechno, DK-2800 KGS. LYNGBY, Denmark*

### 2A-3 Fabrication and characterization of plasmonic nanolens for applications in Biophotonics

14:50 Francesco De Angelis  
*Università della Magna Graecia, CATANZARO, Italy*

### 2A-4 Biodegradable polymer tubes with controlled 3D micro- and nanotopography

15:10 Nikolaj Gadegaard, Kris Seunarine, Mohamed Khan, Osian Meredith, Chris Wilkinson, Mathis Riehle  
*University of Glasgow, GLASGOW, United Kingdom*

## 2B - Nanoimprint Lithography & Technology I

Place : Room 101

Session Chairs: Clivia Torres and Santos Merino

**2B-1 Minimizing Linewidth Roughness in Step and Flash Imprint Lithography**

14:00 D Resnick

*Molecular Imprints, AUSTIN, TX, United States of America*

**2B-2 Fabrication and characterisation of nanoimprinted band edge lasers**

14:20 Vincent Reboud<sup>1</sup>, P. Lovera<sup>1</sup>, N. Kehagias<sup>2</sup>, M. Zelsmann<sup>3</sup>,

Freimut Reuther<sup>4</sup>, Gabi Gruetzner<sup>5</sup>, G.

Redmond<sup>1</sup>, C.M. Sotomayor Torres<sup>1</sup>,

<sup>1</sup>*Tyndall National Institute, CORK, Ireland,*

<sup>2</sup>*Tyndall National Institute, University C, CORK, Ireland,*

<sup>3</sup>*LTM-CNRS, GRENOBLE CEDEX 9, France,*

<sup>4</sup>*Micro Resist Technology GmbH, BERLIN, Germany,*

<sup>5</sup>*Microresist technology GmbH, BERLIN, Germany*

**2B-3 Three Dimensional Microsystems by Reversal Nanoimprint for Biomedical Applications**

14:40 Stella Pang

*University of Michigan, ANN ARBOR, MI, United States of America*

**2B-4 Nanoimprint applications toward 22nm node CMOS devices**

15:10 Ikuo Yoneda, Shinji Mikami, Masamitsu Ito,

Tetsuro Nakasugi, Tatsuhiko Higashiki

*Toshiba Corp., YOKOHAMA, Japan*

**2B-5 Direct Nanoimprinting of Metals**

15:30 Stefano Buzzi<sup>1</sup>, Yasin Ekinci<sup>1</sup>, Franck Robin<sup>2</sup>,

Victor Callegari<sup>3</sup>, Jörg F. Löffler<sup>1</sup>

*ETH Zurich, Metal physics and Technology, ZURICH, Switzerland*

*ETH Zurich, Electronics Laboratory, ZURICH, Switzerland*

*EMPA, Electronics/Metrology Laboratory, DÜBENDORF, Switzerland*

## 2C - Nanodevices II

Place : Room 201  
Session Chairs: Rüdiger Berger and Maria Nordström

- 2C-1 Micro/Nanobiosensor technology platforms for clinical diagnosis**  
14:00 Laura M. Lechuga  
*CNM-CSIC, TRES CANTOS, MADRID, Spain*
- 2C-2 Fabrication and characterization of Ta2O5 photonic feedback structures**  
14:20 Thorsten Wahlbrink  
*AMO GmbH, AACHEN, Germany*
- 2C-3 Fabrication of Bragg Gratings with Deep Grooves in LiNbO3 Ridge Optical Waveguides**  
14:50 Asamira Suzuki  
*Matsushita Electric Industrial Co., Ltd., KYOTO, Japan*
- 2C-4 Plasmonic Components Fabrication by Lithographic Patterning and Nanoimprint**  
15:10 Alexandra Boltasseva<sup>1</sup>, Kasper Jørgensen<sup>2</sup>, Rasmus Pedersen<sup>2</sup>, Kristian Leosson<sup>3</sup>, Rasmus Nielsen<sup>2</sup>, Irene Fernandez-Cuesta<sup>4</sup>, Ilya Radko<sup>5</sup>, Sergey Bozhevolnyi<sup>5</sup>, Anders Kristensen<sup>2</sup>  
*<sup>1</sup>Technical University of Denmark, LYNGBY, Denmark*  
*<sup>2</sup>MIC, DTU, LYNGBY, Denmark*  
*<sup>3</sup>University of Iceland, REYKJAVIK, Iceland*  
*<sup>4</sup>CNM-IMB, BARCELONA, Spain*  
*<sup>5</sup>University of Aalborg, AALBORG, Denmark*
- 2C-5 Large-scale arrays of tunnel junctions with magnetic heterodimers**  
15:30 Pasquale Marzo, Pasquale Marzo, Luca Sanarica, Roman Krahne, Antonio Della Torre, Elisabetta Primiceri, Angela Fiore, Teresa Pellegrino, Liberato Manna, Roberto Cingolani, Ross Rinaldi, Giuseppe Maruccio  
*Isufi, Università del Salento, LECCE, Italy*
- 15:50 End of session

## Poster session I and II

16:00-17:00 Poster session I

17:00-18:00 Poster session II

## Social event

19:00 Reception at the Copenhagen City Hall



## TUESDAY 25 SEPTEMBER

### 3A - Resists & Resist Processing

Place : Audience  
Session Chairs: Peter Hudek and Pieter Kruit

**3A-1 High aspect ratio micro/nano machining with proton beam writing on aqueous developable - easily stripped negative chemically amplified resists**

09:00 Margarita Chatzichristidi<sup>1</sup>, Ioannis Raptis<sup>1</sup>, Jeroen Anton Van Kan<sup>2</sup>, Frank Watt<sup>2</sup>  
<sup>1</sup>*NCSR „Demokritos„, AGHIA PARASKEVI, Greece*  
<sup>2</sup>*CIBA, Physic Dept. Nat. Univ. of Singapore, SINGAPORE, Singapore*

**3A-2 Novel methods to pattern polymers for microfluidics**

09:30 Cristina Martin<sup>1</sup>, Andreu Llobera<sup>1</sup>, T. Leïchlé<sup>2</sup>, Guillermo Villanueva<sup>3</sup>, Anja Voigt<sup>4</sup>, V. Fakhfour<sup>3</sup>, J. Yeon<sup>3</sup>, N. Berthet<sup>2</sup>, J. Bausells<sup>1</sup>, Gabi Gruetzner<sup>4</sup>, L. Nicu<sup>2</sup>, J. Brugger<sup>3</sup>, Francesc Perez-Murano<sup>1</sup>  
<sup>1</sup>*CNM-IMB-CSIC, BARCELONA, Spain*  
<sup>2</sup>*LAAS-CNRS, TOULOUSE, France*  
<sup>3</sup>*LMIS1-EPFL, LAUSANNE, Switzerland*  
<sup>4</sup>*Microresist technology GmbH, BERLIN, Germany*

**3A-3 Nanoindentation testing of SU-8 photoresist mechanical properties**

09:50 Ala'aldeen Al-Halhouli<sup>1</sup>, Ingo Kampen<sup>2</sup>, Thomas Krah<sup>1</sup>, Stephanus Büttgenbach<sup>1</sup>  
<sup>1</sup>*Institute for Microtechnology, BRAUNSCHWEIG, Germany*  
<sup>2</sup>*Institute for Particle Technology, BRAUNSCHWEIG, Germany*

**3A-4 Epoxide Functionalized Molecular Resists for High Resolution Electron Beam Lithography**

10:10 Clifford Henderson<sup>1</sup>, Richard Lawson<sup>1</sup>, Cheng-Tsung Lee<sup>1</sup>, Robert Whetsell<sup>1</sup>, Wang Yueh<sup>2</sup>, Jeanette Roberts<sup>2</sup>, Laren Tolbert<sup>1</sup>  
<sup>1</sup>*Georgia Institute of Technology, ATLANTA, United States of America*  
<sup>2</sup>*Intel Corporation, HILLSBORO, OR, United States of America*



## 3B - Nanoimprint Lithography & Technology II

Place : Room 101  
Session Chairs: Hella Sheer and NN

**3B-1 Advances in CLIPP for the fabrication of surface modified micro-fluidic devices in non - fluorescing UV cured materials.**

09:00 Mike Watts<sup>1</sup>, R. Sebra<sup>2</sup>, H. Simms<sup>2</sup>, K. Masters<sup>2</sup>, T. Haraldsson<sup>2</sup>, K. Anseth<sup>2</sup>, C. Bowman<sup>2</sup>

<sup>1</sup>*Impattern Solution, AUSTIN, United States of America*

<sup>2</sup>*Department of Chemical and Biological En, UNIVERSITY OF COLORADO, United States of America*

**3B-2 Sub-micron sized patterning on flexible PET substrate using flexible DLC coated PVC template**

09:30 Hee-Chul Lee<sup>1</sup>, Sung-Hoon Hong<sup>2</sup>, Heon Lee<sup>2</sup>

<sup>1</sup>*LG electronics, DAEJEON, South-Korea*

<sup>2</sup>*Korea University, SEOUL, South-Korea*

**3B-3 Optical Negative Index Meta-materials at Near-IR Wavelength Fabricated by Nanoimprint Lithography**

09:50 Wei Wu<sup>1</sup>, Evgenia Kim<sup>2</sup>, Ekaterina Ponizovskaya<sup>1</sup>, Zhaoning Yu<sup>1</sup>, Yongmin Liu<sup>2</sup>, Alex Bratkovsky<sup>1</sup>, Yuen Ron Shen<sup>2</sup>, Nick Fang<sup>3</sup>, Xiang Zhang<sup>2</sup>, Shih-Yuan Wang<sup>1</sup>, R. Stan Williams<sup>1</sup>

<sup>1</sup>*Hewlett-Packard, PALO ALTO, United States of America*

<sup>2</sup>*University of California, Berkeley, BERKELEY, CA, United States of America*

<sup>3</sup>*University of Illinois, URBANA-CHAMPAIGN, IL, United States of America*

**3B-4 Nanoimprint for future non-volatile memory and logic devices**

10 :20 Matthias Meier, Christian Nauenheim, Sandra Gilles, Dirk Mayer, Carsten Kügeler, Rainer Waser

*Forschungszentrum Juelich GmbH, JÜLICH, Germany*



### 3C - Maskless Litho. & Pattern Transfer Tech.

Place : Room 201  
Session Chairs: Jürgen Brügger and Falco C.M. Van Delft

- 3C-1 Etching of sub-micrometer structures through Stencil**  
09 :00 Guillermo Villanueva, Oscar Vazquez-Mena, Marc van den Boogaart, K Sidler, V Savu, J Brügger  
*Ecole Polytechnique Fédérale de Lausanne, LAUSANNE, Switzerland*
- 3C-2 Enhanced robustness of the cryogenic process for silicon deep etching**  
09:20 El Houcine Oubensaid<sup>1</sup>, Thomas Tillocher<sup>2</sup>, Remi Dussart<sup>2</sup>, Philippe Lefaucheux<sup>2</sup>, Pierre Ranson<sup>2</sup>, Xavier Mellhaoui<sup>2</sup>, Mohamed Boufnichel<sup>3</sup>, Lawrence Overzet<sup>4</sup>, Laurianne Pichon<sup>2</sup>, Corinne Duluard<sup>2</sup>  
<sup>1</sup>*Gremi, ORLEANS CEDEX 2, France*  
<sup>2</sup>*GREMI, ORLEANS, France*  
<sup>3</sup>*STMicroelectronics, TOURS, France*  
<sup>4</sup>*UTDallas, RICHARDSON, United States of America*
- 3C-3 Very high resolution etching of magnetic nanostructures in organic gases**  
09:40 Chris Wilkinson<sup>1</sup>, X Kong<sup>1</sup>, D Krasa<sup>2</sup>, W Williams<sup>2</sup>, J Chapman<sup>1</sup>, S McVitie<sup>1</sup>, H P Zhou<sup>1</sup>  
<sup>1</sup>*University of Glasgow, GLASGOW, United Kingdom*  
<sup>2</sup>*School of GeoSciences, EDINBURGH, United Kingdom*
- 3C-4 Nano-xerography - Guiding the assembly of nanoscale building blocks**  
10:00 Andreas Stemmer, Livia Seemann, Dominik Ziegler, Nicola Naujoks  
*ETH Zurich, ZURICH, Switzerland*

**10:30 Coffee break**

## 4A - Micro and Nanosystems for Biology II

Place : Audience  
Session Chairs: Christophe Vieu and Harry  
Heinzelmann

- 4A-1 Nanotechnology and biointerfaces**  
11:00 Bengt Kasemo  
*Chalmers Univ. Techn., GOTHENBURG, Sweden*
- 4A-2 Evaporation based micropump integrated into scanning force microscope probe**  
11:30 Friedjof Heuck<sup>1</sup>, Thomas Hug<sup>2</sup>, Terunobu Akiyama<sup>1</sup>, André Meister<sup>3</sup>, Harry Heinzelmann<sup>3</sup>, Nicolas F. De Rooij<sup>1</sup>, Urs Staufer<sup>1</sup>  
<sup>1</sup>*Institute of Microtechnology, NEUCHÂTEL, Switzerland*  
<sup>2</sup>*Helbling Technik, ZURICH, Switzerland*  
<sup>3</sup>*CSEM, NEUCHATEL, Switzerland*
- 4A-3 Contact force control of piezoresistive cantilevers with in-plane nanotips for femtoliter droplet deposition**  
11:50 Daisuke Saya, Thierry Leïchlé, Liviu Nicu, Jean-Bernard Pourciel, Fabrice Mathieu, Christian Bergaud  
*LAAS-CNRS, TOULOUSE, France*
- 4A-4 Three-dimensional optical readout of microcantilever arrays: towards a DNA biochip based on nanomechanics**  
12:10 Montserrat Calleja, Johan Mertens, Daniel Ramos, Javier Tamayo  
*Imm-Csic, TRES CANTOS, Spain*
- 4A-5 On Chip Differentiation of Human Mesenchymal Stem Cells into Adipocytes**  
12:30 Yong Chen<sup>1</sup>, X.F Ni<sup>1</sup>, C Crozatier<sup>1</sup>, L Sensebé<sup>2</sup>, Li Wang<sup>1</sup>, Y Fan<sup>1</sup>, P.D. He<sup>3</sup>  
<sup>1</sup>*Ecole Normale Supérieure, PARIS, France*  
<sup>2</sup>*Etablissement Français du Sang Centre-At, TOUR, France*  
<sup>3</sup>*East China Normal University, SHANGHAI, France*

## 4B - Nanoscale Engineering & Fabrication II

Place : Room 101  
Session Chairs: Francesc Perez Murano and Kristian Mølhave

**4B-1 Electrical characterization of suspended Pt nanowires grown by Electron Beam-Induced Deposition (EBID) with water vapour assistance**

11:00 Gian Carlo Gazzadi, Stefano Frabboni, C. Menozzi, L. Incerti  
*CNR - INFM S3, MODENA, Italy*

**4B-2 Templated fabrication of nanoring arrays based on laser interference lithography**

11:20 Ran Ji<sup>1</sup>, Woo Lee<sup>2</sup>, Mato Knez<sup>2</sup>, Roland Scholz<sup>2</sup>, Kornelius Nielsch<sup>2</sup>, Ulrich Goesele<sup>2</sup>  
<sup>1</sup>*NIL Technology, KONGENS LYNGBY, Denmark*  
<sup>2</sup>*MPI Halle, HALLE, Germany*

**4B-3 ICP-RIE etching of high aspect ratio GaAs nanowires based on Cl<sub>2</sub>/N<sub>2</sub> chemistry**

11:40 Laurent Jalabert  
*LAAS-CNRS / The University of Toulouse, TOULOUSE, France*

**4B-4 Nanofabrication of anti-reflective quartz surfaces using block copolymer structures**

12:00 Christian David<sup>1</sup>, Pratap Sahoo<sup>1</sup>, Vaida Auzelyte<sup>1</sup>, Yasin Ekinci<sup>1</sup>, Harun Solak<sup>1</sup>, Elizabeth Tocce<sup>2</sup>, Chi-Chun Liu<sup>2</sup>, Karl Stuen<sup>2</sup>, Paul Nealey<sup>2</sup>  
<sup>1</sup>*Paul Scherrer Institut, VILLIGEN, Switzerland*  
<sup>2</sup>*University of Wisconsin, MADISON, United States of America*

**4B-5 Colloidal Nanocrystals: Novel Perspective for Micro and Nano Fabrication Towards Opto-Electronic and Sensing Applications**

12:20 M. Lucia Curri  
*CNR Italian National Research Council, BARI, Italy*

## 4C - Electron & Ion Beam Lithography

Place : Room 201

Session Chairs: Alex Robinson and John Cleaver

### 4C-1 Integration of EBDW of one entire metal layer as substitution for optical lithography in 220 nm node microcontrollers

11 :00 Johannes Kretz<sup>1</sup>, Heiko Röper<sup>2</sup>, Christian Arndt<sup>1</sup>, Thomas Bischoff<sup>3</sup>, Kang-Hoon Choi<sup>1</sup>, Guido Goldbeck<sup>3</sup>, Markus Gunia<sup>2</sup>, Christoph Hohle<sup>1</sup>, Tarek Lutz<sup>1</sup>, Ulf Schubert<sup>2</sup>, Ivonne Schwerdtfeger<sup>2</sup>, Frank Thrum<sup>1</sup>, Martin Vennekamp<sup>2</sup>

<sup>1</sup>Qimonda Dresden GmbH & Co. OHG, DRESDEN, Germany

<sup>2</sup>Infineon Technologies Dresden GmbH & Co, DRESDEN, Germany

<sup>3</sup>Infineon Technologies AG, NEUBIBERG, Germany

### 4C-2 First deflection results of multi-electron-beam blanker array for sub-10 nm electron beam induced deposition

11:30 Carel Heerkens<sup>1</sup>, M.J. Van Bruggen<sup>2</sup>, Y. Zhang<sup>2</sup>, B. Van Someren<sup>2</sup>, P. Kruit<sup>2</sup>

<sup>1</sup>TU Delft, DELFT, The Netherlands

<sup>2</sup>TU Delft, charged particle optics tnw, DELFT, The Netherlands

### 4C-3 A Single-Stranded Self-Aligned Carbon Nanotube Emitter Array

11:50 Justin Ho, Takahito Ono, Masayoshi Esashi  
Tohoku University, SENDAI, Japan

### 4C-4 Prototyping with focused ion beams: matching the control of pattern dimensions with the control of material properties

12:10 Oliver Wilhelmi, Steve Reyntjens  
FEI Company, EINDHOVEN, The Netherlands

### 4C-5 Nano-pillars and nano-holes fabricated by Ion Beam Induced Deposition

12:30 Ping Chen, Paul Alkemade, Huub Salemink, Mengyu Wu

Delft University of Technology, DELFT, The Netherlands

13:00 End of session

## Lunch

## PL2 - Plenary session II

Place : Audience

Session Chairs: Lars Montelius and Alexandra Boltasseva

**PL2-1 Nanobio interface using neurons and receptor proteins**

14:30 Keiichi Torimitsu

*NTT Basic Research Laboratories, ATSUGI, KANAGAWA, Japan*

**PL2-2 Silicon nanophotonics on CMOS**

15:15 Dries Van Thourhout

*Ghent University/IMEC, GENT, Belgium*

**16 :00 Coffee break**



## 5A - Nanoscale Engineering and Fabrication III

Place : Audience

Session Chairs: Andreas Stemme and Harun Solak

### 5A-1 Self-assembled InAs QDs grown on AlGaAs surfaces

16:30 Matthias Schramboeck, A. M. Andrews, P. Klang, W. Schrenk, G. Strasser  
*TU Vienna, VIENNA, Austria*

### 5A-2 Fast thermal nanoimprint lithography by a stamp with integrated heater

16:50 Massimo Tormen  
*TASC laboratory, BASOVIZZA (TS), Italy*

### 5A-3 Silicon Fresnel zone plates for high heat load x-ray microscopy

17 :10 Joan Vilà-Comamala<sup>1</sup>, Konstantins Jefimovs<sup>2</sup>, Jörg Raabe<sup>3</sup>, Burkhard Kaulich<sup>4</sup>, Christian David<sup>3</sup>  
<sup>1</sup>*Laboratori de Llum Sincrotró, BELLATERRA, Spain*  
<sup>2</sup>*EMPA - Material Science & Technology, ZURICH, Switzerland*  
<sup>3</sup>*Paul Scherrer Institut, VILLIGEN-PSI, Switzerland*  
<sup>4</sup>*ELETTRA Synchrotron, TRIESTE, Italy*



## 5B - Nanodevices III

Place : Room 101

Session Chairs: Zoran Djuric and Andris Sternberg

**5B-1 Single-electron tunnelling via quantum dot cavities built on a silicon suspension nanobridge**

16:30 Jun Ogi<sup>1</sup>, Yoshishige Tsuchiya<sup>1</sup>, Shunri Oda<sup>1</sup>, Hiroshi Mizuta<sup>2</sup>

*<sup>1</sup>Tokyo Institute of Technology, TOKYO, Japan*

*<sup>2</sup>University of Southampton, SOUTHAMPTON HAMPSHIRE, United Kingdom*

**5B-2 Prospect for Logic-on-a-wire: Omega-gate NMOS Inverter Fabricated on Single Si Nanowire**

16 :50 Kirsten Moselund, Didier Bouvet, Adrian Ionescu

*EPFL, LAUSANNE, Switzerland*

**5B-3 Focused Ion Beam Engineered Nanogap in a Palladium Microwire as a Mechanical Switch for Hydrogen Detection**

17 :10 Thomas Kiefer<sup>1</sup>, Fred Favier<sup>2</sup>, Oscar Vazquez-Mena<sup>1</sup>, Guillermo Villanueva<sup>1</sup>, Juergen Brugger<sup>1</sup>

*<sup>1</sup>Ecole Polytechnique Federale de Lausanne, LAUSANNE, Switzerland*

*<sup>2</sup>CNRS Universite Montpellier 2, MONTPELLIER, France*



## 5C - Electron and Ion Beam Lithography II

Place : Room 201

Session Chairs: Christian David and Jose Maria de Tercsa

**5C-1 Chemically Amplified Molecular Resists for E-Beam Lithography**

16:30 Alex Robinson, Francis Gibbons, Sara Diegoli, Mayanditheuar Manickam, Jon Preece, Richard Palmer  
*University of Birmingham, BIRMINGHAM, United Kingdom*

**5C-2 Nano-dot and pit arrays with a pitch of 25 nm x 25 nm fabricated by EB drawing, RIE and nano-imprinting toward 1 Tb/in<sup>2</sup> storage**

16:50 Sumio Hosaka, Zulfakri Mohamad, Masumi Shirai, Hirotaka Sano, You Yin, Akihira Miyachi, Hayato Sone  
*Gunma University, KIRYU, Japan*

**5C-3 Improved aspect ratio in high resolution features with low voltage converted-SEM lithography on negative resist HSQ**

17:10 Maria Chiara Ubaldi  
*CoreCom, MILANO, Italy*

17:30 End of session

## Social event

18:00 Conference dinner arrival and welcome drink  
19:00 Start of dinner show

## WEDNESDAY 26 SEPTEMBER

### PLENARY

#### PL3 - Plenary session III

Place : Audience

Session Chairs: Stella Pang and Anja Boisen

#### PL3-1 Nanostructures and functional glass surfaces

09:00 Elin Sondergard  
*Surface du Verre et Interfaces,*  
*AUBERVILLIERS, France*

#### 6A - Microsystems & Their Fabrication I

Place : Audience

Session Chairs: Joan Bausells and Adrian Ionescu

#### 6A-1 A Compact and Disposable Transdermal Drug Delivery System

10:00 Marco Matteucci<sup>1</sup>, M Casella<sup>2</sup>, M Bedoni<sup>3</sup>, M Donetti<sup>3</sup>, F Gramatica<sup>2</sup>, E Di Fabrizio<sup>4</sup>  
<sup>1</sup>*Sincrotrone Trieste, TRIESTE, Italy*  
<sup>2</sup>*Fondazione Don Gnocchi IRCCS-ONLUS, MILAN, Italy*  
<sup>3</sup>*Università degli Studi di Milano, MILAN, Italy*  
<sup>4</sup>*TASC-INFM-CNR, TRIESTE, Italy*

#### 6A-2 Miniaturized, highly tunable diffractive optical elements based on electroactive polymers

10:30 Manuel Aschwanden, Andreas Stemmer  
*ETH Zurich, ZURICH, Switzerland*

#### 6A-3 Development of fine-pitch current carrying conductors for interconnection of a silicon mass flow sensor on a polymeric microfluidic chip

10:50 Johanna May<sup>1</sup>, Ricardo Ehrenpfordt<sup>1</sup>, Peter Rothacher<sup>1</sup>, Claas Müller<sup>2</sup>, H. Reinecke<sup>2</sup>  
<sup>1</sup>*Robert Bosch GmbH, GERLINGEN, Germany*  
<sup>2</sup>*IMTEK, FREIBURG, Germany*

- 6A-4**            **Optimized SU-8 processing for the fabrication of thin polymer cantilevers**  
11:10            Stephan Keller<sup>1</sup>, Gabriela Blagoi<sup>1</sup>, Daniel Haefliger<sup>2</sup>, Anja Boisen<sup>1</sup>  
*<sup>1</sup>Technical University of Denmark, LYNGBY, Denmark*  
*<sup>2</sup>Harting Mitronics, BIEL, Switzerland*
- 6A-5**            **Monolithic integration of MEMS-CMOS RF resonators in the VHF and UHF bands. A comparative study of 0.35-um and 0.18-um technologies**  
11 :30            Gabriel Abadal<sup>1</sup>, Jordi Teva<sup>1</sup>, Gonzalo Murillo<sup>1</sup>, Joan Lluís López<sup>1</sup>, Arantxa Uranga<sup>1</sup>, Jaume Verd<sup>2</sup>, Francesc Torres<sup>1</sup>, Jaume Esteve<sup>3</sup>, Francesc Pérez-Murano<sup>3</sup>, Núria Barniol<sup>1</sup>  
*<sup>1</sup>Universitat Autònoma de Barcelona, BARCELONA, Spain*  
*<sup>2</sup>Universitat de les Illes Balears, PALMA DE MALLORCA, Spain*  
*<sup>3</sup>Inst. de Microelectrònica de Barcelona, BARCELONA, Spain*



## 6B - Nanoscale Engineering & Fabrication IV

Place : Room 101

Session Chairs: Didier Louis and Peter Bøggild

**6B-1 Aligned Quantum Dot Molecules with 4 Satellite Dots by Self-Assembly Approach**

10:00 Somsak Panyakeow, N. Siripitakchai, Cho Cho Thet, P. Changmoang, S. Thainoi, S. Kanjanachuchai, S. Panyakeow  
*Chulalongkorn University, BANGKOK, Thailand*

**6B-2 Broad band transmission characterisation of silicon nitride photonic crystals for visible wavelengths**

10 :20 J Kouba, S. Kiss, M. Kubalski, B. Loechel  
*BESSY GmbH, BERLIN, Germany*

**6B-3 Pushing the limits of nano-patterning with extreme ultraviolet interference lithography**

10:40 Harun Solak  
*Paul Scherrer Institut, VILLIGEN PSI, Switzerland*

**6B-4 Nanoscale Surface Patterning: Directed Assembly and Microcontact Printing of Nanoparticles**

11:10 Andrea Decker, Tobias Kraus, Laurent Malaquin, Heinz Schmid, Heiko Wolf  
*IBM Zurich Research Laboratory, RUESCHLIKON, Switzerland*

**6B-5 Low-reflective hydrophobic silicon nanoglass**

11 :30 Jiann Shieh<sup>1</sup>, Bing-Shia Chen<sup>2</sup>, Fu-Ju Hou<sup>1</sup>, Wen-Hsien Huang<sup>1</sup>, Chao-Chia Cheng<sup>2</sup>  
<sup>1</sup>*National Nano Device Laboratory, HSINCHU, Taiwan*  
<sup>2</sup>*Chung Hua University, HSINCHU, Taiwan*

## 6C - Photon Lithography & Mask Technology

Place : Room 201

Session Chairs: Yan Boradovsky and Günther Stangl

**6C-1 Increase of resolution by applying phase mask concept in EUV lithography**

10:00

Aura Nugrowati<sup>1</sup>, Marieke Richard<sup>2</sup>,  
Christophe Constancias<sup>2</sup>, Sylvania Pereira<sup>1</sup>,  
Joseph Braat<sup>1</sup>, Jean-Yves Robic<sup>2</sup>

<sup>1</sup>*Delft University of Technology, DELFT, The Netherlands*

<sup>2</sup>*CEA-Leti Minatex, GRENOBLE, France*

**6C-2 Polarimetry of illumination for 193-nm immersion lithography**

10 :20

Hiroshi Nomura

*Toshiba Corp., YOKOHAMA, Japan*

**6C-3 Using Optical Proximity Correction Techniques to Compensate for Flare in Extreme Ultraviolet Lithography**

10:40

Lawrence Melvin<sup>1</sup>, Brian Ward<sup>1</sup>, Daniel Ritter<sup>1</sup>, Alan Myers<sup>2</sup>, In sung Kim<sup>3</sup>, Anne-Marie Goethals<sup>4</sup>, Rik Jonckheere<sup>4</sup>, Gian Francesco Lorusso<sup>4</sup>

<sup>1</sup>*Synopsys, HILLSBORO, United States of America*

<sup>2</sup>*Intel, HILLSBORO, United States of America*

<sup>3</sup>*Samsung, SEOUL, South-Korea*

<sup>4</sup>*IMEC, LEUVEN, Belgium*

**6C-4 Inspection of EUVL mask blank defects and patterned masks using EUV photoemission electron microscopy**

11 :00

Jingquan Lin<sup>1</sup>, J Maul<sup>2</sup>, N Weber<sup>3</sup>, C Holfeld<sup>4</sup>,  
M Merkel<sup>3</sup>, G Schoenhense<sup>2</sup>, U Kleineberg<sup>1</sup>

<sup>1</sup>*University of Munich, GARCHING, Germany*

<sup>2</sup>*University of Mainz, MAINZ, Germany*

<sup>3</sup>*Focus-GmbH, HUENSTETTEN-KESSELBACH, Germany*

<sup>4</sup>*AMTC, DRESDEN, Germany*

**6C-5 Manufacturing Lithography for 32nm Half-Pitch and Beyond**

11:20

Michael Lercel

*SEMATECH / IBM, AUSTIN, TX, United States of America*

11 :50 End of session

## Lunch

## 7A - Microsystems & Their Fabrication II

Place : Audience

Session Chairs: Stefan Blunier and Urs Stauer

- 7A-1**            **Topology Optimized Electrothermal Polysilicon Microgrippers**  
13:00            Özlem Sardan, Peter Bøggild, Ole Sigmund, Kristian Mølhave  
*Technical University of Denmark DTU, COPENHAGEN, Denmark*
- 7A-2**            **Antireflective nanostructured microlenses**  
13:20            Birgit Päivänranta<sup>1</sup>, Pierre-Yves Baroni<sup>2</sup>, Toralf Scharf<sup>2</sup>, Wataru Nakagawa<sup>2</sup>, Hans Peter Herzig<sup>2</sup>, Markku Kuittinen<sup>1</sup>  
<sup>1</sup>*University of Joensuu, JOENSUU, Finland*  
<sup>2</sup>*Institute of MicroTechnology, NEUCHÂTEL, Switzerland*
- 7A-3**            **Multi-Parameter POCT Device for Blood Diagnostic**  
13 :40            Reinhold Jurischka, Christoph Blattert, Isam Tahhan, Andreas Schoth, Claas Müller, Holger Reinecke  
*University of Freiburg - IMTEK, FREIBURG, Germany*
- 7A-4**            **RF MEMS Capacitive Switch on Semi-Suspended CPW using Low-Loss HRS**  
14 :00            Montserrat María Fernandez-Bolaños Badia<sup>1</sup>, Julien Perruisseau-Carrier<sup>2</sup>, Paolo Dainesi<sup>3</sup>, Adrian Mihai Ionescu<sup>3</sup>  
<sup>1</sup>*EPFL, Electronics Laboratory, LAUSANNE, Switzerland*  
<sup>2</sup>*EPFL LEMA, LAUSANNE, Switzerland*  
<sup>3</sup>*EPFL, LAUSANNE, Switzerland*
- 7A-5**            **Dynamic behavior of the tuning fork AFM probe**  
14 :20            Dara Bayat, T. Akiyama, N.F. De Rooij, U. Stauer  
*University of Neuchatel, NEUCHATEL, Switzerland*

## 7B - Nanoimprint Lithography and Technology III

Place : Room 101

Session Chairs: Alkaisi Maan and Wei Wu

- 7B-1 Pressure and Resist Thickness Dependency of Resist Time Evolutions Profiles in Nanoimprint Lithography**  
13 :00 Yoshihiko Hirai<sup>1</sup>, Yuuki Onishi<sup>2</sup>, Satoaki Tanabe<sup>1</sup>, Mayuko Shibata<sup>1</sup>, Takuya Iwasaki<sup>2</sup>, Yasuroh Iriye<sup>2</sup>  
<sup>1</sup>Osaka Pref. Univ., SAKAI, Japan  
<sup>2</sup>Mizuho Inf. and Res. Institute, TOKYO, Japan
- 7B-2 Determination of stress build-up during NIL process in triangular polymer structures**  
13:20 Irene Fernandez-Cuesta<sup>1</sup>, Xavier Borrise<sup>1</sup>, Aritz Retolaza<sup>2</sup>, Santos Merino<sup>2</sup>, David Mendels<sup>3</sup>, Ole Hansen<sup>4</sup>, Anders Kristensen<sup>4</sup>, Francesc Perez-Murano<sup>1</sup>  
<sup>1</sup>Centro Nacional de Microelectrónica -CNM, BELLATERRA, Spain  
<sup>2</sup>Fundación TEKNIKER, EIBAR, Spain  
<sup>3</sup>National Physical Laboratory, TEDDINGTON, United Kingdom  
<sup>4</sup>Department of Micro and Nanotechnology, LYNGBY, Denmark
- 7B-3 A study of concave grating fabricated by UV-nanoimprint lithography**  
13:40 Yung-Pin Chen, Yuet-Ping Lee, Lon Alex Wang  
National Taiwan University, TAIPEI, Taiwan
- 7B-4 Nanoimprint Lithography for three-dimensional nanopatterning**  
14:00 Clivia M Sotomayor Torres<sup>1</sup>, N. Kehagias<sup>1</sup>, V. Reboud<sup>1</sup>, C Chansin<sup>1</sup>, M. Zelsmann<sup>2</sup>, C. Jeppesen<sup>3</sup>, C. Schuster<sup>4</sup>, M. Kubenz<sup>4</sup>, F. Reuther<sup>4</sup>, G. Gruetzner<sup>4</sup>  
<sup>1</sup>University College Cork, CORK, Ireland  
<sup>2</sup>LTM-CNRS, c/o CEA-LETI, GRENOBLE CEDEX 9, France  
<sup>3</sup>Dept. Micro and Nanotechnology, Technica, KGS. LYNGBY, Denmark  
<sup>4</sup>Micro resist technology GmbH, BERLIN, Germany

## 7C - Micro and Nanosystems for Biology III

Place : Room 201

Session Chairs: Winnie Svendsen and NN.

**7C-1 Artificial nanostructured biointerfaces**  
13:00 Duncan Sutherland  
*University of Aarhus, AARHUS, Denmark*

**7C-2 Design and fabrication of a micromechanical capacitive DNA sensor array**  
13:30 Vasiliki Tsouti<sup>1</sup>, Stavros Chatzandroulis<sup>1</sup>,  
Dimitrios Goustouridis<sup>1</sup>, Pascal Normand<sup>1</sup>,  
Dimitrios Tsoukalas<sup>2</sup>  
<sup>1</sup>*NCSR „Demokritos“, ATHENS, Greece*  
<sup>2</sup>*NTUA, Department of Applied Sciences, ATHENS, Greece*

**7C-3 Optical readout system for DNA food pathogens detection with disposable RT-PCR SU-8/glass chip**  
13 :50 Rafal Walczak<sup>1</sup>, Jan Dziuban<sup>1</sup>, Bang Dang Duong<sup>2</sup>, Jesus Ruoano-Lopez<sup>3</sup>  
<sup>1</sup>*Institute of Electron Technology, WARSAW, Poland*  
<sup>2</sup>*Danish Technical University, AARHUS, Denmark*  
<sup>3</sup>*Ikerlan, ARRASATE-MODRAGÓN, Spain*

**7C-4 Plasma Patterning of Fluorescence-based Oxygen Sensors**  
14:10 Volker Nock<sup>1</sup>, Richard Blaikie<sup>1</sup>, Tim David<sup>2</sup>  
<sup>1</sup>*MacDiarmid Institute, CHRISTCHURCH, New Zealand*  
<sup>2</sup>*Centre for Bioengineering, CHRISTCHURCH, New Zealand*

14 :40 End of session



## PL4 - Plenary session IV

Place : Audience

Session Chairs: John Randall and C. Vieu

**PL4-1 Trends in MicroRobotics**

15:00

Bradley Nelson

*ETH Zurich, Switzerland*

**PL4-2 Recent Advances in NEMS**

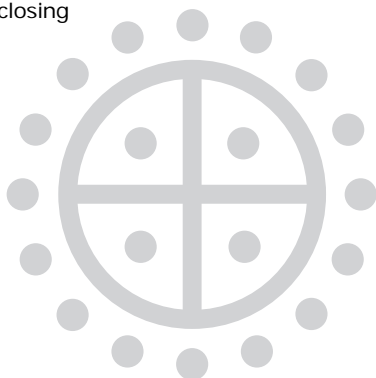
15:45

Michael Roukes

*Caltech / Kavli Nanoscience Institute,  
CALTECH, United States of America*

16:30

Conference closing



### Poster session

<b>P-EIBL</b>	<b>Electron and Ion Beam Lithography</b>
<b>P-ML/MK</b>	<b>Maskless Lithography / Mask Technology</b>
<b>P-BIO</b>	<b>Micro- and Nano- Systems for Biology</b>
<b>P-MST</b>	<b>Microsystems and their Fabrication</b>
<b>P-MDEV</b>	<b>Nanodevices</b>
<b>P-NIL</b>	<b>Nanoimprint Lithography</b>
<b>P-NSC</b>	<b>Nanoscale Engineering and Fabrication</b>
<b>P-PAT</b>	<b>Pattern Transfer</b>
<b>P-PHO</b>	<b>Photon Lithography</b>
<b>P-DIAG</b>	<b>Process Diagnosis and Control</b>
<b>P-RES</b>	<b>Resist and Resist Processing</b>
<b>P-RF</b>	<b>RF-MEMS/NEMS</b>

## Poster session

Monday 24th September

16:00-17:00 Poster Session I

17:00-18:00 Poster Session II



### Electron and Ion Beam Lithography

- P-EIBL-1      **Surface chemistry and bio-functionalization of FIB and EBL defined structures studied by X-ray photo emission and mirror electron microscopy**  
Anders Mikkelsen, Sara Ghatnekar-Nilsson, A. A. Zhakarov, Emelie Hilner, Lars Montelius, Jesper Andersen, *Lund University, LUND, Sweden*
- P-EIBL-2      **Directed electroless deposition of sub 50 nm interconnects on e-beam patterned self-assembled-monolayers**  
Nick Fishelson, Liron Marom, Alexander Tsukernik, Alexandra Inberg, Yosi Shacham-Diamand, *Tel-Aviv University, TEL-AVIV, Israel*
- P-EIBL-3      **Lamellar grating used as the splitter grating in the Soft X-ray laser Mach-Zehnder interferometer**  
Xin Tan, *ANHUI HEFEI, China*
- P-EIBL-4      **Electron beam lithography of HSQ/PMMA bilayer resists for negative tone lift-off process**  
Haifang Yang<sup>1</sup>, Aizi Jin<sup>2</sup>, Qaing Luo<sup>2</sup>, Junjie Li<sup>2</sup>, Changzhi Gu<sup>2</sup>, Zheng Cui<sup>3</sup>, *BEIJING, China,*  
<sup>2</sup>*Institute of Physics, BEIJING, China,*  
<sup>3</sup>*Rutherford Appleton Laboratory, CHILTON, United Kingdom*
- P-EIBL-5      **The Influence of Atomic Hydrogen on Focused Ion Beam induced Tungsten Deposition**  
Andreas Steiger-Thirsfeld, Alois Lugstein, Emmerich Bertagnolli, *Vienna University of Technology, VIENNA, Austria*
- P-EIBL-6      **Patterning of Si substrates for controlled epitaxial Ge/Si(100) island deposition**  
Monica Bollani<sup>1</sup>, Roman Sordan<sup>2</sup>, Giovanni Isella<sup>2</sup>, Davide Colombo<sup>3</sup>, Johann Osmond<sup>2</sup>,

Hans Von Känel<sup>2</sup>,  
<sup>1</sup>*CNISM-CNR, COMO, Italy,*  
<sup>2</sup>*L-NESS Politecnico of Milano, COMO, Italy,*  
<sup>3</sup>*Universita' Milano Bicocca, MILANO, Italy*

- P-EIBL-7     **Microfabricated SERS-Arrays with sharp-edged metallic nanostructures**  
Uwe Huebner<sup>1</sup>, Richard Boucher<sup>1</sup>, Henrik Schneidewind<sup>1</sup>, Dana Cialla<sup>2</sup>, Juergen Popp<sup>1</sup>,  
<sup>1</sup>*Institute of Photonic Technology (IPHT), JENA, Germany,*  
<sup>2</sup>*Institute of Physical Chemistry, JENA, Germany*
- P-EIBL-8     **Periodic Sub-wavelength Electron Beam Lithography Defined Photonic Crystals for Mode Control in Semiconductor Lasers**  
Guy Derose, Lin Zhu, Joyce Poon, Amnon Yariv, Axel Scherer,  
*California Institute of Technology, PASADENA, CALIFORNIA, United States of America*
- P-EIBL-9     **E-beam lithography of catalyst patterns for carbon nanotube growth on insulating substrates**  
Michael Häffner, Monika Fleischer, Dieter Paul Kern,  
*Institute of Applied Physics, TÜBINGEN, Germany*
- P-EIBL-10    **Determination of best focus and optimum dose for variable shaped beam systems by applying the isofocal dose method**  
Katja Keil,  
*Fraunhofer CNT, DRESDEN, Germany*
- P-EIBL-11    **Progress Update Towards Fabricating EUVL Mask Blanks**  
Rajul Randive,  
*Veeco Instruments, ALBANY, United States of America*
- P-EIBL-12    **Hybrid EB-writing technique with 100 kV-SB and 50 kV-VSB writers: use of the former for outlines and the latter for bodies after pattern data splitting**  
Hiroshi Fujita, Mikio Ishikawa, Masashi Sakaki, Naoko Kuwahara, Tadahiko Takikawa, Hisatake Sano, Morihisa Hoga, Naoya Hayashi,  
*Dai Nippon Printing Co., Ltd., KASHIWA-SHI, CHIBA-KEN, Japan*

- P-EIBL-13     **Sub-40nm Ebeam / DUV Hybrid Lithography for Advanced Interconnections**  
 Angélique Rasclé, Thibaut David,  
*CEA-LETI / MINATEC, GRENOBLE, France*
- P-EIBL-14     **New approach of nano-patterning for localized semiconductor nanostructures**  
 Luc Le Gratiet<sup>1</sup>, Noelle Gogneau<sup>1</sup>, Edmond Cambri<sup>1</sup>, Anthony Martinez<sup>1</sup>, Abderrahim Ramdane<sup>1</sup>, Jérôme Martin<sup>2</sup>, Wui Goh<sup>3</sup>, Abdallah Ougazzaden<sup>3</sup>, Isabelle Sagnes<sup>1</sup>,  
<sup>1</sup>*LPN-UPR20 CNRS, MARCOUSSIS, France,*  
<sup>2</sup>*LMOP UMR CNRS 7132, METZ, France,*  
<sup>3</sup>*Georgia Institute of Technology, METZ, France*
- P-EIBL-15     **Ion- and electron-beam induced deposition of Pt, W, and Co: composition and electrical transport properties**  
 Jose Maria De Teresa<sup>1</sup>, Amalio Fernández-Pacheco<sup>2</sup>, Rosa Córdoba<sup>2</sup>, Oscar Montero<sup>2</sup>, Ricardo Ibarra<sup>2</sup>,  
<sup>1</sup>*CSIC, ZARAGOZA, Spain,*  
<sup>2</sup>*University of Zaragoza, ZARAGOZA, Spain*
- P-EIBL-16     **Improvements to the alignment process in a commercial vector scan electron beam lithography tool**  
 Kevin Docherty, Stephen Thoms, Phil Dobson, John Weaver,  
*University of Glasgow, GLASGOW, United Kingdom*
- P-EIBL-17     **Towards 2-10 nm electron-beam lithography: a quantitative approach**  
 Vadim Sidorkin, Arnold Van Run, Anja Van Langen-Suurling, Emile Van der Drift,  
*Delft University of Technology, DELFT, The Netherlands*
- P-EIBL-18     **High resolution electron beam lithography of PMGI using solvent developer**  
 Bo Cui, Shiyong Zhao, Teodor Veres,  
*IMI -- National Research Council, BOUCHERVILLE, QC, Canada*
- P-EIBL-19     **Improved electrical insulation of FIB-patterned nanogap electrodes by Iodine and HF chemical assistance**  
 Gian Carlo Gazzadi, Elena Angeli, Stefano Frabboni, Paolo Facci,  
*CNR - INFM S3, MODENA, Italy*

- P-EIBL-20 **TFT-LCD Panel Tester Using Low Voltage Microcolumns**  
 Ho Seob Kim<sup>1</sup>, D. W. Kim<sup>1</sup>, Y. C. Kim<sup>1</sup>, S. J. Ahn<sup>1</sup>, S. S. Park<sup>2</sup>,  
 K. W. Park<sup>2</sup>, N. W. Hwang<sup>2</sup>, S. W. Jin<sup>2</sup>,  
<sup>1</sup>*Sun Moon University, ASAN CITY, South-Korea*,  
<sup>2</sup>*CEBT Co., ASAN CITY, South-Korea*
- P-EIBL-21 **Improvement of high resolution lithography capabilities by using amorphous carbon hard masks**  
 Sebastien Pauliac-Vaujour, Stefan Landis,  
 Pierre Brianceau, Julien Chiaroni,  
 Olivier Faynot,  
*CEA/LETI - Minatec, GRENOBLE, France*
- P-EIBL-22 **LEEPL: The Potencial to Succeed Optical Lithography beyond 32nm/hp**  
 Takao Utsumi,  
*Nanolith LLC, CHIYODA-KU, TOKYO, Japan*
- P-EIBL-23 **ORCHID Aberration Measurement Tool for Corrected Lens Systems**  
 Hans Koops<sup>1</sup>, Sergey Babin<sup>2</sup>, M. Machin<sup>2</sup>, A. Martynov<sup>2</sup>,  
<sup>1</sup>*HaWilKo PSS, OBER-RAMSTADT, Germany*,  
<sup>2</sup>*aBeamTechnologies, CASTRO VALLEY CA, United States of America*,

### Maskless Lithography / Mask Technology

- P-ML/MK-1 **Control of duty ratio in waveguide gratings using a Near-Field Holographic lithography system with a variable aperture**  
 Jun-Ho Sung,  
*Inha University, INCHON, South-Korea*
- P-ML/MK-2 **Application of TiO<sub>2</sub> film as the capping layer to extend the life time of Mo/Si multi-layer mirror of a extreme ultra violet (EUV) mask**  
 J.Y. Lee<sup>1</sup>, S.M. Heo<sup>1</sup>, J.T. Lim<sup>2</sup>,  
<sup>1</sup>*Samsung Electronics, YONGIN, South-Korea*,  
<sup>2</sup>*Sungkyunkwan University, YONGIN, South-Korea*
- P-ML/MK-3 **Optical proximity correction in SLM-based maskless lithography**  
 Xiaowei Guo<sup>1</sup>, Jinglei Du<sup>2</sup>, Chunlei Du<sup>3</sup>,  
<sup>1</sup>*CHENGDU, China*,  
<sup>2</sup>*Sichuan university, CHENGDU, China*,  
<sup>3</sup>*CAS, CHENGDU, China*

- P-ML/MK-4 **Maskless Interference Lithography Based on SPP and Waveguide Technology**  
Liang Fang<sup>1</sup>, Jinglei Du<sup>1</sup>, Fuhua Gao<sup>1</sup>,  
Xiangang Luo<sup>2</sup>, Chunlei Du<sup>2</sup>,  
Yongkang Guo<sup>1</sup>,  
<sup>1</sup>*Sichuan University, CHENGDU, China,*  
<sup>2</sup>*Institute of Optics and Electronics, CAS, CHENGDU, China*
- P-ML/MK-5 **Inverse problem of ion etching for CHARPAN tool**  
Elmar Platzgummer<sup>1</sup>, Hans Loeschner<sup>2</sup>,  
Stephan Edel-Kapl<sup>1</sup>,  
Alexander Svintsov<sup>3</sup>, Sergey Zaitsev<sup>3</sup>,  
<sup>1</sup>*IMS nanofabrication GmbH, VIENNA, Austria,*  
<sup>2</sup>*IMS Nanofabrication, VIENNA, Austria,*  
<sup>3</sup>*IMT RAS, CHERNOGOLOVKA, MOSC. DISTR., Russia*
- P-ML/MK-6 **Approaches to Nanopatterning Using Heated AFM Cantilever Probes**  
Clifford Henderson<sup>1</sup>, Yueming Hua<sup>1</sup>, William P. King<sup>2</sup>,  
<sup>1</sup>*Georgia Institute of Technology, ATLANTA, United States of America,*  
<sup>2</sup>*University of Illinois, URBANA, IL 61801, United States of America*
- P-ML/MK-7 **3-dimensional Projection Mask-Less Patterning (PMLP) of microlenses and cones: modelling and monitoring of ion multi-beam kinetic sputtering in GaAs**  
Falco Van Delft<sup>1</sup>, Emile Naburgh<sup>1</sup>, Elmar Platzgummer<sup>2</sup>, Hans Loeschner<sup>2</sup>,  
<sup>1</sup>*Philips Research Europe, EINDHOVEN, The Netherlands,*  
<sup>2</sup>*IMS Nanofabrication, VIENNA, Austria*
- P-ML/MK-8 **Secondary Electron Detection for Distributed Axis Electron Beam Systems**  
Sayaka Tanimoto<sup>1</sup>, Daniel Pickard<sup>2</sup>, Chris Kenney<sup>3</sup>, Fabian Pease<sup>3</sup>,  
<sup>1</sup>*Hitachi, Ltd., KOKUBUNJI, Japan,*  
<sup>2</sup>*National University of Singapore, SINGAPORE, Singapore,*  
<sup>3</sup>*Stanford University, STANFORD, United States of America*
- Micro- and Nano- Systems for Biology**
- P-BIO-1 **Piezoresistive sensitivity of MEMS-based liquid dispensing system with built-in force sensors**  
Maryna Lishchynska<sup>1</sup>, Thierry Leichle<sup>2</sup>, Liviu Nicu<sup>2</sup>,

<sup>1</sup>Tyndall National Institute, CORK, Ireland,  
<sup>2</sup>LAAS-CNRS, TOULOUSE, France

- P-BIO-2 **Morphology of Nanoparticle-Derived Nanostructures and Its Effect on Cytotoxicity**  
Fu-Hsiang Ko,  
*National Chiao Tung University, HSINCHU, Taiwan*
- P-BIO-3 **Development of On-chip Metal-semiconductor-metal Photodetectors for the Characterization of On-chip Transesterification Reaction**  
Fu-Hsiang Ko,  
*National Chiao Tung University, HSINCHU, Taiwan*
- P-BIO-4 **Micro and nano structured roughness of PDMS substrates of Super-Hydrophobic Surfaces**  
Barbara Cortese, MM Manca, V I Viola, D S D'amone, G Gigli,  
*University of Lecce, LECCE, Italy*
- P-BIO-5 **A microfluidic cellular 'Iron Maiden'**  
Kris Seunarine,  
*University of Glasgow, GLASGOW, United Kingdom*
- P-BIO-6 **APEX protocol implementation on a Lab-on-a-Chip for SNPs detection**  
Simone Luigi Marasso,  
*Politecnico di Torino, TORINO, Italy*
- P-BIO-7 **Development of a 'microfluidic wheastone bridge' device for electrokinetic investigations using optimized Glass-PDMS-Glass technology**  
Adrien Plecis, Yong Chen,  
*CNRS, MARCOUSSIS, France*
- P-BIO-8 **Measuring more than mass: Effect of elastic properties of adsorbed bilayers on nanomechanical sensors**  
Daniel Ramos, Montserrat Calleja, Johann Mertens, Javier Tamayo,  
*IMM-CNM-CSIC, MADRID, Spain*
- P-BIO-9 **Micro-Contact Printing of oligonucleotides for biochip fabrication: the role of Poly(dimethylsiloxane) contamination**  
Christophe Thibault<sup>1</sup>, Childéric Séverac<sup>1</sup>,  
Véronique Le Berre<sup>2</sup>, Emmanuelle Trévisiol<sup>2</sup>,  
François Jean-Marie<sup>2</sup>, Christophe Vieu<sup>1</sup>,  
<sup>1</sup>LAAS-CNRS, TOULOUSE, France,  
<sup>2</sup>LBB, CNRS-INSA, TOULOUSE, France

- P-BIO-10     **Microfluidic devices for optical determination of ethanol concentration**  
 Yong Chen<sup>1</sup>, L Lei<sup>1</sup>, I.L Mattos<sup>2</sup>,  
<sup>1</sup>*Ecole Normale Supérieure, PARIS, France,*  
<sup>2</sup>*Universidade Federal de Pernambuco, RECIFE, Brazil*
- P-BIO-11     **Polyimide microcantilever surface stress biosensors using low cost, rapidly interchangeable springloaded micro-probe connections**  
 Robert Ibbotson,  
*Rutherford Appleton Laboratory, CHILTON, DIDCOT, United Kingdom*
- P-BIO-13     **Bead-based protein microarrays realized through electrostatic self-assembly of carboxylated beads**  
 Venkataragavalu Sivagnanam, A. Sayah, Martin Gijs,  
*Ecole Polytechnique Fédérale de Lausanne, LAUSANNE, Switzerland*
- P-BIO-14     **Comparison of Several Methods for Chemical Modification and Micropatterning of the SU-8 Photoresist**  
 Gabriela Blagoi, Stephan Keller, Martin Dufva, Anja Boisen, Mogens Havsteen Jakobsen,  
*DTU, LYNGBY, Denmark*
- P-BIO-15     **Genotyping Single Nucleotide Polymorphisms based on Pinched Flow Fractionation Devices**  
 Asger Vig Larsen<sup>1</sup>, Lena Poulsen<sup>1</sup>, Henrik Birgens<sup>2</sup>, Martin Dufva<sup>3</sup>, Anders Kristensen<sup>1</sup>,  
<sup>1</sup>*DTU – Technical University of Denmark, LYNGBY, Denmark,*  
<sup>2</sup>*Department of Haematology, HERLEV, Denmark,*  
<sup>3</sup>*Department of Micro and Nanotechnology, LYNGBY, Denmark*
- P-BIO-16     **Determination of Particle Distributions in Microfluidic Systems under the Influence of Electric Fields**  
 Andreas Heeren, Monika Fleischer, Dieter P. Kern,  
*University of Tuebingen, TUEBINGEN, Germany*
- P-BIO-17     **True Label-Free Detection from a Designed Array of Cantilevers**  
 Sara Ghatnekar-Nilsson<sup>1</sup>, Jeremy Graham<sup>2</sup>, Robert Hull<sup>2</sup>, Lars Montelius<sup>1</sup>,  
<sup>1</sup>*Lund University, LUND, Sweden,*  
<sup>2</sup>*University of Virginia, CHARLOTTESVILLE, VA, United States of America*



- P-BIO-18     **Fabrication of nano-gold island with m-spacing using 2.5 dimensional PDMS stamps**  
Wolfgang Schwinger<sup>1</sup>, Elisabeth Lausecker<sup>1</sup>, Iris Bergmair<sup>1</sup>, Martyna Grydlik<sup>2</sup>, Thomas Fromherz<sup>2</sup>, Christine Hasenfuß<sup>2</sup>, Rainer Schöftner<sup>1</sup>,  
<sup>1</sup>*Profactor GmbH, STEYR-GLEINK, Austria,*  
<sup>2</sup>*Johannes Kepler University, LINZ, Austria*
- P-BIO-19     **Nanostructured substrates for high density protein arrays**  
Celestino Padeste<sup>1</sup>, Frank Zoller<sup>1</sup>, Yasin Ekinici<sup>2</sup>, Harun Solak<sup>1</sup>, Andreas Engel<sup>3</sup>,  
<sup>1</sup>*Paul Scherrer Institut, VILLIGEN, PSI, Switzerland,*  
<sup>2</sup>*ETH, ZÜRICH, Switzerland,*  
<sup>3</sup>*University of Basel, BASEL, Switzerland*
- P-BIO-20     **Nanostructured (bio)-functional polymer brushes by EUV-radiation induced polymer grafting**  
Celestino Padeste, Patrick Farquet, Harun Solak,  
*Paul Scherrer Institut, VILLIGEN, PSI, Switzerland*
- P-BIO-21     **A multiwell micromechanical cantilever array reader for biotechnology**  
Renhua Zhang<sup>1</sup>, Suman Cherian<sup>2</sup>, Robert Cain<sup>3</sup>, S. Lorenzoni<sup>2</sup>,  
Andreas Best<sup>1</sup>, E. Macis<sup>2</sup>, Roberto Raiteri<sup>2</sup>, Ruediger Berger<sup>1</sup>,  
<sup>1</sup>*Max Planck Institute for Polymer Research, MAINZ, Germany,*  
<sup>2</sup>*University of Genova, GENOVA, Italy,*  
<sup>3</sup>*Protiveris Inc, ROCKVILLE, United States of America*
- P-BIO-22     **Integrated-Fiber-Probe for Optical 3D Trapping and Manipulation**  
Carlo Liberale,  
*, CATANZARO, Italy*
- P-BIO-23     **Development of atto-vial based antibody arrays**  
Sara Ghatnekar-Nilsson, Peter Ellmark, Christer Wingren, Linda Dexlin, Lars Montelius, Carl Borrebaeck,  
*Lund University, LUND, Sweden*
- P-BIO-24     **Integration of sub-5 nm nanopores for electrical biological macromolecule translocation detection : A New Way**  
Jacques Gierak<sup>1</sup>, Ali Madouri<sup>1</sup>, Anne Laure Biance<sup>2</sup>, Loic Auvray<sup>3</sup>,  
<sup>1</sup>*LPN-CNRS, MARCOUSSIS, France,*

<sup>2</sup>*Université Marne la Vallée, MARNE LA VALLEE, France,*

<sup>3</sup>*Université d'Evry, EVRY, France*

- P-BIO-25 **Manipulation of amyloid peptide nanowires using dielectrophoresis and microfluidics**  
Castillo Jaime<sup>1</sup>, Giorgio Proserpi<sup>2</sup>, Maria Dimaki<sup>1</sup>, Manolis Kasotakis<sup>3</sup>, Lihi Adler-Abramovich<sup>4</sup>, Anna Mitraki<sup>3</sup>, Ehud Gazit<sup>4</sup>, Winnie Svendsen<sup>1</sup>,  
<sup>1</sup>*Technical University of Denmark, LYNGBY, Denmark,*  
<sup>2</sup>*Politecnico University of Turin, TURIN, Italy,*  
<sup>3</sup>*University of Crete, HERAKLION, Greece,*  
<sup>4</sup>*University of Tel-Aviv, TEL-AVIV, Israel*
- P-BIO-26 **Modelling and Optical Measurement Verification of Novel Simplified Microreactors for Dilution Gradient Generation**  
Abdulla Yusuf Hayat<sup>1</sup>, R.W. Barber<sup>2</sup>, P.R Fielden<sup>1</sup>, N.J. Goddard<sup>1</sup>, B.J. Treves Brown<sup>1</sup>,  
<sup>1</sup>*University of Manchester, MANCHESTER, United Kingdom,*  
<sup>2</sup>*STFC Daresbury Laboratory, WARRINGTON, United Kingdom*
- P-BIO-27 **BIOXTAS – an automated microfluidic chip for studies of biological macromolecules**  
Detlef Snakenborg<sup>1</sup>, Katrine N. Toft<sup>2</sup>, Søren S. Nielsen<sup>1</sup>, Mads G. Jeppesen<sup>2</sup>, Lise Arleth<sup>2</sup>, Jes K. Jacobsen<sup>3</sup>, Bente Vestergaard<sup>2</sup>, Jörg P. Kutter<sup>1</sup>,  
<sup>1</sup>*Technical University of Denmark, KGS. LYNGBY, Denmark,*  
<sup>2</sup>*University of Copenhagen, COPENHAGEN, Denmark,*  
<sup>3</sup>*Novo Nordisk, MÅLØV, Denmark*
- P-BIO-28 **Fabrication of hybrid 3D stamp for producing polymer biochips by nanoimprint lithography**  
Lasse Højlund Thamdrup<sup>1</sup>, Fredrik Persson<sup>1</sup>, Anna Klukowska<sup>2</sup>, Anders Kristensen<sup>1</sup>,  
<sup>1</sup>*Technical University of Denmark (DTU), KONGENS LYNGBY, Denmark,*  
<sup>2</sup>*Micro resist technology GmbH, BERLIN, Germany*
- P-BIO-29 **A Microfluidic Chip for Sorting of Chromosomes**  
Casper Hyttel Clausen,  
*, KGS. LYNGBY, Denmark*

- P-BIO-30 **Femto mole (fmol) myoglobin Raman detection from plasmonic nanostructures**  
 Gobind DAS<sup>1</sup>, G. DAS<sup>1</sup>, F. Mecarini<sup>1</sup>, M. Prascuiolu<sup>2</sup>, F. De Angelis<sup>1</sup>, C. Liberale<sup>1</sup>, E. Di Fabrizio<sup>1</sup>,  
*, CATANZARO, Italy,*  
<sup>2</sup>*INFN-TASC-S.S. 14 km 163,5 in SciencePark, TRIESTE, Italy*
- P-BIO-31 **Manufacturing substrate nano-grooves for studying cell alignment and adhesion**  
 Falco Van Delft<sup>1</sup>, Eric van den Heuvel<sup>1</sup>, Walter Loesberg<sup>2</sup>, J. te Riet<sup>2</sup>, P. Schon<sup>2</sup>, C.G. Figdor<sup>2</sup>, S. Speller<sup>2</sup>, J.J.W.A. van Loon<sup>3</sup>, Frank Walboomers<sup>2</sup>, John Jansen<sup>2</sup>,  
<sup>1</sup>*Philips Research Europe, EINDHOVEN, The Netherlands,*  
<sup>2</sup>*Radboud University, NIJMEGEN, The Netherlands,*  
<sup>3</sup>*DESC OCB-ACTA – UvA and VU, AMSTERDAM, The Netherlands*
- P-BIO-32 **Thermo-resistance based micro-calorimeter for continuous chemical enthalpy measurements**  
 Guilhem Velve Casquillas<sup>1</sup>, M Le berre<sup>2</sup>, F Bertholle<sup>1</sup>, S Meance<sup>1</sup>, L Malaquin<sup>1</sup>, Y Chen<sup>1</sup>,  
<sup>1</sup>*CNRS LPN, MARCOUSSIS, France,*  
<sup>2</sup>*ENS, PARIS, France*
- P-BIO-33 **Multireflection based on chip label free molecules detection**  
 Laurent Billot,  
*LPN, MARCOUSSIS, France*
- P-BIO-34 **Cell Proliferation Assay on Plasma Activated SU-8**  
 Marc Hennemeyer<sup>1</sup>, Sandra Kerstan<sup>2</sup>, Katrin Schürzinger<sup>2</sup>, Ferdinand Walther<sup>1</sup>, Alexander M. Gigler<sup>1</sup>, Robert W. Stark<sup>1</sup>,  
<sup>1</sup>*University of Munich – L M U, MUNICH, Germany,*  
<sup>2</sup>*German Heart Centre, TU Munich, MUNICH, Germany*
- P-BIO-35 **Integration of microfluidics on Surface Acoustic Wave biosensors for multi-sensing purposes**  
 Konstantinos Mitsakakis<sup>1</sup>, Angeliki Tserepi<sup>2</sup>, Marilena Vlahopoulou<sup>2</sup>, Electra Gizeli<sup>1</sup>,  
<sup>1</sup>*University of Crete, HERAKLION, CRETE, Greece,*  
<sup>2</sup>*I.M.E.L., N.C.S.R. - 'Demokritos', AG. PARASKEVI, ATHENS, Greece*

- P-BIO-36 **Separation of white blood cells from a whole blood sample using pinched flow**  
 Maria Dimaki, Fridolin Okkels, Nikolaj O. Christiansen, Martin G. Hansen, Simon Levinsen, Karsten B. Andersen, Pranjul Shah, Jaime Castillo, Casper H. Clausen, Jacob M. Lange, Linda B. Jensen, Winnie Svendsen,  
*Technical University of Denmark, KGS. LYNGBY, Denmark*
- P-BIO-37 **The Physics of DNA in Nanochannels**  
 Walter Reisner<sup>1</sup>, Niels Larsen<sup>2</sup>, Henrik Flyvbjerg<sup>2</sup>, Jonas O. Tegenfeldt<sup>3</sup>, Anders Kristensen<sup>1</sup>,  
<sup>1</sup>*Danish Technical University, LYNGBY, Denmark,*  
<sup>2</sup>*RISØ National Laboratory, ROSKILDE, Denmark,*  
<sup>3</sup>*Dept. of Physics, Lund University, LUND, Sweden*
- P-BIO-38 **Fabrication of Silicon dioxide nanochannel arrays without nanolithography for single DNA detection**  
 Beomjoon Kim,  
*The University of Tokyo/IIS, TOKYO, Japan*
- P-BIO-39 **Nano-interdigitated electrodes for detection of dopamine**  
 Lars Henrik Dæhli Skjolding<sup>1</sup>, Christer Spegel<sup>1</sup>, Jenny Emneus<sup>2</sup>, Lars Montelius<sup>1</sup>,  
<sup>1</sup>*Lund University, LUND, Sweden,*  
<sup>2</sup>*MIC-DTU, LYNGBY, Denmark*
- P-BIO-40 **Measurement of a gauge factor of a carbon fiber and its application to sensors**  
 Jikwan Kim,  
*Chonnam national university, GWANGJU, South-Korea*
- P-BIO-41 **Optimization of PDMS substrates for studying cellular adhesion and motility**  
 David Fuard<sup>1</sup>, Tzvetelina Tzvetkova-Chevolleau<sup>2</sup>, Patrick Schiavone<sup>1</sup>,  
<sup>1</sup>*CNRS – LTM [UMR 5129], c/o CEA-Grenoble, GRENOBLE CEDEX 9, France,*  
<sup>2</sup>*TIMC-IMAG (UMR 5525), DynaCell group, FACULTÉ DE MÉDECINE – 38700 LA TRONCHE, France*
- P-BIO-42 **Step-and-Repeat Maskless Lithography for Ultra Large Scale DNA chips (ULS-**

**DNA chips) for High Throughput Genomics**

Omar Negrete,  
*CNTech, MADISON, United States of America*

- P-BIO-43 **Surface Chemistry in Micro and Nanotechnology**  
Mogens Havsteen Jakobsen<sup>1</sup>, Gabriela Blagoi<sup>2</sup>, Haukur Gudnason<sup>2</sup>, Stephan Keller<sup>2</sup>, Jacob Moresco Lange<sup>2</sup>,  
<sup>1</sup>*DTU – Technical University of Denmark, LYNGBY, Denmark,*  
<sup>2</sup>*MIC-Department of Micro and Nanotechnology, LYNGBY, Denmark*
- P-BIO-44 **Standard bio-opto-fluidic chip technology using channel only process**  
Franck Chollet, Lai-Fun Ho,  
*Nanyang Technological University, SINGAPORE, Singapore*
- P-BIO-45 **Electrical Characterization of Cell Behaviour on Microelectrode**  
Sungbo Cho,  
*Fraunhofer IBMT, ST. INGBERT, Germany*

**Microsystems and their Fabrication**

- P-MST-1 **Miniaturized PMMA ball-valve micropump with cylindrical electromagnetic actuator**  
Meng Shen<sup>1</sup>, Christophe Yamahata<sup>2</sup>, Martinus Gijs<sup>1</sup>,  
<sup>1</sup>*EPFL, LAUSANNE, Switzerland,*  
<sup>2</sup>*University of Tokyo, TOKYO, Japan*
- P-MST-2 **A simple and efficient method for reducing surface roughness of polymer microstructures**  
Monica Brivio<sup>1</sup>, Gerardo Perozziello<sup>1</sup>, Giuseppina Simone<sup>2</sup>, Anders Wolff<sup>1</sup>,  
<sup>1</sup>*Technical University of Denmark (DTU), LYNGBY, Denmark,*  
<sup>2</sup>*University of Rome, „Tor Vergata“, ROME, Italy*
- P-MST-3 **Performance prediction of polysilicon electrothermal microactuators using geometrical variation analysis**  
Mahnaz Shamshirsaz<sup>1</sup>, Mohsen Gheisarieha<sup>2</sup>, Mohammad Maroufi<sup>1</sup>,  
<sup>1</sup>*Amirkabir University of Technology, TEHRAN, Iran,*  
<sup>2</sup>*Sharif university of Technology, TEHRAN, Iran*

- P-MST-4      **Optical lithography onto inside surfaces of small-diameter pipes**  
Toshiyuki Horiuchi, Masahiro Katayama, Yuusuke Watanabe, Katsuyuki Fujita, Takashi Yasuda,  
*Tokyo Denki University, TOKYO, Japan*
- P-MST-5      **Theoretical and Experimental Investigation on the Capturing Behaviour of a Novel Microfluidic Magnetic Bead Separator for High-Throughput Applications**  
Minqiang Bu,  
*Technical University of Denmark, KGS. LYNGBY, Denmark*
- P-MST-6      **Direct Al-Al contact using low temperature wafer bonding for integrating MEMS and CMOS devices**  
Huamao Lin,  
*The University of Edinburgh, EDINBURGH, United Kingdom*
- P-MST-7      **Influence of Manufacturing Irregularities on a 3-D MEMS Gyroscope**  
Stefan Blunier, Jürg Dual,  
*ETH Zurich, ZURICH, Switzerland*
- P-MST-8      **Patterned thin metal films on a Si photonic crystal for efficient IR emission**  
Nikos Papanikolaou, Ioannis Raptis,  
*Institute of Microelectronics, ATHENS, Greece*
- P-MST-9      **Fabrication of Optical Grayscale Masks for Tapered Microfluidic Devices**  
Volker Nock<sup>1</sup>, Richard Blaikie<sup>1</sup>, Tim David<sup>2</sup>,  
*<sup>1</sup>MacDiarmid Institute, CHRISTCHURCH, New Zealand,*  
*<sup>2</sup>Centre for Bioengineering, CHRISTCHURCH, New Zealand*
- P-MST-10     **Design, Fabrication, and Analysis of Microporous Wicking Structure**  
Lawrence Melvin<sup>1</sup>, Mark Weislogel<sup>2</sup>, Yongkang Chen<sup>2</sup>, Ryan Jenson<sup>2</sup>,  
Scott Dhuey<sup>3</sup>, Paul Nealey<sup>3</sup>,  
*<sup>1</sup>Synopsys, HILLSBORO, United States of America,*  
*<sup>2</sup>Portland State University, PORTLAND, United States of America,*  
*<sup>3</sup>University of Wisconsin, MADISON, United States of America*
- P-MST-11     **Fabrication of HF Bulk Acoustic Silicon Disk Resonator for Liquid Operation**  
Jan Hales, Zachary Davis, Meng Tang, Anja Boisen,

*DTU - Technical University of Denmark, KGS.  
LYNGBY, Denmark*

- P-MST-12 **Investigation of Electroosmotic Flow of Polymer Microfluidic Devices**  
Ingrid Hoek<sup>1</sup>, Febly Tho<sup>1</sup>, W. Mike Arnold<sup>2</sup>,  
<sup>1</sup>*Industrial Research Limited, LOWER HUTT, New Zealand,*  
<sup>2</sup>*MacDiarmid Institute Victoria University, WELLINGTON, New Zealand*
- P-MST-13 **Development of Rapid Mask Fabrication Technology for Micro-abrasive Jet Machining**  
Seungpyo Lee<sup>1</sup>, In Hwan Lee<sup>1</sup>, Tae Jo Ko<sup>2</sup>,  
Hyun-Wook Kang<sup>3</sup>, Dong-Woo Cho<sup>3</sup>,  
<sup>1</sup>*Chungbuk National Univ., CHEONGJU, South-Korea,*  
<sup>2</sup>*Yeungnam Univ., KYUNGSAN, South-Korea,*  
<sup>3</sup>*POSTECH, POHANG, South-Korea*
- P-MST-14 **MEMS Mirrors for the use in Resonant Cavity Enhanced Detectors**  
Niels Quack, Stefan Blunier, Jurg Dual, Martin Arnold, Ferdinand Felder,  
Christian Ebnetter, Mohamed Rahim, Hans Zogg,  
*ETH Zurich, ZURICH, Switzerland*
- P-MST-15 **Reactive Ion Etching of Low-Loss Channel Waveguides in Al<sub>2</sub>O<sub>3</sub> and Y<sub>2</sub>O<sub>3</sub> Layers**  
Feridun Ay, Jonathan Bradley, Kerstin Wörhoff, Markus Pollnau,  
*University of Twente, ENSCHEDE, The Netherlands*
- P-MST-16 **A new type of a MEMS pressure sensor with mechanical micro-switch array**  
Changsin Park, youngsu Choi, Dongweon Lee,  
*Chonnam National University, GWANG-JU, South-Korea*
- P-MST-17 **Mechanical Properties of thin Si-based membrane windows deteriorated by electron beam penetration**  
Masanori Yamaguchi<sup>1</sup>, Yohei Yamada<sup>2</sup>, Yoshiki Goto<sup>2</sup>, Mitsuhiro Shikida<sup>3</sup>, Kazuo Sato<sup>1</sup>, Jun Murase<sup>2</sup>,  
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<sup>2</sup>*Ushio Inc., HIMEJI, Japan,*  
<sup>3</sup>*Eco-Topia Science Institute, NAGOYA, Japan*
- P-MST-18 **Opto-thermal actuation in microcantilevers made of double polymer layer**

Cristina Martin<sup>1</sup>, Andreu Llobera<sup>1</sup>, Anja Voigt<sup>2</sup>,  
Gabi Gruetzner<sup>2</sup>,  
Gabriel Abadal<sup>3</sup>, Francesc Perez-Murano<sup>1</sup>,  
<sup>1</sup>*CNM-IMB-CSIC, BARCELONA, Spain,*  
<sup>2</sup>*Microresist technology GmbH, BERLIN,*  
*Germany,*  
<sup>3</sup>*UAB, BARCELONA, Spain*

- P-MST-19 **Fabrication of miniaturized Schottky emitter by wire electrical discharge method (WEDM)**  
Anand Kumar Dokania, Marco Pelle, Pieter Kruit,  
*Delft University of Technology, DELFT, The Netherlands*
- P-MST-20 **A Novel Pressure Sensor with a PDMS Diaphragm**  
Young Soo Choi,  
*Chonnam National University, GWANG JU, South-Korea*
- P-MST-21 **In-situ fabrication of a poly-acrylamide membrane in a microfluidic channel**  
Jean-Baptiste Orhan, Ruben Knaack, Virendra Kumar Parashar,  
Martinus Gijs,  
*EPFL, LAUSANNE, Switzerland*
- P-MST-22 **Gas Chromatographic micro-column using polydimethylsiloxane as structural and functional material**  
Antonia Malaenou, Maria-Elena Vlachopoulou, Roubini Triantafyllopoulou, Aggeliki Tserepi, Christos Tsamis, Stavros Chatzandroulis,  
*„NCSR, DEMOKRITOS, ATHENS, Greece*
- P-MST-23 **Tailored fabrication of optical interconnection micro-lenses using micro ink-jetting technique**  
Hyun-Shik Lee<sup>1</sup>, Shinmo An<sup>1</sup>, Keum Soo Jeon<sup>2</sup>, Insu Park<sup>2</sup>, Seoung Gol Lee<sup>1</sup>, Beom Hoan O<sup>1</sup>, Se Geon Park<sup>1</sup>, El Hang Lee<sup>1</sup>,  
<sup>1</sup>*Inha University, INCHEON, South-Korea,*  
<sup>2</sup>*Doosan Corporation Electro-Materials BG, KYOUNGKI-DO, South-Korea*
- P-MST-24 **Fabrication of mems bridge for explosive detection**  
Anders Greve<sup>1</sup>, J. H. Hales<sup>1</sup>, D. Yi<sup>2</sup>, L. Senesac<sup>2</sup>, T. Thundat<sup>2</sup>, Anja Boisen<sup>1</sup>,  
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<sup>2</sup>*Oak Ridge National Laboratory, OAK RIDGE, United States of America*



- P-MST-25 **Field-effect transistors with thin ZnO as active layer for gas sensor applications**  
 Filippos Farmakis<sup>1</sup>, T Speliotis<sup>1</sup>, K.P. Alexandrou<sup>1</sup>, C. Tsamis<sup>1</sup>, M. Kompitsas<sup>2</sup>, I. Fasaki<sup>2</sup>, P. Jedrasic<sup>3</sup>, G. Petersson<sup>3</sup>, B. Nilsson<sup>3</sup>,  
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<sup>2</sup>*National Hellenic Research Foundation, ATHENS, Greece,*  
<sup>3</sup>*MC2, Chalmers University of Technology, GÖTEBORG, Sweden*
- P-MST-26 **Stencil Lithography on Flexible Polymer Substrates**  
 Katrin Sidler,  
*EPFL, LAUSANNE, Switzerland*
- P-MST-27 **Monolithic Silicon Optocoupler Engineering for Advanced Sensing Applications**  
 Konstantinos Misiakos, Ioannis Raptis, Eleni Makarona, Maria Kitsara,  
*NCSR 'Demokritos', AG. PARASKEVI, ATTIKIS, Greece*
- P-MST-28 **Patterning on Non-planar Substrates by Combining Thermoforming and Nanoimprint Technologies**  
 Jer-Haur Chang, Yuet-Ping Lee, Yung-Pin Chen, Lon Alex Wang,  
*National Taiwan University, TAIPEI, Taiwan*
- P-MST-29 **Diffraction supported creation of artificial ultra-hydrophobic micro and nano structures**  
 Olaf Mertsch, Arne Schleunitz, Antje Walter, Ivo Rudolph, Daniel Schondelmaier, Bernd Loechel,  
*BESSY GmbH, BERLIN, Germany*
- P-MST-30 **Deep plasma etching as a mass production method for polymeric microfluidics fabrication**  
 Nikolaos Vourdas, K. Kontakis, A. Tserepi, E. Gogolides,  
*Institute of Microelectronic, ATHENS, Greece*
- P-MST-31 **Real-time gripping detection for a mechanically actuated microgripper**  
 Marius Blideran<sup>1</sup>, Monika Fleischer<sup>1</sup>, Francois Grauvogel<sup>2</sup>, Karsten Löffler<sup>2</sup>, Matthias Langer<sup>2</sup>, Dieter Kern<sup>1</sup>,  
<sup>1</sup>*University of Tübingen, TÜBINGEN, Germany,*  
<sup>2</sup>*University of Ulm, ULM, Germany*
- P-MST-32 **Static contact micro four-point probes with <11 nm positioning repeatability**

Dirch Petersen<sup>1</sup>, Ole Hansen<sup>1</sup>, Torben Hansen<sup>1</sup>, Peter Petersen<sup>2</sup>, Peter Bøggild<sup>1</sup>,  
<sup>1</sup>*Technical University of Denmark, KGS. LYNGBY, Denmark,*  
<sup>2</sup>*Capres A/S, KGS. LYNGBY, Denmark*

- P-MST-33 **Fabrication of SU 8 3000 microfluidic dielectrophoretic pump by low temperature adhesive bonding**  
Roman Holly, Miroslav Mikolasek, Wolfgang Hilber, Kurt Hingerl,  
*Johannes Kepler University, LINZ, Austria*
- P-MST-34 **Crystalline silicon cantilevers for piezoresistive detection of biomolecular forces**  
Guillermo Villanueva<sup>1</sup>, J.A. Plaza<sup>2</sup>, J. Montserrat<sup>2</sup>, F. Perez-Murano<sup>2</sup>, J. Bausells<sup>2</sup>,  
<sup>1</sup>*Ecole Polytechnique Fédérale de Lausanne, LAUSANNE, Switzerland,*  
<sup>2</sup>*CNM-IMB (CSIC), BELLATERRA, Spain*
- P-MST-35 **Tactile Pressure Sensors using Strained Carbon Nanotube Networks Formed on Pre-stretched Elastomer Substrates**  
Seung-Beck Lee,  
*Hanyang University, SEOUL, South-Korea*
- P-MST-36 **A micromagnetoflowcell for microfluidic measurements**  
Philip Prewett,  
*University of Birmingham, BIRMINGHAM, United Kingdom*
- P-MST-37 **Micromechanical Hz to MHz frequency up-converter integrated in a standard CMOS-0.35um technology for energy scavenging applications**  
Gabriel Abadal<sup>1</sup>, Gabriel Abadal<sup>1</sup>, Gonzalo Murillo<sup>1</sup>, Jordi Teva<sup>1</sup>, Francesc Torres<sup>1</sup>, Joan Lluís López<sup>1</sup>, Arantxa Uranga<sup>1</sup>, Jaume Esteve<sup>2</sup>, Francesc Pérez-Murano<sup>2</sup>, Núria Barniol<sup>1</sup>,  
<sup>1</sup>*Universitat Autònoma de Barcelona, BARCELONA, Spain,*  
<sup>2</sup>*Inst. de Microelectrònica de Barcelona, BARCELONA, Spain*
- P-MST-38 **A novel design of a comb-drive actuator with large displacements**  
Dong-Weon Lee<sup>1</sup>, Xing Chen<sup>2</sup>, Jun Ding<sup>2</sup>,  
*GWANGJU, South-Korea,*  
<sup>2</sup>*Chonnam National University, GWANGJU, South-Korea*

- P-MST-39     **Optimization of a Novel Micro-Opto-X ray Imaging Lens**  
Philip Prewett,  
*University of Birmingham, BIRMINGHAM, United Kingdom*
- P-MST-40     **Revised Fabrication Process for Micro-Fluxgate-Magnetometers: Usage of Electrodepositable Photoresist**  
Maren Ramona Kirchhoff, Jens Güttler, Andreas Waldschik, Marco Feldmann, Stephanus Büttgenbach,  
*TU Braunschweig, BRAUNSCHWEIG, Germany*
- P-MST-41     **Silicon nitride micro/nano mechanical devices with integrated strain gauge readout**  
Zachary Davis,  
*Technical University of Denmark, LYNGBY, Denmark*
- P-MST-42     **Cantilever Pre-deflection Control of Massively Parallel Arrays**  
Yanko Sarov,  
*Univ. of Kassel, KASSEL, Germany*
- P-MST-43     **SPICE simulations of self-actuated piezoresistive cantilever arrays**  
Andreas Frank<sup>1</sup>, Teodor Gotszalk<sup>2</sup>, Tzvetan Ivanov<sup>1</sup>, Jens Zöllner<sup>1</sup>, Ivo W. Rangelow<sup>1</sup>, Michal Swiatkowski<sup>2</sup>, Nikolay Nikolov<sup>3</sup>, Michael Zier<sup>4</sup>, Bernd Schmidt<sup>4</sup>,  
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<sup>2</sup>*TU-Wroclaw, WROCLAW, Poland,*  
<sup>3</sup>*Microsystems, VARNA, Bulgaria,*  
<sup>4</sup>*FZR, DRESDEN, Germany*
- P-MST-44     **Fabrication of Magnetic Cantilevers using a Polymer Composite**  
Stijn Van Pelt<sup>1</sup>, Stephan Keller<sup>2</sup>, Gabriela Blagoi<sup>2</sup>, Anja Boisen<sup>2</sup>, Mikkel Fougt Hansen<sup>2</sup>,  
<sup>1</sup>*Technical University of Eindhoven (TU/e), EINDHOVEN, The Netherlands,*  
<sup>2</sup>*Technical University of Denmark, LYNGBY, Denmark*
- P-MST-46     **Nanostructured Oxides on Porous Silicon Microhotplates for NH<sub>3</sub> Sensing**  
Roubini Triantafyllopoulou<sup>1</sup>, Xavi Illa<sup>2</sup>, Olga Casals<sup>2</sup>, Christos Tsamis<sup>1</sup>, Albert Romano-Rodriguez<sup>2</sup>, J.R. Morante<sup>2</sup>,  
<sup>1</sup>*NCSR „Demokritos,, ATHENS, Greece,*  
<sup>2</sup>*EME / CeRMAE, Electronics Department, BARCELONA, Spain*
- P-MST-47     **Fabrication and Characterization of Fully Polymeric Pressure Sensors Made from**

**the Intrinsically Conductive Polymer  
PEDOT/PSS on Polyimide Membranes:  
Preliminary Results**

Udo Lang, Philipp Rüst, Jurg Dual, Stefan  
Blunier,

*ETH Zurich, ZÜRICH, Switzerland*

P-MST-48

**Poly 3,4-Ethylenedioxythiophene (PEDT)  
Strain Gauge**

Ramona Mateiu<sup>1</sup>, Michael Lillemose<sup>2</sup>, Thomas  
Hansen<sup>3</sup>, Oliver Gescke<sup>2</sup>, Anja Boisen<sup>2</sup>,

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Denmark*

P-MST-49

**Electroosmotic characteristics of  
polystyrene microchips - experiments  
and modeling**

Michal Pribyl, Walter Schrott, Jakub

Stepanek, Dalimil Snita,

*Institute of Chemical Technology, Prague,  
PRAHA, Czech Republic*

**Nanodevices**

P-NDEV-1

**Thermal conductivity measurements of  
Low-k materials using thermoreflectance  
phenomenon**

Masashi Kuwahara<sup>1</sup>, Osamu Suzuki<sup>2</sup>, Syozo  
Takada<sup>3</sup>, Nobuhiro Hata<sup>3</sup>, Paul Fons<sup>2</sup>, Junji  
Tominaga<sup>2</sup>,

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<sup>2</sup>*CAN-FOR, AIST, TSUKUBA, Japan,*

<sup>3</sup>*ASRC, AIST, TSUKUBA, Japan*

P-NDEV-2

**Nanocrystal Non-Volatile Memories:  
Simulation, Fabrication and  
Characteristics**

Weihua Guan<sup>1</sup>, Ming Liu<sup>2</sup>, Zhigang Li<sup>2</sup>, Yuan  
Hu<sup>2</sup>, Shibing Long<sup>2</sup>, Rui Jia<sup>2</sup>,

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China,*

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P-NDEV-3

**FABRICATION OF TERAHERTZ  
METAMATERIALS BY LIFT-OFF OF  
S1813/LOR STACK**

Haifang Yang<sup>1</sup>, Xiaoxiang Xia<sup>2</sup>, Yiming Sun<sup>2</sup>,  
Li Wang<sup>2</sup>, Changzhi Gu<sup>2</sup>,

Zheng Cui<sup>3</sup>,

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<sup>2</sup>*Institute of Physics, BEIJING, China,*

<sup>3</sup>*Rutherford Appleton Laboratory, CHILTON,  
United Kingdom*

- P-NDEV-4 **Rectifying behavior of an individual Tin oxide nanowire**  
Changzhi Gu<sup>1</sup>, Xiaoxiang Xia<sup>2</sup>, Zongli Wang<sup>2</sup>, Junjie Li<sup>2</sup>, Meimei Chen<sup>2</sup>,  
*BEIJING, China,*  
<sup>2</sup>*Institute of Physics, BEIJING, China*
- P-NDEV-5 **Large asymmetries of magnetoresistance loops in Co-line structures**  
C Christides<sup>1</sup>, I Raptis<sup>2</sup>,  
*PATRAS, Greece,*  
<sup>2</sup>*Institute of Microelectronics, ATHENS, Greece*
- P-NDEV-6 **Development of a SPM compatible ion emitter capable of atomic imaging resolution**  
Jacques Gierak<sup>1</sup>, David Martrou<sup>2</sup>,  
<sup>1</sup>*LPN-CNRS, MARCOUSSIS, France,*  
<sup>2</sup>*CEMES-CNRS, TOULOUSE, France*
- P-NDEV-7 **Analysis of transient adsorption processes using micro/nanocantilever oscillators**  
Zoran Djuric, Ivana Jokic, Milos Frantlovic,  
*IHTM, BELGRADE, Serbia and Montenegro*
- P-NDEV-8 **Fabrication of Superprism using Nanoimprinted 2-D Polymer Photonic Crystals**  
Choon-Gi Choi, Young-Tak Han, Sang Soon Oh,  
*ETRI, DAEJEON, South-Korea*
- P-NDEV-9 **Evaluation of Electronic Charged States of Individual Si Quantum Dot with and without Ge Core**  
Yudi Darma<sup>1</sup>, Seiichi Miyazaki<sup>2</sup>,  
<sup>1</sup>*Institut Teknologi Bandung, BANDUNG, Indonesia,*  
<sup>2</sup>*Hiroshima Univ., HIGASHI HIROSHIMA, Japan*
- P-NDEV-10 **Measurement of the resonant frequency of nano-scale cantilevers by hard contact readout**  
Søren Dohn, Ole Hansen, Anja Boisen,  
*Technical University of Denmark, KGS. LYNGBY, Denmark*
- P-NDEV-11 **Device Optimization: Asymmetric Poly-silicon and TiN Gate FinFETs**  
Hangeon Kim,  
*Inha Univ., INCHEON, South-Korea*

- P-NDEV-12 **Nanoelectromechanical Device of Laterally Deflectable Cantilever Arrays**  
 Sara Ghatnekar-Nilsson<sup>1</sup>, Gang Luo<sup>1</sup>, Dan Hessman<sup>1</sup>, Ivan Maximov<sup>1</sup>, Adrian Kewell<sup>2</sup>, Jan Krüger<sup>2</sup>, Mariusz Graczyk<sup>1</sup>, Hongqi Xu<sup>1</sup>, Lars Montelius<sup>1</sup>,  
<sup>1</sup>Lund University, LUND, Sweden,  
<sup>2</sup>BioSensia Ltd, CORK, Ireland
- P-NDEV-13 **A Method for Increasing Surface Area between Titania and Various Polymers in Hybrid Photovoltaic Cell**  
 Hyun-Jung Her, Woon-Hyuk Baek, C. J. Kang, Yong-Sang Kim,  
 Myongji University, YONGIN, South-Korea
- P-NDEV-14 **Pressure sensitive MOEMS based on photonic crystal membranes**  
 Vito Errico<sup>1</sup>, Andrea Locatelli<sup>2</sup>, Daniele Modotto<sup>2</sup>, Costantino De Angelis<sup>2</sup>, Massimo De Vittorio<sup>1</sup>,  
<sup>1</sup>CNR/INFM-ISUFI-Università del salento, LECCE, Italy,  
<sup>2</sup>Università degli studi di Brescia, BRESCIA, Italy
- P-NDEV-15 **Focused ion beam fabrication and functionalization of CMOS integrated silicon nanocantilevers**  
 Xavier Borrise<sup>1</sup>, Gemma Rius<sup>2</sup>, Julien Arcamone<sup>2</sup>, Jordi Llobet<sup>2</sup>, Francesc Perez-Murano<sup>2</sup>,  
<sup>1</sup>Institut de Microelectronica de Barcelon, BELLATERRA, BARCELONA, Spain,  
<sup>2</sup>CNM-IMB, BELLATERRA, Spain
- P-NDEV-16 **Modeling and fabrication of photonic crystal lenses designed with genetic algorithms**  
 J. Marques-Hueso, L. Sanchis, J. Martinez Pastor,  
 University of Valencia, VALENCIA, Spain
- P-NDEV-17 **Electron beam size determination based on an intelligent substrate**  
 Helmut Weigand<sup>1</sup>, M. Fleischer<sup>2</sup>, D.P. Kern<sup>2</sup>,  
<sup>1</sup>University of Tuebingen, TUEBINGEN, Germany,  
<sup>2</sup>University of Tuebingen / IAP, TUEBINGEN, Germany
- P-NDEV-18 **Characterization at the nanometer scale of local electron beam irradiation of CNT based devices**  
 Gemma Rius,  
 IMB-CNM, BELLATERRA, Spain

- P-NDEV-19 **Nanoscale Floating-Gate Memory using Self-Assembled NiSi<sub>2</sub> Nanocrystals**  
Seung-Beck Lee, Chang-Seung Woo,  
*Hanyang University, SEOUL, South-Korea*
- P-NDEV-20 **Schottky barrier heights of ErSi<sub>1.7</sub> Schottky diodes**  
M. Jun<sup>1</sup>, Y. Kim<sup>2</sup>, C. Choi<sup>2</sup>, T. Kim<sup>2</sup>, S. Oh<sup>2</sup>, M. Jang<sup>2</sup>,  
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*<sup>2</sup>ETRI, DAEJEON, South-Korea*
- P-NDEV-21 **Label-Free On-Chip Electronic Detection of DNA-Hybridization on Nanoparticle Array**  
Hiroshi Shiigi<sup>1</sup>, Shiho Tokonami<sup>2</sup>, Tsutomu Nagaoka<sup>1</sup>, Masashi Iwamoto<sup>1</sup>, Yukiteru Nishide<sup>1</sup>,  
*<sup>1</sup>Osaka Prefecture University, SAKAI, Japan,*  
*<sup>2</sup>Hiroshima University, HIGASHI-HIROSHIMA, Japan*
- P-NDEV-22 **Plasmon confinement in V-groove waveguides fabricated by Nanoimprint Lithography**  
Irene Fernandez-Cuesta<sup>1</sup>, Rasmus Bundgaard Nielsen<sup>2</sup>, Alexandra Boltasseva<sup>3</sup>, Dominique Heinis<sup>4</sup>, Xavier Borrísé<sup>1</sup>, Niek Van Hulst<sup>4</sup>, Francesc Perez-Murano<sup>1</sup>, Anders Kristensen<sup>2</sup>,  
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*<sup>3</sup>Dep. of Communicat. Optics and Materials, LYNGBY, Denmark,*  
*<sup>4</sup>Institut de Ciencies Fotoniques, CASTELDEFELLS, Spain*
- P-NDEV-23 **Design of a Tunable Photonic Band Gap Filter**  
Borriboon Thubthimthong, Franck Chollet,  
*Nanyang Technological University, SINGAPORE, Singapore*

## **Nanoimprint Lithography**

- P-NIL-1 **Fabrication of Micro Mold for Hot-Embossing of Polyimide Microfluidic Platform By Using Electron Beam Lithography Combined With Ion Coupled Plasma**  
Sung-Won Youn, Toshihiko Noguchi, Masaharu Takahashi, Ryutaro Maeda,  
*National Institute of AIST, TSUKUBA, IBARAKI, Japan*

- P-NIL-2      **Boron nitride stamp for ultra-violet nanoimprinting lithography fabricated by focused ion beam lithography**  
Ali Ozhan Altun, Jun-Ho Jeong, Jong-Joo Rha, Ki-Don Kim, Eung-Sug Lee,  
*Korea Institute of Machinery and Mat., DAEJEON, South-Korea*
- P-NIL-3      **Micro lens array imprinted on Pyrex glass by using amorphous Ni-P alloy mold**  
Harutaka Mekaru<sup>1</sup>, Tomoyuki Tsuchida<sup>2</sup>, Jun-ichi Uegaki<sup>2</sup>, Manabu Yasui<sup>3</sup>, Michiru Yamashita<sup>4</sup>, Masaharu Takahashi<sup>1</sup>,  
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<sup>3</sup>*Kanagawa Industrial Technology Center, EBINA, Japan,*  
<sup>4</sup>*Hyogo Prefectural Institute of Technolog, MIKI, Japan*
- P-NIL-4      **Residual layer thickness in nanoimprint: experiments and coarse-grain simulation**  
Vadim Sirotkin<sup>1</sup>, N. Kehagias<sup>2</sup>, V. Reboud<sup>2</sup>, C.M. Sotomayor Torres<sup>2</sup>, A. Svintsov<sup>1</sup>, Sergey Zaitsev<sup>1</sup>,  
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<sup>2</sup>*Tyndall National Institute, University C, CORK, Ireland*
- P-NIL-5      **Polymers below the critical molecular weight for thermal imprint lithography**  
Nicolas Bogdanski, Matthias Wissen, Saskia Moellenbeck, H.-C. Scheer,  
*University of Wuppertal, WUPPERTAL, Germany*
- P-NIL-6      **Custom-specific UV nanoimprint templates and life time of antisticking layers**  
Holger Schmitt<sup>1</sup>, Martin Zeidler<sup>2</sup>, Mathias Rommel<sup>2</sup>, Heiner Ryssel<sup>1</sup>,  
<sup>1</sup>*University Erlangen-Nuremberg, ERLANGEN, Germany,*  
<sup>2</sup>*Fraunhofer IISB, ERLANGEN, Germany*
- P-NIL-7      **3-D nano-template fabrication by means of greyscale electron beam lithography**  
Axel Rudzinski<sup>1</sup>, Ulrich Barth<sup>1</sup>, Michael Kahl<sup>1</sup>, Björn-Andre Hühn<sup>2</sup>, Stefan Kopetz<sup>2</sup>, Maxim Fadel<sup>3</sup>, Andreas Neyer<sup>2</sup>,  
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<sup>3</sup>*Lehrstuhl HFT, Uni-Dortmund, DORTMUND, Germany*



- P-NIL-8      **Low thermal shrinkage of nonimprinted glass pattern using Glasia as a precursor**  
 Motoki Okinaka<sup>1</sup>, Hiroshi Tsushima<sup>2</sup>,  
 Toshiyuki Tachibana<sup>2</sup>, Yoshifumi Ichinose<sup>2</sup>,  
 Emi Watanabe<sup>2</sup>, Keiichi Yanagisawa<sup>1</sup>,  
 Kazuhito Tsukagoshi<sup>1</sup>, Yoshinobu Aoyagi<sup>3</sup>,  
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<sup>2</sup>Nippon Paint Co. LTD., OSAKA, Japan,  
<sup>3</sup>Tokyo Institute of Technology, YOKOHAMA,  
 Japan
- P-NIL-9      **Nanosilver particles-based conductive pattern fabrication using direct UV-imprint lithography**  
 Soonwon Lee,  
 Korea Institute of Machinery & Materials,  
 DAE-JEON, South-Korea
- P-NIL-10     **Numerical Analysis of Polymer Flow during UV-NIL Process**  
 Ki-don Kim,  
 Korea Institute of Machinery and Material,  
 DAE-JEON, South-Korea
- P-NIL-11     **Moire and Dual Grating Aligning Method in Nanoimprint Lithography**  
 Geehong Kim,  
 Korea Institute of Machinery and Material,  
 DAEJEON, South-Korea
- P-NIL-12     **Simplified Nanoimprint Lithography process towards Protein Patterning**  
 Santos Merino, Aritz Retolaza, Pedro Heredia,  
 Celia Morales, Juan Antonio Alduncin, David Mecerreyes,  
 Fundación Tekniker, EIBAR, Spain
- P-NIL-13     **Analysis of Time Dependent Polymer Deformation based on a Viscoelastic Model in Thermal Imprint Process**  
 Hideki Takagi<sup>1</sup>, Masaharu Takahashi<sup>1</sup>,  
 Ryutaro Maeda<sup>1</sup>, Yuki Onishi<sup>2</sup>, Yasuroh Iriye<sup>2</sup>,  
 Takuya Iwasaki<sup>2</sup>, Yoshihiko Hirai<sup>3</sup>,  
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 TOKYO, Japan,  
<sup>3</sup>Osaka Prefecture University, SAKAI, OSAKA,  
 Japan
- P-NIL-14     **High quality patterns produced by nanoimprint lithography and inductive coupled plasma etching**  
 Brian Bilenberg<sup>1</sup>, Colin Welch<sup>2</sup>,  
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<sup>2</sup>Oxford Instruments Plasma Technology,  
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- P-NIL-15      **Nanofluidic device fabricated by nanoimprint lithography for DNA stretching applications**  
 Estefania Abad, Santos Merino, Aritz Retolaza, Aritz Juarros,  
*Fundacion Tekniker, EIBAR, Spain*
- P-NIL-16      **A novel hydrostatic pressuring mechanism for soft UV-imprinting process**  
 Fang-Sung Cheng,  
*TAIPEI, Taiwan*
- P-NIL-17      **NanoImprint of inorganic sol-gel materials : rheological properties and 3D patterning**  
 Christophe Peroz, Vanessa Chauveau, Etienne Barthel, Elin Sondergard,  
*Joint Lab. CNRS/Saint-Gobain, AUBERVILLIERS, France*
- P-NIL-18      **Molecular dynamics study on deformation of polycrystalline Si mold in nanoimprint**  
 Masaaki Yasuda, Shuhei Horimoto, Kazuhiro Tada, Yoshihisa Kimoto, Hiroaki Kawata, Yoshihiko Hirai,  
*Osaka Prefecture University, OSAKA, Japan*
- P-NIL-19      **Nano-scale Patterning using the Roll Typed UV-Nanoimprint Lithography**  
 Soo Yeon Park, SeungWoo Lee, ShinHo Kim, JaeJong Lee,  
*KIMM, DAEJEON, South-Korea*
- P-NIL-20      **Equalising stamp and substrate deformations in solid parallel-plate UV-based nanoimprint lithography**  
 Iris Bergmair<sup>1</sup>, Michael Mühlberger<sup>1</sup>, Markus Gusenbauer<sup>1</sup>, Rainer Schöftner<sup>1</sup>, Kurt Hingerl<sup>2</sup>,  
<sup>1</sup>*Profactor, STEYR-GLEINK, Austria,*  
<sup>2</sup>*Christian Doppler Laboratory, LINZ, Austria*
- P-NIL-21      **Mold deformation in Nanoimprint Lithography**  
 Santos Merino<sup>1</sup>, Aritz Juarros<sup>1</sup>, Aritz Retolaza<sup>1</sup>, Helmut Schiff<sup>2</sup>, Sergey Zaitsev<sup>3</sup>,  
<sup>1</sup>*Fundación Tekniker, EIBAR, Spain,*  
<sup>2</sup>*Paul Scherrer Institute, VILLIGEN, Switzerland,*  
<sup>3</sup>*Institute of Microelectronics Technology, CHERNOGOLOVKA, Russia*
- P-NIL-22      **Wafer scale fabrication of Ormocer dye lasers by combined nanoimprint and photolithography**

- Mads Brøkner Christiansen<sup>1</sup>, Ateeq Nasir<sup>1</sup>,  
Gideon Peter Caringal<sup>1</sup>, Anna Klukowska<sup>2</sup>,  
Anders Kristensen<sup>1</sup>,  
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LYNGBY, Denmark,* <sup>2</sup>*Micro resist technology  
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- P-NIL-23 **Influence of PEB in inorganic positive EB resist**  
Jun Taniguchi<sup>1</sup>, Miyako Sizuno<sup>1</sup>, Kenta Ogino<sup>1</sup>, Kiyoshi Ishikawa<sup>2</sup>,  
<sup>1</sup>*Tokyo University of Science, NODA CHIBA, Japan,*  
<sup>2</sup>*TOKYO OHKA KOGYO CO., LTD., 1590 TABATA, SAMUKAWA, KOZA, KANAGAWA, Japan*
- P-NIL-24 **Measurement of demolding forces in full wafer thermal nanoimprint**  
Vera Trabadelo<sup>1</sup>, Helmut Schiff<sup>1</sup>, Santos Merino<sup>2</sup>, Sandro Bellini<sup>3</sup>,  
Jens Gobrecht<sup>1</sup>,  
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<sup>2</sup>*Fundacion Tekniker, EIBAR, Spain,*  
<sup>3</sup>*University of Applied Sciences, WINDISCH, Switzerland*
- P-NIL-25 **Direct Fabrication of Rigid Microstructures on Metal Rollers Using Dry Film Resist**  
Liang-Ting Jiang<sup>1</sup>, Tzu-Chien Huang<sup>2</sup>, Chien-Ren Chiou<sup>2</sup>, Sen-Yeu Yang<sup>2</sup>,  
*TAIPEI, Taiwan,*  
<sup>2</sup>*National Taiwan University, TAIPEI, Taiwan*
- P-NIL-26 **Full process development for high resolution NIL stamp replication**  
Stefan Landis<sup>1</sup>, N Chaix<sup>2</sup>, C Gourgon<sup>2</sup>, C Perret<sup>2</sup>,  
*GRENOBLE, France,*  
<sup>2</sup>*CNRS-LTM, GRENOBLE, France*
- P-NIL-28 **Analysis of the filling behaviour of trenches via air bubble tracking**  
Saskia Möllenbeck<sup>1</sup>, M Wissen<sup>1</sup>, N Bogdanski<sup>1</sup>,  
HC Scheer<sup>1</sup>, J Zajadacz<sup>2</sup>, K Zimmer<sup>2</sup>,  
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<sup>2</sup>*Institute of Surface Modification, LEIPZIG, Germany*
- P-NIL-29 **Fabrication of three dimensional metal films with extraordinary transmission by reversal imprint lithography**  
Hsuen-Li Chen<sup>1</sup>, S. Y. Chuang<sup>1</sup>, S. S. Kuo<sup>1</sup>, C. H. Lin<sup>2</sup>,  
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<sup>2</sup>National Nano Device Lab., HSINCHU,  
Taiwan

- P-NIL-30 **Fabrication of free-standing SU-8 subwavelength grating by UV curing imprint**  
Xudi Wang<sup>1</sup>, Yanlin Liao<sup>2</sup>, Liangjin Ge<sup>3</sup>,  
Shaojun Fu<sup>3</sup>, Yifang Chen<sup>4</sup>, Zheng Cui<sup>4</sup>,  
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<sup>3</sup>University of Science and Technology of,  
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<sup>4</sup>Rutherford Appleton Laboratory,  
OXFORDSHIRE, United Kingdom
- P-NIL-31 **A nanoimprint lithography for fabricating SU-8 gratings for near-infrared to deep-UV application**  
Shengqi Xie<sup>1</sup>, Ran Liu<sup>1</sup>, Xinping Qu<sup>1</sup>, Yifang  
Chen<sup>2</sup>,  
<sup>1</sup>Fudan University, SHANGHAI, China,  
<sup>2</sup>Rutherford Appleton Laboratory, OXON,  
United Kingdom
- P-NIL-32 **Fabrication of Nanoimprint Stamps for Rainbow Holograms using SEM based E-Beam Lithography**  
Arne Schleunitz<sup>1</sup>, Alexander Firsov<sup>1</sup>,  
Alexander Mai<sup>1</sup>, A. Svintsov<sup>2</sup>, S. Zaitsev<sup>2</sup>,  
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<sup>2</sup>Intitute of Microelectronics Technology,  
CHERNOGOLOVKA, Russia
- P-NIL-33 **Fabrication of nano-hole array patterns on transparent conducting oxide layer using thermally curable nanoimprint lithography**  
Kyeong Jae Byeon, Seon Yong Hwang, Heon  
Lee,  
Korea university, SEOUL, South-Korea
- P-NIL-34 **Comparison of step and repeat method of thermal and UV-imprinting using a commercial nanoimprint stepper**  
Tomi Haatainen, Päivi Majander, Tapio  
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VTT, VTT, Finland
- P-NIL-35 **Fabrication of Microlens Array Using Soft-Roller Embossing with Gas-pressurized Platform**  
Sen-Yeu Yang, Fang-Sung Cheng, Po-Hsun  
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National Taiwan University, TAIPEI, Taiwan

- P-NIL-36      **Fabrication of 100 nm sized nano-patterns using water-soluble PVA template as an imprinting stamp**  
Kang-Soo Han, Sung-Hoon Hong, Heon Lee,  
*Korea University, SEOUL, South-Korea*
- P-NIL-37      **Nanophotonic crystals with chiral elements by a hot embossing process in SU-8**  
Bing-Rui Lu,  
*Fudan University, SHANGHAI, China*
- P-NIL-38      **Fabrication of Multi-layer Imprinting Master using Adaptive Two Step photolithography**  
Han-Hyoung Kim, Seung-Kook Yang, Han-Suk Yoo, Seung-Yong Lee, Dong-Hoon Chang, Seung-Gol Lee, Beom-Hoan O, El-Hang Lee, Se-Geun Park,  
*Inha university, INCHEON, South-Korea*
- P-NIL-39      **Realization of silicon masters by electron-beam lithography for room temperature nanoimprint lithography on conjugated polymers**  
Ripalta Stabile, Elisa Mele, Pompilio Del Carro, Luana Persano, Andrea Camposeo, Roberto Cingolani, Dario Pisignano,  
*CNR-INFM ISUFI, LECCE, Italy*
- P-NIL-40      **Fabrication of patterned 3-D nickel components with electroforming and Step and Flash Imprint lithography**  
Jeff Kettle, Kettle Jeff, Lalev Georgi, Dimov Stefan, Ivanov Atanas, Brosseau Emmanuel, Hoyle Robert,  
*Manufacturing Engineering Centre (MEC), CARDIFF, United Kingdom*
- P-NIL-41      **Development of functional imprint material for the Step and Flash Imprint Lithography process**  
Jeff Kettle<sup>1</sup>, Kettle Jeff<sup>1</sup>, Lalev Georgi<sup>1</sup>, Dimov Stefan<sup>1</sup>, Coppo Paolo<sup>2</sup>, Tattersha Carin<sup>3</sup>, Turner Micheal<sup>2</sup>,  
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<sup>3</sup>*School of chemistry, UNIVERSITY OF MANCHESTER, MANCHESTER, United Kingdom*
- P-NIL-42      **Fabrication of Photonic Components by Nanoimprint Technology within ePIXnet**

Ulrich Plachetka<sup>1</sup>, Anders Kristensen<sup>2</sup>, Stijn Scheerlinck<sup>3</sup>, Neil Whitbread<sup>4</sup>, Jurriaan Huskens<sup>5</sup>, Nam Il Koo<sup>1</sup>, Heinrich Kurz<sup>1</sup>,  
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<sup>5</sup>MESA+, TWENTE, The Netherlands

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Tapio Mäkelä, Tomi Haatainen, Päivi Majander, Jouni Ahopelto,  
VTT, ESPOO, Finland

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Fu-Hsiang Ko,  
National Chiao Tung University, HSINCHU, Taiwan

P-NSC-2 **Fabrication of Two-Layer Stacked Poly-Si TFT CMOS Inverters Using Laser Crystallized Channel with High k gate electrode and metal gate**  
Soon Young Oh<sup>1</sup>, Chang-Geun Ahn<sup>1</sup>, Jong Heon Yang<sup>1</sup>, Woo Hyun Lee<sup>2</sup>, Won Ju Cho<sup>2</sup>, Jang Moon Gyu<sup>1</sup>,  
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- P-NSC-8      **Nanofabrication of SiC templates for direct hot embossing for metallic photonic structures and meta materials**  
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<sup>2</sup>*School of Computing, Communication and E, PLYMOUTH, United Kingdom*
- P-NSC-9      **Focused metal cluster beams for local deposition and organisation of high purity nanostructures**  
 Jacques Gierak<sup>1</sup>, Ali Madouri<sup>1</sup>, Joël Thomas<sup>2</sup>,  
<sup>1</sup>*LPN-CNRS, MARCOUSSIS, France,*  
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- P-NSC-12     **Evaluation of surface roughness of ULE substrates machined by Ar+ ion beam**  
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<sup>1</sup>*Tokyo University of Science, NODA, Japan,*  
<sup>2</sup>*EUVA, UTSUNOMIYA, Japan*
- P-NSC-13     **Improving the conductivity of platinum-containing nano-structures created by electron-beam-induced deposition**  
 Aurelien Botman<sup>1</sup>, Marcel Hesselberth<sup>2</sup>, Hans Mulders<sup>3</sup>,  
<sup>1</sup>*Philips Research Laboratories, EINDHOVEN, The Netherlands,*  
<sup>2</sup>*Leiden University, LEIDEN, The Netherlands,*  
<sup>3</sup>*FEI Electron Optics, EINDHOVEN, The Netherlands*
- P-NSC-14     **Aluminium pre-patterning for highly ordered nanoporous anodized alumina**  
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- P-NSC-15     **A comparative study of single nano-objects interconnection schemes**

Antonio Della Torre<sup>1</sup>, Pasquale Marzo<sup>2</sup>,  
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Manna<sup>2</sup>, Roberto Cingolani<sup>2</sup>, Rosaria Rinaldi<sup>2</sup>,  
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<sup>2</sup>*National Nanotechnology Laboratory, LECCE,  
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- P-NSC-16 **Chemical engineering of Silicon oxide surfaces using Micro-Contact printing for localizing adsorption events of nanoparticles, dendrimers and bacteria**  
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*Laas-cnrs, TOULOUSE, France*
- P-NSC-17 **Reusability of nanostencils for the patterning of Aluminum nanostructures by selective wet etching**  
Oscar Vazquez-Mena, Guillermo Villanueva, Marc A. F. Van den Boogaart, Veronica Savu, Juergen Brugger,  
*Ecole Polytechnique Fédérale de Lausanne, LAUSANNE, Switzerland*
- P-NSC-18 **Electron Biprism Fabrication by Focused-Ion-Beam Etching and Chemical-Vapor-Deposition**  
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- P-NSC-19 **Fabrication of nano-structure on GC using dry etching**  
Jun Taniguchi,  
*Tokyo University of Science, NODA CHIBA, Japan*
- P-NSC-20 **LARGE AREA SUBMICRON-SIZED OLEDs ARRAY by NANOSPHERE LITHOGRAPHY**  
Michelle Manca,  
*National Nanotechnology Labs, LECCE, Italy*
- P-NSC-21 **High-speed fabrication of Nano-structured optical devices with wide area**  
Kazuma Kurihara,  
*AIST, TSUKUBA, IBARAKI, Japan*
- P-NSC-22 **Electrical and structural characterisation of single ZnO nanorods**  
Thomas Weimann<sup>1</sup>, Peter Hinze<sup>1</sup>, Eva Schlenker<sup>2</sup>, Andrey Barkin<sup>3</sup>, Augustin Che Mofor<sup>3</sup>, Bianca Postels<sup>3</sup>, Andreas Waag<sup>3</sup>,



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- P-NSC-23 **Molecular Dynamics Study on Electron-Beam Assembly of Carbon Nanotubes**  
Masaaki Yasuda,  
*Osaka Prefecture University, OSAKA, Japan*
- P-NSC-24 **Effect of Si-doping in In droplets on InP ring-like nanostructures on In<sub>0.49</sub>Ga<sub>0.51</sub>P grown by droplet molecular beam epitaxy**  
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*Chulalongkorn University, BANGKOK, Thailand*
- P-NSC-25 **Transient Enhanced Diffusion(TED) of Boron in Silicon Substrate**  
Soon-Yeol Park, Bum-Goo Cho, Young-Kyu Kim,  
*Inha Univ., INCHEON, South-Korea*
- P-NSC-26 **Ab-initio Calculations for Neutral Indium Migration in Biaxially Strained Silicon**  
Young-Kyu Kim, Bum-Goo Cho, Soon-Yeol Park, Taeyoung Won,  
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- P-NSC-27 **Hybrid polymer/semiconductor microtubes: a new fabrication approach**  
Cristian Giordano<sup>1</sup>, Maria Teresa Todaro<sup>1</sup>, Marco Palumbo<sup>2</sup>, Laura Blasi<sup>1</sup>, Vito Errico<sup>1</sup>, Abdelmajid Salhi<sup>1</sup>, Antonio Quattieri<sup>1</sup>, Giuseppe Gigli<sup>1</sup>, Adriana Passaseo<sup>1</sup>, Massimo De Vittorio<sup>1</sup>,  
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- P-NSC-28 **Focused ion beam nano-structuring of Al<sub>2</sub>O<sub>3</sub> dielectric layers for photonic applications**  
Feridun Ay,  
*University of Twente, ENSCHEDE, The Netherlands*
- P-NSC-29 **Evaluation of nanomechanical, nanotribological and adhesive properties of ultrathin polymer resist film by AFM**  
Adam Koszewski<sup>1</sup>, Zygmunt Rymuza<sup>1</sup>, Freimut Reuther<sup>2</sup>,

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- P-NSC-30 **An investigation of scanning probe microscopy on hydrophobic and hydrophilic surfaces carried out from atmospheric pressure plasma processes**  
Mao-Nan Chang<sup>1</sup>, H.-M. Lin<sup>2</sup>, T.-H Chou<sup>2</sup>, W.-T. Hsieh<sup>3</sup>, C.-W. Chen<sup>3</sup>,  
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- P-NSC-31 **Swelling of cross-linked polystyrene spheres in toluene**  
Renhua Zhang, Andreas Best, T. Cherdhirankorn, K. Koynov, K. Graf, Ruediger Berger,  
*Max Planck Institute for Polymer Research, MAINZ, Germany*
- P-NSC-32 **High-density plasma silicon oxide thin films grown at room-temperature**  
Maria-Elena Vlachopoulou<sup>1</sup>, P. D Dimitrakis<sup>1</sup>, A. Tserepi<sup>1</sup>,  
V.Em.V Vamvakas<sup>1</sup>, S. K Koliopoulou<sup>1</sup>, P. Normand<sup>1</sup>, E. Gogolides<sup>1</sup>, D. Tsoukalas<sup>2</sup>,  
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## Program Overview

<b>Sunday 23 September</b>		
18:00 - 20:00 Registration		
19:00 - 20:30 Exhibition Opening		
19:00 Welcome reception.		
<b>Monday 24 September</b>		
08 :30 – 9 :00 Opening of MNE07 conference		
09 :00 – 10 :30 Plenary session PL1 - Audience		
Coffee break		
11 :00 – 12 :30		
1A - Audience Nanoscale Engineering & Fabrication I	1B – 101 Process Diagnostics & Control	1C – 201 Nanodevices I
Lunch		
14 :00 – 15 :50		
2A - Audience Micro & Nanosystems for Biology I	2B - 101 Nanoimprint Lithography & Technology I	1C – 201 Nanodevices II
19:00 Reception at Copenhagen City Hall		



<b>Tuesday 25 September</b>		
09 :00 – 10 :30		
3A - Audience Resists & Resist Processing	3B - 101 Nanoimprint Lithography & Technology II	3C - 201 Maskless Litho. & Pattern Transfer Tech
Coffee break		
11 :00 – 13 :00		
4A - Audience Micro and Nanosystems for Biology II	4B - 101 Nanoscale Engineering & Fabrication II	4C - 201 Electron & Ion Beam Lithography
Lunch		
Steering Group Meeting – work lunch		
14 :30 – 16 :00 Plenary session PL2 - Audience		
Coffee break		
16 :30 – 17 :30		
5A - Audience Nanoscale Engineering and Fabrication III	5B - 101 Nanodevices III	5C - 201 Electron and Ion Beam Lithography II
18 :00 Conference dinner arrival and welcome drink		
19 :00 Start of dinner show		

<b>Wednesday 26 September</b>		
09 :00 – 10 :30 Plenary session PL3 - Audience		
10 :00 – 11:50		
6A – Audience Microsystems & Their Fabrication I	6B - 101 Nanoscale Engineering & Fabrication IV	6C - 201 Photon Lithography & Mask Technology
Lunch		
13:00 – 14 :40		
7A – Audience Microsystems & Their Fabrication II	7B - 101 Nanoimprint Lithography and Technology III	7C - 201 Micro and Nanosystems for Biology III
Coffee break		
15 :00 – 16 :30 Plenary session PL4 - Audience		
Conference closing		