

MNE 2010

36th International Conference on

Micro & Nano Engineering

GENOA (Italy) - 19-22 September 2010



MNE2010

FINAL PROGRAMME

September 13th 2010

Monday 20 September

	Welcome Coffee		
8:00 - 8:30	Welcome Address		
8:30 - 9:00	O-PLEN-01 PLENARY KEYNOTE		
9:00 - 9:40	Emerging Device Nanotechnology for Future High Performance and Low Power Nanoelectronics		
	Robert CHAU Intel Corporation, USA		
9:40 - 10:20	O-PLEN-02 PLENARY KEYNOTE		
	Recent Progress in Manipulation of Photons by Photonic Crystals		
	Susumu NODA Department of Electronic Science and Engineering, Kyoto University, Japan		
10:20 - 10:50	Coffee Break		
	LITH	NANO	MEMS
	1A - NANOIMPRINT I	1B - NANOPATTERNING & METROLOGY	1C - DEVICE AND TECHNOLOGY I
10:50 - 11:10	<p style="text-align: center;">O-LITH-01 Fabrication of large arrays of metallic nanowires for integrated spectrometers by soft UV nanoimprint</p> <p><u>Jumana Boussef</u> * 1; Sébastien Labau 1,5; Etienne Le Coarer 2; Alain Morand 3; Cedric Cassagnettes 4; Thierry Gonthiez 5</p> <p>1 LTM-CNRS-UJF/CEA-Leti, Grenoble-France; 2 LAOG-CNRS-UJF, Grenoble-France; 3 IMEP-CNRS-UJF-INPG-Univ. Savoie-Grenoble France; 4 Teem Photonics, Meylan-France; 5 Floralis, Gières-France</p>	<p style="text-align: center;">O-NANO-01 Method for the fabrication of X-ray lithography masks or diffractive optical elements characterized by nanopatterned absorbers with high aspect ratio</p> <p><u>Gianluca Greni</u> * 1; Alessandro Pozzato 1,2; Alessandro Carpentiero 1; Enrico Sovernigo 1,3; Massimo Tormen 1,2</p> <p>1 IOM-CNR, Laboratorio TASC, Basovizza S.S. 14 Km 163.5, Italy; 2 ThunderNIL S.r.l., Via Ugo Foscolo 8, I-35131 Padova, Italy; 3 University of Trieste, PhD Nanotechnology, P.le Europa 1, I-34127, Trieste, Italy</p>	<p style="text-align: center;">O-MEMS-01 Fabrication of a 3 GHz Oscillator based on Nano-Carbon-Diamond-Film-Based Guided Wave Resonators</p> <p><u>Roland Salut</u> * 1; Celine Gesset 2; Gilles Martin 1; Samuel Saada 2; Philippe Bergonzo 2; Rodolphe Boudot 1; Omar Elmazria 3; Sylvain Ballandras 1</p> <p>1 FEMTO-ST / CNRS - FRANCE; 2 CEA-LIST - FRANCE; 3 IJL / CNRS - FRANCE</p>
11:10 - 11:30	<p style="text-align: center;">O-LITH-02 Fabrication of 2D and 3D metal structures by reverse transfer UV nanoimprint lithography</p> <p><u>Nikos Kehagias</u> * 1; Vincent Reboud 1; Tim Kehoe 1; Clivia Sotomayor Torres 1,2</p> <p>1 Phononic and Photonic Nanostructures Group, Catalan Institute of Nanotechnology (CIN2-CSIC), Campus Bellaterra - Edifici CM3, 08193-Bellaterra (Barcelona), Spain.; 2 Catalan Institute for Research and Advanced Studies ICREA, 08010 Barcelona, Spain</p>	<p style="text-align: center;">O-NANO-02 Pattern transfer and post processing of complex nanostructures formed by e-beam exposure in PMMA</p> <p><u>Sebastian Gautsch</u> * 1; Nico De Rooij 1,2</p> <p>1 Ecole Polytechnique Fédérale de Lausanne (EPFL), The Sensors Actuators and Microsystems Laboratory (SAMLAB), Neuchâtel 2000, Switzerland; 2 Centre Suisse d'Electronique et de Microtechnique SA (CSEM SA), Neuchâtel 2000, Switzerland</p>	<p style="text-align: center;">O-MEMS-02 Bulk Disk Resonator Based Microbalance For Ultrasensitive Mass Sensing Applications</p> <p><u>Alberto Cagliani</u> * 1; Meng Tang 1; Zachary J. Davis 1</p> <p>1 DTU-Nanotech, Technical University of Denmark, Denmark</p>
11:30 - 11:50	<p style="text-align: center;">O-LITH-03 Fabricating insertion structure for metallic wire grid polarizers by nanoimprint and CMP process</p> <p><u>Chia-meng Chen</u> * 1; Tai-pang An 1; Yu-min Hung 1</p> <p>1 Cheng-Kuo Sung, Taiwan</p>	<p style="text-align: center;">O-NANO-03 13nm gate intentional defect array (IDA) wafer patterning using electron beam lithography for defect metrology tool evaluation</p> <p><u>Ananthan Raghunathan</u> * 1; Mark Johnson 2; Steve Bennett 1; Chris Deeb 2; Jim Nadeau 3; Harlem Stamper 1; Milton Godwin 2; Dilip Patel 2; John Hartley 1</p> <p>1 College of Nanoscale Science and Engineering, State University of New York at Albany, Albany, NY USA 12206; 2 ISMI, 257 Fuller Road Albany NY USA 12203; 3 FEI, North America NanoPort 5350 NE Dawson Creek Drive, Hillsboro, OR USA 97124</p>	<p style="text-align: center;">O-MEMS-03 Fabrication and characterization of a directional anemometer based on a single chip MEMS flow sensor</p> <p><u>Massimo Piatto</u> * 1; Giovanni Pennelli 2; Paolo Bruschi 2</p> <p>1 IEIIT - Pisa, CNR, Pisa, 56122, Italy; 2 Dipartimento Ingegneria dell'Informazione, Università di Pisa, Pisa, 56122, Italy</p>
11:50 - 12:10	<p style="text-align: center;">O-LITH-04 Evaluation of imprinting characteristics for photoinduced liquid crystalline polymer</p> <p><u>Okada Makoto</u> * 1,3; Kondo Mizuho 2; Kanda Kazuhiro 1; Haruyama Yuichi 1; Kawatsuki Nobuhiro 2; Shinji Matsui 1</p> <p>1 Graduate School of Science, Univ. of Hyogo, Japan; 2 Department of Materials Science and Chemistry, Graduate School of Engineering, Univ. of Hyogo, Japan; 3 JSPS, Japan</p>	<p style="text-align: center;">O-NANO-04 Fabrication of 3-D Pattern with Vertical and Sloped Sidewalls by Grayscale Electron-Beam Lithography and Thermal Annealing</p> <p><u>Arne Schleunitz</u> 1; <u>Helmut Schift</u> * 1</p> <p>1 Paul Scherrer Institut, Laboratory for Micro- and Nanotechnology, 5232 Villigen PSI, Switzerland</p>	<p style="text-align: center;">O-MEMS-04 Microcolumn with Variable Axis Lens for Large Scan Fields</p> <p><u>H. Weigan</u> * 1; S. Gautsch 2; W. Strohmaier 1; M. M. Blideran 1; U. Staufner 2,3; N. F. De Rooij 2; Dieter P. Kern 1</p> <p>1 Institute of Applied Physics, University of Tuebingen, Germany; 2 Institute of Microtechnology, Ecole Polytechnique Fédérale de Lausanne, Switzerland; 3 Now at Dept. for Precision and Microsystems Engineering, TU Delft, Netherlands</p>
12:10 - 12:30	<p style="text-align: center;">O-LITH-05 Fabrication of the metal nano pattern on plastic substrate using roll nanoimprint</p> <p><u>Unno Noriyuki</u> * 1,2; Taniguchi Jun 1</p> <p>1 Tokyo University of Science, Japan; 2 Research Fellow of the Japan Society for the Promotion of Science, Japan</p>	<p style="text-align: center;">O-NANO-05 High Aspect Ratio Sub-Micron Trenches on Silicon-On-Insulator and Bulk Silicon</p> <p><u>Marion Hermersdorf</u> * 1; Cyrille Hibert 2; Daniel Grogg 1; Adrian M. Ionescu 1</p> <p>1 Nanoelectronic Device Laboratory (NanoLab), Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland; 2 Center of MicroNanotechnology (CMI), Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland</p>	<p style="text-align: center;">O-MEMS-05 Surface-micromachined thermoelectric infrared focal-plane array with high detectivity for room temperature operation</p> <p><u>A. Ihring</u> * 1; E. Kessler 1; U. Dillner 1; F. Haenschke 1; U. Schinkel 1; H.-G. Meyer 1</p> <p>1 Institute of Photonic Technology, Germany</p>
12:30 - 12:50	<p style="text-align: center;">O-LITH-06 Transfer Printing and Stacking of Negative Index Materials</p> <p><u>Iris Bergmair</u> * 1; Ahmad Saeed 2; Babak Dastmalchi 2; Guenter Hesser 2; Wolfgang Hilber 3; Thomas Pertsch 4; Holger Schmidt 4; Ernst-bernhard Kley 4; Uwe Huebner 5; Raluca Penciu 6; Maria Kafesaki 6; Costas M. Soukoulis 6; Kurt Hingerl 2; Michael Muehlberger 1; Rainer Schoefner 1</p> <p>1 Functional Surfaces and Nanostructures, Profactor GmbH, Steyr-Gleink, Austria; 2 Center for Surface- and Nanoanalytics, Johannes Kepler University Linz, Austria; 3 Institute of Microelectronics and Microsensors, Johannes Kepler University Linz, Austria; 4 Institute for Applied Physics, Friedrich-Schiller-Universität Jena, Germany; 5 Institute of Photonic Technology, Jena, Germany; 6 Institute of Electronic Structure & Laser, Foundation for Research & Technology, Hellas, Greece</p>	<p style="text-align: center;">O-NANO-06 In situ X-ray spectromicroscopy study of bipolar plate material stability for nano-fuel-cells with ionic-liquid electrolyte</p> <p><u>Bozzini Benedetto</u> * 1; Mele Claudio 1; Gianocelli Alessandra 2; Kaulich Burkhard 2; Kiskinova Maya 2; Prasciolu Mauro 3</p> <p>1 Dipartimento di Ingegneria dell'Innovazione, Università del Salento, via Monteroni, 73100 Lecce - Italy; 2 Elettra-Sincrotrone Trieste SCpA, S.S. 14, km 163.5 in Area Science Park 34149 Basovizza (TS) - Italy; 3 CNR-INFN TASC National Lab., S.S. 14, km 163.5 in Area Science Park 34149 Basovizza (TS) - Italy</p>	<p style="text-align: center;">O-MEMS-06 Cup-shaped Thin Film BaZr1-xYxO3-δ Micro-Solid Oxide Fuel Cell Array</p> <p><u>Pei-chen Su</u> * 1; Fritz B. Prinz 2,3</p> <p>1 Department of Mechanical Engineering, National Taiwan University, Taiwan; 2 Department of Mechanical Engineering, Stanford University, USA; 3 Department of Materials Science and Engineering, Stanford University, USA</p>
12:50 - 14:20	Lunch & Networking		

	LITH	NANO	MEMS
	2A - MASKLESS LITHOGRAPHY I	2B - PHOTONICS I	2C - DEVICE & TECHNOLOGY II
14:20 - 14: 50	<p>O-LITH-07 INVITED MAPPER: high throughput maskless lithography</p> <p>M.J. Wieland; G. de Boer; G.F. ten Berge; M. van Kervinck; R. Jager; J.J.M. Peijster; E. Slot; S.W.H.K. Steenbrink; J. Bentvelsen; <u>B.J. KAMPHERBEEK</u></p> <p>MAPPER Lithography, Computerlaan 15, Delft, 2628 XK, The Netherlands</p>	<p>O-NANO-07 INVITED How to make high performance photonic crystals waveguides</p> <p><u>Thomas F. KRAUSS</u></p> <p>School of Physics and astronomy, University of St Andrews, St Andrews, Fife, KY 16 9SS, UK</p>	<p>O-MEMS-07 INVITED MEMS based mechanical energy harvesters</p> <p><u>R.VAN SCHAUK</u> *; R. Elfrink; M. Renaud; C. de Nooljer; M. Jambunathan; M. Goedbloed; S. Matova</p> <p>IMEC Holst Centre, High Tech Campus 31, 5656 AE Eindhoven, The Netherlands</p>
14:50 - 15:10	<p>O-LITH-08 MCC8 : Throughput Enhancement of EB Direct Writer</p> <p><u>Hideaki Komami</u> * 1</p> <p>1 Advantest Corporation, Japan</p>	<p>O-NANO-08 Optical Filter based on a Coupled Bilayer Photonic Crystal</p> <p><u>Tiziana Stomeo</u> * 1; Marco Grande 2; Gabriele Rainò 1,3; Adriana Passaseo 1; Antonella D'orazio 2; Valeria Marrocco 2; Roberto Cingolani 4; Andrea Locatelli 5; Daniele Modotto 5; Costantino De Angelis 5; Massimo De Vittorio 1,4</p> <p>1 NNL, CNR-ISTITUTO DI NANOSCIENZE, Università Del Salento, Via Arnesano, 73100 Lecce, Italy; 2 Dipartimento di Elettrotecnica ed Elettronica, Politecnico di Bari, Via Re David 200, 70125 Bari, Italy; 3 IBM Research GmbH, Säumerstrasse 4, 8803 Rüschlikon, Switzerland; 4 Italian Institute of Technology (IIT), CBN-IIT, Via Barsanti 1, Arnesano (Lecce), 73010 Italy; 5 Dipartimento di Ingegneria dell'Informazione, Università degli Studi di Brescia, via Branze 38, 25123 Brescia, Italy</p>	<p>O-MEMS-08 Stress-driven AlN cantilever-based flow sensor for fish lateral line system</p> <p><u>Antonio Quattieri</u> * 1; Francesco Rizzi 1,2; Maria Teresa Todaro 3; Adriana Passaseo 3; Massimo De Vittorio 1,3</p> <p>1 Italian Institute of Technology (IIT), Center for Bio-Molecular Nanotechnology, Via Barsanti, 1 - 73010 Arnesano (Lecce), Italy; 2 Italian Institute of Technology (IIT), Nanofabrication facility, Via Morego, 30 - 16163 Genova, Italy; 3 National Nanotechnology Laboratory of CNR/INFN, Scuola superiore ISUFI, University of Salento, via per Arnesano, 73100 Lecce, Italy</p>
15:10 - 15:30	<p>O-LITH-09 Implementation of electron beam grey scale lithography and proximity effect correction for silicon nanowire device fabrication</p> <p><u>Jens Bolten</u> * 1; Thorsten Wahlbrink 1; Mathias Schmidt 1; Heinrich D. B. Gottlob 1; Heinrich Kurz 1</p> <p>1 AMO GmbH, AMICA, Otto-Blumenthal-Straße 25, D-52074 Aachen, Germany</p>	<p>O-NANO-09 Quantum well photodetector in a free-standing photonic crystal slab</p> <p><u>Stefan Kalchauer</u> * 1; Hermann Detz 1; Garrett Cole 2; Aaron Maxwell Andrews 1; Michele Nobile 1; Pavel Klang 1; Werner Schrenk 1; Gottfried Strasser 1,3</p> <p>1 Center for Micro- and Nanostructures, Vienna University of Technology, 1040 Wien, Austria; 2 Faculty of Physics, University of Vienna, Boltzmannngasse 5, 1090 Wien, Austria; 3 Dept. of Elec. Engineering and Dept. of Physics, State University of New York at Buffalo, NY, USA</p>	<p>O-MEMS-09 Fabrication of clamped-clamped microresonators in Si (110)</p> <p>Ronald Van Leeuwen 1; Patrick Lew 1; Emile Van Der Drift 1; Herre Van Der Zant 1; <u>Warner Venstra</u> * 1</p> <p>1 Kavli Institute of Nanoscience Delft, PObox 5046, 2600GA Delft, The Netherlands</p>
15:30 - 15:50	<p>O-LITH-10 Hydrogen silsesquioxane resist process development for multi electron beam lithography application</p> <p><u>Mickael Martin</u> * 1; Beatrice Icard 1; David Rio 1; Kasumi Takeuchi 2; Eric Moyer 2; Herman Meynen 3</p> <p>1 CEA/LETI - Minatex, Grenoble, France; 2 Dow Corning, Midland, MI 48686, USA; 3 Dow Corning Europe S.A., Seneffe, Belgium</p>	<p>O-NANO-10 Vertical One-Dimensional Photonic Crystals for Optofluidic Applications</p> <p>Giuseppe Barillaro 1; <u>Salvatore Surdo</u> * 1; Lucano Strambini 1; Sabina Merlo 2</p> <p>1 Dipartimento di Ingegneria dell'Informazione: Elettronica, Informatica, Telecomunicazioni, Università di Pisa, via G. Caruso 16, Pisa, 56126, Italy; 2 Dipartimento di Elettronica, Università degli Studi di Pavia, Via Ferrata 1, Pavia, 27100, Italy</p>	<p>O-MEMS-10 Triple Coupled Cantilever Systems</p> <p><u>Hossein Pakdast</u> * 1; Marco Lazzarino 1</p> <p>1 CNR-IOM Laboratorio TASC Area Science park Basovizza 34149 Italy</p>
15:50 - 18:30	<p>Poster Session & Reception Odd Numbered Posters</p>		

Tuesday 21 September			
8:00 - 8:30	Welcome Coffee		
8:30 - 9:10	<p>O-PLEN-03 PLENARY KEYNOTE Semiconductor Chips for Neuronal Interfacing</p> <p>Peter FROMHERZ Department Membrane and Neurophysics, Max Planck Institute for Biochemistry, Martinsried-Munich, Germany</p>		
9:10 - 9:50	<p>O-PLEN-04 PLENARY KEYNOTE The MEMS History: from Jewels to Consumer Products</p> <p>Bruno MURARI STMICROELECTRONICS, Italy</p>		
9:50 - 10:20	Coffee Break		
	LITH	NANO	LIFE
	3A - NANOIMPRINT II	3B - MICRO & NANO MANUFACTURING I	3C - MICRO & NANOFUIDICS
10:20 - 10:40	<p>O-LITH-11 Protective coating for nanoimprint template deposited using atomic layer deposition</p> <p><u>Jukka Viheriälä</u> * 1; Juha Tommila 1; Milla-riina Viljanen 1; Tapani Alasaarela 2; Tapio Niemi 1</p> <p>1 Optoelectronics Research Centre, Tampere University of Technology, Tampere, 33720, Finland; 2 Department of Micro and Nanosciences, Aalto University, 00076 Aalto, Finland</p>	<p>O-NANO-11 Robust PECVD SiC membrane made for stencil lithography</p> <p><u>Shengxi Xie</u> * 1; Veronica Savu 1; Wei Tang 2; Oscar Vazquez-mena 1; Katrin Sidler 1; Haixia Zhang 2; Jürgen Brugger 1</p> <p>1 Microsystems Laboratory, Ecole Polytechnique Fédérale de Lausanne (EPFL), Lausanne, CH-1015, Switzerland; 2 National Key Laboratory of Science and Technology on Micro/Nano Fabrication, Institution of Microelectronics, Peking University, Beijing 100871, People's Republic of China</p>	<p>O-LIFE-01 Capillary Forces Assembly of braided DNA – Deposition, stretching and transfer of a DNA network</p> <p><u>Julien Cordeiro</u> * 1; Tatiana Pinedo-rivera 1; Olivier Lecarme 1; Pierre Camus 1; Marc Zelsmann 1; Alice Nicolas 1; David Peyrade 1</p> <p>1 CNRS-LTM-UJF, CEA-LETI 17 Av. des Martyrs 38054 Grenoble FRANCE</p>

10:40 - 11:00	<p>O-LITH-12 Moulding versus imprint for replication of undercut and binary trenches</p> <p><u>Saskia Mollenbeck</u> * 1; Khalid Dhima 1; Andre Mayer 1; Hella-christin Scheer 1; Joachim Zajadacz 2; Klaus Zimmer 2</p> <p>1 University of Wuppertal, Germany; 2 Leibniz Institute for Surface Modification, Leipzig, Germany</p>	<p>O-NANO-12 Profile characteristics of biomachined copper</p> <p><u>Jos Istiyanto</u> * 1; Tae Jo Ko 1</p> <p>1 Yeungnam University, South Korea</p>	<p>O-LIFE-02 A microfluidic platform integrating cell trapping, DNA extraction and Molecular Combing for high throughput genetic analysis of human DNA</p> <p><u>Lucia Cinque</u> * 1,2; Ayako Yamada 1; Yamina Ghomchi 2; Damien Baigl 1; Yong Chen 1</p> <p>1 CNRS UMR 8640, Dept. Chemistry, Ecole Normale Supérieure, Paris, 75005, France; 2 Genomic Vision, Paris, 75014, France</p>
11:00 - 11:20	<p>O-LITH-13 Soft UV-NIL reaches 12.5 nm Resolution</p> <p><u>Gerald Kreindl</u> * 1; Michael Kast 1; Dominik Treiblmayr 1; Thomas Glinsner 1; Ron Miller 2; E. Platzgummer 3; Hans Loeschner 3; S. Ederkapl 3; T.Nartz 3; M. Mülberger 4; I. Bergmair 4; M. Boehm 4; R. Schoeftner 4; M. Sano 5; Y. Kawaguchi 6</p> <p>1 EV Group E. Thallner GmbH (Austria); 2 EV Group Inc. (US); 3 IMS Nanofabrication AG (Austria); 4 Profactor GmbH (Austria); 5 Asahi Glass Co.,Ltd. AGC Electronics (Japan); 6 Asahi Glass Co.,Ltd. Research Center (Japan)</p>	<p>O-NANO-13 Fabricating devices with dielectrophoretically assembled, suspended single walled carbon nanotubes for improved nanoelectronic device characterization</p> <p><u>Simone Schuerle</u> * 1; Manish Tiwari 2; Kaiyu Shou 1; Dimos Poulikakos 2; Bradley J. Nelson 1</p> <p>1 A: Institute of Robotics and Intelligent Systems, ETH Zurich, 8092 Zurich, Switzerland; 2 B: Laboratory of Thermodynamics in Emerging Technologies, ETH Zurich, 8092 Zurich, Switzerland,</p>	<p>O-LIFE-03 COC microfluidic chips for circulating tumor cells sorting and high resolution analyses</p> <p><u>Mottet Guillaume</u> * 1; Perez Toralla Karla 1; Autebert Julien 1; Miserere Sandrine 1; Lussiez Alisha 1; Taniga Velan 1; Draskovic Irena 1; Viovy Jean Louis 1; Malaquin Laurent 1</p> <p>1 Institut Curie, Paris, 75005, France</p>
11:20 - 11:40	<p>O-LITH-14 Degassing-Assisted Patterning at 15 nm scale</p> <p><u>Andrea Cattoni</u> * 1; Dominique Decanini 1; Edmond Cambрил 1; Giancarlo Faini 1; Anne-marie Haghir-gosnet 1</p> <p>1 Laboratoire de Photonique et de Nanostructures, CNRS, France</p>	<p>O-NANO-14 Dielectrophoretic alignment of metal-oxide nanowires for improved fabrication of gas sensing devices</p> <p>Roman Jimenez-diaz 1; Juan Daniel Prades 1; Francisco Hernandez-ramirez 2,3; <u>Albert Romano-rodriguez</u> * 1</p> <p>1 MIND-IN2UB, Departament d'Electrònica, Universitat de Barcelona, c/Martí i Franqués 1, E-08028, Spain; 2 IREC, Catalonia Institute for Energy Research, E-08019, Barcelona, Spain; 3 Electronic Nanosystems, S.L., E-08028, Barcelona, Spain</p>	<p>O-LIFE-04 Fabrication of AD/DA Microfluidic Converter using Deep Reactive Ion Etching of Silicon and Low Temperature Wafer Bonding</p> <p><u>Chang Wu</u> * 1,2; Farida Bendriaa 1,2; François Brunelle 1,2; Vincent Senez 1,2</p> <p>1 Université Lille Nord de France, Lille, 59044, France; 2 Institut d'Electronique, de Microelectronique et de Nanotechnologie (IEMN), UMR CNRS 8520, RENATECH network, Villeneuve d'Ascq, 59652, France</p>
11:40 - 12:00	<p>O-LITH-15 Evaluation of a novolac based positive photoresist as Nanolmprint Lithography resist.</p> <p><u>Alessandro Pozzato</u> * 1,4; Gianluca Grecni 1; Giovanni Birarda 1,2,3; Massimo Tormen 1,4</p> <p>1 IOM CNR, Laboratorio TASC Area Science Park – Basovizza, S.S 14 Km 163.5, I-34149 Trieste, Italy; 2 Elettra Synchrotron Light Laboratory, S.S. 14 Km 163.5, 34149 Basovizza, Trieste, Italy; 3 University of Trieste, PhD Nanotechnology, P.le Europa 1, I-34127, Trieste, Italy; 4 ThunderNIL S.r.l., Via Ugo Foscolo 8, I-35131 Padova, Italy</p>	<p>O-NANO-15 Controllable Capillary-Force-Induced Nanocollapse</p> <p>Huigao Duan 1,2; Joel Yang 2; <u>Karl Berggren</u> * 1</p> <p>1 Department of Electrical Engineering and Computer Science, Massachusetts Institute of Technology, USA; 2 Institute of Materials Science and Engineering, Agency for Science, Technology and Research, Singapore</p>	<p>O-LIFE-05 High density microfluidic arrays for Bioimprint of cancer cells</p> <p><u>Volker Nock</u> * 1; Fahmi Samsuri 1; Lynn Murray 1; John Evans 2; Maan Alkaisi 1</p> <p>1 University of Canterbury, Christchurch, New Zealand; 2 Christchurch School of Medicine and Health Sciences, University of Otago, Christchurch, New Zealand</p>
12:00 - 12:20	<p>O-LITH-16 High Aspect Nanostructure Fabrication by New Edge Lithography</p> <p><u>Sakamoto Jyunji</u> * 1,2; Nishino Tomoki 1,2; Kawata Hiroaki 1,2; Yasuda Masaaki 1,2; Hirai Yoshihiko 1,2</p> <p>1 Osaka Prefecture University, Japan; 2 JST CREST, Japan</p>	<p>O-NANO-16 Experimental research on thermo-direct fiber drawing technique</p> <p>Xin Fu 1; <u>Fei Li</u> * 1; Weiting Liu 1; Cesare Stefanini 2; Paolo Dario 2</p> <p>1 The State Key Lab of Fluid Power Transmission and Control, Zhejiang University, Hangzhou, 310027, P.R. China; 2 CRIM Lab, Polo Sant'Anna Valdera, Pontedera (Pisa), 56025, Italy</p>	<p>O-LIFE-06 Functionalized carbon nanotube devices integrated in microchannels for on-chip (bio) chemical analysis</p> <p><u>Kannan Balasubramanian</u> * 1; Alexis Vlandas 1; Tetiana Kurkina 1; Ashraf Ahmad 1; Vivek Pachauri 1; Klaus Kern 1</p> <p>1 Max-Planck-Institute for Solid State Research, Stuttgart, Germany</p>
12:20 - 13:50	Lunch & Networking		
	LITH	NANO	LIFE
	4A - MASKLESS LITHOGRAPHY II	4B - PHOTONICS II	4C - MICRODEVICES & SYSTEMS I
13:50 - 14:20	<p>O-LITH-17 INVITED Towards diffraction-unlimited 3Ddirect-laser-writing lithography</p> <p><u>Joachim FISCHER</u> 1; Georg von Freymann 1,2; Martin Wegener 1,2</p> <p>1 Institut für Angewandte Physik und DFG-Center for Functional Nanostructures (CFN), Karlsruhe Institute of Technology (KIT), Karlsruhe, 76131, Germany; 2 Institut für Nanotechnologie, Karlsruhe Institute of Technology (KIT), Eggenstein-Leopoldshafen, 76344, Germany</p>	<p>O-NANO-17 INVITED Nano-manipulating light by plasmonic antennas</p> <p><u>S. CABRINI</u> A. Weber-Bargioni, S.D. Dhuey, P.J. Schuck</p> <p>Molecular Foundry – LBNL, One Cyclotron road, MS 67R2206, Berkeley, California, 94720 USA</p>	<p>O-LIFE-07 INVITED Monolithically integrated photonic lab-on-a-chip platform for chemical and biological applications</p> <p><u>I.RAPTIS</u> 1; E. Makarona 1; M. Kitsara 1; P. Petrou 2; S. Kakabakos 2; K. Misiakos 1</p> <p>1 Institute of Microelectronics, NCSR 'Demokritos', Athens, 15310, Greece; 2 Institute of Radioisotopes & Radiodiagnostic Products, NCSR 'Demokritos', Athens, 15310, Greece</p>
14:20 - 14:40	<p>O-LITH-18 Tailoring the Cobalt:Carbon content by Focused Electron Beam controlled exposure</p> <p><u>Mihai Gabureac</u> * 1; Laurent Bernau 1; Rudolf Erni 2; Ivo Utke 1</p> <p>1 EMPA, Swiss Federal Laboratories for Materials Science and Technology, Thun, CH-3602, Switzerland; 2 EMPA, Swiss Federal Laboratories for Materials Science and Technology, Dübendorf, CH-8600, Switzerland</p>	<p>O-NANO-18 Spontaneous Emission Control of Semiconducting Nanocrystals Embedded in Nanoimprinted Polymer Photonic Crystals via Localized Surface Plasmons</p> <p><u>Vincent Reboud</u> * 1; Gaetan Leveque 2; Tim Kehoe 1; Nikolaos Kehagias 1; Damian Dudek 1; T Plaicdo 3; M. L. Curri 3; M. Striccoli 3; Clivia M. Sotomayor Torres 1</p> <p>1 Catalan Institute of Nanotechnology and (ICN-CIN2), Spain; 2 Tyndall National Institute, University College Cork, Ireland; 3 CNR IPCF Sezione Bari c/o Dipartimento di Chimica, Italy</p>	<p>O-LIFE-08 FinFET for high sensitivity ion and biological sensing applications</p> <p><u>Sara Rigante</u> * 1; Livio Lattanzio 1; Adrian M. Ionescu 1</p> <p>1 Nanoelectronics Device Laboratory (Nanolab) - EPFL, Lausanne, Switzerland</p>

14:40 - 15:00	<p align="center">O-LITH-19 Characterization of a new Cobalt precursor for Focused Beam Deposition of magnetic nanostructures</p> <p><u>G. C. Gazzadi</u> * 1; J. J. L. Mulders 2; P. Trompenaars 2; A. Ghirri 1; A. Rota 3; M. Affronte 1,3; S. Frabboni 1,3</p> <p>1 S3 center, Nanoscience Institute – CNR, Modena, I-41100, Italy; 2 FEI Electron Optics, Eindhoven, 5600 KA, The Netherlands; 3 Dipartimento di Fisica, Università di Modena e Reggio Emilia, Modena, I-41100, Italy</p>	<p align="center">O-NANO-19 Design, Fabrication and Characterization of Plasmonic Gratings</p> <p>Michele Massari 1,2; Tommaso Ongarello 1,2; Giuseppe Pirruccio 2; Pierfrancesco Zilio 1,2; Gianluca Ruffato 1,2; Marta Carli 1,2; Davide Sammito 1,4; Valentina Giorgis 1,4; Denis Garoli 1,2,4; Renato Bozio 3; Roberto Pilot 3; Raffaella Signorini 3; Piero Schiavuta 5; Francesco Marinello 6; <u>Filippo Romanato</u> * 1,2,4</p> <p>1 LANN Laboratory for Nanofabrication of Nanodevices, Corso Stati Uniti 4, Padova, Italy; 2 University of Padova, Department of Physics, Via Marzolo 8, Padova (Italy); 3 University of Padova, Department of Chemistry, Via Marzolo 1, Padova (Italy); 4 IOM CNR TASC Laboratory, Area Science Park, Basovizza Trieste (Italy); 5 CIVEN, Interuniversity Consortium for Nanotechnology of the Veneto Region, Via delle Industrie 5, Venezia-Marghera (Italy); 6 DIMEG Department of Innovation in Mechanics and Management, Via Venezia 1, Padova (Italy)</p>	<p align="center">O-LIFE-09 Micro “factory” of self-assembled peptide nanostructures for biomedical applications</p> <p>Jaime Castillo-leon 1; <u>Romén Rodríguez-trujillo</u> * 1; Sebastian Gauthier 1; Alexander Jensen 2; Winnie E. Svendsen 1</p> <p>1 DTU Nanotech, Technical University of Denmark, Denmark; 2 Copenhagen University, Denmark</p>
15:00 - 15:20	<p align="center">O-LITH-20 Electrons as “Invisible Ink”!</p> <p><u>Marie - Madeleine Walz</u> * 1; Michael Schirmer 1; Florian Vollnhals 1; Thomas Lukasczyk 1; Hans - Peter Steinrück 1; Hubertus Marbach 1</p> <p>1 Physical Chemistry II and Interdisciplinary Center for Molecular Materials (ICMM), Friedrich-Alexander-University Erlangen-Nuremberg, 91058 Erlangen, Germany</p>	<p align="center">O-NANO-20 Manipulating Resonance and Radiative Properties of Optical Bowtie Antennae by Modifying the Antenna’s Aspect Ratio while Maintaining the Enhancement</p> <p><u>Matteo Cornaglia</u> * 1; Alexander Weber-bargioni 1; Scott Dhuey 1; Alex Mcleod 1; Jeffrey Neaton 1; David Frank Ogletree 1; Peter James Schuck 1; Stefano Cabrini 1</p> <p>1 Lawrence Berkeley National Laboratory, Berkeley, 94720, USA</p>	<p align="center">O-LIFE-10 Micro-fabricated TiO2-ZrO2 Affinity Chromatography Micro Columns on Poly(methyl methacrylate) (PMMA) substrates for Phosphopeptide Analysis</p> <p>Katerina Tsougeni 1; <u>Evangolos Gogolides</u> * 1</p> <p>1 Institute of Microelectronics, NCSR “Demokritos”, PO BOX 60228, 153 10 Aghia Paraskevi, Greece</p>
15:20 - 18:00	Poster session & Reception Even Numbered Posters		
20:00 - 23:00	GALA DINNER		
Wednesday 22 September			
8:00 - 8:30	Welcome Coffee		
8:30 - 9:10	<p align="center">O-PLEN-05 PLENARY KEYNOTE Progress and challenges of ArF and EUV lithography for sub-32nm scaling</p> <p align="center">Kurt RONSE IMEC, Leuven, Belgium</p>		
9:10 - 9:50	<p align="center">O-PLEN-06 PLENARY KEYNOTE Scanning Force Microscopy on Mars</p> <p align="center">Urs STAUFER TU Delft, The Netherlands</p>		
9:50 - 10:20	Coffee Break		
	MEMS	NANO	LIFE
	5A - NANO ELECTRO MECHANICAL SYSTEMS	5B - MICRO & NANO MANUFACTURING II	5C - BIONANOSENSORS
10:20 - 10:40	<p align="center">O-MEMS-11 Fabrication of sub-10nm silicon carbon nitride resonators using a hydrogen silsesquioxane mask patterned by electron beam lithography</p> <p><u>Mohammad Ali Mohammad</u> * 1; Csaba Guthy 1,2; Steven Dew 1; Stephane Evoy 1,2; Maria Stepanova 1,2</p> <p>1 Department of Electrical and Computer Engineering, University of Alberta, Edmonton, T6G 2V4, Canada; 2 National Institute for Nanotechnology NRC, Edmonton, T6G 2M9, Canada</p>	<p align="center">O-NANO-21 Hybrid electronics based on rolled-up nanomembranes</p> <p><u>Carlos Cesar Bof Bufon</u> * 1; José David Cojal González 1; Dominic Thurmer 1; Daniel Grimm 1; Martin Bauer 1; Oliver G. Schmidt 1,2</p> <p>1 Institute for Integrative Nanosciences, IFW Dresden, Helmholtz Str. 20, 01069 Dresden, Germany; 2 Material Systems for Nanoelectronics, Chemnitz University of Technology, Reichenhainer Strasse 70, 09107 Chemnitz, Germany</p>	<p align="center">O-LIFE-11 Ordered high aspect ratio gold nanostructure arrays for biosensing</p> <p><u>Birgit Päiväranta</u> * 1; Sergey Gorelick 1; Reto Giannini 2; Luca Büchi 2; Yasin Ekinci 1,2; Christian David 1</p> <p>1 Paul Scherrer Institut Switzerland; 2 ETH Zurich Switzerland</p>

10:40 - 11:00	<p>O-MEMS-12 Fabrication of Protruding Nanoelectrode Pairs for Electromechanical Characterization of Individual Multiwalled Carbon Nanotube</p> <p><u>Kaiyu Shou</u> * 1; Didi Xu 1; Bradley Nelson 1</p> <p>1 Institute of Robotics and Intelligent Systems, ETH Zurich, Switzerland</p>	<p>O-NANO-22 Multipurpose SPM cantilevers with outstanding thickness uniformity</p> <p><u>Laure Aeschmann</u> * 1; Mathieu Burri 1; Oliver Krause 2; Emiliano Descrovi 3</p> <p>1 NanoWorld AG, Neuchâtel, 2002, Switzerland; 2 NanoWorld Services, Erlangen, 91058, Germany; 3 Politecnico di Torino, Torino, 10129, Italy</p>	<p>O-LIFE-12 Polycrystalline Silicon Nanowires Patterned by Top-Down Lithography for Biosensor Applications</p> <p><u>Kai Sun</u> * 1; M. M. A. Hakim 1; J. Kong 2; M. R. R. De Planque 1; H. Morgan 1; P.I. Roach 2; D. E. Davies 3; P. Howarth 3; P. Ashburn 1</p> <p>1 Nano Research Group, University of Southampton, Southampton, SO17 1BJ, UK; 2 School of Chemistry, University of Southampton, Southampton, SO17 1BJ, UK; 3 CSouthern General Hospital, Southampton, SO16 6YD, UK</p>
11:00 - 11:20	<p>O-MEMS-13 Silicon nanowire grown on scanning probe cantilevers from stencil-deposited catalysts</p> <p><u>Veronica Savu</u> * 1; Daniel S. Engstrom 2; Xueni Zhu 3; William I. Milne 3; Peter Boggild 2; Juergen Brugger 1</p> <p>1 Ecole Polytechnique Fédérale de Lausanne, Switzerland; 2 Technical University of Denmark, Denmark; 3 Cambridge University, United Kingdom</p>	<p>O-NANO-23 Template-directed self-assembled magnetic nanostructures for probe recording</p> <p><u>L. Heyderman</u> * 1; F. Luo 1; P. Kappenberger 2; H. H. Solak 1; C. Padeste 1; M. Bechelany 3; L. Philippe 3; T. Ashworth 4,5; D. Macharov 6; C. Brombacher 6; H. Hug 2,5; M. Albrecht 6</p> <p>1 Paul Scherrer Institut, CH-5232 Villigen PSI, Switzerland; 2 EMPA, CH-8600 Dübendorf, Switzerland; 3 EMPA, CH-3602 Thun, Switzerland; 4 NanoScan Ltd., CH-8600 Dübendorf, Switzerland; 5 University of Basel, 4056 Basel, Switzerland; 6 Chemnitz University of Technology, D-09107 Chemnitz, Germany</p>	<p>O-LIFE-13 The Configurable-Biomolecular Nano Pattern Controlled by Surface Potential</p> <p>Chih-ting Lin 1; Chih-hao Lin 1; <u>Shang-lun Chung</u> * 1; Chang-hong Li 1</p> <p>1 Graduate Institute of Electronics Engineering, National Taiwan University, Taipei 106, Taiwan</p>
11:20 - 11:40	<p>O-MEMS-14 Development of Magnetic Nanoactuator Systems</p> <p><u>Julian Hartbaum</u> * 1; Peter-jürgen Jakobs 1; Manfred Kohl 1; Harald Leiste 2</p> <p>1 Karlsruhe Institute of Technology (KIT), IMT, 76344, Germany; 2 Karlsruhe Institute of Technology (KIT), IMF 1, 76344, Germany</p>	<p>O-NANO-24 Rolled-up mesoscopic Josephson junctions</p> <p><u>Dominic J. Thurner</u> * 1; Carlos Cesar Bof Bufon 1; Christoph Deneke 1; Oliver G. Schmidt 1</p> <p>1 IFW Dresden, Helmholtzstrasse 20, 01069 - Dresden, Germany</p>	<p>O-LIFE-14 Multiple Tunnel Junction based nanobiosensors for label-free detection of cancer biomarkers</p> <p><u>Adrián Martínez Rivas</u> * 1,4; Patrick Chinestra 2; Franck Carcenac 1; Childéric Séverac 1,3; Jean-charles Faye 2; Christophe Vieu 1,3</p> <p>1 LAAS-CNRS; Université de Toulouse, 7 Av. du Colonel Roche, F-31077 Toulouse, France; 2 Institut Claudius Regaud, Biology department, F-31052, Toulouse, France; 3 Université de Toulouse, UPS, INSA, INP, ISAE ; LAAS ; F-31077 Toulouse, France; 4 CNMN; Instituto Politécnico Nacional, Luis Enrique Erro s/n, Col. Zacatenco D.F., 07738, Mexico</p>
11:40 - 12:00	<p>O-MEMS-15 Active NEMS combining a Single Crystal Silicon mechanical structure and an embedded MOSFET transistor for sensing and RF applications</p> <p><u>Eric Ollier</u> * 1</p> <p>1 CEA-LETI France</p>	<p>O-NANO-25 Long-range-ordering of nanodot arrays using self-assembled block copolymers with EB drawn guide post and line mixing templates</p> <p><u>Sumio Hosaka</u> * 1; Takashi Akabane 1; Miftakhuil Huda 1; Takuro Tamura 1; You Yin 1</p> <p>1 Gunma University (Japan); 2 Toshiba Co. (Japan)</p>	<p>O-LIFE-15 Nernst limit in dual-gated Si-nanowire FET sensors</p> <p>Oren Knopfmacher 1; <u>Alexey Tarasov</u> * 1; Wangyang Fu 1; Michel Calame 1; Christian Schönenberger 1</p> <p>1 University of Basel, Switzerland</p>
12:00 - 12:20	<p>O-MEMS-16 Carbon Nanotube Network based Tactile Pressure Sensors with Pressure Amplifying Nanostructures</p> <p>Donghyun Kim 2; <u>Chaehyun Lim</u> * 1; Ahnsung Kim 2; Kunhak Lee 2; Minho Jeong 2; Eunsuk Choi 2; Sungwo Chun 2; Jinhoo Kim 2; Dongyuan Shin 3; Seung-beck Lee 1,2,3</p> <p>1 Department of Nanoscale Semiconductor Engineering, Hanyang University, Seoul, Korea; 2 Department of Electronic Engineering, Hanyang University, Seoul, Korea; 3 Institute of Nano Science and Technology, Hanyang University, Seoul, Korea</p>	<p>O-NANO-26 Nanoimprint induced order in PS-PDMS Block Copolymer</p> <p><u>Deirdre Olynick</u> * 1; Sang-min Park 1; Manuel Moritz 1; Vincent Voet 1; Teresa Pick 1; Brett Helms 1</p> <p>1 Molecular Foundry, Lawrence Berkeley National Laboratory, Berkeley, CA USA</p>	<p>O-LIFE-16 Characterization of the deflection of thin perforated Si₃N₄ membranes of micro hole array chips used for the cell selection</p> <p><u>Christian Kurz</u> * 1; Adam Sossalla 1; Hagen Thielecke 1</p> <p>1 Fraunhofer Institute for Biomedical Engineering, St. Ingbert, 66386, Germany</p>
12:20 - 13:50	Lunch & Networking		
	MEMS	NANO	LIFE
	6A - BIOMEMS	6B - NANODOTS & NANOWIRES	6C - CELL INTERFACES
13:50 - 14:20	<p>O-MEMS-17 INVITED BioMEMS for food safety diagnostics</p> <p><u>Carlo RICCIARDI</u></p> <p>LATEMAR - Politecnico di Torino, Materials Science and Chemistry Engineering Dep., Corso Duca degli Abruzzi 24, 10129 Torino, Italy</p>	<p>O-NANO-27 INVITED Uncatalyzed and patterned III-V nanopillar formation</p> <p><u>Diane HUFFAKER</u></p> <p>California NanoSystems Institute, Electrical Engineering, University of California, Los Angeles, Engineering IV, Los Angeles, CA 90095 USA</p>	<p>O-LIFE-17 INVITED Listening to brain microcircuits - progress in wireless implantable neuroengineering devices</p> <p><u>Arto V. NURMIKKO</u>* 1,3,4; David Borton 1; W. R. Patterson 1; Y.K.- Song 1,5; Yin Ming 1; J. Aceros 1; F. Laiwalla 1; Sunmee Park 1; C. Bull 1; J. P. Donoghue 2,4; and L. R. Hochberg 1,4</p> <p>1 Division of Engineering, 2 Department of Neuroscience, 3 Department of Physics, 4 Brown Institute for Brain Science, Brown University, Providence RI 02912, USA, 5 Graduate School of Convergence Science and Technology, National University, South Korea</p>
14:20 - 14:40	<p>O-MEMS-18 Fabrication of Biopolymer Cantilevers using Nanoimprint Lithography</p> <p><u>Stephan Keller</u> * 1; Nikolaj Feidenhansl 1; Nis Fisker-bødker 1; Damien Soulat 1; Anders Greve 1; David Plackett 1; Anja Boisen 1</p> <p>1 Department of Micro- and Nanotechnology, Technical University of Denmark, DTU Nanotech, Building 345 East, Kgs. Lyngby, Denmark; 2 Rise National Laboratory for Sustainable Energy, Technical University of Denmark, DTU Risø, DK-4000, Roskilde, Denmark</p>	<p>O-NANO-28 Realization of ultra dense arrays of vertical silicon nanowires with defect free surface and perfect anisotropy using a top-down approach</p> <p><u>Xiang-lei Han</u> * 1; Guilhem Larrieu 1,2; P-f Fazzini 2; Emmanuel Dubois 1</p> <p>1 IEMN/UMR CNRS 8520 / Dpt ISEN, Avenue Poincaré, BP 60069, 59652 Villeneuve d'Ascq, France; 2 LAAS-CNRS, 7 av. du Col. Roche, 31077 Toulouse, France</p>	<p>O-LIFE-18 Differentiating stem cells on patterned substrates for neural network formation</p> <p>Chunxiong Luo 1,2; Xiaofang Ni 1,3; Li Liu 1; Shin-ichiro M. Nomura 1; <u>Yong Chen</u> * 1,2,3</p> <p>1 Institute for Integrated Cell-Material Sciences, Kyoto University, Japan; 2 Peking University, China; 3 Ecole Normale Supérieure, France</p>

14:40 - 15:00	<p>O-MEMS-19 Cantilever based microfluidic flow meter for sub nL/min resolution</p> <p><u>Nadine Noeth</u> * 1; Stephan Keller 1; Stefanie Fetz 2; Oliver Geschke 3; Anja Boisen 1</p> <p>1 DTU Department of Micro- and Nanotechnology, Kongens Lyngby, 2800, Denmark; 2 Z-werkzeugbau GmbH, Dornbirn, 6850, Austria; 3 Aquaporin A/S, Copenhagen, 2200, Denmark</p>	<p>O-NANO-29 Controlled assembly of rod-shaped colloidal nanocrystals for optoelectronic applications</p> <p><u>Roman Krahne</u> * 1; Maria Grazia Lupo 2; Margherita Zavelani-rossi 2; Anna Persano 3; Adriano Cola 3; Guglielmo Lanzani 2; Liberato Manna 1</p> <p>1 Italian Institute of Technology, Genova, Italy; 2 Politecnico di Milano, Italy; 3 Institute for Microelectronics and Microsystems of CNR, Lecce, Italy</p>	<p>O-LIFE-19 Multi-scale engineering for neural cell growth and differentiation</p> <p><u>Amélie Bédier</u> * 1,2,6; Laurence Vaysse 3,4; Emmanuel Flahaut 2,5; Florent Seichepine 1,2,5; Isabelle Loubinoux 3,4; Christophe Vieu 1,2,6</p> <p>1 CNRS-LAAS, 7avenue du colonel Roche,F-31077 Toulouse, France.; 2 Université de Toulouse,UPS, INSA, INP, ISAE, LAAS F-31059, France; 3 INSERM, UMR 825 ; F-31059 Toulouse, France.; 4 Université de Toulouse, UPS, UMR 825, CHU Purpan, F-31059 Toulouse France; 5 Université de Toulouse ; UPS, INP ; Institut Carnot Cirimat, F-31062 Toulouse, France; 6 ITAV, Centre Pierre Potier, F-31106 Toulouse, France</p>
15:00 - 15:20	<p>O-MEMS-20 Fabrication of Bioprobe Integrated with Hollow Nanoneedle for Novel AFM Applications in Cellular Function Analysis</p> <p><u>Norihisa Kato</u> * 1; Shuhei Horieke 1; Moeto Nagai 1; Takahiro Kawashima 1; Takayuki Shibata 1; Takashi Mineta 2; Eiji Makino 2</p> <p>1 Toyohashi University of Technology, JAPAN; 2 Hirosaki University, JAPAN</p>	<p>O-NANO-30 Sculptured thin film nanowire photoelectrodes in dye sensitized solar cells</p> <p>Sean Pursel 1; S. H. Anna Lee 1; Tom Mallouk 1; <u>Mark Horn</u> * 1</p> <p>1 The Pennsylvania State University, USA</p>	<p>O-LIFE-20 A Wireless Microsystem With Digital Data Compression For Neural Signal Recording</p> <p>Andrea Bonfanti 1; <u>Guido Zambra</u> 1; Gytis Baranauskas 2; Gian Nicola Angotzi 2; Emma Maggolini 2; Marianna Sempri 2; Alessandro Vato 2; Luciano Fadiga 2,3; Alessandro Sotocornola Spinelli 1; <u>Andrea Leonardo Lacaita</u> * 1</p> <p>1 Dip. di Elettronica e Informazione, Politecnico di Milano, piazza L. da Vinci 32, 20133 Milano, Italy; 2 Department of Robotics, Brain and Cognitive Sciences, IIT, Genova 16163, Italy; 3 Dipartimento di Scienze Biomediche e Terapie Avanzate, Univ. degli Studi di Ferrara, Italy</p>
15:20 - 15:50	Coffee		
	LITH	NANO	LIFE
	7A - MATERIALS & DEVICES	7B - CNTS, GRAPHENE AND DIAMOND APPLICATIONS	7C - MICRODEVICES & SYSTEMS II
15:50 - 16:00			
16:00 - 16:20	<p>O-LITH-21 INVITED InkJet nanotechnologies for plastic electronics</p> <p><u>Mario CAIRONI</u></p> <p>Cavendish Laboratory, Cambridge, UK</p>	<p>O-NANO-31 INVITED High-quality graphene in unexpected places</p> <p><u>Vittorio PELLEGRINI</u></p> <p>NEST-CNR Istituto Nanoscienze and Scuola Normale Superiore, Pisa, Italy</p>	<p>O-LIFE-21 Gold microheater for investigation of thermo-mechanism of heat shock proteins in a single cell</p> <p><u>Kenta Yamasa</u> * 1; Patrick Ginet 1; Sebastian Volz 2; Kevin Montagne 2; Yasuyuki Sakai 1; Dominique Fourmy 2; Ali Rajabpour 1; Beomjoon Kim 1</p> <p>1 Institute of Industrial Science, the University of Tokyo, Tokyo, Japan; 2 LIMMS/CNRS-IIS (UMI 2820), the University of Tokyo, Tokyo, Japan</p>
16:20 - 16:40	<p>O-LITH-22 Helium ion beam lithography using metal oxide resists</p> <p>Vadim Sidorkin 1; Emile Van Veldhoven 2; <u>Emile Van Der Drift</u> * 1; Paul Alkemade 1; Huub Salemink 1; Diederik Maas 2</p> <p>1 Kavli Institute of Nanoscience, Delft University of Technology, Lorentzweg 1, Delft 2628CJ, The Netherlands; 2 TNO Science and Industry, Stieltjesweg 1, Delft 2628CK, The Netherlands</p>	<p>O-NANO-32 Characteristics of a graphene FET transformed from a resist pattern through interfacial graphitization of liquid gallium</p> <p>Yosuke Miyazawa 1; Ryuichi Ueki 1; Takuya Nishijima 1; <u>Jun-ichi Fujita</u> * 1,2</p> <p>1 Institute of Applied Physics, University of Tsukuba, Japan; 2 PRESTO JST, Japan Science and Technology Agency, Japan</p>	<p>O-LIFE-22 Fully automated readout system for parallel characterization of microcantilever arrays using DVD-ROM pickup heads</p> <p><u>Filippo Giacomo Bosco</u> * 1; En-te Hwu 2; C. H. Chen 2; Stephan Keller 1; Anja Boisen 1</p> <p>1 DTU Nanotech Denmark; 2 Academia Sinica, Taiwan</p>
16:40 - 17:00	<p>O-LITH-23 Deposition of a conductivity-switching polyimide film by molecular layer deposition and electrical modification using scanning probe microscope</p> <p><u>Yoshida Shinya</u> * 1; Ono Takahito 2; Esashi Masayoshi 1</p> <p>1 WPI Advanced Institute for Materials Research, Tohoku University, Sendai, 980-8579, Japan; 2 Graduate School of Engineering, Tohoku University, Sendai, 980-8579, Japan</p>	<p>O-NANO-33 Processing Of 50nm Gate-length Hydrogen Terminated Diamond FETs For High Frequency and High Power Applications</p> <p><u>David Moran</u> * 1; Donald Maclaren 2; Samuele Porro 3; Helen Mclelland 1; Phillip John 3; John Wilson 3</p> <p>1 Electronics and Electrical Engineering, University of Glasgow, Glasgow, G12 8LT, U.K; 2 Physics and Astronomy, University of Glasgow, Glasgow, G12 8QQ, U.K; 3 Engineering and Physical Sciences, Heriot-Watt University, Edinburgh, EH14 4AS, U.K</p>	<p>O-LIFE-23 Planar micro-direct methanol fuel cell prototyped by rapid powder blasting</p> <p><u>Meng Shen</u> * 1; Staphan Walter 1; Martin Gijs 1</p> <p>1 Laboratory of Microsystems, Ecole Polytechnique Fédérale de Lausanne, CH-1015 Lausanne, Switzerland</p>
17:00 - 17:20	<p>O-LITH-24 Chemical modification and patterning of self assembled monolayers using scanning electron and ion beam lithography</p> <p><u>Cesar Pascual Garcia</u> * 1; Gerardo Marchesini 1; Douglas Guillard 1; Dora Mehn 1; Giacomo Ceccone 1; Pascal Colpo 1; Francois Rossi 1</p> <p>1 Institute for Health and Consumers protection, Joint Research Centre of the European Commission, Ispra 21020 Italy</p>	<p>O-NANO-34 Reproducible fabrication of optical antennae on Scanning Probe tips for high resolution spectral Raman mapping of Carbon Nano Tubes</p> <p><u>Alexander Weber-bargioni</u> * 1; Adam Schwartzberg 1; Ariel Ismach 1; David Frank Ogletree 1; Peter James Schuck 1; Stefano Cabrini 1</p> <p>1 Lawrence Berkeley National Laboratory</p>	<p>O-LIFE-24 An integrated on chip organic optical source</p> <p>Sébastien Méance 1,2,3; Kévin Papin 1; Guillaume Aubry 1,2,3; Qingli Kou 2,3; Anne-marie <u>Haghiiri-gosnet</u> * 1</p> <p>1 CNRS, Laboratoire de Photonique et de Nanostructures, UPR20, Marcoussis, 91460, France; 2 Univ Paris-Sud, Institut des Sciences Moléculaires d'Orsay, FRE3363, Orsay, 91405, France; 3 CNRS, Orsay, 91405, France</p>
17:20 - 17:40	<p>O-LITH-25 Fabrication of waveguide coupling devices using unique Fixed Beam Moving Stage (FBMS) mode for electron beam lithography</p> <p>Jason E. Sanabia 1; Joseph Klingfus 1; Mirwais Aktary 1; <u>Guido Piaszenski</u> * 2</p> <p>1 Raith USA, Inc., 2805 Veterans Highway Suite 23, Ronkonkoma, New York 11779 USA; 2 Raith GmbH, Konrad-Adenauer-Allee 8, Dortmund, 44263, Germany</p>	<p>O-NANO-35 Floating-Potential Self-Assembly of Single-Walled Carbon Nanotube Transistors by Ac-Dielectrophoresis</p> <p><u>Ji Cao</u> * 1; Anupama Arun 1; Adrian M. Ionescu 1</p> <p>1 Nanolab, Ecole Polytechnique Fédérale de Lausanne, Lausanne, CH-1015, Switzerland</p>	
17:40	Closing remarks		

POSTER LIST

P-LIFE-01 - A cellular preconcentrator utilizing dielectrophoresis generated by curvy electrodes in stepping electric fields

Ho-hsien Chang [1]; Ching-te Huang [1]; Chun-ping Jen * [1]

[1] Department of Mechanical Engineering, National Chung Cheng University, Chia-Yi, Taiwan, R.O.C.

P-LIFE-02 - Design of three-dimensional cellular focusing utilizing negative dielectrophoretic force

Cheng-hsin Weng [1]; Ching-te Huang [1]; Chun-ping Jen * [1]

[1] Department of Mechanical Engineering, National Chung Cheng University, Chia-Yi, Taiwan, R.O.C.

P-LIFE-03 - Ultrahydrophobic PMMA micro- and nano-textured surfaces fabricated by optical lithography and plasma etching for X-Ray diffraction studies

Angelo Accardo * [1,2]; Francesco Gentile [1]; Federico Mecarini [1,3]; Francesco De Angelis [1,3]; Manfred Burghammer [2]; Enzo Di Fabrizio [1,3]; Christian Riekel [2]

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P-LIFE-04 - Sinusoidal Plasmonic Crystals for Bio-Detection Sensors

Gabriele Zacco * [1,2,3]; Agnese Sonato [3]; Davide Sammito [2,3]; Gianluca Ruffato [1,3]; Margherita Morpurgo [5]; Davide Silvestri [5]; Marta Carli [3]; Piero Schiavuta [6]; Giovanna Brusatin [4]; Filippo Romanato [1,2,3]

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P-LIFE-05 - Tin Oxide Nanosensors for Highly Sensitive Toxic Gas Detection and their 3D System Integration

Anton Köck * [1]; Christian Griessler [1]; Thomas Maier [1]; Teva Jordi [2]; Franz Schrank [2]; Martin Schrems [2]

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P-LIFE-06 - Fabrication and Testing of a Novel Particle Separation Device using AC electroosmosis

Andreas Dietzel * [1,2]; Danny Van Der Donk [1]; Z Liu [1]; Roy Derks [1,3]; Arjan Frijns [1]

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P-LIFE-07 - Biomolecular Interactions o 2D & 3D Arrayed Nanostructures

Gerardo Marchesini * [1]; Patricia Lisboa [1]; Cesar Pascual [1]; Pascal Colpo [1]; Francois Rossi [1]

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P-LIFE-08 - Fabrication of polymer fiber scaffolds by centrifugal spinning for cell culture studies

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P-LIFE-09 - Temperature insensitive conductance detection with surface-functionalised silicon nanowire sensors

Mohammad Adel Ghiass * [1]; Silvia Armini [2]; Marta Carli [2]; Arantxa Maestre Caro [2]; Vladimir Cherman [2]; Jun Ogi [3]; Shunri Oda [3]; Zakaria Moktadir [1]; Yoshishige Tsuchiya [1]; Hiroshi Mizuta [1]

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P-LIFE-10 - A MEMS tactile sensor array for texture recognition

Haseena Muhammad * [1]; Carmine Recchiuto [2]; Calogero Oddo [2]; Lucia Beccai [2,4]; Michael Adams [3]; Mike Ward [1]

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P-LIFE-11 - Biological nanowires for diagnostics

Saroj Kumar * [1]; Lasse Ten Siethoff [1]; Alf Månsson [1]

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P-LIFE-12 - Effect of bend radius on the sensitivity of C-shaped embedded polymer waveguide based lab on a chip sensors.

Amit Prabhakar * [1]; Soumyo Mukherji [1]

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P-LIFE-13 - Cobalt oxide nanosheet humidity sensor integrated with circuits on chip

Ching-linag Dai * [1]; Yen-chi Chen [1]

[1] Department of Mechanical Engineering, National Chung Hsing University, Taiwan

P-LIFE-14 - Studying bacterial adhesion forces: Staphylococcus aureus on elastic poly(dimethyl)siloxane substrates

Peter Nill * [1]; Nadine Goehring [2]; Ronny Loeffler [1]; Andreas Peschel [2]; Dieter P. Kern [1]

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P-LIFE-15 - Impedance spectroscopy of adhesive cells cultured on nanoporous membrane

Lianmei Jiang * [1]; Jian Shi [1]; Xin Li [1]; Hao Li [1]; Jun Liu [1]; Jiannong Ye [1,3]; Yong Chen [1,2]

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P-LIFE-16 - Cell culture behaviors on AAO nanoporous substrates with and without geometry constrains

Jie Hu [1]; Jinhua Tian [1]; Jian Shi * [1]; Fan Zhang [1];

D.l. He [2]; Dongjun Jung [3]; Li Liu [3]; Jinbo Bai [2]; Yong Chen [1,3]

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P-LIFE-17 - Acetylcholinesterase oriented immobilization on nanopatterned bilayered surfaces for biosensing devices

Manuela Bartolini * [1]; Marina Naldi [1]; Dan Nicolau [2]; F.c.m.j.m. Van Delft [3]; J. Van Zijl [3]; J. Snijder [3]; F.c. Van Den Heuvel [3]; Vincenza Andrisano [1]

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P-LIFE-18 - Chemical detection by silicon nanowire sensor fabricated by AFM

Javier Martinez * [1]; Nuria Sanchez Losilla [1]; Eva Bystrenova [2]; Massimiliano Cavallini [2]; Fabio Biscarini [2]; Ricardo Garcia [1]

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P-LIFE-19 - Performance of a multi-electrode silicon-based dielectrophoretic cage device using four electrical contacts

Nusraat Masood * [1]; Graham Ferrier [1]; Douglas Thomson [1]; Douglas Buchanan [1]

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P-LIFE-20 - Thin graphitic electrodes for dielectrophoresis

Henrik Hartmann Henrichsen * [1]; Maria Dimaki [1]; Peter Bøggild [1]

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P-LIFE-21 - Bioimprinted polymers as cell-patterned substrates for cell culture

Lynn Murray * [1]; Fahmi Samsuri [1]; Volker Nock [1]; John Evans [2]; Maan Alkaisi [1]

[1] University of Canterbury, Christchurch, New Zealand; [2] Christchurch School of Medicine and Health Sciences, University of Otago, Christchurch, New Zealand

P-LIFE-22 - NanoPorous- MicroPatterned- SuperHydrophobic Surfaces as Concentrating/Harvesting Agents For Low Molecular Weight Proteins

Francesco Gentile [1]; Angelo Accardo [1,2]; Maria Laura Coluccio [1]; Monica Asande [1]; Gheorghe Cojoc [1]; Gobind Das * [3]; Carlo Liberale [3]; Francesco De Angelis [3]; Patrizio Candeloro [1]; Paolo Decuzzi [1,4]; Enzo Di Fabrizio [1,3]

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P-LIFE-23 - Fabrication and characterization of silver deposited micro fabricated quartz arrays for surface enhanced Raman spectroscopy (SERS)

Uwe Huebner * [1]; Karina Weber [2]; Dana Cialla [2]; Henrik Schneidewind [1]; Hans-georg Meyer [1]; Juergen Popp [1,2]

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P-LIFE-24 - Effect of Oleic acid surfactant on the viscoelastic behavior of polystyrene film prepared by solvent casting

Niranjan Patra * [1,2]; Marco Salerno [2]; Alberto Diaspro [2]; Athanassia Athanassiou [2]

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P-LIFE-25 - Fluorescence enhancement from plasmonic Au templates

Panagiota Petrou [1]; Ioannis Raptis * [2]; Sotiris Kakabakos [1]; Thanasis Speliotis [3]; Annamaria Gerardino [4]; Nikolaos Papanikolaou [2]

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P-LIFE-26 - Fabrication of high density metal nanopillars and demonstration of cell culture compatibility

Jinhua Tian * [1,2]; Jie Hu [1]; Fan Zhang [1]; Jian Shi [1]; Jun Liu [1]; Zhongqun Tian [2]; Yong Chen [1,3]

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P-LIFE-27 - Self-assembly of Micromotors Self-Propelled by Accumulated Gas Bubbles

Jin-xing Li * [1]; Bing-rui Lu [1]; Chen Gao [1]; Zhenkui Shen [1]; Zhen-cheng Xu [1]; Hui Li [1]; Jiangrong Fang [1]; Juanjuan Wen [1]; Zhi-dong Li [1]; Ejaz Huq [2]; Xinping Qu [1]; Yongfeng Mei [3,4]; Yifang Chen [2]; Ran Liu [1]

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P-LIFE-28 - Replication of high aspect ratio pillar array structures in biocompatible polymers for tissue engineering applications

Celestino Padeste * [1]; Hayriye Özcelik [2]; Jörg Ziegler [1]; Arne Schleunitz [1]; Martin Bednarzik [1]; Vasif Hasirci [2]

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P-LIFE-29 - Design and Fabrication of a GMR sensor based microsystem for concentrating and detecting magnetic particles

Chinthaka Gooneratne * [1]; Cai Liang [1]; Jürgen Kosel [1]

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P-LIFE-30 - Control of nanohole sizes formed in thermally grown SiO₂ films for high sensitivity biosensors

Makoto Fujimaki * [1]; Koichi Awazu [1]; Tetsuro Komatsubara [2]

[1] National Institute of Advanced Industrial Science and Technology, Japan; [2] University of Tsukuba, Japan

P-LIFE-31 - Selective adherence and growth of cells on micropatterned silicon substrates through photolithographic patterning of poly(vinyl alcohol) film

Athanasia Bourkoulas * [1]; Aimilia Psarouli [1]; Pagona Pavli [2]; Panagiota Petrou [1]; Dimitra Dimotikali [3]; Nikolaos Chaniotakis [4]; Panagiotis Argitis [2]; Sotirios Kakabakos [1]

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P-LIFE-32 - Selective protein immobilization by using photopatternable non-fouling polyvinyl alcohol structures

P. Pavli * [1,3]; P.s. Petrou [2]; A.m. Douvas [1]; Eleni Makarona [1]; S. Kakabakos [2]; D. Dimotikali [3]; Panagiotis Argitis [1]

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P-LIFE-33 - High Mass Sensitivity Bio-mass Sensor Using the Radial-contour-mode Disk Resonator

Amir Heidari * [1]; Yong-jin Yoon [1]; Pei-chen Su [2]; Hae-jin Choi [3]

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P-LIFE-34 - Selective grafting of proteins on Janus particles: Adsorption and covalent coupling strategies.

S. Sarla [1]; Thibault Honegger * [1]; Kevin Berton [1]; Alice Nicolas [1]; David Peyrade [1]

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P-LIFE-35 - Protein biomarker chip for sepsis based on nanostructured substrates and metal enhanced fluorescence

Claudia Preininger * [1]; Ursula Sauer [1]; Mustapha Chouiki [2]; Rainer Schoeftner [2]

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P-LIFE-36 - Ultrasensitive real time biomass sensor using Lamé mode square resonator

Amir Heidari * [1,2]; Yong-jin Yoon [2]; Woo-tae Park [1]; Julius Tsai Ming Lin [1]

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P-LIFE-37 - Development and characterization of a stretchable electrode on soft polymer for mammalian cell monitoring and stimulation

Elisa Buselli * [1]; Alan Smith [2]; Liam Grover [2]; Arianna Menciassi [1,3]; Virgilio Mattoli [3]; Lucia Beccai [3]

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P-LIFE-38 - Analytical approach to the investigation of the transient response of multipurpose thermopile-based MEMS sensors

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P-LIFE-39 - Direct nanoimprint of triangle grating structures in plastic substrates for transmission-mode SPR

Keith Morton * [1]; Lidija Malic [1]; Teodor Veres [1]

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P-LIFE-40 - Cluster beam deposition: a nanofabrication approach for tuning the properties of surfaces and understanding the role of nanodimension in life science

Gero Bongiorno * [1]; Pasquale E. Scopelliti [1,2]; Vimal

K. Sharma [1,3]; Alessandro Podestà [2]; Cristina Lenardi [1,2]; Paolo Milani [1,2]

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P-LIFE-41 - Micro/Nanostructured Surfaces for DNA Immobilisation

Jenny Aveyard [1]; Falco Van Delft [2]; J Van Zijl [2]; J Snijder [2]; E Van Den Heuvel [2]; Serban Dobroiu [1]; Dan V. Nicolau * [1]

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P-LIFE-42 - Fabrication of gold micro-spine structures for improvement of cell/device adhesion

Gregory Panaitov * [1]; Simon Thiery [1]; Boris Hofmann [1]; Andreas Offenhäusser [1]

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P-LIFE-43 - Behaviour of Molecular Motors-based Devices on Micro-Contact-Printed Substrates

Kristi L. Hanson [1]; Andre Shmygol [2]; Florin Fulga [2]; Luminita Paraoan [2]; Dan V. Nicolau * [1,2]

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P-LIFE-44 - Bionic Soft Lens Materials Based on Self-Assembling Amphiphilic Block Copolymer/Nanoparticle Hybrids

Chi-an Dai * [1]; Chien-chun Chen [1]; Wen-pin Shih [2]; Jia-yush Yen [2]

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P-LIFE-45 - Capillary force assembly of giant vesicles on a microstructured substrate

Nicolas Broguiere * [1,2]; Tatiana Pinedo-rivera [1]; Brigitte Pepin-donat [2]; Alice Nicolas [1]; David Peyrade [1]

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P-LIFE-46 - Arrays of nano-structured surfaces to probe adhesion and viability of bacteria

Andras Komaromy [1]; Shuyan Li [1]; Hailong Zhang [1]; Dan Nicolau [2]; Reinhard Boysen * [1]; Milton Hearn [1]

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P-LIFE-47 - Plasmon polariton nano-antenna for Single Molecule Detection

Francesco De Angelis [2]; Gobind Das [2]; Marco Francardi * [1]; Patrizio Candeloro [1]; Carlo Liberale [2]; Federico Mecarini [2]; Enzo Di Fabrizio [1,2]

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P-LIFE-48 - Planar microfluidic reactors for photocatalysis

Lei Lei [1]; Wang Ning [1]; Tai Qi Dong [1]; Tsai Din Ping [2]; Zhang Xu Ming [1]; Chan-wong Lai Wa Helen * [1]

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P-LIFE-49 - Design of microfluidic devices for drug screening on in-vitro cells to optimize

Francesca Nason [1,2]; Elisa Morganti * [3]; Cristian Collini [3]; Cristina Ressa [3]; Giancarlo Pennati [1]; Federica Boschetti [1]; Giovanni Lombardi [4]; Alessandra Colombini [4]; Giuseppe Banfi [4]; Leandro Lorenzelli [3]; Gabriele Dubini [1]

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P-LIFE-50 - PDMS microfluidic systems for medical diagnostics

Walter Schrott * [1]; Marek Nebyla [1]; Michal Přebyl [1]

P-LIFE-51 - Micro Squeeze Flow Rheometer for High Frequency Analysis of Nano-litre Volumes of Viscoelastic Fluid

David Cheneler * [1]; James Bowen [2]; Mike Ward [1]; Mike Adams [2]

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P-LIFE-52 - Soft nanopatterning of active materials and nanofluids for organic photonic devices

Giovanni Potente * [1]; Elisa Mele [2]; Luana Persano [1]; Andrea Camposeo [1]; Roberto Cingolani [3]; Dario Pisignano [1]

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P-LIFE-53 - In-situ synthesis of Au nanoparticles in 3D circular microchannels in PDMS using a simple and reliable moulding method

Shailaja Agrawal [1]; Amit Morarka * [2]; Kishore Paknikar [1]; Dhananjay Bodas [1]

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P-LIFE-54 - Microfluidic devices for cell culture on double layer substrates of different Young's modulus

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P-LIFE-55 - Air Molding for Planar Patch Clamp on Neuronal Networks

Alessandro Bosca * [1]; Patrizia Guida [2]; Giuseppe Firpo [2]; Emanuele Marconi [1]; Fernando Brandi [1]; Luca Repetto [2]; Fabio Benfenati [1]; Ugo Valbusa [2]

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P-LIFE-56 - Design and development of a micro-system to analyze biological structures.

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P-LIFE-57 - Fabrication of Pneumatically-Driven Single Cell Trap

Tae Kyung Kim [1]; Ok Chan Jeong * [1]

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P-LIFE-58 - Intracellular Calcium Oscillation in MG-63 Cell Induced by Steady and Pulsed Shear Stresses

Jong Heon Jeon [1]; Ok Chan Jeong * [1]

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P-LIFE-59 - Dynamic iris – two alternative concepts

Christina Kimmle * [1]; Christoph Döring [1]; Henning Fouckhardt [1]

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P-LIFE-60 - Comparative study of Dipole, Quadrupole and Octupole Microelectrodes for Trapping Cells

S. Noorjannah Ibrahim * [1,2]; Maan M. Alkaisi [1,2]

[1] Department of Electrical and Computer Engineering University of Canterbury, Christchurch, New Zealand .; [2] MacDiarmid Institute for Advanced Materials & Nanotechnology, New Zealand

P-LIFE-61 - Diverse approaches for creation of surfaces with gradient wettability to achieve liquid droplet movement

Athanassia Athanassiou * [1,2]; Francesca Villafiorita Monteleone [1]; Fabrizio Spano [2]; Despina Fragouli [2]; Roberto Cingolani [3]

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P-LIFE-62 - Real-time and on-line impedance monitoring of yeast cell culture behaviours

Jiaji Liu * [1]; Hao Li [1]; Fan Zhang [1]; Xin Li [1]; Li Wang [1]; Yong Chen [1,2]

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P-LIFE-63 - Growth of cerebellar granule cells on micropatterns and in microfluidic channels

Li Liu [1]; Qinghua Yuan [1]; Li Wang [1]; Ken-ichiro Kamei * [1]; Jeffrey M Robens [1]; Mineko Kengaku [1]; Yong Chen [1,2]

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P-LIFE-64 - Exotic droplets formed in microfluidic chips with uniform wettability

Josias Wacker * [1]; Guillaume Louis [1]; Cédric Razaname [1]; Virendra Kumar Parashar [1]; Martin Gijs [1]

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P-LIFE-65 - Atomic Force Microscope study of endometrial cancer cell membranes following replication using UV-Bioimprint technique

Fahmi Samsuri * [1]; Maan Alkaisi [1]; John J. Evans [2]; Kenny Chitcholtan [2]; John S. Mitchell [3]

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P-LIFE-66 - Three-dimensional simultaneous measurements of micro-fluorescent-particle position and temperature field via digital Hologram

Shin-ichi Satake * [1]; Takafumi Anraku [1]; Fumihiko Tamoto [1]; Kazuho Sato [3]; Tomoaki Kunugi [2]

[1] Tokyo University of Science, Japan; [2] Kyoto University, Japan; [3] Toyota Industries Corp., Japan

P-LIFE-67 - Microfluidic actuators for micro analysis systems in bioaffinity assays

Elisa Morganti * [1]; Elisa Buselli [2]; Cristian Collini [1]; Arianna Menciaci [2,3]; Leandro Lorenzelli [1]

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P-LIFE-68 - Fabrication of High-aspect-ratio Amorphous Perfluorinated Polymer Structure For Total Internal Reflection Fluorescence Microscopy

Asahi Nakahara * [1]; Yoshitaka Shirasaki [2]; Kentaro Kawai [1]; Osamu Ohara [2]; Jun Mizuno [1]; Shuichi Shoji [1]

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P-LIFE-69 - Slurry mixing device with microchannels for gelcasting

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P-LIFE-70 - Detection of β -Amyloid (1-42) on a microfluidic chip based on electrochemical detection.

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P-LIFE-71 - Dynamical behaviour of diffusion layer around cation-exchange membrane in an external electric field

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P-LIFE-72 - Integrated microchip for cell lysis and PCR using microfluidic system

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P-LIFE-73 - Topographical Patterning For Microfluidic Round Channels Fabrication

Magalie De Ville * [1,2]; Philippe Coquet [1]; Philippe Brunet [1]; Rabah Boukherroub [2]; Yannick Coffinier [2]

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P-LIFE-74 - A PVDC membrane integrated PDMS microfluidic device for generating oxygen gradients

Ning Li * [1]; Chunxiong Luo [1]; Xuejun Zhu [1]; Yong Chen [1,2]; Qi Ouyang [1]; Liping Zhou [1]

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P-LIFE-75 - Effects of Microstructure Geometry and Plasma Modification on Wetting Properties of SU-8 Surface

Seiya Kobayashi * [1]; Eiji Makino [2]; Takashi Mineta [2]; Tomohiro Komatsuzaki [2]

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P-LIFE-76 - Microchip capillary electrophoresis device for amperometric detection of DNA

Rohit Chand * [1]; You-cheol Jang [1]; Sandeep Kumar Jha [1]; Yong-sang Kim [1,2]

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P-LIFE-77 - Elastomeric nanocomposite based on Carbon Nanotubes for Polymerase Chain Reaction device

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P-LIFE-78 - Microdisk viscous micropumps with magnetic actuation for use in microfluidic applications

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P-LIFE-79 - Microreactors for radiochemistry

Zacheo Antonella * [1]; Pascali Giancarlo [2]; Salvadori Piero [2]; Zizzari Alessandra [1]; Perrone Elisabetta [1]; De Marco Luisa [1]; Gigli Giuseppe [1]; Rinaldi Ross [1]; Arima Valentina [1]

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P-LIFE-80 - Microfluidic chip with temporal and spatial concentration generation capabilities for studying cellular response

Ranjana Sahai * [1]; Marco Cecchini [1]; Piero Castrataro [2]; Chiara Martino [2,3]; Aldo Ferrari [4]; Arianna Menciassi [2]; Fabio Beltram [1]

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P-LIFE-81 - A PDMS-Based Thermopneumatic Micropump with Parylene Inner Walls

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P-LIFE-82 - Real-time biochemical response upon chemical stimulation of living monocytes investigated by Fourier Transform Infrared Microspectroscopy (μ -FTIR)

Giovanni Birarda * [1,2,5]; Gianluca Greci [2]; Luca Businaro [3]; Massimo Tormen [2]; Sabrina Pacor [4]; Lisa Vaccari [1]

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P-LIFE-83 - EWOD-based chip characterization under AC voltage

Rachid Malk [1,2]; Laurent Davoust * [2]; Yves Fouillet [1]

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P-LIFE-84 - High-density patterning of proteins on substrates for applications in lab-on-a chip devices and microarrays

Antonia Malainou * [1]; Aggeliki Tserepi [1]; Panayiota Petrou [2]; Sotirios Kakabakos [2]; Evangelos Gogolides [1]

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P-LIFE-85 - Spatially-Controlled and Diffusion-Driven Nucleation of Protein Crystals at the Oil/Water Interface in Microchambers

Clothilde Longuet [1,2,3]; Jacques Fattaccioli * [1,2,3]; Ayako Yamada [1,2,3]; Damien Baigl [1,2,3]; Yong Chen [1,2,3]

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P-LIFE-86 - Development of a multipurpose biochip with integrated microfluidic components

Anna Grazia Monteduro * [1]; Elisabetta Primiceri [1]; Maria Serena Chiriaco [1]; Eliana D'amone [1]; Ross Rinaldi [1]; Giuseppe Maruccio [1]

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P-LIFE-87 - Deposition and Structuring of Ag/AgCl Electrodes into a closed Polymeric Microfluidic System for Electroosmotic Pumping

Paul Van Der Ploeg [1]; Heuck Friedjof * [1]; Urs Stauer [1]

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P-LIFE-88 - Micromolding for Ceramical Microneedle Arrays

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P-LIFE-89 - Lab-on-a-cartridge sample preparation system featuring microfluidics metering of precise template aliquots for molecular diagnosis

Daniel Y. S. Lee * [1]; Guolin Xu [1]; Tseng-ming Hsieh [1]; Emril Mohamed Ali [1]; Hong Xie [1]; Xing Lun Looi [1]; Mo-huang Li [1]; Jackie Y. Ying [1]

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P-LITH-00 - INVITED Measurement of Acid-Generated Latent Image in Polymer Matrix by Fluorescence Microscopy

Adam J. Berro, Peter T. Carmichael, Andrew J. Berglund, and J. Alexander Liddle

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P-LITH-01 - INVITED Short-Lived Intermediates of Fluorinated Benzene Derivatives Generated upon Exposure to Ionizing Radiation

S. Higashino [1]; K.Okamoto [2,3]; A. Saeki [1,3]; T. Kozawa [1,3]; and S. Tagawa [1,3]

[1] Osaka University; [2] Hokkaido University; [3] CREST-JST, Japan

P-LITH-02 - Reduction of Mask Mfg. TAT and Cost by the Synergy of MDP, Mask Writing, and Mask Inspection

Masaki Yamabe * [1]; Tadao Inoue [2]; Masahiro Shoji [3]; Akio Yamada [4]; Hiromichi Hoshi [5]; Keninch Takahara [6]

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P-LITH-03 - Development of coherent scatterometry microscope for EUV mask inspection

Hiroo Kinoshita * [1]; Tetuo Harada [1]; Yutaka Nagata [2]; Takeo Watanabe [1]

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P-LITH-04 - Electrostatic clamping with an EUVL mask chuck: particle issues

Gerhard Kalkowski * [1]; Stefan Risse [1]; Jacob R. Zeuske [2]; Sandra Müller [1]

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P-LITH-05 - Nonlinear Mechanical Model of PDMS (Polydimethylsiloxane) Elastomer

Tae Kyung Kim [1]; Jeong Koo Kim [1]; Ok Chan Jeong * [1]

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P-LITH-06 - Study on delamination mechanism of SU-8 micropillars on a Si-substrate under bend loading by Weibull analysis

Toshikazu Tasaki * [1]; Tso-fu Mark Chang [1]; Chiemi Ishiyama [1]; Masato Sone [1]

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P-LITH-07 - New lithographic requirements of the implant levels in scaled devices

Tom Vandeweyer * [1]; Christina Baerts [1]; Naoto Horiguchi [1]; Monique Ercken [1]

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P-LITH-08 - Novel thermoplastic polymers with improved release properties for thermal NIL

Hakan Atasoy * [1]; Marko Vogler [1]; Tomi Haatainen [2]; Arne Schleunitz [3]; Helmut Schiff [3]; Freimut Reuther [1]; Gabi Gruetzner [1]

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P-LITH-09 - Hybrid high sensitivity resists for high resolution negative electron beam lithography

Johannes Kleinlein * [1]; Frank Syrowatka [2]; Matthias Schirmer [3]; Georg Schmidt [1,2]

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P-LITH-10 - High-resolution plasma etching of fullerene resist

Jedsada Manyam [1]; Mayanditheuar Manickam [2]; Jon Preece [2]; Richard Palmer [1]; Alex Robinson * [3,1]

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P-LITH-11 - Fluorinated Acid Amplifiers for EUV Lithography: Decomposition Kinetics, Acid Diffusion and Exposure Latitude

Seth Kruger [1]; Craig Higgins [1]; Brian Cardineau [1]; Robert Brainard * [1]

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P-LITH-12 - Hybrid porous resist with sensing functionality

Laura Brigo * [1]; Gianluca Greci [2]; Alessandro Carpentiero [2]; Filippo Romanato [2,3,4]; Massimo Tormen [2]; Anna Pistore [1]; Massimo Guglielmi [1]; Giovanna Brusatin [1]

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P-LITH-13 - Bohemite filled hybrid sol-gel system as directly writable etching mask for pattern transfer

Gianluca Greci * [1]; Gioia Della Giustina [2]; Alessandro Pozzato [1,3]; Erika Zanchetta [2]; Giovanna Brusatin [2]; Massimo Tormen [1,3]

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P-LITH-14 - Role of Molecular Entanglement in the Viscoelastic Properties of Ultrathin Polystyrene Films Measured by AFM

Franco Dinelli * [1]; Tommaso Sgrilli [1]; Andrea Ricci [1]; Paolo Baschieri [1]; Pasqualantonio Pingue [2]; Manjunath Puttaswamy [3]; Peter Kingshott [3]

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P-LITH-15 - Interferential lithography of Bragg Gratings on hybrid organic-inorganic sol-gel materials

Gioia Della Giustina * [1]; Gabriele Zacco [2]; Erika Zanchetta [1]; Massimo Guglielmi [1]; Filippo Romanato [2]; Giovanna Brusatin [1]

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P-LITH-16 - Photoelectron spectra of backbone polymer of chemically amplified resist studied by ultraviolet photoelectron spectroscopy

Hiroki Yamamoto * [1,2]; Takahiro Kozawa [1,2]; Seiichi Tagawa [1,2]

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P-LITH-17 - EBL methods for sub-10nm patterning node.

Piotr Jedrasik * [1]; Dai Tsunoda [2]; Masahiro Shoji [2]; Hiroyuki Tsunoe [2]

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P-LITH-18 - Surface potential measurement of insulating materials in a scanning electron microscope

Masatoshi Kotera * [1]; Takeshi Kawamura [1]; Kazuhito Arita [1]

[1] Osaka Institute of Technology, JAPAN

P-LITH-19 - In situ characterization of exposed e-beam resist using novel AFM technique

Martin Zech * [1]; Hans Koop [1]; Daniel Schnurbusch [2]; Michael Müller [2]; Khaled Karrai [1]; Alexander Holleitner [2]

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P-LITH-20 - Ionic liquid ion sources as a unique and versatile option in FIB applications

Carla Pérez-martínez [1]; Stéphane Guilet [2]; Jacques Gierak [2]; Paulo C. Lozano * [1]

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P-LITH-21 - Proximity Effect Correction for gray scale lithography

Dai Tsunoda * [1]; Hiroyuki Tsunoe [1]; Masahiro Shoji [1]

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P-LITH-22 - Mold Fabrication for PDMS nanofluidic lab on chip replication through Proton Beam Writing

Jeroen A. Van Kan * [1]; Ce Zhang [2]; Peige Shao [1]; Johan R. C. Van Der Maarel [2]

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P-LITH-23 - Image Analysis of Si (100) Scanning Tunneling Microscope Images for Atomically Precise Lithography

John Randall * [1]; Joshua Ballard [1]; James Von Ehr [1]; Justin Alexander [1]

P-LITH-24 - Bossung curves and focus stigmatism matrices in Gaussian electron beam lithography

Ananthan Raghunathan * [1]; Nigel Crosland [2]; Andy McClelland [2]; John Hartley [1]

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P-LITH-25 - Measuring Point Wise Defined Point-Spread-Functions

Stephan Martens * [1]; Jörg Butschke [1]; Mathias Irmischer [1]; Holger Sailer [1]

[1] IMS-Chips, Stuttgart, Germany

P-LITH-26 - Variable-Shaped E-Beam lithography enabling process development for future copper Damascene technology

Philipp Jaschinsky * [1]; Jens-wolfram Erben [2]; Kang-hoon Choi [1]; Knut Schulze [2]; Manuela Gutsch [1]; Frieder Blaschta [2]; Martin Freitag [1]; Stefan E. Schulz [2]; Katja Steidel [1]; Christoph Hohle [1]; Thomas Gessner [2]; Peter Kuecher [1]

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P-LITH-27 - Fabrication of the large scale arrays of the metallic nanodots by means of high resolution e-beam lithography

Vitaliy Guzenko * [1]; Anastasia Savouchkina [1]; Jörg Ziegler [1]; Celestino Padeste [1]; Christian David [1]

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P-LITH-28 - Spray Coating of PMMA for Pattern Transfer via E-Beam Lithography on Surfaces with High Topography

Jennifer Linden * [1]; Christine Thanner [2]; Bernhard Schaaf [1]; Sandra Wolff [1]; Bert Lägél [1]; Egbert Oesterschulze [1]

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P-LITH-29 - Fabrication and Characterization of E-Beam Photoresist Array for Biomimetic Self-Cleaning Dry Adhesives

Yao-chuan Tsai * [1]; Ming-dao Wu [1]; Wen-pin Shih [1]

[1] National Taiwan University, Taipei, Taiwan

P-LITH-30 - Quantification and minimization of disorder caused by FEBID deposition on graphene.

J. M. Michalik * [1,2]; S. Roddaro [3]; L. Casado [1,2]; M. R. Ibarra [1,2,4]; J. M. De Teresa [2,4]

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P-LITH-31 - Ultra thin diamond-like carbon film mechanical resonator fabrication by a combined process of FIB-CVD and wet-etching

Reo Kometani * [1]; Shin'ichi Warisawa [1]; Sunao Ishihara [1]

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P-LITH-32 - Fabrication of dense periodic 2D nanostructures by electron beam lithography with reduced charging effect

Jian Zhang * [1]; Bo Cui [1]

[1] Department of Electrical and Computer Engineering, University of Waterloo, Canada

P-LITH-33 - Influence of electron beam lithography field stitching errors on optical performance of photonic waveguides

Alexei L. Bogdanov * [1,2]; Jean Lapointe [2]; Jens Schmid [2]

[1] Canadian Photonics Fabrication Centre, National Research Council of Canada; [2] Institute for Microstructural Sciences, National Research Council of Canada

P-LITH-34 - Performance characteristics of ZrO/W

Schottky Cathode for Three Stable End-form Geometries

Greg Schwind * [1]; Lyn Swanson [1]; John Campbell [1]; Alan Bahm [1]

[1] FEI Company, Hillsboro Oregon, USA 97124

P-LITH-35 - Leakage Current in single electron device due to Implanted Gallium dopants by Focus Ion Beam

Daw Don Cheam [1]; Karl Walczak [1]; Paul Bergstrom * [1]; Manoranjan Acharya [2]

[1] Michigan Technological University, United States; [2] Intel, Hillsborough, Oregon, United States

P-LITH-36 - Dual step EBL Gate Fabrication Technology for GaN-HEMT Wideband Applications

Marco Peroni [1]; Paolo Romanini [1]; Antonio Nanni [1]; Alessio Pantellini [1]; Donatella Dominijanni * [2]; Ennio Giovine [2]; Andrea Notargiacomo [2]

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P-LITH-37 - Amplified nanopatterning by self-organized shadow mask ion-lithography

Daniele Chiappe * [1]

[1] Dipartimento di Fisica, Genova, 16146, Italy

P-LITH-38 - FIB lithography of nanoporous gold surfaces for plasmonic nanostructures

Gianluca Ruffato * [1,2]; Denis Garoli [1,2,5]; Marco Natali [4]; Gabriele Zacco [1,2,5]; Marta Carli [1]; Sandro Cattarin [3]; Simona Barison [3]; Filippo Romanato [1,2,5]

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P-LITH-39 - Easy to adapt electron beam lithography PEC calibration based on visual inspection of a "Best Dose Sensor"

Nezih Unal * [1]; Martin.d.b. Charlton [2]; Ulrike Waizmann [3]; Thomas Reindl [3]; Ulrich Hofmann [1]

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P-LITH-40 - Direct Writing of sub-10 nm Nickel Lines with a Helium Ion Microscope

Vignesh Viswanathan * [1]; Daniel Pickard [1]; Saifullah Mohammad [2]; Sinu Mathew [1]; Heyjin Park [1]; Venkatesan Thirumalai [1]

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P-LITH-41 - Electrochemical development of Sub-10-nm Hydrogen Silsesquioxane (HSQ) Structures

Sebastian Strobel * [1]; Katherine Harry [1,2]; Huigao Duan [1]; Joel Yang [1]; Vitor Manfrinato [1]; Karl K. Berggren [1]

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P-LITH-42 - A self-aligned protective SiO₂ cap on HSQ resist in electron and helium beam lithography

Hozanna Miro * [1]; Vadim Sidorkin [1]; Emile Van Veldhoven [2]; Diederik Maas [2]; Emile Van Der Drift [1]; Paul Alkemade [1]

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P-LITH-43 - ASCII-controlled exposure approach for fracturing and proximity correction in submicron ring-bus structures

Maria Chiara Ubaldi * [1]

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P-LITH-44 - Design, Fabrication and Characterization of Phase Masks for Astronomical Applications

Michele Massari * [1,2]; Filippo Romanato [1,2,3]; Marta Carli [1,2]; Tommaso Ongarello [1,2]; Francesco Marinello [4]; Mauro Prasciolu [3]; Fabrizio Tamburini [5];

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P-LITH-45 - Long range surface plasmon interference lithography

Xiaowei Guo * [1]

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P-LITH-46 - Fabricating arbitrary nanoscale patterns by LSP direct writing lithography with two-dimensional metal hole-array

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P-LITH-47 - SLM-based 3D lithography with single scan virtual layering

Manseung Seo [1]; Haeryung Kim * [1]

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P-LITH-48 - High-density, high-aspect ratio epoxy microstructures by Direct Write Laser patterning

V. J. Cadarso * [1]; K. Pfeiffer [2]; U. Ostrizinski [2]; J. B. Bureau [3]; G. A. Racine [3]; A. Voigt [2]; V. Auzelyte [1]; G. Gruetzner [2]; J. Brugger [1]

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P-LITH-49 - New Inks for the direct drop-on-demand fabrication of polymer lenses

Anja Voigt * [1]; Ute Ostrizinski [1]; Karl Pfeiffer [1]; Joo Yeon Kim [2]; Christina Martin [2]; Gabi Gruetzner [2]; Juergen Brugger [2]

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P-LITH-50 - The Hybrid AFM/STM lithography on GaMnAs

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P-LITH-51 - Scanning Tunneling Microscopy Based Depassivation Lithography in the Field Emission Regime

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P-LITH-52 - A mask-free fabrication of SU-8/silicon spherical micro-probe

Yao-chuan Tsai * [1]; Ming-dao Wu [1]; Wen-pin Shih [1]

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P-LITH-53 - Fabrication of negative refractive index metamaterials in the visible spectral range

Denis Garoli [1,2,4]; Marco Natali * [3]; Giuseppe Parisi [1,2]; Michele Massari [1,2]; Ongarello Tommaso [1,2]; Valentina Giorgis [1,4]; Gianluca Ruffato [1,2]; Enrico Sovignano [4]; Filippo Romanato [1,2,4]

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P-LITH-54 - Enhancing surface-plasmon-polariton interference intensity for nanolithography by a metal grating without substrate

Jingquan Wang [1]; Huimin Liang [2]; Jinglei Du * [1]; Song Ye [1]; Sha Shi [1]; Ruiying Shi [1]; Fuhua Gao [1]; Min Gong [1]

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P-LITH-55 - Dynamic deformation of a wafer above a lift hole and influence on flatness due to chucking

Atsunobu Une * [1]; Kenichiro Yoshitomi [1]; Masaaki Mochida [1]

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P-LITH-56 - Design and fabrication of a slot aperture with softened edge based on gray-tone coding method

Cuicui Wu [1]; Fuhua Gao * [1]; Dequan Huang [1]; Zejian Yang [1]; Yongkang Guo [1]

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P-LITH-57 - Parallel Scanning Near-Field Photolithography in liquid: The Snomipede

Zhuming Liu * [1]; Ehtsham Ul-haq [2]; Jamie Hobbs [2]; Graham Leggett [3]; Yuan Zhang [4]; Jonathan Weaver [4]; Clive Roberts [1]

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P-LITH-58 - Analysis of reverse patterning phenomenon by light source change in Attenuate Phase Shift Mask

Chul-ho Kim * [1,2]; Dae-youp Lee [1]; Chang-jin Kang [1]; Chil-hee Chung [1]; Byoung-deog Choi [2]

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P-LITH-59 - Effects of Supercritical Carbon Dioxide Treatment on Bending Properties of Micro-sized SU-8 Specimens

Ishiyama Chiemi * [1]; Chang Tso Fu [1]; Sone Masato [1]

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P-LITH-60 - Superhydrophobic Surfaces for Water Immersion Lithography

Arun Kumar Gnanappa * [1]; Evangelos Gogolides [1]; Fabrizio Evangelista [2]; Michel Riepen [2]

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P-LITH-61 - Lens distortion for immersion liquid renovation in immersion lithography

Hui Chen * [1]; Wenyu Chen [1]; Jun Zou [1]; Xin Fu [1]

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P-LITH-62 - Lens birefringence induced by flowing liquid in immersion lithography

Jun Zou [1]; Hui Chen * [1]; Xin Fu [1]; Xiaodong Ruan [1]; Huayong Yang [1]

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P-LITH-63 - Effect of upper surface characteristics on meniscus stability in immersion flow field

Ying Chen * [1]; Jun Zou [1]; Wenyu Chen [1]; Xin Fu [1]

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P-LITH-64 - Computational algorithms for optimizing mask layouts in Proximity Printing

Kristian Motzek * [1]; Uwe Vogler [2]; Marc Hennemeyer [3]; Reinhard Voelkel [2]; Andreas Erdmann [1]; Balint Meliorisz [4]

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P-LITH-65 - Method for reducing the mask complexity and allowing the formation of SRAFs in inverse lithography technique

Young-seok Kim * [1]; Jong Ung Lee [2]; Seok H. Song [3]; Beom-hoan O [1]; Se-geun Park [1]; El-hang Lee [1]; Seung Gol Lee [1]

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P-LITH-66 - Mask line roughness contribution in EUV lithography

Alessandro Vaglio Pret * [1]; Roel Gronheid [1]

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P-LITH-67 - A Novel Illumination System for Mask Aligners Allows Advanced Lithography Techniques

Michael Hornung * [1]; Ralph Zoberbier [1]; Uwe Vogler [2]; Reinhard Voelkel [2]

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P-LITH-68 - Process window modeling using focus balancing technique

Artak Isoyan * [1]; Ebo Croffie [1]; Lawrence Melvin [1]

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P-LITH-69 - Theoretical Study on Optimum Dissolution Point of Chemically Amplified Resist

Takahiro Kozawa * [1,2]; Hiroki Yamamoto [1,2]; Seiichi Tagawa [1,2]

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P-LITH-70 - Potential applications of Negative Tone Development in advanced lithography

Danilo De Simone * [1]; Enrico Tenaglia [1]; Paolo Piazza [1]; Maddalena Bollin [1]; Alessandro Vaccaro [1]; Paolo Piacentini [1]; Paolo Canestrari [1]

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P-LITH-71 - Pitch Division with Ultra-high NA Interference Imaging

Bruce Smith * [1]; Peng Xie [1]; Neal Lafferty [1]

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P-LITH-72 - Development of interference lithography for 22 nm node and below

Fukushima Yasuyuki * [1]; Yamaguchi Yuya [1]; Iguchi Takafumi [1]; Urayama Takuro [1]; Harada Tetsuo [1]; Watanabe Takeo [1]; Kinoshita Hiroo [1]

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P-LITH-73 - Towards high-resolution deep-UV micro-stereolithography

Fernando Brandi * [1]; Fraz Anjum [1]; Sergio Marras [1]; Athanassiou Athanassia [2]

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P-LITH-74 - Hybrid working stamps for high speed roll-to-roll nanoreplication with molded sol-gel relief on a metal backbone

Arne Schleunitz * [1]; Christian Spreu [1]; Tapio Mäkelä [2]; Tomi Haatainen [2]; Anna Klukowska [3]; Helmut Schiff [1]

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P-LITH-75 - Direct patterning on side chain crystalline polymer by thermal nanoimprinting using mold without antisticking layer

Okada Makoto * [1,3,4]; Shinichi Nakano [2]; Koji Yamashita [2]; Shinichiro Kawahara [2]; Shinji Matsui [1,3]

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P-LITH-76 - Advantages of silicon mold as a master for patterned media UV-NIL process

Morihisa Hoga * [1,3]; Kimio Itoh [1]; Mikio Ishikawa [1]; Naoko Kuwahara [1]; Masaharu Fukuda [1]; Nobuhito Toyama [2]; Syuhei Kurokawa [3]; Osamu Ohnishi [3]; Toshiro Doi [3]

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P-LITH-77 - Role of confinement on material flow in nano-structured geometry

Jérémie Teisseire * [1]; Amélie Revaux [1]; Maud

Sarrant-foresti [2]; Elin Sondergard [1]; Etienne Barthel [1]

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P-LITH-78 - Nanoscale control of domain arrangements in Pb(Zr_{0.3}Ti_{0.7})O₃ ferroelectric films

Zhenkui Shen * [1]; Qian Lu [2]; Zhihui Chen [1]; Anquan Jiang [1]; Zhijun Qiu [1]; Xinpeng Qu [1]; Yifang Chen [3]; Ran Liu [1]

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P-LITH-79 - Roller Nanoimprint Lithography for Flexible Electronic Devices with Sub-micron Scale

Hyungjun Lim [1]; Jaejong Lee * [1,2]; Kee-bong Choi [1]; Geehong Kim [1]; Sooyeon Park [2]; Jihyeong Ryu [2]

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P-LITH-80 - Development of reel-to-reel process system for roller-imprint on plastic fibers

Harutaka Mearu * [1,2]; Akihiro Ohtomo [1,3]; Hideki Takagi [1,2]; Mitsunori Kokubo [1,3]; Hiroshi Goto [1,3]

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P-LITH-81 - Seamless long line and space pattern fabrication for nanoimprint mold by using electron beam stepper

Makoto Okada * [1,3,4]; Takashi Kishiro [2]; Kaori Yanagihara [2]; Masashi Ataka [2]; Norimichi Anazawa [2]; Shinji Matsui [1,3]

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P-LITH-82 - Study and Development of Polymer Destabilization by Capillary NIL

Céline Masclaux * [1]; Cécile Gourgon [1]; Corinne Perret [1]; Sébastien Labau [1]

[1] LTM - CNRS, France

P-LITH-83 - Influence of PEN thermal properties on flexible film patterning by Nanoimprint Lithography

Cecile Gourgon * [1]; Gilles Philippot [2]; Sebastien Labau [1]; Jean-herve Tortai [1]; Mohammed Benwadih [2]; Jacqueline Bablet [2]

[1] LTM - CNRS - France; [2] CEA-LITEN France

P-LITH-84 - Production Quality of Working Stamps for Nanoimprint Lithography

Brian Bilenberg * [1]; Søren Dahl Petersen [1]; Poul Erik Hansen [2]; Gerald Kreindl [3]

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P-LITH-85 - Nucleation Induced Sphere Formation by Thermal Reflow of Nanoimprinted Lines

Arne Schleunitz * [1]; Christian Spreu [1]; Jaejong Lee [2]; Helmut Schiff [1]

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P-LITH-86 - A modified imprinting process using hollow microneedle array for forming through holes in polymers

Takayuki Shibata * [1]; Satoshi Yukizono [1]; Moeto Nagai [1]; Takahiro Kawashima [1]; Toshio Kubota [2]; Mamoru Mita [3]

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P-LITH-87 - Reflow of supported sub-100nm polymer films as a characterization process for Nanoimprint Lithography

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P-LITH-88 - Microcontact printing of Biomolecular gratings from SU-8 masters duplicated by thermal soft UV NIL

Amandine M.c. Egea * [1,2,4]; Christophe Vieu [1,3,4]

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P-LITH-89 - Isolated nano-scale ferroelectric PZT gratings by a reversal nanoimprint lithography

Zhidong Li * [1]; Zhenkui Shen [1]; Zhijun Qiu [1]; Xinping Qu [1]; Yifang Chen [2]; Ran Liu [1]

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P-LITH-90 - Filling Property Improvement in the Micro-Optical Elements Nanoimprint based on Mold Optimization

Jin Peng * [1]; Gao Yulong [1]; Li Wei [1]; Li Xiaojun [2]; Tan Jiubin [1]

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P-LITH-91 - Nanoimprint of ordered ferro/piezoelectric P(VDF-TrFE) nanostructures

Jiangrong Fang * [1]; Zhenkui Shen [1]; Shen Yang [1]; Qian Lu [2]; Jinxing Li [1]; Yifang Chen [3]; Ran Liu [1]

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P-LITH-92 - UV Nanoimprinting Using Non-Transparent Molds and Non-Transparent Substrates

Robert Kirchner [1]; Andreas Finn * [1]; Lichao Teng [1]; Wolf-joachim Fischer [1]

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P-LITH-93 - Silicon nanowires by combined nanoimprint and angle deposition for gas sensors

Chen Gao * [1]; Zhen-cheng Xu [1]; Shaoren Deng [1];

Jing Wan [1]; Yifang Chen [2]; Ran Liu [1]; Ejaz Huq [2]; Xin-ping Qu [1]

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P-LITH-94 - Nanoimprint mold fabrication methods using scanning probe lithography

Inoue Takao * [1]; Taniguchi Jun [1]; Ochi Toshihiko [2]; Imai Osamu [2]

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P-LITH-95 - Rotation controlled imprinting

Tomi Haatainen * [1]; Tapio Mäkelä [1]; Jouni Ahopelto [1]; Gilbert Lecarpentier [2]

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P-LITH-96 - Polymer stamp imprinting in a desktop NIL tool using flexible stamps

Kristian Smistrup [2]; Andrej Mironov [1]; Brian Bilenberg * [2]; Theodor Nielsen [2]; Anders Kristensen [1]

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P-LITH-97 - Fabrication of nano dots pattern mold and transfer of metal dots pattern

Ikemura Tadashi * [1]; Taniguchi Jun [1]

[1] Tokyo University of Science, Japan

P-LITH-98 - Roll-to-roll UV imprint lithography for flexible electronics

Pascale Maury * [1]; Niki Stroeks [3]; Daniel Turkenburg [3]; Ionut Barbu [2]; Peter Giesen [2]; Hans Onvlee [1]; Nikolai Iosad [1]; Rob Van Der Werf [1]; Erwin Meinders [2]; Albert Ven Bremen [1]

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P-LITH-99 - Efficient organic distributed feedback lasers fabricated via thermal nanoimprint

Vera Trabadelo [1]; Aritz Juarros [1]; Aritz Retolaza [1]; Santos Merino [1]; Ibon Alonso Villanueva * [1]; Víctor Navarro Fuster [2]; Manuel G. Ramírez [2]; Pedro G. Boj [2]; Igor Vragovic [2]; José M. Villalvilla [2]; José A. Quintana [2]; María A. Díaz García [2]

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P-LITH-100 - Repetition pattern transfer of high aspect ratio mold by UV-NIL

Junki Takahashi * [1]; Jun Taniguchi [1]

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P-LITH-101 - Characterisation of photoresists with respect to thermal nanoimprint.

Khalid Dhima * [1]; Hella-christin Scheer [1]; Saskia Möllenbeck [1]; Andre Mayer [1]

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P-LITH-102 - Fabrication of reusable polymer mold and high aspect ratio hole structures using UV nanoimprint lithography

An Shinmo * [1,2]; O Beom-hoan [1,2]; Lee Seung-gol [1,2]; Kim Kyong Hon [1,3]; Park Se-geun [1,2]; Lee El-hang [1,2]

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P-LITH-103 - Large Area Plate-to-Plate Type UV Imprint Machine Design and Its Performance Evaluation

Kang Inkoo * [2]; Lim Si-hyung [1]; Yim Hong Jae [3]

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P-LITH-104 - Mechanistic study of lift-off for continuous metal layers after T-NIL

Andre Mayer * [1]; Saskia Möllenbeck [1]; Khalid Dhima [1]; Si Wang [1]; Hella-christin Scheer [1]

[1] University of Wuppertal, Germany

P-LITH-105 - Computational study on polymer filling process in nanoimprint lithography

Kousei Araki * [1,2]; Masaaki Yasuda [1,2]; Akihiro Taga [1,2]; Akira Horiba [1,2]; Hiroaki Kawata [1,2]; Yoshihiko Hirai [1,2]

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P-LITH-106 - Mold fabrication using Ma-N2410 resist and proton beam writing for injection molding and nanoimprinting

Yinghui Wang [1]; Maximilian Reinhard [2]; Nannan Liu [3]; Peige Shao [1]; Jianhong Zhao [4]; Jeroen A. Van Kan * [1]

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P-LITH-107 - The flexible non-volatile nano-pillar device fabrication using nanoimprint lithography

Sung-hoon Hong [1]; Heon Lee * [1]

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P-LITH-108 - Measurement and modeling of mechanical characteristics in UV-NIL resists

Akira Horiba [1,2]; Ryosuke Suzuki [1,2]; Yoshihiko Hirai * [1,2]

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P-LITH-109 - Digital Planar Holographic spectrometer-on-chip fabricated by Step and Repeat UV nanoimprint lithography on pre-spin coated films

Christophe Peroz [1]; Scott Dhuey * [2]; Alexander Goltsov [3]; Marko Volger [4]; Bruce Harteneck [2]; Igor Ivonin [3]; Sergey Koptyaev [3]; Sergey Babin [1]; Stefano Cabrini [2]; Vladimir Yankov [3]

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P-LITH-110 - Throughput improvement of roll mold fabrication process using electron beam lithography

Taniguchi Jun * [1]; Tsuji Shintaro [1]; Unno Noriyuki [1,2]

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P-LITH-111 - Fabrication of flexible mold for hybrid nanoimprint-soft lithography

Jian Zhang * [1]; Bo Cui [1]; Haixiong Ge [2]

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P-LITH-112 - Electroforming of Ni mold using high-aspect-ratio PMMA microstructures fabricated by proton beam writing

Yusuke Tanabe * [1]; Hiroyuki Nishikawa [1]; Takahiro Satoh [2]; Yasuyuki Ishii [2]; Tomihiro Kamiya [2]; Tohru Watanabe [1]; Atsushi Sekiguchi [3]

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P-LITH-113 - Using dual-side nanoimprint lithography to develop flexible phase retardation system with broadband antireflective property

C. C. Yu * [1]; Y. T. Chen [1]; D. H. Wan [1]; H. L. Chen [1]

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P-LITH-114 - Low temperature direct imprint of polyhedral silsesquioxane (PSSQ) resist

Nikolaos Kehagias * [1]; Achille Francone [2]; Mustapha Chouiki [3]; Marc Zelsmann [2]; Vincent Reboud [1]; Rainer Schoeftner [3]; Clivia Sotomayor Torres [1,4]

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Austria; [4] Catalan Institute for Research and Advanced Studies ICREA, 08010 Barcelona, Spain

P-LITH-115 - Modeling and simulation of stamp deflections in nanoimprint lithography: exploiting backside grooves to enhance residual layer thickness uniformity

Hayden Taylor [1]; Kristian Smistrup * [2]; Duane Boning [1]

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P-LITH-116 - Fabrication of patterned Graphene Layers using NIL

Iris Bergmair * [1]; Maria Losurdo [2]; Giovanni Bruno [2]; Goran Isic [3]; Milka Miric [3]; Rados Gajic [3]; Kurt Hingerl [4]; Michael Muehlberger [1]; Rainer Schoeftner [1]

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P-LITH-117 - Direct imprinting on polycarbonate substrate for polarizer application

Lin Hsi-ho * [1]; Chen Wen-yu [1]; Lin Chun-hung [1]

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P-LITH-118 - Metallic dot array fabricated by direct nanoimprint of metallic nanoparticles

Liang Chia-ching * [1]; Liao Mei-yi [2]; Chen Wen-yu [1]; Cheng Tsung-chieh [3]; Chang Wen-huei [4]; Lin Chun-hung [1]

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P-MEMS-01 - Anodization of aluminium coated Atomic Force Microscopy microcantilevers for conversion of the coating into porous alumina

Marco Salerno * [1]; Niranjana Patra [1,2]; Alberto Diaspro [1]

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P-MEMS-02 - A method for determination of desorption energy using an oscillating microcantilever

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P-MEMS-03 - Improved micromachining of all SU-8 3D structures for a biologically-inspired flying robot

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P-MEMS-04 - Effect of different plasma surface treatments on the inkjet-printed feature size

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P-MEMS-05 - Simple and rapid method to fabricate organic microcantilevers based on a sacrificial layer technique

Georges Dubourg * [1]; Ludivine Fadel-taris [1]; Plano Bernard [1]; Haupt Kartsten [2]; Dufour Isabelle [1]; Pellet Claude [1]; Ayela Cédric [1]

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P-MEMS-06 - Simulation of 3D inclined/rotated UV lithography and its application to microneedles

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P-MEMS-07 - Cryogenic bolometers for astronomical observations in the sub-mm range

Solveig Anders * [1]; Torsten May [1]; Viatcheslav Zakosarenko [1]; Katja Peiselt [1]; Erik Heinz [1]; Michael Starkloff [1]; Gabriel Zieger [1]; Andre Krueger [1]; Ernst Kreysa [2]; Giorgio Siringo [2]; Walter Esch [2]; Hansgeorg Meyer [1]

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P-MEMS-08 - Nonlinear oscillations of a microcantilever

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P-MEMS-09 - Void-free nickel pattern electroplated with supercritical carbon dioxide emulsions

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P-MEMS-10 - Femtosecond-pulsed laser micromachining using an erbium-doped fiber-laser system

Toru Mizunami * [1]; Akimasa Ehara [1]

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P-MEMS-11 - Capacitive Microfabricated Ultrasonic Transducers for Biometric Applications

Antonio Iula * [1]; Alessandro Savoia [2]; Giosuè Caliano [2]; Massimo Pappalardo [2]

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P-MEMS-12 - Pd-Ni-P metallic glass pattern with controllable microstructure fabricated by electroless alloy plating

Nobuyuki Yoshida * [1]; Toshikazu Tasaki [1]; Tso-fu Mark Chang [1]; Akinobu Shibata [1]; Chiemi Ishiyama [1]; Masato Sone [1]

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P-MEMS-13 - Energy Dissipation of Micromachined Disk Resonator Transduced by Piezoelectric Film

Jian Lu * [1,2]; Tadatomo Suga [1]; Yi Zhang [2]; Toshihiro Itoh [2]; Ryutaro Maeda [2]

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P-MEMS-14 - A preliminary study of a nonlinear micro vibro-impact system

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P-MEMS-15 - 3D microstructuring of biodegradable polymers

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P-MEMS-16 - Molded molybdenum nano-tip arrays with stacked collimation electrodes: fabrication and field emission characteristics

Eugenie Kirk * [1]; Patrick Helfenstein [1]; Thomas Vogel [1]; Jens Gobrecht [1]; Soichiro Tsujino [1]

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P-MEMS-17 - Capacitive RF switches manufactured by the CMOS-MEMS technique

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P-MEMS-18 - An Electrochemical-Cantilever Hybrid Platform

Lee Mackenzie Fischer * [1]; Allan Nielsen [1]; Christoffer Pedersen [1]; Karl Elkjær [1]; Søren Dohn [1]; Maria Tenje [1]; Anja Boisen [1]

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P-MEMS-19 - Thermomechanical decoupling in hypersonic phononic crystals

Marco Travaglini * [1,3]; Damiano Nardi [1]; Francesco Banfi [1]; Vincenzo Piazza [2]; Pasqualantonio Pingue [2]

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P-MEMS-20 - Torsional micro paddle resonator for rapid detection of bio-warfare agents

Sahand Chitsaz Charandabi * [1]; Philip D Prewett [1]; Carl Anthony [1]; Xianghong Ma [3]; Chris Hamlett [2]

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P-MEMS-21 - Surface Modification of PDMS (Polydimethylsiloxane) using Atmospheric Pressure Plasma

Tae Kyung Kim [1]; Jeong Koo Kim [1]; Ok Chan Jeong * [1]

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P-MEMS-22 - Towards high aspect-ratio MEMS fabrication by silicon electrochemical micromachining technology

Margherita Bassu * [1]; Lucanos Strambini [1]; Giuseppe Barillaro [1]

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P-MEMS-23 - Size-Controllability of Replicable PDMS (Polydimethylsiloxane) Molds/Stamps using Stepwise Thermal Shrinkage Effect

Ok Chan Jeong * [1]; Satoshi Konishi [2]

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P-MEMS-24 - Batch fabricated dual cantilever resistive probe for scanning thermal microscopy

Yuan Zhang * [1]; P. S. Dobson [1]; J. M. R. Weaver [1]

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P-MEMS-25 - Fine control of Critical Dimension for the Fabrication of Large Bandgap High Frequency Photonic and Phononic Crystals

John Cuffe * [1,2]; Damian Dudek [2]; Chapuis Olivier [2]; Francesc Alsina [2]; Nikos Kehagias [2]; John Gerard Mcinerney [1]; Clivia Marfa Sotomayor Torres [1,3]

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P-MEMS-26 - Arrays of SU-8 Microcantilevers with Integrated Piezoresistive Sensors for Parallel AFM Applications

Andreas Schneider * [1]; Robert H. Ibbotson [1]; Richard J. Dunn [1]; Ejaz S. Huq [1]

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P-MEMS-27 - Gold nanocone near-field optical scanning probes

M. Fleischer * [1]; B. Zeeb [1]; A. Weber- Bargioni [2]; A. M. Schwartzberg [2]; M. V. P. Altoe [2]; Y. Fulmes [1]; P. J. Schuck [2]; S. Cabrini [2]; Dieter P. Kern [1]

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P-MEMS-28 - Embedding carbon nanotube-epoxy resin complex into porous alumina for efficiently heat-sinked saturable absorber devices

Yuichi Kurashima * [1]; Koji Mimura [1]; Shinsaku Hagiwara [1]; Hiromichi Kataura [2]; Youichi Sakakibara [2]

[1] University of Yamanashi, Japan; [2] National Institute of Advanced Industrial Science and Technology, Japan

P-MEMS-29 - Performance simulation, realization and evaluation of capacitive sensor arrays for the real time detection of volatile organic compounds

Petros Oikonomou * [1]; George Patsis [1,2]; Athanassios Botsialas [1]; Kyriaki Manoli [1,3]; Dimitris Goustouridis [1]; Nikos Pantazis [2]; A. Kavadias [2]; Evangelos Valamontes [2]; Merope Sanopoulou [3]; Ioannis Raptis [1]

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P-MEMS-30 - A microstructure for thermal conductivity measurement of conductive thin films

Damien Thuau * [1]; Itir Koymen [1]; Rebecca Cheung [1]

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P-MEMS-31 - Ultra-smooth LiNbO3 micro and nano structures for photonic applications

Gwenn Ulliac * [1]; Blandine Guichardaz [1]; Jean-yves Rauch [1]; Queste Samuel [1]; Sarah Benchabane [1]; Nadège Courjal [1]

[1] FEMTO-ST Institute, Besançon, France

P-MEMS-32 - High aspect ratio nanostructuring by high energy electrons and electroplating

Sergey Gorelick * [1]; Joan Vila-comamala [1]; Birgit Päivänranta [1]; Vitaliy A. Guzenko [1]; Christian David [1]

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P-MEMS-33 - Piezoelectric response of AlGaIn/GaN based circular-HEMT structures

Tibor Lalinsky * [1]; Milan Držik [2]; Gabriel Vanko [1]; Martin Vallo [1]; Jaroslav Bruncko [2]; Štefan Haščik [1]; Jirí Jakovenko [3]; Miroslav Husák [3]

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P-MEMS-34 - Low-Temperature Wafer Bonding for MEMS Packaging Utilizing Screen Printed Sub-micron Size Au Particle Patterns

Shugo Ishizuka * [1]; Nobuyuki Akiyama [2]; Toshinori Ogashiwa [2]; Takashi Nishimori [2]; Hiroyuki Ishida [3]; Shuichi Shoji [1]; Jun Mizuno [1]

[1] Waseda University, Japan; [2] Tanaka Kikinzoku Kogyo K.K., Japan; [3] SUSS MicroTec KK, Japan

P-MEMS-35 - Sphincter Actuator Fabricated with PDMS/SMA Bimorph Cantilevers

Makino Eiji * [1]; Mineta Takashi [1]; Mitunaga Tomofumi [1]; Kawashima Takahiro [2]; Shibata Takayuki [2]

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P-MEMS-36 - Analysis on heat resistance of the micro heat pipe with arteries

Weiting Liu [1]; Jian Kang * [1]; Xin Fu [1]; Cesare Stefanini [2]; Paolo Dario [2]

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P-MEMS-37 - Design and Fabrication of a Passive and Remote Thin-film GMI Sensor

Hommood Rowais * [1]; Bodong Li [1]; Jürgen Kosel [1]; Cai Liang [1]

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P-MEMS-38 - 3D Porous polysilicon devices for biomolecular recognition

Núria Torras * [1]; Marta Duch [1]; Rodrigo Gómez [1]; Núria Torres [1]; Jose Antonio Plaza [1]; Jaume Esteve [1]

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P-MEMS-39 - Stress-strain analysis of thermoplastic resin strengthened with metal nanoparticles

Carola La Tegola * [1]; Alessandro Massaro [2]; George C. Anyfantis [2]; Despina Fragouli [2]; Pantaleo Davide Cozzoli [1]; Athanassia Athanassiou [1,2]

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P-MEMS-40 - Deposition of Biopolymer Films on Micromechanical Sensors

Stephan Keller * [1]; Marie P. Jensen [1]; Lene Gammelgaard [1]; Silvan Schmid [1]; Zachary J. Davis [1]; Anja Boisen [1]

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P-MEMS-41 - Fabrication of SiNx-SU-8 Hybrid Cantilevers for Temperature Sensing

Tom Larsen * [1]; Stephan Keller [1]; Silvan Schmid [1]; Søren Dohn [1]; Anja Boisen [1]

[1] Department of Micro- and Nanotechnology, Technical University of Denmark, DTU Nanotech, Building 345 East, DK-2800 Kongens Lyngby, Denmark

P-MEMS-42 - The Use of Microdome-Shaped Anti-Reflective Structure as a Solar Cell Protection Layer for the Efficiency Improvement

Minwoo Nam * [1]; Jaejin Lee [1]; Keekeun Lee [1]

[1] Ajou University, Republic of Korea

P-MEMS-43 - Enabling poly- SiGe MEMS scaling by improving anchor strength and resistance.

Rita Van Hoof * [1]; Simone Severi [1]; George Bryce [1]; Gert Claes [1,2]; Ann Witvrouw [1]

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P-MEMS-44 - Microfluidic sealing and housing system for innovative dye-sensitized solar cell architecture

Andrea Lamberti * [1,2]; Adriano Sacco [1,2]; Eros Giuri [2]; Marzia Quaglio [1]; Stefano Bianco [1]; Angelica Chiodoni [1]; Elena Tresso [2]

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P-MEMS-45 - Fabrication of three dimensionally tapered polymer micro-optical waveguide for optical interconnection applications

Tae Yong Han * [1]; Jun-hwa Song [1]; Hyun-shik Lee [1]; Beom-hoan O [1]; Seung-gol Lee [1]; Se-geun Park [1]; El-hang Lee [1]

[1] Inha University, South Korea

P-MEMS-46 - Fabrication of integrated micro-scale polymer optical waveguides on a copper plate using a double-sided structure

Jun-hwa Song * [1]; Tae Yong Han [1]; Hyun-shik Lee [1]; Beom-hoan O [1]; Seung-gol Lee [1]; Se-geun Park [1]; El-hang Lee [1]

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P-MEMS-47 - HEPA liquid filter in Silicon-on-Insulator

Kolari Kai * [1]; Hokkanen Ari [1]; Paasikallio Toni [1]; Pitkänen Jukka-pekka [1]

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P-MEMS-48 - A nanotechnology application for low energy neutral atom detection with high angular resolution for the BepiColombo mission to Mercury

Francesco Mattioli * [1]; Sara Cibella [1]; Roberto Leoni [1]; Stefano Orsini [2]; Andrea Maria Di Lellis [3]; Stefano Selci [4]; Elisabetta De Angelis [2]; Rosanna Rispoli [2]; Alessandro Mura [2]; Anna Milillo [2]

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P-MEMS-49 - Cost efficient master fabrication process on copper substrates

Simone Luigi Marasso * [1]; Giancarlo Canavese [2]; Matteo Cocuzza [3]

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P-MEMS-50 - Surface roughness and electron backscattering in high aspect ratio silicon nanowires

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P-MEMS-51 - Improved device performance in organic transistor diode using double insulator layer

Dong-hoon Lee * [1]; Jung-min Kim [1]; Yong-sang Kim [1,2]

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P-MEMS-52 - Fabrication of multiple fluidic-channels with uniform channel width in large area based on SU-8

Xiaojun Li * [1]; Yong Chen [1]; Keqiang Qiu [1]; Xudi Wang [2]; Yangchao Tian [1]; Shaojun Fu [1]

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P-MEMS-53 - Microcantilever Based Coupled Autonomous Impact Oscillators

Carl Anthony * [1]; Xueyong Wei [1]; Michael Ward [1]

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P-MEMS-54 - Low-Pressure thermal bonding

Wang Xudi * [1]; Jin Jian [1]; Li Xiaojun [2]; Tang Qisheng [1]; Li Xin [1]; Fu Shaojun [2]

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P-MEMS-55 - Cross Coupled Beams CMOS-MEMS Resonator for VHF range with enhanced electrostatic detection

Eloi Marigó * [1]; Jose Luis Muñoz-gamarra [1]; Gabriel

Vidal [1]; Joan Giner [1]; Francesc Torres [1]; Arantxa Uranga [1]; Nuria Barniol [1]

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P-MEMS-56 - Piezoelectrically actuated MEMS microswitches for high current applications

Davide Balma * [1]; Andrea Lamberti [2]; Simone Luigi Marasso [1]; Denis Perrone [1]; Marzia Quaglio [2]; Giancarlo Canavese [2]; Stefano Bianco [2]; Matteo Cocuzza [3]

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P-MEMS-57 - Influence of channel width on the performance of an injection-type ballistic rectifier: Carrier injection versus hot-electron thermopower

Daniel Salloch * [1]; Ulrich Wieser [1]; Ulrich Kunze [1]; Thomas Hackbarth [2]

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P-MEMS-58 - SU-8 polymer based pressure sensor adapted passive RFID

Chang Yong Han * [1]; Dong Weon Lee [1]

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P-MEMS-59 - Influence of the optical read-out on the mechanical behaviour of columnar membrane hybrid microresonators

Bernhard Radzio * [1,2]; Peter Bozek [1,2]; Jenny Kehrbusch [1,2]; Elena Amelie Ilin [1,2]; Egbert Oesterschulze [1,2]

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P-MEMS-60 - Hybrid rf Microresonators with Actuating Piezoelectric AlN Membrane

Jenny Kehrbusch [1,2]; Peter Bozek [1,2]; Bernhard Radzio * [1,2]; Elena Amelie Ilin [1,2]; Egbert

Oesterschulze [1,2]; Volker Cimalla [3]; E. Sah [3]; F. Knöbber [3]; C.-c. Röhring [3]; V. Lebedev [3]

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P-MEMS-61 - Fabrication of micro resonant cantilevers with integrated fluidic channel

M. Faheem Khan * [1]; Silvan Schmid, [1]; Dohn Søren [1]; Anja Boisen [1]

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P-MEMS-62 - Hybrid Organic/Colloidal Nanocrystal Solar Cells

Aurora Rizzo * [1]; Yanqin Li [2]; Rosanna Mastria [2]; Liberato Manna [3]; Giuseppe Gigli [1]

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P-MEMS-63 - Aluminum Nitride Piezo-MEMS on polyimide flexible substrates

Simona Petroni * [1]; Giuseppe Caretto [2]; Adriana Campa [2]; Adriana Passaseo [2]; Massimo De Vittorio [3]; Roberto Cingolani [1]

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P-MEMS-64 - Non-mechanical variable apertures based on intrinsic conductive polymers

Sebastian Roth * [1]; Markus Ignatowitz [1]; Philipp Müller [2]; Wolfgang Mönch [2]; Egbert Oesterschulze [1]

[1] Physics and Technology of Nanostructures, Department of Physics, University of Kaiserslautern, Kaiserslautern, D-67663, Germany; [2] Laboratory for Micro-optics, Department of Microsystems Engineering (IMTEK), University of Freiburg, Freiburg, D-79110, Germany

P-MEMS-65 - Polymeric rolled-up microtubes by using strained semiconductor templates

Laura Blasi * [1]; Maria Teresa Todaro [1]; Roberto Cingolani [1]; Adriana Passaseo [1]; Massimo De Vittorio [1,2]; Giuseppe Gigli [1,2]

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P-MEMS-66 - Influence of silicon orientation and cantilever undercut on the determination of Young's modulus of pulsed laser deposited PZT

Hammad Nazeer * [1]; Leon Woldering [1]; Leon Abelmann [1]; Minh Nguyen [1]; Guus Rijnders [1]; Miko Elwenspoek [1,2]

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P-MEMS-67 - Micro-fabricated cell-on-a-chip devices with integrated metal-film electrodes for trace metal analysis by stripping voltammetry

Christos Kokkinos * [1]; Anastasios Economou [1]; Ioannis Raptis [2]; Athanassios Speliotis [3]

[1] Laboratory of Analytical Chemistry, Department of Chemistry, University of Athens, 157 71 Athens, Greece; [2] Institute of Microelectronics, NCSR 'Demokritos' 15310, Athens, Greece; [3] Institute of Materials Science, NCSR 'Demokritos' Aghia Paraskevi, Greece

P-MEMS-68 - A strategy for developing a permanent optical storage medium exhibiting extremely high optical contrast over broadband wavelength range

S. C. Tseng * [1]; H. L. Chen [1]; Y. P. Chen [2]; L. A. Wang [2]; C. C. Yu [1]; D. H. Wan [1]

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P-MEMS-69 - A flexible thermoelectric module fabricated by electromolding

Kuo-yi Huang [1]; David T. W. Lin [2]; Li-ren Yu [3]; Yuh-chung Hu * [4]

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P-MEMS-80 - Fabrication of Heterogeneous Nanogaps for Characterizing Electrochemical Metal Deposition Processes

Yexian Wu * [1]; Sebastian Gautsch [1]; Thomas Wandlowski [2]; Nico De Rooij [1,3]

[1] Ecole Polytechnique Fédérale de Lausanne (EPFL), The Sensors Actuators and Microsystems Laboratory (SAMLAB), Neuchâtel 2000, Switzerland; [2] Departement für Chemie und Biochemie, Universität Bern, CH-3012, Switzerland; [3] Centre Suisse d'Electronique et de Microtechnique SA (CSEM SA), Neuchâtel 2000, Switzerland

P-MEMS-71 - Fabrication of Piezoelectric Nanogenerators on Conducting Polymer Films for Energy Harvesting

Chi-an Dai * [1]; Chih-chun Hsiao [1]; Ni Putu Dewi Nuralasari [4]; Wen-pin Shih [2]; Pei-zen Chang [3]

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P-MEMS-72 - Fabrication and characteristics of an ultra-thin carbon nanotube/parylene membrane at large strain

Chi-jung Lee * [1]; Ming-dao Wu [1]; Yao-chuan Tsai [1]; Wen-pin Shih [1]

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P-MEMS-73 - Enhanced gas sensing properties of diamond nanoneedles formed by reactive ion etching

Chao Lu * [1]

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P-MEMS-74 - Development of nanoporous gold electrode for electrochemical methods applications

Xueling Quan * [1]; Maria Tenje [1]; Lee M. Fischer [1]; Anja Boisen [1]

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P-MEMS-75 - Fabrication of silicon nanopillar arrays and application on direct methanol fuel cell

Tang Yu-hsiang * [1]; Huang Mao-jung [1]; Shiao Ming-hua [1]; Yang Chii-rong [2]

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P-MEMS-76 - Nanogap structures for molecular characterization obtained by customizable waveforms

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P-MEMS-77 - Preliminary study on development of PVDF nanofiber based energy harvesting device for an artery microrobot

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P-MEMS-78 - Investigation of silicon nanowire breakdown properties for the realization of one-time programmable memories

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P-MEMS-79 - Nanofin based filaments for sensor applications

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P-NANO-01 - Patterning of iron oxide nanowires by pressing a microstructured mold

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P-NANO-02 - Direct polymer patterning by high energy reactive ion beam through stencil masks

Sébastien Brun * [1]; Edouard Guibert [1]; Veronica Savu [2]; Oscar Vazquez-mena [2]; Jürgen Brugger [2]; Sergueï Mikhaïlov [1]

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P-NANO-03 - Field emission of vertically aligned single-walled carbon nanotubes patterned by pressing a microstructured mold

Shota Inoue * [1]; Keisuke Nagato [1]; Masaki Furubayashi [1]; Shohei Chiashi [1]; Shigeo Maruyama [1]; Tetsuya Hamaguchi [1]; Msayuki Nakao [1]

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P-NANO-04 - Integration of inkjet printing and laser-annealing for the realization of extremely low resistivity silver lines for flexible electronics

Alessandro Chiolerio * [1]; Gabriele Maccioni [1,2]; Paola Martino [3]; Marco Cotto [3]; Paolo Pandolfi [3]; Paola Rivolo [4]; Adriano Sacco [4]; Sergio Ferrero [2,4]; Luciano Scaltrito [2,4]; Marco Grassi [3]

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P-NANO-05 - Surface property characterization of glass μ -pipettes using SEM stereoscopic technique

Majid Malboubi * [1]; Gu Yuchun [2]; Philip Prewett [1]; Kyle Jiang [1]

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P-NANO-06 - Real-time temperature measurement during a laser annealing process featuring a microthermocouple array: exploiting nano and micro-metrology

Alessandro Chiolerio * [1]; Paolo Pandolfi [2]; Gabriele Maccioni [1,3]; Adriano Sacco [1,4]; Denis Perrone [1]; Gianmarco Grange [1,3]

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P-NANO-07 - Development of An Automatic Aberration-correction System for Scanning Electron Microscopy

Kotoko Hirose * [1]; Tomonori Nakano [1]; Takeshi Kawasaki [1]

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P-NANO-08 - A dither signal addition on a electromagnetic coil to improve a SEM image

Dong Hwan Kim * [1]; Kwang Oh Jung [2]; Kim Seung Jae [3]; Se Kyu Oh [3]; Kyung Sun Yang [3]

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P-NANO-09 - Surface Property Characterization of Ordered Nanostructure Using SEM Stereoscopic Technique

Ali Mohammadkhani * [1]; Majid Malboubi [2]; Carl Anthony [3]; Kyle Jiang [3]

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P-NANO-10 - Nanoscale piezoresponse of poly(vinylidene fluoride-trifluoro-ethylene) films under different processing conditions

Minchuang Chen * [1]; Lu Qian [2]; Zhenkui Shen [1]; Anquang Jiang [1]

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P-NANO-11 - Low Power and High Performance Dynamic CMOS XOR/XNOR Gate Design

Jinhui Wang * [1]; Na Gong [2]; Wuchen Wu [1]; Ligang Hou [1]; Ying Yuan [1]

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P-NANO-12 - Contact Edge Roughness: Characterization and Modeling

Visaya-kumar M.k. * [1]; Vassilios Constantoudis [1]; Evangelos Gogolides [1]

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P-NANO-13 - Novel gold cantilever for Nano-Raman spectroscopy of graphene

Raul D. Rodriguez [1]; Valentinas Snitka * [1]; Vitas Lendraitis [1]

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P-NANO-14 - Topographic imaging of adsorbed RNA-PolyA at the nanometer scale

Samanta Pino [1]; Mariano Biasiucci * [2]; Mattia Scardamaglia [1]; Maria Grazia Betti [1]; Giuseppe Gigli [3]; Ernesto Di Mauro [4]

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P-NANO-15 - Improvement of current sensitivity in detecting current-induced magnetic field using magnetic force microscopy

Fujio Wakaya * [1]; Masahiro Kajiwara [1]; Kazuya Kubo [1]; Satoshi Abo [1]; Mikio Takai [1]

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P-NANO-16 - Nanoscale Metrology for Electrical Modes in Scanning Probe Microscopy

Maria B. Retschke * [1]; Stefan A. L. Weber [1]; Esha Sengupta [1]; Anna L. Domanski [1]; Ruediger Berger [1]; Hans- Jürgen Butt [1]

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P-NANO-17 - Structure characterization of EUV diffraction grating with nondestructive spectroscopic ellipsometry

Fong Chi-hao * [1]; Lin Yi-ming [1]; Fung Hok-sum [2]; Shew Bor-yuan [2]; Shieh Jiann [3]; Lin Chun-hung [1]

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P-NANO-18 - Electrical in-situ Characterization of Au/Ni/Au-Nanowires

René Sewcz [1]; Guido Piaszenski * [2]; Axel Rudzinski [2]; Frank Nouvertné [2]; Michael Kahl [2]

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P-NANO-19 - Atomic scale simulations in the dry etching plasma processes

Chiamonte Loredana * [1]; La Magna Antonino [1]; Fazio Giuseppe [2]; Garozzo Giuseppe [2]; Colombo Roberto [2]

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P-NANO-20 - Surface and geometry characterization of soft lithography thick moulds for net shape ceramic micro fabrication

Hany Hassanin [1]; Kyle Jiang * [1]; Hossein Ostadi [1]

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P-NANO-21 - Self replication of thick PDMS micro pattern using surfactants as release agents

Hany Hassanin [1]; Kyle Jiang * [1]

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P-NANO-22 - Transfer imprint lithography using a soft mold

Jianzhuo Xin * [1]; F.k. Lee [1]; S.y.w. Li [1,2]; K.s. Chan [1]; H.I.w. Chan [1]; C.w. Leung [1]

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P-NANO-23 - Nano-scale Silicon Pattern Transfer Using Cryogenic SF6/O2 Chemistry and Polymer Resist Masks

Ying Wu * [1,2]; Deirdre Olynick [2]; Andy Goodyear [1]; Christophe Peroz [3,2]; Scott Dhuey [2]; Xiaogan Liang [2]; Stefano Cabrini [2]

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P-NANO-24 - Nanoscale patterned sapphire substrate prepared by ICP-RIE

Chun-ming Chang * [1,2]; Su-wei Huang [3]; Chin-tien Yang [4]; Shi-wei Chen [5]; Ming-hua Shiao [1]; Mao-jung Huang [1]; Wen-jeng Hsueh [2]; Kung-jeng Ma [6]; Donyau Chiang [1]

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P-NANO-25 - Piezoelectric material nanopatterning using lift-off technique by stepper UV lithography for NEMS applications

Samuel Guillon * [1]; Daisuke Saya [1]; Laurent Mazenq [1]; Caroline Soyer [2]; Jean Costecalde [2]; Denis Remiens [2]; Liviu Nicu [1]

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P-NANO-26 - Fabrication of Tapered Waveguide by Ashed Photoresist

Han-hyoung Kim * [1]; Joo-beom Kwon [1]; Myoung-soo Kim [1]; Jang-hwan Han [1]; Beom-hoan O [1]; Seung-gol Lee [1]; El-hang Lee [1]; Se-geun Park [1]

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P-NANO-27 - Effect of Alternating Ar and SF6/C4F8 Gas Flow in Si Nano-Structure Plasma Etching

Lei Chen * [1]; Vincent Luciani [1]; Houxun Miao [1]

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P-NANO-28 - Nanopatterning of High Temperature Superconductors Using a Titanium Hard Mask

Franco Carillo * [1]; Gianpaolo Papari [2]; Daniela Stornaouioulo [2,3]; Domenico Montemurro [1,2]; Pasqualantonio Pingue [1]; Fabio Beltram [1]; Francesco Tafuri [3,2]

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P-NANO-29 - Etching Titanium Nitride gate stacked on high-k dielectric

J. C. Gerharz * [1]; K. Padmaraju [2]; J. Moers [1]; D. Grützmacher [1]

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P-NANO-30 - "Mesh-assisted" colloidal lithography and plasma etching: A route to large-area, uniform, ordered nano-pillar production on versatile substrates

Kosmas Ellinas * [1]; Antonia Malainou [1]; Aggelos Zeniou [1]; Angeliki Tserepi [1]; Evangelos Gogolides [1]

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P-NANO-31 - Ion and electron beam deposited masks for pattern transfer by reactive ion etching

Andrea Notargiacomo * [1]; Ennio Giovine [1]; Luciana Di Gaspare [2]

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P-NANO-32 - Nanoscale SiO₂ ICP etching

Marc Guilmain * [1]; Serge Ecoffey [1]; Abdelatif Jaouad [1]; Dominique Drouin [1]

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P-NANO-33 - Fractal Structure Can Explain the Increased Hydrophobicity of NanoPorous Silicon Films

Francesco Gentile [1]; Edmondo Battista [2]; Angelo Accardo [1,3]; Maria Laura Coluccio [1]; Monica Asande [1]; Gerardo Perozziello [1]; Gobind Das [4]; Carlo Liberale [4]; Francesco De Angelis * [4]; Patrizio Candeloro [1]; Paolo Decuzzi [5]; Enzo Di Fabrizio [1,4]

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P-NANO-34 - Scan-projection optical lithography onto cylindrically curved convex and concave surfaces

Toshiyuki Horiuchi * [1]; Kotaro Nakamura [1]

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P-NANO-35 - Flexible transmission gratings fabricated by nanoimprint and soft lithography

Hongwen Sun * [1]; Guogao Liu [1]; Shanming Lin [1]; Jingquan Liu [2]; Di Chen [2]

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P-NANO-36 - Fabrication of free standing alumina micro components by pressurless slip casting in PDMS moulds

Hany Hassanin [1]; Kyle Jiang * [1]

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P-NANO-37 - ALD grown NbTaO_x based MIM capacitors

Tom Blomberg * [1]; Christian Wenger [2]; Canan Baristiran Kaynak [2]; Güenther Ruhl [3]; Peter Baumann [4]

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P-NANO-38 - Laser lithography for fabricating micro-coils using a half-vacuum support guide

Toshiyuki Horiuchi * [1]; Hidetoshi Ishii [1]; Yasuhide Sinozaki [1]; Tetsuya Ogawa [1]

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P-NANO-39 - Cylindrical projection lithography for microcoil structures

Dongkeon Lee * [1]

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P-NANO-40 - Solid immersion interference lithography based on backside exposure technique for fabricating subwavelength metal grating

Xupeng Li [1]; Sha Shi [1]; Jing Yang [3]; Zhiyou Zhang [1]; Jingquan Wang [1]; Fuhua Gao [1]; Ruiying Shi [1]; Min Gong [1]; Jinglei Du * [1]; Chuanlei Du [2]

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P-NANO-41 - Fabrication of zirconia/alumina nanocomposite microcomponents using colloidal powder processing and soft lithography

Hany Hassanin [1]; Kyle Jiang * [1]

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P-NANO-42 - An Enhancement of Contact Profile using MLR mask

Kangjin Kim * [1,2]; Jongjin Park [1]; Sanghun Lee [1]; Sungil Kim [1]; Sangrok Hah [1]; Chilki Lee [2]

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P-NANO-43 - Manufacturing, characterization, and application of nanoimprinted metallic probe demonstrators for electrical scanning probe microscopy

Joachim D. Jambrech * [1]; Vasil Yanev [1]; Holger Schmitt [1]; Mathias Rommel [1]; Anton J. Bauer [1]; Lothar Frey [1,2]

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P-NANO-44 - Study of SWSs on the PC film for antireflection using gas-assisted hot embossing

Fang-sung Cheng * [1]

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P-NANO-45 - Seamless focused-ion-beam etching around optical fibers using simple rotation stage

Harutaka Mekar * [1]; Hiroyasu Kondo [2]; Takayuki Yano [3]; Dongkeon Lee [1]; Ryutaro Maeda [1]

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P-NANO-46 - Adding functionalities to microelectromechanical systems by crystalline correlated oxide thin films

Michele Biasotti * [1]; Luca Pellegrino [1]; Renato Buzio [1]; Emilio Bellingeri [1]; Nicola Manca [2]; Cristina Bernini [1]; Antonio Sergio Siri [1,2]; Daniele Marrè [1,2]

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P-NANO-47 - ALD-assisted Metal Lift-off for Contamination-free Contact Areas to Carbon Nanotubes

Shih-wei Lee * [1]; Matthias Muoth [1]; Thomas Helbling [1]; Moritz Mattmann [1]; Christofer Hierold [1]

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P-NANO-48 - Integrated hydrophilic surface treatment system of vapor deposition polymerization and vacuum ultraviolet irradiation for biochemical microchips

Hidetoshi Shinohara * [1]; Takaaki Hori [1]; Shogo

Umeda [1]; Yoshikazu Takahashi [2]; Shuichi Shoji [1];
Osamu Ohara [3]; Jun Mizuno [4]

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P-NANO-49 - Temperature sensor based on Ferroelectric FET

Giovanni Antonio Salvatore * [1]; Livio Lattanzio [1];
Didier Bouvet [1]; Alexandre Rusu [1]; Adrian Mihai Ionescu [1]

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P-NANO-50 - Backlight device fabricated by roll-to-roll nanoimprinting

Tapio Mäkelä * [1]; Tomi Haatainen [1]; Jouni Ahopelto [1];
Jori Oravasaari [2]; Tero Tuohioja [2]; Kari Rinko [2]

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P-NANO-51 - Fabrication of Novel High Aspect Ratio Pillars using Flexible mold

Tomoki Nishino * [1]

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P-NANO-52 - Ar⁺ ion beam machining of the carbon thin layer deposited on the Zerodur® substrate for EUVL projection optics

Kazuma Fujiwara * [1]; Shahjada Pahlovy [1]; Iwao Miyamoto [1]

[1] Tokyo University of Science, Japan

P-NANO-53 - 0.5 keV Xe⁺ ion beam nano smoothing of ULE® substrate after processing with 3-10 keV Xe⁺ ion beam.

Kenta Morijiri * [1]; Hironori Endo [1]; Kishin Morikawa [1];
Shahjada Pahlovy [1]; Iwao Miyamoto [1]

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P-NANO-54 - Dielectric Fresnel zone plates on optic fibers for micro-imaging applications

Bing-rui Lu * [1]; Jin-xing Li [1]; Chen Gao [1]; Ejaz Huq [2];
Xin-ping Qu [1]; Yifang Chen [2]; Ran Liu [1]

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P-NANO-55 - Selective ablation of inkjet-printed Ag thin films on a flexible substrate with a picosecond laser

Dong Jun Lee * [1]; Je Hoon Oh [1]

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P-NANO-56 - Atmospheric-Pressure Plasma Jet from an Array of Micro Holes for PDMS Surface Modification

Kangil Kim * [1]; Geunyoung Kim [1]; Sang Sik Yang [1]

[1] Ajou University, Korea

P-NANO-57 - Ultra-precision Dicing and Wire Sawing of Silicon Carbide

Srecko Cvetkovic * [1]; Caspar Morsbach [2]; Lutz Rissing [1]

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P-NANO-58 - Surface Wettability of PDMS Thin Film with Diverse Microstructures

Ahn Jun-hyung * [1]; Oh Jae-weon [1]; Son Joong-gi [1];
Lee Chang-hun [1]; Lee Dong-weon [1]

[1] Chonnam National University, Korea

P-NANO-59 - Accurate assembly process of shape memory alloy tubular micro manipulator with a coaxial bias mechanism

Takashi Mineta * [1]; Kudoh Shinya [1]; Eiji Makino [1];
Takahiro Kawashima [2]; Takayuki Shibata [2]

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P-NANO-60 - Fabrication of subwavelength silicon structures to have anti-reflection and low sliding angle

Chieh-hsiu Chiang [1]; Yung-pin Chen [1]; Lon Wang * [1]

[1] National Taiwan University, Taiwan

P-NANO-61 - Fabrication of curved mirror integrated polymer optical waveguides using UV imprinting technique

Hyun-shik Lee [1]; Keum-soo Jeon [2]; Insu Park [2]; Shinmo An * [1]; El-hang Lee [1]

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P-NANO-62 - Hot roll embossing in thermoplastic foils using silicon stamp

Khaled Metwally * [1]; Laurent Robert [1]; Samuel Queste [1]; Chantal Khan Malek [1]

[1] FEMTO-ST Institute - UMR CNRS 6174 - France

P-NANO-63 - Flexible PDMS micro-lens array with programmable focus gradient fabricated by dielectrophoresis force

Yu-chi Wang * [1]; Yao-chuan Tsai [1]; Wen-pin Shih [1]

[1] National Taiwan University

P-NANO-64 - Fiber inserted optical via holes for multi-stacked planar optical wired boards

Insu Park [1]; Keum-soo Jeon [1]; Hyun-shik Lee [2]; Shinmo An * [2]; El-hang Lee [2]

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P-NANO-65 - Lattice work nanostructuring of microcantilevers by FIB machining

G. C. Gazzadi * [1]; G. Canavese [2]; R. Castagna [3]; I. Ferrante [3]; S. Marasso [3]; A. Ricci [3]; V. De Renzi [1,4]; C. Ricciardi [3]

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P-NANO-66 - A Novel Design of Two-dimensional Asymmetric Patterns for Self-alignment of Micro-parts

Dong F. Wang [1]; Shohei Shiga * [1]; Tsuyoshi Ikehara [2]; Takao Ishida [2]; Ryutaro Maeda [2]

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P-NANO-67 - Fabrication of electrode trench on multicrystalline silicon solar cells using laser grooving technology

Chen Ming-fei [1]; Ho Yu-sen * [1]; Hsiao Wen-tse [2]; Lo Pei-sheng [1]; Tseng Shih-feng [2]; Huang Kuo-cheng [2]

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P-NANO-68 - Circular Optical Microstructures Fabricated Using Ultra-Pulsed Laser Ablation and UV Imprint Process

Tien-li Chang [1]; Han-ping Yang [1]; Yung-hsin Kuo * [1]; Jung-chang Wang [2]; Chien-ping Wang [3]

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P-NANO-69 - Three-level stencil alignment fabrication of a High-k Gate Stack Organic Thin Film Transistor

Nenad V. Cvetkovic * [1]; Katrin Sidler [2]; Veronica Savu [2]; Jürgen Brugger [2]; Dimitrios Tsamados [1]; Adrian M. Ionescu [1]

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P-NANO-70 - Controlled Surface Nanostructures for Performance- Analysis on Solid Support Fuel Cells

Sebastian Strobel * [1]; Christopher Kirkendall [1,2]; Karl K. Berggren [1]

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P-NANO-71 - Fast prototyping of conducting polymer microelectrodes using resistance-controlled high precision drilling

Jan Kafka * [1]; Niels B. Larsen [1]; Steen Skaarup [1]; Oliver Geschke [1]

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P-NANO-72 - Bottom-up nanofabrication: chemical in-situ and ex-situ synthesis for engineered nanocomposites featuring magnetic and electric properties

Alessandro Chiolerio * [1]; Paolo Allia [2]; Marco Sangermano [2]; Lorenza Suber [3]; Paola Tiberto [4]; Lorenzo Vescovo [2]; Giada Marchegiani [1,3]

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P-NANO-73 - PMMA nanocolumn array fabricated by catalytic etching and nanomolding techniques

Mao-jung Huang * [1]; Chii-rong Yang [2]; Chun-ming Chang [1]; Chun-ting Lin [1]; Yu-hsiang Tang [1]; Ming-hua Shiao [1]; Yuang-cherng Chiou [3]; Rong-tsong Lee [3]

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P-NANO-74 - Two dimensional assembly of gold colloids for plasmonic applications

Miroslav Kolibal * [1]; Filip Ligmajer [1]; David Skoda [1]; Jakub Zlamal [1]; Tomas Sikola [1]

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P-NANO-75 - A simple fabrication process of Pt-TiO₂ hybrid electrode for photo-assisted methanol fuel cells

Chun-ting Lin * [1]; Hung Ji Huang [1]; Jr-jung Yang [1]; Ming-hua Shiao [1]

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P-NANO-76 - Surface treatment process to control the surface energy for inkjet printing in color filter

Ki Deok Bae * [1]; Chang Seung Lee [1]; Junseong Kim [1]; Chang Youl Moon [1]

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P-NANO-77 - Fabrication of high density gold nanoparticle arrays on glass for high sensitivity bio-detection

Kevin Lhoste * [1]; Laurent Malaquin [2]; Laurent Billot [2]; Anne-marie Haghair [2]; Yong Chen [1]

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P-NANO-78 - Large area nanopatterning by combined Anodic Aluminum Oxide and soft UVNIL technologies for applications in biology

Frédéric Hamouda * [1]; Houda Sahaf [2]; Sylvain Held [1]; Grégory Barbillon [3]; Philippe Gogol [1]; Eric Moyer [2]; Abdelhanin Aassime [1]; Marie-paule Planté [1]; Julien Moreau [3]; Michael Canva [3]; Jean-michel Lourtioz [1]; Margrit Hanbücken [2]; Bernard Bartenlian [1]

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P-NANO-79 - Fabrication of carbon nanofibers using only ion beam irradiation to glassy carbon

Okumoto Takashi * [1]; Taniguchi Jun [1]; Kamiya Yasuhiro [1]

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P-NANO-80 - Comparison of gas responses of self-

heated and externally controlled heated nanowires for advanced ultralow-power consumption gas sensor devices

Roman Jimenez-diaz * [1]; Juan Daniel Prades [1]; Joan Ramon Morante [2]; Albert Cirera [1]; Francisco Hernandez-ramirez [2,3]; Joaquin Santander [4]; Carlos Calaza [4]; Luis Fonseca [4]; Carles Cane [4]; Albert Romano-rodriguez [1]

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P-NANO-81 - Zone plate development for high-resolution soft-x-ray microscopy

Stefan Rehbein * [1]; Stephan Werner [1]; Peter Guttmann [1]; Gerd Schneider [1]

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P-NANO-82 - Antireflective silicon subwavelength structure formed by self-aggregated gold nano particle as a catalysis

Bo-soon Kim * [1]; Jun-ho Sung [1]; Won-ki Ju [1]; Min-woo Lee [1]; Chul-hyun Choi [1]; Se-geun Park [1]; Seung-gol Lee [1]; El-hang Lee [1]; Beom-hoan O [1]

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P-NANO-83 - Cycloaddition functionalization of cleaved microstructures

Emanuela Carleschi [1,2]; Mauro Melli [1,3]; Elena Magnano [1]; Hossein Pakdast [1]; Marco Lazzarino * [1]

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P-NANO-84 - Microscopic Si whiskers

Seref Kalem * [1]

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P-NANO-85 - Amphiphobic, Plasma Nanotextured Polymer Surfaces

Arun Kumar Gnanappa * [1]; Kosmas Ellinas [1]; Angeliki Tserepi [1]; Evangelos Gogolides [1]

[1] Institute of Microelectronics, National Center for Scientific Research Demokritos, Terma Patriahou Gregoriou St. Aghia Paraskevi, 15310 Greece

P-NANO-86 - Focused Helium Ion Beam Milling and Deposition

Stuart Boden * [1]; Zakaria Moktadir [1]; Darren Bagnall [1]; Hiroshi Mizuta [1]; Harvey Rutt [1]

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P-NANO-87 - Templated self-organization: Direct formation of highly ordered GaSb nanodot arrays induced by a combination of nanoimprint and ion erosion

Namil Koo * [1]; Jens Bolten [1]; Ulrich Plachetka [1]; Jung Wuk Kim [1]; Christian Moormann [1]; Heinrich Kurz [1]

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P-NANO-88 - Molecular dynamics study on mechanical properties of electron-irradiated carbon nanotubes : tensile property

Shinya Wakuda * [1]; Masaaki Yasuda [1]; Hiroaki Kawata [1]; Yoshihiko Hirai [1]

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P-NANO-89 - Process Effects on Tool Stability in Nano- Injection Molding

Christian Rytka [2]; Urs Bruggisser [2]; Magnus Kristiansen [2]; Harun H. Solak [3]; Jens Gobrecht * [1]

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P-NANO-90 - Visible Microlaser two-photon polymerization in a microfluidic cell: A resist study

Tobias Elmberg [1]; Thibault Honegger * [1]; Kevin Berton [1]; David Peyrade [1]

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P-NANO-91 - Mechanical behaviour of photocured poly(propylene) fumarate for applications in tissue engineering

Luca Ceseracciu * [1]; Alberto Barone [1]; Fernando Brandi [1]; Fraz Anjum [1]

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P-NANO-92 - Porphyrin nanotubes film for optical gas sensing

Valentinas Snitka * [1]; Vitas Lendraitis [1]

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P-NANO-93 - Self patterning of Alkanethiol-capped Au Nanoparticle using organic solvent

Tae-jin Yim [1]; Hyeunseok Choi * [3]; Xiang Zhang [1,2]

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P-NANO-94 - Optimization of FIB Milling for Rapid NEMS Prototyping

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P-NANO-95 - Alignment of ZnO nanorods using a hydrothermal method and anodic aluminum oxide nanotemplates

Won-ki Ju * [1]; Bo-soon Kim [1]; Jun-ho Sung [1]; Min-woo Lee [1]; Chul-hyun Choi [1]; Se-geun Park [1]; Seung-gol Lee [1]; El-hang Lee [1]; Beom-hoan O [1]

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P-NANO-96 - The dependence of the electric field of a nanotip on the tip base: A new perception

Moh'd Rezeq * [1]

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P-NANO-97 - Individual electrical contact of nanocrystals in nanocomposites

Nerea Alayo * [1]; Anna Paniello [2]; Marinella Striccoli [2]; M. Lucia Curri [2]; Francesc Pérez-murano [1]

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P-NANO-98 - Low-cost ZnO nanorod arrays for nanogenerators of improved conversion efficiency

Georgios Niarchos [1]; Eleni Makarona [1]; Christos Tsamis * [1]

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P-NANO-99 - ICP-RIE Etching Process Optimization for Embedded Flexible Electronics Applications

Cheng-yao Lo * [1]; Yi-ren Huang [1]

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P-NANO-100 - Cl₂/N₂-based plasma etching of high-aspect-ratio high-density nanopatterns in AlGaAs/GaAs, GaInAs/InP and AlGaAsSb/GaSb for nanophotonics applications

Jukka Viheriälä * [1]; Jarkko Telkkälä [1]; Milla-riina Viljanen [1]; Antti Aho [1]; Aki Wallenius [1]; Ismo Vartiainen [2]; Jonna Paajaste [1]; Mihail Dumitrescu [1]

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P-NANO-101 - Plasma Etching Uniformity Control for Making Large and Thick Dual-Focus Zone Plates

Lei Chen * [1]; Quandou Wang [1]; Ulf Griesmann [1]

P-NANO-102 - Ionic Liquid Ion Sources for silicon reactive machining

Stéphane Guilet * [1]; Carla Pérez-martínez [2]; Pascale Jegou [3]; Jacques Gierak [1]; Paulo C. Lozano [2]

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P-NANO-103 - The Enhancement of Gate Induced Drain Leakage (GIDL) Current in MOSFETs under the influence of Phosphoric Acid on Si Surface

Sanghyeon Jeon * [1,2]; Wonhee Jang [1]; Kyupil Lee [1]; Socheol Lee [1]; Donggun Park [1]; Yonghan Roh [2]

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P-NANO-104 - Reduction of plasma-induced damage during HDP-CVD oxide deposition in Inter Layer Dielectric (ILD) process

Jun-woo Lee * [1,2]; Hwan-woo Kim [1]; Hyung-joon Kim [1,2]; Seog-gyu Kim [1]; Kyu-pil Lee [1]; Soo-cheol Lee [1]; Dong-gun Park [1]; Byoung-deog Choi [2]

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P-NANO-105 - Effect of Oxide Only Spacer on 65nm MLC(Multi-Level Cell) NOR Flash Cell Arrays

Seung-ha Han * [1]; Hwan-bae Yu [1]; Hyun-chul Shin [1]; Jun-ui Song [1]; Hae-bum Lee [1]; Jung-hyuk Choi [1]; Tae-sung Jung [1]; Byoung-deog Choi [2]

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P-NANO-106 - Local body bias (VBB) leakage by plasma charging induced gate oxide degradation of dummy wordline in Dynamic Random Access Memory (DRAM)

Bong-gu Sung * [1,2]; Daejung Kim [1]; Junyong Roh [1]; Kyunseok Oh [1]; Young-hyun Jun [1]; Yong-han Roh [2]

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P-NANO-107 - Effects of Hydrogen on Au Migration and the Growth kinetics of Si Nanowires

Woo-jung Lee * [1]; Jinwon Ma [1]; Jungmin Bae [1]; Mann-ho Cho [1]; Jae Pyung Ahn [2]

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P-NANO-108 - Characterisation of Silicon Nanowires Fabricated by Metal Assisted Etching

Luca Boarino * [1]; Dario Imbraguglio [1]; Emanuele Enrico [1]; Natascia De Leo [1]; Federica Celegato [1]; Paola Tiberto [1]; Giampiero Amato [1]

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P-NANO-109 - Formation and Visible Luminescence of AlN Nanowires on Si Substrates

Xinwei Zhao * [1]; Shuang Wang [1]; Ping Zhang [1]; Rei Kasahara [2]; Junpei Sakura [2]; Susumu Harako [2]

[1] AOMEM Center, Tianjin University of Technology and Education, Tianjin 300222, China; [2] Department of Physics, Tokyo University of Science, 1-3 Kagurazaka, Shinjuku-ku, Tokyo 162-8601, Japan

P-NANO-110 - Field-effect transistors fabricated using silicon nanowires prepared by metal-assisted wetchemical etching

Michal Zarembo-tymieniecki [1]; Chuanbo Li [1]; Kristel Fobelets [1]; Mino Green [1]; Zahid Durrani * [1]

[1] Imperial College London, UK

P-NANO-111 - Investigation of the Interfacial Electronic Structure between Organic/ZnO nanowire Hybrid Solar cell

Sang Han Park * [1]; Hyo Jin Kim [1]; Mann-ho Cho [1]; Jaehyun Yang [2]; Hyoungsub Kim [2]; Yeonjin Yi [3]

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P-NANO-112 - On-Chip Production of Liquid Optical Microcavities

Guillaume Aubry * [1,2,3]; Chujun Wang [1,3]; Julien Soto-velasco [1,3]; Sébastien Méance [1,2,3]; Anne-marie Haghiri-gosnet [2]; Qingli Kou [1,3]

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P-NANO-113 - Magneto-optic in-fiber micro modulator

Asaf Shahmoon * [1]; Zeev Zalevsky [1]

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P-NANO-114 - Non-perturbative visualization of nanoscale plasmonic field distributions via photon localization microscopy

P. James Schuck * [1]; Alex Weber-bargioni [1]; Alex Mcleod [1]; Zhaoyu Zhang [2]; Scott Dhuey [1]; Bruce Harteneck [1]; Jeffrey B. Neaton [1]; Stefano Cabrini [1]

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P-NANO-115 - A novel surface plasmon biosensor with imprinted waveguide metal gratings for protein detection

Xu Zhen-cheng * [1]; Gao Chen [1]; Shen Zhenkui [1]; Li Zhidong [1]; Li Jinxing [1]; Wen Juanjuan [1]; Lu Bing-ru [1]; Huq Ejaz [2]; Qu Xin-ping [1]; Chen Yifang [2]; Ran Liu [1]

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P-NANO-116 - Control of spontaneous emission in photonic crystal cavities by electric field

Annamaria Gerardino * [1]; Nicolas Chauvin [2,4]; Marco Francardi [1]; Laurent Balet [2,3]; Carl Zinoni [3]; Blondine Alloing [3]; Lee Han Li [3]; Andrea Fiore [2]

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P-NANO-117 - Optical and Electrical Properties of Ordered Cu₂-xSe Nanocrystal Films

Yang Zhang * [1]; Sasanka Deka [1]; Alessandro Genovese [1]; Karol Miszta [1]; Liberato Manna [1]; Roman Krahne [1]

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P-NANO-118 - Guided Bloch Surface Waves on ultra-thin polymeric ridges

Emiliano Descrovi [1]; Tristan Sfez [2]; Marzia Quaglio [3]; Daniele Brunazzo [4,1]; Lorenzo Dominici [5]; Francesco Michelotti [5]; Hans Peter Herzig [2]; Olivier Martin [4]; Fabrizio Giorgi * [1]

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P-NANO-119 - Optical enhancement by means of concentration tuning of gold precursors in polymer nanocomposite materials

Fabrizio Spano * [1]; Alessandro Massaro [1]; Roberto Cingolani [2]; Athanassia Athanassiou [1]

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P-NANO-120 - Fabrication of a grating with phase change material and its static optical switching performance

Xiaomin Wang * [1]; Masashi Kuwahara [1]; Makoto Fujimaki [1]; Hitoshi Kawashima [1]; Hiroyuki Tsuda [2]; Yoshimichi Ohki [3]

[1] National Institute of Advanced Industrial Science and Technology (AIST), Japan; [2] Graduate School of Science and Technology, Keio University, Japan; [3] Department of Electrical Engineering and Bioscience, Waseda University, Japan

P-NANO-121 - Real time optical pressure sensing for tactile detection using gold nanocomposite material

Alessandro Massaro [1]; Fabrizio Spano * [1]; Paolo Cazzato [2]; Roberto Cingolani [3]; Athanassia Athanassiou [1]

[1] Italian Institute of Technology IIT, Center of Bio-Molecular

P-NANO-122 - Control of junction resistances in molecular electronic devices fabricated by FIB

Syed Hassan Mujtaba Jafri * [1]; Tobias Blom [1]; Ken Welch [2]; Maria Stromme [2]; Henrik Löfås [3]; Anton Grigoriev [3]; Rajeev Ahuja [3]; Klaus Leifer [1]

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P-NANO-123 - Source/drain metal work function dependent optical characteristics of Schottky barrier metal-oxide-semiconductor field effect transistors

Ji-chul Jung * [1]; Sang-mo Koo [1]

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P-NANO-124 - Anti-Reflective Honeycomb Micro-Structures On 6H-SiC For Photovoltaic Cells

Min-seok Kang * [1]; Min-young Hwang [1]; Wook Bahng [2]; Sang-chul Kim [2]; Nam-kyun Kim [2]; Sang-mo Koo [1]

[1] Department of Electronic Materials Engineering, Kwangwoon University, Seoul, 139-701, Korea; [2] Korea Electrotechnology Research Institute, Power Semiconductor Research Group, Changwon 641-120, Korea

P-NANO-125 - Multilevel storage in lateral phase-change memory by promotion of nanocrystallization

You Yin * [1]; Sumio Hosaka [1]

[1] Graduate Sch. of Eng., Gunma Univ., Japan

P-NANO-126 - Use of CdSe/ZnS nanocrystal with P3HT:PCBM for high performance inverted organic solar cells.

Mijung Choi * [1]; Honghong Fu [2]; Weiling Luan [2]; Yong-sang Kim [1,3]

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P-NANO-127 - Effect of electrode materials on resistive switching characteristics of ZnO-based non-volatile resistive memory

Yong Han * [1]; Kyoungah Cho [2]; Sangsig Kim [1,2]

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P-NANO-128 - Enzyme-free glucose sensors with channels made of ZnO nanoparticles on plastic substrates

Park Sukhyung * [1]; Cho Kyoungah [1]; Kim Sangsig [1]

[1] Department of Electrical Engineering Korea University, Korea

P-NANO-129 - Three-dimensional optical data storage through multi-photon confocal microscopy and imaging

William Dallari [1]; Marco Scotto [1]; Marco Allione * [1]; Elena Samoylova [1]; Francesca Pignatelli [1]; Roberto Cingolani [1]; Athanassia Athanassiou [2]; Alberto Diaspro [1]

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P-NANO-130 - Electron Microscope integrated single paramagnetic bead detection with nanocomposite Co-C Hall bio-nanosensors

Mihai Gabureac * [1]; Laurent Bernau [1]; Giovanni Boero [2]; Ivo Utke [1]

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P-NANO-131 - Theoretical modelling of hybrid polymeric Distributed Bragg Reflectors (DBRs) for Organic Light Emitting Diode (OLED) applications

Nikos Stathopoulos * [1]; Stelios Savaidis [1]; Leonidas Palilis [2]; Maria Vasilopoulou [2]; Panagiotis Argitis [2]; Ioannis Kostis [1]; Dimitris Davazoglou [2]

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P-NANO-132 - Electrical and optical characterization of CdSe nanorod networks assembled via Au domains.

Romain Lavieville * [1]

[1] Institute of technology, Genova, Italy

P-NANO-133 - Fabrication dependent resonance and far-field radiation behavior of optical antennae

Alexander Weber-bargioni * [1]; Matteo Cornaglia [1]; Scott Dhuey [1]; Alex Mcleod [1]; Jeffrey Neaton [1]; David Frank Ogletree [1]; Peter James Schuck [1]; Stefano Cabrini [1]

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P-NANO-134 - Fabrication of Schottky diodes for terahertz imaging

Ennio Giovine * [1]; Roberto Casini [1,2]; Donatella Dominijanni [1]; Andrea Notargiacomo [1]; Michele Ortolani [1]; Vittorio Foglietti [1]

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P-NANO-135 - Fabrication of "nano-rocket-tips" for plasmonic nanofocusing "

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P-NANO-136 - Fabrication of air-bridge Schottky diodes on germanium for high speed IR detectors

Andrea Notargiacomo * [1]; Roberta Bagni [2]; Ennio Giovine [1]; Vittorio Foglietti [1]; Stefano Carta [1]; Marialilia Pea [2]; Luciana Di Gaspere [2]; Giovanni Capellini [2]; Florestano Evangelisti [2]

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P-NANO-137 - Nanoscale Electrode Gaps to study Single Molecule Conduction

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P-NANO-138 - Fabrication of wedges nanostructures for plasmonic sensing

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P-NANO-139 - Fabrication of programmable nano switch arrays on GaAs nanowire networks for reconfigurable BDD logic circuits

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P-NANO-140 - Ambipolar silicon nanowire FETs with stenciled sub-micrometer metal gate

Davide Sacchetto * [1]; Veronica Savu [1]; Giovanni De Micheli [1]; Juergen Brugger [1]; Yusuf Leblebici [1]

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P-NANO-141 - A Package Level Phosphor Coating Technique for Adjusting Colour Distribution in White Light-Emitting Diodes

Han-ping Yang * [1]; Tien-li Chang [1]; Cheng-hsuan Lin [1]; Chen-peng Hsu [2]; Chien-ping Wang [2]

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P-NANO-142 - Molecular junctions made of tungsten-polyoxometalate self-assembled monolayers: Towards polyoxometalate-based molecular electronics devices

Dimitrios Velessiotis [1]; Antonios Douvas [1]; Sotirios Athanasiou [1]; Bengt Nilsson [2]; Göran Petersson [2]; Ulf Södervall [2]; Göran Alestig [2]; Panagiotis Argitis [1]; Nikos Glezos * [1]

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P-NANO-143 - Superconductivity of Ultra-fine Tungsten Nanowires Grown by Focused-ion-beam

Wuxia Li * [1,2]; Jon Fenton [1]; Changzhi Gu [2]; Paul Warburton [1]

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P-NANO-144 - Cu-MWCNT Composite Films Formed by an Electroless Plating Technique

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P-NANO-145 - Dense high aspect ratio diamond nanostructures for X-ray microscopy and photonics

Sergey Gorelick * [1]; Joan Vila-comamala [1]; Vitaliy A. Guzenko [1]; Birgit Päivänranta [1]; Ray Barrett [2]; Christian David [1]

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P-NANO-146 - Carbon Nanotube Tipped Cantilevers Applied to Nanometrology in Dynamic Mode Atomic Force Microscopy

James Su * [1]; N. N. Chu [1]; M. H. Shiao [1]

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P-NANO-147 - A simple and versatile method for statistical analysis of the electrical properties of individual double walled carbon nanotubes

Florent Seichepine * [1,2,3]; Emmanuel Flahaut [1,3]; Christophe Vieu [2,3]

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P-NANO-148 - Graphene as a sensing element in pressure sensors

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P-NANO-149 - Artificial tailoring of a carbon nanotube and its electrical properties under high-resolution transmission electron microscope

Takuya Nishijima * [1]; Ryuichi Ueki [1]; Yosuke Miyazawa [1]; Jun-ichi Fujita [1,2]

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P-NANO-150 - The Role of pH in the Density Control of Ferritin-based Iron Oxide Catalyst Nanoparticles for Scalable Individual Single-walled Carbon Nanotube Growth

Kiran Chikkadi * [1]; Moritz Mattmann [1]; Matthias Mouth [1]; Lukas Durrer [1]; Christofer Hierold [1]

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P-NANO-151 - Dielectrophoretic assembly of carbon nanotube-based NEMS devices using floating electrodes

Didi Xu * [1]; Kaiyu Shou [1]; Simone Schürle [1]; Bradley Nelson [1]

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P-NANO-152 - Generation and Repair of Defects in Carbon Nanotubes under Tensile Stress and Low-Acceleration Electron Beam Irradiation

Ryuichi Ueki * [1,2]; Ryosuke Endo [1]; Takeshi Hikata [3]; Shoichiro Ookubo [3]; Risa Utsunomiya [4]; Mitsuaki Matsuba [4]; Jun-ichi Fujita [1,2]

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P-NANO-153 - CNT-mask processed nano-structures for photo-transistors

Min-young Hwang * [1]; Sang-mo Koo [1]

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P-NANO-154 - Penetration based CNT/Sol-Gel composite films and there remarkable electrical properties

Harun Erismis * [1]; Dominik Nemeč [1]; Michael Geiss [1]; Viera Skakalova [2]; Uwe Ritter [3]; Ivica Kolaric [1]; Siegmund Roth [2]

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