



3-6 July 2012

9th International Conference on Nanosciences & Nanotechnologies – NN12

'Ioannis Vellidis' Congress Centre, 3 - 6 July 2012
Thessaloniki, Greece

PROGRAM

Tuesday 3 July		'Ioannis Vellidis' Congress Centre	
08:00 – All Day	Registration to NN12		
	Keynote Session I (All Workshops of NN12)		
08:45– 09:00	'WELCOME & OPENING REMARKS' <u>Stergios Logothetidis</u> NN12 Chairman <i>Room: Alexandros</i>		
09:00 – 09:30 Keynote Talk	Magnetoelectric coupling, screening and electronic states in graphene- and molybdene-based layered nanostructures <u>Efthimios Kaxiras</u> , Elton Gomes Dos Santos, Wei Li Wang <i>Department of Physics, Harvard University, Cambridge MA, USA</i>		
09:30 – 10:00 Keynote Talk	Defectless Self-Assembling of Block Copolymer Thin Films induced by Corrugated Substrates Eleni Pavlopoulou ¹ , Guillaume Fleury ¹ , Karim Aissou ¹ , Jonah Shaver ² , Gilles Pecastaings ¹ , Cyril Brochon ¹ , Christophe Navarro ³ , Stéphane Grauby ² , Jean-Michel Rampnoux ² , Stefan Dilhaire ² , <u>Georges Hadziioannou</u> ¹ <i>1. LCPO, University of Bordeaux, Talence, France.2. LOMA, University of Bordeaux, Talence, France.3. Arkema, Lacq, France.</i>		
	Parallel Session W1 – Plasmonics, Nanoelectronics & Clean Energy Session: Plasmonics & Photovoltaics I <i>Chair: Varonides A, Beck F.</i> <i>Room:Kassandros</i>		Parallel Session W2 – Nanomaterials, Nanofabrication, Nanoengineering & Nanoconstruction Session:Nanomaterials Synthesis I <i>Chair: Kaxiras E.</i> <i>Room:Alexandros</i>
10:00-10:30 Invited	Nanoengineering of interfaces in organic photovoltaic devices <u>Marin Rusu</u> <i>Institut für Heterogene Materialsysteme, Helmholtz-Zentrum Berlin für Materialien und Energie, Germany</i>	10:00-10:30 Invited	Core-Shell Nano-Particles from Well Designed Block Copolymers <u>Franz Stelzer</u> , Christian Slugovc, Gregor Trimmel, Frank Wiesbrock <i>Graz University of Technology, Institute for Chemistry & Technology of Materials Stremayrgasse 16, A-8010 Graz, Austria; e-mail: franz.stelzer@tugraz.at</i>
10:30-10:50 Invited Oral	GaAs nanowires for next generation photovoltaics: progress and challenges <u>N. T. Pelekanos</u> ^{1,2,3} , M. Hocevar ¹ , C. Bougerol ⁴ , G. Le Thuy ⁴ , R. Songmuang ⁴ <i>1CEA, LITEN, Laboratoire des Composants Solaires, INES-RDI, Savoie Technolac, 50 avenue du Lac Léman, 73377 Le-Bourget-du-Lac, France</i> <i>2Department of Materials Science and Technology, University of Crete, P.O. Box 2208, 71003 Heraklion, Greece</i> <i>3Microelectronics Research Group, IESL-FORTH, P.O. Box 1385, 71110 Heraklion, Greece</i>		

	4CEA-CNRS Group Nanophysics and Semiconductors, Institute Néel, 17 Rue des Martyrs, 38054 Grenoble, France		
10:50-11:05	Colloidal architectures for plasmonics Renaud Vallée, Mélanie Ferrié, Serge Ravaine Centre de Recherche Paul Pascal (CNRS), 115 Avenue Docteur Schweitzer, 33600 Pessac, France	10:30-11:00 Invited	Structure, Stability and Mechanical Properties of Coiled Carbon Nanotubes M. Damnjanovic, Z. Popovic, I. Milosevic Faculty of Physics, Uni of Belgrade, Serbia
11:05 – 11:30	Coffee Break-Exhibition-Networking POSTER SESSION I: All participants of Workshop 1 and Workshop 2 (No P2-1 to P2-70) should put their Posters to the NN12 Poster Area.		
	Parallel Session W1 – Plasmonics, Nanoelectronics & Clean Energy <i>Session: Nanoparticles and nanowires for electronic and optoelectronic applications I supported by NANOSOURCE</i> Chair: Tsoukalas D., Grisolia J. Room: Kassandra		Parallel Session W2 – Nanomaterials, Nanofabrication, Nanoengineering & Nanoconstruction <i>Session: Nanomaterials Synthesis II</i> Chair: Anastasiadis S., Stelzer F. Room: Alexandros
11:30 – 12:00 Invited	Tuning absorption and scattering of light using Si1-xGex nanowires H. Kallel ^{1,2} , A. Arbouet ¹ , G. BenAssayag ¹ , T. Baron ³ , A. Chehaidar ² , Vincent Paillard ¹ 1 CEMES-CNRS, University of Toulouse, 29 rue Jeanne Marvig, 31055 Toulouse cedex 4, France 2 Dept. of Physics, University of Sfax, FSS, BP 1171, 3003 Sfax, Tunisia 3 LTM-CNRS, 17, avenue des Martyrs, 38054 Grenoble - France"	11:30 – 11:50 Invited	Novel Nanocomposite Catalysts for Carbon Nanotube Growth P. Patsalas, D. Gourni, N.T. Panagiotopoulos, E.K. Diamanti Department of Materials Science and Engineering, University of Ioannina, GR-45110 Ioannina, Greece
12:00 – 12.15	Nanoparticle Coatings by Physical Vapour Deposition for Sensor Applications A. H. Kean, V. Broadley, S. Saranu, G. Vatougia. Mantis Deposition Ltd., 2-4 Goodson Industrial Mews, Wellington Street, Thame, Oxfordshire. OX9 3BX. UK	11:50 – 12:05	Nanoimprinting techniques for energy conversion devices applications B. Weiler, C. Ostermayr, U. Stimming, G. Scarpa Nanothinx S.A., Patras, Greece
12:15 – 12:30	Selective SERS of rhodamine-R6G on Ag-nanoparticles organized in linear arrays M Panagopoulou ¹ , P Photopoulos ² , D Tsoukalas ¹ and Y S Raptis ¹ 1 School of Appl. Math. and Phys. Sci., Physics Department, National Technical University of Athens, Zografou Campus, GR 157 80, GREECE 2 Department of Electronics, TEI of Athens, GR 12210 Aegaleo, GREECE	12:05 – 12:20	Swift heavy ion irradiation for synthesis of the light-emitting Si nanostructures in Si/SiO2 multilayers G.A. Kachurin ¹ , S.G. Cherkova ^{1,2} , D.V. Marin ^{1,2} , A.G. Cherkov ^{1,2} , V.A. Skuratov ³ , V.A. Volodin ^{1,2} , A.H. Antonenko ^{1,2} and G.N. Kamaev ^{1,2} 1 A.V. Rzhanov Institute of Semiconductor Physics, Siberian Branch of Russian Academy of Sciences, Lavrent'eva 13, 630090 Novosibirsk, Russia 2 Novosibirsk State University, Pirogova 2, 630090 Novosibirsk, Russia 3 Joint Institute for Nuclear Research, Joliot-Curie 6, 141980 Dubna, Russia
		12:20 – 12:35	Hydrophilic behavior improved by annealing of TiO2 films obtained by magnetron sputtering DC S. Pascoali ¹ , A. B. Paschoal ² , J. B. Borges ¹ , S. A. B. Bilac ² , O. S. Alarcon ² IF-SC Federal Institute of Education, Science and Technology of Santa Catarina, Av. XV de Novembro, 61, Aeroporto - Araranguá-SC - Brazil.
12:30 – 12:45	Oxide semiconductor nanostructures N. Boukos Institute of Advanced Materials, Physicochemical Processes and Nanotechnology, National Centre for Scientific Research "Demokritos Agia Paraskevi Attikis, Greece 1531	12:35 – 12:50	Picosecond high-repetition-rate pulsed laser deposition of elemental nanostructures of Silicon and Carbon M. Pervolaraki ¹ , Ph. Komninou ² , J. Kioseoglou ² , A. Othonos ³ , G.I. Athanasopoulos ¹ and J. Giapintzakis ^{1,4} 1 Department of Mechanical and Manufacturing Engineering, University of Cyprus, 75 Kallipoleos Av., PO Box 20537, 1678 Nicosia, Cyprus 2 Department of Physics, Aristotle University of Thessaloniki, 54124 Thessaloniki,

			Greece 3 Department of Physics, Research Centre of Ultrafast Science, University of Cyprus, P.O. Box 20537, 1678 Nicosia, Cyprus 4 Nanotechnology Research Unit, University of Cyprus, 75 Kallipoleos Av., PO Box 20537, 1678 Nicosia, Cyprus
12:45 – 13:00	Synthesis of CeO₂ nanoparticles for incorporation in hybrid materials <u>L. Truffault</u> , C.V. Santilli, S.H. Pulcinelli <i>Institute of Chemistry, Physico-chemistry Department, University of São Paulo State (UNESP), Rua Prof. Francisco Degni no 55, PO Box 335 Quitandinha, 14800-900 ARARAQUARA, SP, Brazil</i>	12:50 – 13:05	Experimental Studies on Catalyst Assisted Nucleation Processes in a PLD/VLS System <u>A. Marcu</u> , V.A. Malaroiu, F. Stokker, C. Grigoriu and C. Lungu <i>Laser Department, National Institute for Laser Plasma and Radiation Physics, Atomistilor 409, Bucharest-Magurele, ROMANIA</i> 2. <i>National Institute of Materials Physics, Atomistilor 105bis, Bucharest-Magurele, ROMANIA</i>
13:00 – 13:15	Density control of Zinc Oxide Nanorod Arrays for high performance Quantum Dot Sensitized Solar Cells C. Y. Luan ¹ , Q. Shen ² , T. Toyoda ² , and J. A. Zapien ¹ <i>1 Department of Physics and Materials Science and Center of Super-Diamond and Advanced Films (COSDAF), City University of Hong Kong, Tat Chee Ave, Kowloon Tong, Hong Kong, SAR, PRC</i> <i>2 Department of Applied Physics and Chemistry, The University of Electro-Communications</i> <i>1-5-1 Chofugaoka, Chofu, Tokyo 182-8585, Japan</i>	13:05 – 13:20 Cancelled	Fluorinated Mesoporous Silica Nanoparticles for Mechanically Stable Superhydrophobic Surfaces <u>Adem Yildirim</u> ^{1,2} , Hulya Budunoglu ^{1,2} , Bihter Daglar ^{1,2} , Hakan Deniz ¹ and Mehmet Bayindir ^{1,2,3} <i>1UNAM-National Nanotechnology Research Center,</i> <i>2Institute of Materials Science and Nanotechnology,</i> <i>3Department of Physics, Bilkent University, 06800 Ankara, Turkey</i>
13:15 – 13:30	Metal-like conductivity exhibited by triboelectrically deposited polyaniline (emeraldine base) particles on microtextured SiC surfaces <u>Ilker S. Bayer</u> ¹ , Athanassia Athanassiou ^{1,2} , Roberto Cingolani ² <i>1. Center for Biomolecular Nanotechnologies, Smart Materials Platform, Istituto Italiano di Tecnologia, Lecce, Italy</i> <i>2. Istituto Italiano di Tecnologia, Genova, Italy</i>	13:20 – 13:35	Polyurethane (PUR) nanofibers containing particles of CuO and TiO₂ prepared by electrospinning <u>G. Ungur</u> ¹ , J. Hruza ² <i>Department of nonwovens, Technical university of Liberec Studentska 1402/2, Liberec, Czech Republic</i>
13:30 – 13:50 Invited	Vertical nanowire array for nanoelectronics <u>Guilhem Larrieu</u> <i>Laboratory of Analysis and Architecture of Systems (LAAS), CNRS Toulouse, France</i>	13:35 – 13:50	Electrospun Nanofibers of Composites of Polypyrrole <u>A. Sezai Sarac</u> <i>Department of Chemistry, Polymer Science and Technology, Istanbul Technical University, Maslak, 34469, Istanbul, Turkey</i>
13:50 – 14:05	Laser printing of nanoparticles ink: Investigation of the transfer process by time resolved imaging I. Zergioti <i>National Technical University of Athens, Physics Department, Zografou Campus Greece, 15780</i>	13:50 – 14:05	Influences of argon-helium mixtures on the carbon-coated iron nanoparticles produced by a modified arc discharge <u>M. R. Sanaee</u> , S. Chaitoglou, N. Aguiló-Aguayo, E. Bertran <i>FEMAN Group, IN2UB, Dep. of applied physics and optics, University of Barcelona, Martí Franquès, 1, E08028 Barcelona, Spain</i>
14:05 – 15:00	Lunch Buffet Break		
	Poster Session I - Exhibition – Networking Posters of Workshop 1 and Workshop 2(P2-1 to P2-70) at 14:30 – 15:00 <i>Chair: Konofaos N., Malliaras G., Kassavetis S., Porfyraakis K.</i>		
	Keynote Session II (All Workshops of NN12)		
15:00 – 15:30 Keynote Talk	Hybrid All Carbon Organic Solar Cells Based on Carbon Nanotubes for Energy Harvesting S. Ravi P. Silva <i>Advanced Technology Institute, University of Surrey, Guildford, Surrey GU2 7XH, United Kingdom</i> <i>Room: Alexandros</i>		
	Parallel Session W1 – Plasmonics, Nanoelectronics & Clean Energy Session: Nanoparticles and nanowires for electronic and		Parallel Session W2 – Nanomaterials, Nanofabrication, Nanoengineering & Nanoconstruction & W3 - Nanomedicine

	<p>optoelectronic applications II supported by NANOSOURCE Chair: Tsoukalas D., Larrieu G. Room: Kassandros</p>		<p>Session: Biomaterials at Nanoscale Chair: Bizios R., Kavatzikidou P. Room: Alexandros</p>
15:30 – 16:00 Invited	<p>High-sensitivity strain gauges based on stripes of colloidal nanoparticles fabricated by convective self-assembly N. Decorde, C. Farcau, N. M. Sangeetha, H. Moreira, B. Viallet, <u>J. Grisolia</u> and L. Ressler <i>Université de Toulouse, LPCNO, INSA-CNRS-UPS, 135 Avenue de Rangueil, Toulouse, 31077, France</i></p>	15:30 – 16:00 Invited	<p>TBA Seyed Moien Moghimi <i>Centre for Pharmaceutical Nanotechnology and Nanotoxicology, Pharm Nanotech (NanoScience Centre, Copenhagen University), Denmark</i></p>
16:00 – 16:30 Invited	<p>Nanowire field effect transistor as testing platform for nanoelectronics <u>D.E. Ioannou</u>, Qiliang Li, Hao Zhu, and Hui Yuan <i>ECE Dept., George Mason University (GMU), USA</i></p>	16:00 – 16:20 Invited	<p>Nanotechnology Inspired by Nature: Basic Physics and Engineering of Peptide Supramolecular Nanostructures Gil Rosenman <i>School of Electrical Engineering-Physical Electronics, Faculty of Engineering, Tel Aviv Uni, Israel</i></p>
16:30 - 16:45	<p>Unified compact model of undoped or lightly doped short-channel cylindrical gate-all-around MOSFETs N. Fasarakis¹, A. Tsormpatzoglou¹, <u>D. H. Tassis</u>¹, G. Ghibaudo², C. A. Dimitriadis¹ 1. <i>Department of Physics, Aristotle University of Thessaloniki, 54124 Thessaloniki, Greece</i> 2. <i>IMEP-LAHC, MINATEC, INPG, 3 Parvis Louis Neel, BP257, 38016, Grenoble, France</i></p>		
16:45 - 17:00	<p>Nanoparticle sensors on flexible substrates E. Skotadis, D. Mousadakos, S. Stathopoulos, J. Tanner, <u>D. Tsoukalas</u> <i>Department of Applied Physics, National Technical University of Athens, 15780 Zographou Campus, Greece</i></p>	16:20 - 16:35	<p>Multiscale patterning fabrication to study biomolecules in confined environments <u>G. Foschi</u>¹, E. Bystrenova¹, F. Valle¹, B. Chelli¹, M. Barbalinardo¹, P. Greco² and F. Biscarini¹ 1 <i>Consiglio Nazionale delle Ricerche, Istituto per lo Studio dei Materiali Nanostrutturati (CNR - ISMN), Via P. Gobetti 101, 40129 Bologna, Italy</i> 2 <i>Scriba Nanotechnologie srl, Via P. Gobetti 53/2, 40129 Bologna, Italy</i></p>
17:00 - 17:15	<p>Silicon nanorods for novel solar cells G.Z. Radnóczy¹, <u>B. Pecz</u>¹, Th. Stelzner², V.A. Sivakov² and S.H. Christiansen^{2,3} 1. <i>Institute for Technical Physics and Materials Science, Research Centre for Natural Sciences, Hungarian Academy of Sciences, 1121 Budapest, Konkoly-Thege u. 29-33,</i> 2. <i>Institut für Photonische Technologien, Albert Einstein Str. 9, D-07745 Jena, Germany</i> 3. <i>Max Planck Institut für Mikrostrukturphysik, Weinberg 2, D-06120 Halle/Saale, Germany</i></p>	16:35-16:50	<p>Binary Magnetic Nanocomposites of Iron Oxide and Silver Nanoparticles and their Antimicrobial Properties <u>M. Kilianova</u>¹, R. Prucek¹, J. Tuček¹, A. Panacek¹, L. Kvitek¹, M. Kolar² 1 <i>Regional Centre of Advanced Technologies and Materials, Department of Physical Chemistry, the Faculty of Science, Palacky University, 17. listopadu 12, 77146 Olomouc, martina.kilianova@upol.cz</i> 2 <i>Department of Microbiology, the Faculty of Medicine and Dentistry, Palacky University, Hněvotinská 3, 77515 Olomouc</i></p>
17:15 - 17:30	<p>The incorporation of nano-sized particles in aqueous YBCO inks for the production of superconducting coatings using ink-jet printing <u>J. Feys</u>, K. De Keukeleere, M. Meire, J. De Roo, P. Lommens, I. Van Driessche <i>SCRiPTs, Department of Inorganic and Physical Chemistry, Ghent University, Krijgslaan 281, 9000 Ghent, Belgium</i></p>	16:50 - 17:05	<p>Electrospinning: a powerful route for biomimetic scaffolds production D. Iandolo¹, M.L. Moffa², A. Polini¹, D. Pisignano^{1,2,3} 1 <i>NNL, National Nanotechnology Laboratory of CNR-Nanoscienze,</i> 2 <i>Center for Biomolecular Nanotechnologies, Istituto Italiano di Tecnologia @UniLe</i> 3 <i>Dipartimento di Matematica e Fisica "Ennio de Giorgi", Università del Salento</i></p>
		17:05 – 17:20	<p>Tuning of Silica Nanoparticles with porous network structure through modified Stober Method: Drug delivery applications <u>M. Qasim</u>¹, Braj R. Singh¹, A. H. Naqvi¹, P. Paik², and D. Das^{2*} 1 <i>Centre of Excellence in Materials Science (Nanomaterials), Department of</i></p>

			Applied Physics, Z.H. College of Engg. & Tech., Aligarh Muslim University, Aligarh 202002, India 2School of Engineering Sciences and Technology, University of Hyderabad, Hyderabad 500046, India
17:30 – 17:45	Patterned growth of of WOX and WNX nanorods from Au-coated W foil Fang XU ¹ , Amir FAHMI ² , Yimin ZHAO ³ , Yongde XIA ¹ , and Yanqiu ZHU ^{1*} College of Engineering, Mathematics and Physical Sciences, University of Exeter, Exeter EX4 4QF, UK	17:20 – 17:40 Invited Oral	In vitro investigation of functional biomaterial-scaffolds for bone regeneration Maria Chatzinikolaïdou Dept. of Materials Science and Technology, University of Crete, Heraklio, Greece Institute of Electronic Structure and Laser (IESL) FORTH, Greece
17:45 - 18:05 Invited Oral	A comprehensive study on the performance of plasmonic organic photovoltaics doped with silver nanoparticles N. Kalfagiannis ¹ , P.G. Karagiannidis ¹ , C. Pitsalidis ¹ , N. T. Panagiotopoulos ² , C. Gravalidis ¹ , S. Kassavetis ¹ , P. Patsalas ³ and S. Logothetidis ¹ 1Laboratory for Thin Films – Nanosystems and Nanometrology (LTFN), Physics Department, Aris-totle University of Thessaloniki, GR-54124, Greece 2University of Ioannina, Department of Physics, GR-45110 Ioannina, Greece 3University of Ioannina, Department of Materials Science and Engineering, GR-45110 Ioannina, Greece	17:40 - 18:00 Invited Oral	Effect of nanocavitation in photocurable Materials for Building up elastic medical devices. W. Meyer ¹ , E. Novosel ² , S.Engelhardt ³ , M. Wegener ¹ , P. Kluger ² , K. Borchers ² , H.Krüger ¹ 1Fraunhofer, Institut of Applied Polymer Research IAP, Geiselbergstraße 69, 14476 Potsdam-Golm, Germany 2Fraunhofer, Institute for Interfacial Engineering and Biotechnology IGB, Nobelstr. 12, 70569 Stuttgart, Germany 3Fraunhofer, Institute for Laser Technology ILT, Steinbachstr. 15, 52074 Aachen, Germany
18:05–18:30	Coffee Break-Exhibition-Networking		
Plenary Session (ISFOE12 Symposium and NN12 Conference)			
Chair: Logothetidis S. Room: Alexandros			
	Introduction by Prof. Stergios Logothetidis, NN12 & ISFOE12 Chairman		
18:30 – 19:10 Plenary Talk	Graphene Electronics and Photonics Phaedon Avouris IBM T. J. Watson Research Center, Yorktown Heights, NY 10598, USA		
19:10 – 19:50 Plenary Talk	Design of Nanostructures and Renewable Energy Materials Alex Zunger University of Colorado, Boulder Colorado, USA		
19:50 – 20:30 Plenary Talk	Organic Electronics at the Interface with Life Sciences G. Malliaras Department of Bioelectronics, Ecole Nationale Supérieure des Mines, CMP-EMSE, Gardanne, FRANCE		
	END OF FIRST DAY		
21:00	DRINKS & OFFICIAL DINNER (ISFOE12 & NN12)		