

WEDNESDAY sept 15 - Morning
Plenary lecture
ROOM E – RETTORATO building

CHAIRMAN: S. Licoccia

8.45 **PL06** **Nano-Structured Materials for Next Generation Fuel Cells and Sensors**
Harry L. Tuller - *Department of Materials Science and Engineering; Massachusetts*
Institute of Technology - Cambridge, MA 02139 USA

WEDNESDAY sept 15 - Morning

Session We-am-A

T05 - Nanoelectronics, nanodevices and sensors (MEMS, NEMS...)

ROOM A - Physics FERMI building

CHAIRMAN: V.J. Loogeswaran

9.45 INVITED - We-am-A-I1 Dimensionality and Alignment of Discotic Liquid Crystals

Yves Geerts - *Université Libre de Bruxelles (ULB), Polymer Chemistry, CP 206/1, Bd du Triomphe, 1050 Bruxelles, Belgique, ygeerts@ulb.ac.be*

10.15 We-am-A-C1 Magnetic Nanoneedles in Optofluidics

K.G. Kornev¹, A. Tokarev¹, and B. Rubin¹, M. Bedford, J. Ballato¹, Y. Gogotsi² - ¹*School of Materials Science & Engineering, Clemson University, 161 Serrine Hall, Clemson, SC, 29634, USA;* ²*Department of Materials Science and Engineering, A.J. Drexel Nanotechnology Institute, Drexel University, 3141 Chestnut Street, Philadelphia, PA 19104, USA*

10.30 We-am-A-C2 Lab-on-a-chip-system for application in biological systems

S. Herth¹, H. Ebrahimian¹, M. Giesguth², C. Budke³, T. Koop³, K.-J. Dietz², and G. Reiss¹ - ¹*Bielefeld Univ., Department of Physics, Universitätsstr. 25, 33615 Bielefeld, Germany;* ²*Bielefeld Univ., Department of Biology, Universitätsstr. 25, 33615 Bielefeld, Germany;* ³*Bielefeld Univ., Department of Chemistry, Universitätsstr. 25, 33615 Bielefeld, Germany*

Coffee Break

11.15 We-am-A-C3 Sensitive DNA nanosensor based on gold nanoparticles modified gold electrode for detection of cancer, chronic lymphocytic leukemia, using impedance spectroscopy

Ali A. Ensafi¹, T. Khayamian, M. Taei and H. Rahmani - *Department of Chemistry, Isfahan University of Technology, Isfahan, Iran*

11.30 We-am-A-C4 Wafer-Level Fabrication and Gas Sensing Properties of miniaturized gas sensors based on Inductively Coupled Plasma deposited Tin Oxide Nanorods

A. Forleo¹, L. Francioso¹, S. Capone¹, F. Casino¹, P. Siciliano¹, H. Huang², O.K. Tan² - ¹*CNR-Istituto per la Microelettronica ed i Microsistemi, via Monteroni, I-73100 Lecce, Italy;* ²*Sensors and Actuators Lab, School of Electrical and Electronic Engineering, Nanyang Technological University, 50 Nanyang Avenue, Singapore 639798, Singapore*

11.45 We-am-A-C5 Electrical characterizations of electrospun conductive nano fibers based on polyaniline blends in presence of humidity

E. Zampetti¹, S. Pantalei¹, A. Macagnano¹, S. Scalse², C. Spinella², A. Bearzotti¹ - ¹*Consiglio Nazionale delle Ricerche - Istituto per la Microelettronica e Microsistemi (CNR-IMM), Via Fosso del Cavaliere 100, 00133 Rome, Italy;* ²*Consiglio Nazionale delle Ricerche - Istituto per la Microelettronica e Microsistemi (CNR-IMM), VII Strada 5, 95121, Catania, Italy*

12.00 We-am-A-C6 Pulsed corona discharge system optimized using nanostructured materials

K. A. Pierpauli⁽¹⁾, N. G. Boggio^(1,2), A.G. Leyva⁽¹⁾, C.A. Rinaldi^(1,2), A. Boselli⁽¹⁾, A. Lamagna⁽¹⁾ - ⁽¹⁾*National Atomic Energy Commission, CAC, Av Gral Paz 1499 San Martín, Buenos Aires, Argentina,* ⁽²⁾*National Council of Scientific and Technical Research (CONICET), Buenos Aires, Argentina*

12.15 We-am-A-C7 Enhanced aldehydes detection by ZnO nano-tetrapod based gas sensors

R. Mosca¹, D. Calestani¹, M. Zha¹, A. Zappettini¹, M. Zanichelli¹, and L. Zanotti¹ - ¹*IMEM - CNR, Parco Area delle Scienze 37/A, Parma, 43124, Italy*

12.30 We-am-A-C8 Atomic layer deposition of nano-functional metal-oxides studied in-situ

M. Tallarida¹, M. Michling¹, K. Kolanek¹, and D. Schmeisser¹ - ¹*Brandenburgische Technische Universität, Applied Physics-Sensors, Konrad-Wachsmann-Allee 17, 03046, Germany*

12.45 We-am-A-I2 Nanomaterials for industrial applications: research development and technology transfer activities at Research Centre on Nanotechnology applied to Engineering of Sapienza University

M. S. Sarto¹ - ¹*Sapienza University of Rome, Research Center on Nanotechnology Applied to Engineering (CNIS), via Eudossiana 18, 00184 Rome, Italy*

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Session We-am-B

T11 - Nanomedicine

ROOM B - Chemistry CAGLIOTI building (Ground floor)

CHAIRMAN: N. Rosato

9.45 INVITED - We-am-B-I1 Stimuli-responsive magnetic based nanocontainers as delivery systems for therapeutic agents

Teresa Pellegrino^{1,2}, Riccardo Di Corato¹, Smriti R. Deka², Alessandra Quarta¹, Nadja C. Bigall² - ¹National Nanotechnology Laboratory of CNR-NANO, via per Arnesano, 73100 Lecce (Italy); ²Italian Institute of Technology, via Morego 30, 16163, Genova (Italy)

10.15 We-am-B-C1 Nanocarriers for Cancer Therapy

V. Vergaro¹, Z. Zheng², X. Zhang², D. Vergara³, C. Bellomo¹, F. Baldassarre⁴, F. Scarlino¹, G. Giannelli⁴, M. Maffia³, Y. M. Lvov² and S. Leporatti¹ - ¹NNL-Institute of Nanoscience of CNR, Via Arnesano 73100 Lecce, Italy; ²Institute for Micromanufacturing, Louisiana Tech University, 911 Hergot Ave, Ruston (Louisiana), USA; ³Department of Biological and Environmental Science and Technology (Di.S.Te.B.A.), University of Salento, Via Monteroni, 73100 Lecce, Italy; ⁴Department of Internal Medicine, Immunology and Infectious Diseases, University of Bari Medical School, Italy

10.30 We-am-B-C2 Surface Interaction and aggregation of Ataxin-3 protein native domain

A. Apicella¹, S. Furlan^{1,2}, D. Dellasega¹, A. M. Frana⁴, C.S. Casari¹, M. Soncini², M. A. Deriu³, M.E. Regonesi⁴, A. Li Bassi¹, P. Tortora⁴, A. Redaelli², C. E. Bottani¹ - ¹Dipartimento di Energia, Politecnico di Milano, Via Ponzio 34/3, 20133 Milan, Italy. ²Dipartimento di Bioingegneria, Politecnico di Milano, Via Golgi 39, 20133 Milan, Italy. ³Dipartimento di Meccanica, Politecnico di Torino, Corso Duca degli Abruzzi 24, 10129 Turin, Italy. ⁴Dipartimento di Biotecnologie, Università degli studi Milano Bicocca, Milan, Italy

Coffee Break

11.15 INVITED - We-am-B-I2 Polymeric virus-like nanovectors: structure design and applications

Giuseppe Battaglia - The Krebs Institute, Dept of Biomedical Science, The University of Sheffield, Firth Court, S10 2TN, Sheffield, UK

11.45 We-am-B-C3 Mechanical properties of cells as detected by Atomic Force Microscopy: different experimental approaches applied to the study of erythrocytes pathologies and *in vitro* aging

M. Girasole¹, S. Dinarelli¹, G. Pompeo¹, G. Longo¹, A. Cricenti¹, A. Bellelli², G. Boumis² and G. Amiconi² - ¹ISM-CNR, Via Fosso del Cavaliere 100, 00133 Rome, Italy; ²Dept. Biochemical Sciences, University "La Sapienza", P.le A. Moro 5, 00185, Rome, Italy

12.00 We-am-B-C4 Double functionalization of fluorescent nanoparticles for specific biolabeling and drug delivery of Dopamine

M.A. Malvindi¹, R. Di Corato¹, R. Mastria¹, M.G. Rimoli², A. Tino³, C. Tortiglione³, T. Pellegrino⁴, A. Ragusa¹ - ¹National Nanotechnology Laboratory of CNR-INFN, Unità di ricerca IIT and Scuola Superiore ISUFI, Via per Arnesano, 73100 Lecce, Italy; ²Dep. of Pharm. and Toxicol. Chemistry, School of Pharmacy, University of Naples "Federico II," Naples, Italy; ³CNR- ICIB, Via Campi Flegrei, 34, 80078 Pozzuoli, Italy; ⁴Fondazione IIT, Via Morego 30, 16163 Genova, Italy

12.15 We-am-B-C5 Oriented CeO₂ Nanoparticles in PLGA Matrices Guide Stem Cell Alignment and Improve Cell Viability

C. Mandoli¹, F. Pagliari², S. Pagliari², G. Forte², S. Licoccia³, P. Di Nardo², E. Traversa¹ - ¹National Institute for Materials Science, Nano-bio, Tsukuba, Ibaraki 305-0044, Japan. ²University of Rome Tor Vergata, Cardiologia Molecolare e Cellulare, Via della Ricerca Scientifica, Rome 00133, Italy. ³University of Rome Tor Vergata, Chemical Science and Technology, Via della Ricerca Scientifica, Rome 00133, Italy

12.30 **MOVED to FRIDAY Fr-pm-C-5** We-am-B-C6 Synthesis of Core-Shell Magnetic Nanoparticles Fe₃O₄@Cu@Au like a probe for Biomedical Application: Imaging and Drug Delivery

R. Salvati¹, F. Nepi¹, G. Doddi¹, M. Barteri¹ - ¹Università di Roma "La Sapienza", Dipartimento di Chimica, P.le Aldo Moro 5, Roma, 00185, Italy

12.45 INVITED - We-am-B-I3 Status and Perspectives of Lipid-mediated Gene Delivery

Giulio Caracciolo - Dipartimento di Chimica, I Facoltà di Medicina e Chirurgia, 'Sapienza' Università di Roma- Italy

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Session We-am-C

T26 - Nanomagnetism

ROOM C - CNR

CHAIRMAN: M. Albrecht

9.45 INVITED - We-am-C-I1

Some aspects of Exchange-Bias

D. Givord¹, A. Dobrynin^{1,*}, O. Bourgeois¹, C. Macovei¹, S. Laureti², S. Suck^{1,†} - ¹Institut Néel, CNRS-UJF, BP166, 38042 Grenoble-cedex, France; ²ISM - CNR, Area della Ricerca, Via Salaria km 29.500, 00016 Monterotondo Scalo, Italy

10.15 We-am-C-C1 Magnetic properties of frustrated and anisotropic chromium-based molecular rings

P. Kozłowski¹, M. Antkowiak¹, G. Kamieniarz¹, G. A. Timco², R. J. Pritchard², F. Tuna² and R. E. P. Winpenny² - ¹Department of Physics, A. Mickiewicz University, ul. Umultowska 85, PL-61-614 Poznań, Poland; ²Department of Chemistry, The University of Manchester, Oxford Road, Manchester, UK M13 9PL

10.30 We-am-C-C2 Towards the control of Magnetism of Co-Phthalocyanine by substrate engineering

E. Annese¹, J. Fujii¹, I. Vobornik¹, G. Rossi^{1,2} - ¹IOM CNR, Laboratorio TASC, Area Science Park- BASOVIZZA, 34149 Trieste ²Università di Modena e Reggio Emilia, via Campi 213/A, 41100 Modena

Coffee break

11.15 INVITED - We-am-C-I2 Single Molecule Magnets on Metallic and Magnetic Substrates

M. Mannini¹, L. Margheriti¹, P.-E. Car¹, F. Totti¹, D. Chiappe², F. Buatier de Mongeot², P. Graziosi³, I. Bergenti³, V. A. Dediu³, Ph. Sainctavit⁴, E. Otero⁵, A. Cornia⁶, and R. Sessoli¹ - ¹LAMM, Dept. of Chemistry "Ugo Schiff", Università di Firenze & INSTM, 50019 Sesto Fiorentino (Italy); ²Dept. of Physics, University of Genova and CNISM, 16146 Genova (Italy); ³ISMN-CNR, 40129 Bologna (Italy); ⁴IMPMC, CNRS UMR7590, Université Pierre et Marie Curie, 75252 Paris Cedex 5 (France); ⁵Synchrotron Soleil, 91192 Gif sur Yvette, France; ⁶Dept. of Chemistry, University of Modena and Reggio Emilia & INST, 41100 Modena (Italy)

11.45 We-am-C-C3 Growth and electronic properties of low-dimensional Fe/Au(111) structures

F. Donati¹, M. Passoni¹, A. Mairov¹, C.S. Casari^{1,2}, C.E. Bottani^{1,2}, G. Fratesi³, M.I. Trioni⁴, A. Li Bassi^{1,2} - ¹Dipartimento di Energia and NEMAS – Center for NanoEngineered Materials and Surfaces, Politecnico di Milano, via Ponzio 34/3, 20133 Milano, Italy; ²Center for Nano Science and Technology - IIT@PoliMI, via Pascoli 70/3 20133 Milano, Italy; ³Dipartimento di Scienza dei Materiali, Università di Milano-Bicocca, via Cozzi 53, 20125 Milano, Italy; ⁴CNR-INFN, UDR Milano-Bicocca, via Cozzi 53, 20125 Milano, Italy

12.00 We-am-C-C4 Spin-dependent electron confinement in a magnetic nanostructure

M. Corbetta¹, H. Oka¹, S. Ouazi¹, Y. Nahas¹, S. Wedekind¹, D. Sander¹, P. Ignatiev¹, L. Niebergall¹, V. Stepanyuk¹ and J. Kirschner¹ - ¹Max Planck Institut für Mikrostrukturphysik, Weinberg 2, D-06120 Halle, Germany

12.15 We-am-C-C5 Characterization of Bulk Cr tips by Scanning Tunneling Spectroscopy and Density Functional Theory calculations

F. Donati¹, A. Li Bassi^{1,2}, C.S. Casari^{1,2}, C.E. Bottani^{1,2}, G. Fratesi³, L. Ning⁴, A. Brambilla⁵, M. Finazzi⁵, F. Ciccacci⁵, L. Duò⁵, M.I. Trioni⁶, M. Passoni¹ - ¹Dipartimento di Energia and NEMAS – Center for NanoEngineered Materials and Surfaces, Politecnico di Milano, via Ponzio 34/3, 20133 Milano, Italy; ²Center for Nano Science and Technology - IIT@PoliMI, via Pascoli 70/3 20133 Milano, Italy; ³Dipartimento di Scienza dei Materiali, Università di Milano-Bicocca, via Cozzi 53, 20125 Milano, Italy; ⁴Department of Physics, Anhui Normal University, Beijing East Road 1, P. R. China; ⁵Dipartimento di Fisica, Politecnico di Milano, P.za L. Da Vinci 32, 20133 Milano, Italy; ⁶CNR-INFN, UDR Milano-Bicocca, via Cozzi 53, 20125 Milano, Italy

12.30 We-am-C-C6 Photoemission from isolated magnetic impurities on metal surfaces

S. Gardonio^{1,2}, T. O. Wehling³, L. Petaccia¹, S. Lizzit¹, A. Goldoni¹, S. Lebeque⁴, O. Eriksson⁴, M. I. Katsnelson⁵, A. I. Lichtenstein³, P. Gambardella⁶, M. Veronese⁷, P. Moras⁷, and C. Carbone⁷ - ¹Sincrotrone Trieste SCpA, Trieste, Italy; ²University of Nova Gorica Vipavska 11c, 5270 Ajdovscina, Slovenia; ³Institute for Theoretical Physics, University of Hamburg, Hamburg, Germany; ⁴Department of Physics and Materials Science, Uppsala University, Uppsala, Sweden; ⁵Institute for Molecules and Materials, University of Nijmegen, Nijmegen, The Netherlands; ⁶ICREA and Centre d'Investigacions en Nanociència i Nanotecnologia, Barcelona, Spain; ⁷Istituto di Struttura della Materia, CNR, Trieste, Italy

12.45 INVITED - We-am-C-I3 Magnetism in functionalised ZnO nanoparticles: Magnetic moment of two dimensional electron gas confined over a spherical surface

A. Hernando¹ and M. A. Garcia² - ¹Instituto de Magnetismo Aplicado, UCM-CSIC-ADIF. Las Rozas. P. O. Box 155, Madrid 28230 and Dpmt. Física de Materiales, Universidad Complutense; ²Instituto de Cerámica y Vidrio. CSIC c/Kelsen, 5 Madrid 28049 and Dpmt. Física de Materiales, Universidad Complutense

WEDNESDAY sept 15 - Morning

Session We-am-D

T13 - Nanocomposites materials + T27 - Multiscale materials

ROOM D - Physics MARCONI building

CHAIRMAN: L.T. Kabacoff

9.45 INVITED - We-am-D-I1 Tailoring the Properties of Hairy Nanoparticle Composites Through Interface Design

L.S. Schadler¹, D. Dukes¹, B. Natarajan¹, J. Gao¹, B. Benicewicz², A. Rungta² - ¹*Rensselaer Nanotechnology Center, MRC Building, Rensselaer Polytechnic Institute, 110 Eighth Street, Troy, NY, 12180 USA;* ²*Department of Chemistry and Biochemistry, Graduate Science Research Center, 631 Sumter Street, University of South Carolina, Columbia, SC, 29208 USA*

10.15 We-am-D-C1 Elaboration of transparent nanocomposites of LaF₃ and LaPO₄ nanoparticles embedded in PMMA

F. El Haber¹, A. Bouhalouane², E. Gautron¹, C. Andraud³, X. Rocquefelte¹, O. Chauvet¹, G. Froyer¹ - ¹*Institut des Matériaux Jean Rouxel, 2 rue de la Houssinière, 44322 Nantes* ²*Université d'Oran Es SENIA-LPC2ME, Oran, Algérie;* ³*Institut des Nanosciences de Paris (INSP)- Paris 6, 140 rue de Lourmel, 75015 Paris*

10.30 We-am-D-C2 Supersonic Cluster Beam Implantation: a new process for biocompatible and stretchable metallization of polymers

L. Ravagnan¹, G. Corbelli¹, C. Ghisleri¹, P. Milani¹ - *Physics Department and CIMAINA, Università degli Studi di Milano, Via Celoria 16 – 20133 Milano - Italy*

Coffee Breaks

11.15 We-am-D-C3 Magnetic domain structure and magnetization reversal in perpendicular Fe/L1₀-FePt exchange-coupled systems

G. Varvaro¹, F. Albertini², E. Agostinelli¹, F. Casoli², D. Fiorani¹, S. Laureti¹, P. Lupo², P. Ranzieri², A.M. Testa¹ - ¹*ISM - CNR, Area della Ricerca, Via Salaria km 29.500, 00016 Monterotondo Scalo, Italy;* ²*IMEM - CNR, Viale Usberti 37/a, I-43124 Parma, Italy*

11.30 We-am-D-C4 Synthesis, characterization and applications of transparent magnetic PMMA/nanoparticles nanocomposite

Andrea Fornara¹, Carmen Vogt¹, Sergiy Khartsev², Shanhua Li¹, Jian Qin¹, Muhammet Toprak¹, Alexander Grishin² and Mamoun Muhammed¹ - ¹*Functional Materials Division and* ²*Condensed Matter Physics Division, Royal Institute of Technology (KTH), Isafjordsgatan 22, SE-16440 Kista – Sweden*

11.45 We-am-D-C5 Direct Synthesis of L1₀ FePt nanoparticles within Carbon Nanotubes by Wet Chemical Procedure

A. Capobianchi¹, D. Fiorani¹, S. Laureti¹, S. Foglia², E. Palange³ - ¹*Istituto di Struttura della Materia-CNR, Via Salaria Km 29.300, Montelibretti, 00016 Roma, Italy;* ²*Istituto di Fotonica e Nanotecnologie-CNR Via Cineto Romano 42, Roma, Italy;* ³*Dipartimento di Ingegneria Elettrica e dell'Informazione, Università degli Studi dell'Aquila, 67040 Monteluco di Roio, L'Aquila, Italy*

12.00 We-am-D-C6 Co-based Nanostructured Coatings with Improved Properties for Chrome Replacement

V. Provenzano^{1,2}, J. McCrea², D. Facchini², and G. Palumbo² - ¹*National Institute of Standards and Technology (NIST), Metallurgy Division, 100-Bureau Drive, Gaithersburg, MD 20899-8552 USA;* ²*Integran Technologies, 1 Meridian, Rd., Toronto, Ontario, M9W 4Z6 Canada*

12.15 We-am-D-C7 Deposition and analysis of Cobalt – amorphous SiCN nanocomposites

K. L. Kolipaka¹, V. Brüser¹, A. Quade¹, H. Wulff², and F. Faupel³ - ¹*Leibniz Institute for Plasma Science and Technology, INP Greifswald e.V., Felix-Hausdorff-Str. 2, 17489 Greifswald, Germany;* ²*Ernst Moritz Arndt University Greifswald, Institute for Biochemistry, Felix-Hausdorff-Str. 4, 17489 Greifswald, Germany;* ³*University of Kiel, Institute for Materials Science – Multicomponent Materials, Kaiserstr.2, 24143 Kiel, Germany*

12.30 We-am-D-C8 Novel Boron Nitride nanofillers for polymeric composites

C.Y. Zhi, Y. Bando, C. C. Tang, D. Golberg - *International Center for Materials Nanoarchitectonics (MANA), National Institute for Materials Science (NIMS), Namiki-1, Tsukuba, Ibaraki 305-0044, Japan*

12.45 INVITED - We-am-D-I2 Highly flexible manipulation and dispensing of nano-drops by a pyro-electrohydrodynamic approach

S. Grilli, V. Vespini, S. Coppola, M. Paturzo, and P. Ferraro - *CNR – National Institute of Optics, Unit of Naples, Via Campi Flegrei 34, 80078 Pozzuoli (NA), Italy*

WEDNESDAY sept 15 - Morning

Session We-am-E

T18 - Nanoparticles

ROOM E - RETTORATO Building

CHAIRMAN: V. Salgueirino

9.45 INVITED - We-am-E-I1 Novel strategies for the synthesis of hybrid inorganic-organic nanocomposite materials for energy conversion applications A. M. Laera, V. Resta, M.C. Ferrara, M. Schioppa, E. Piscopiello, L. Tapfer - *ENEA, UTTMATB, Strada Statale "Appia" km.706, 72100 Brindisi (Italy)*

10.15 We-am-E-C1 Studies on structure evolution and stability of zeta-phase to Ag solid solution in Ag-15at.%Sn alloy at nanoscale during mechanical alloying. Selvaraj Chithra, and K. Chattopadhyay - *Department of Materials Engineering, Indian Institute of Science, Bangalore-560 012, India*

10.30 We-am-E-C2 Synthesis and shape control of semiconductor nanorods and nanowires X. Jin, M. Kruszynska, H. Borchert, J. Parisi, and J. Kolny-Olesiak - *University of Oldenburg, Department of Physics, Energy and Semiconductor Research Laboratory, Carl-von-Ossietzky Str. 9-11, Oldenburg, 26129, Germany*

Coffee Break

11.15 We-am-E-C3 Solventless synthesis of Iridium(0) nanoparticles R. Redón¹, F. Ramírez¹ and A. L. Fernández² - ¹*CCADET, Universidad Nacional Autónoma de México, Cd. Universitaria, A.P. 70-186, C. P. 04510 México D. F.* ²*FES, Cuautitlán, Universidad Nacional Autónoma de México, Edo. de México*

11.30 We-am-E-C4 One-pot synthesis of composition-tunable AuPt alloy nanoparticles by the intense X-ray irradiation C. L. Wang¹, S. F. Lai², P. C. Hsao³, C.K. Lin³, W. C. Chen², H. H. Chen¹, C. C. Chien^{1,4}, Ivan M. Kempson¹, Y. Hwu^{1,4,5}, G. Margaritondo⁶ - ¹*Institute of Physics, Academia Sinica, Nankang, Taipei 11529, Taiwan;* ²*Department of Chemical and Materials Engineering, National Yu-Lin University of Science and Technology, Douliou, Yunlin 64002, Taiwan;* ³*Department of Materials Science and Engineering, Feng Chia University, Taichung 407, Taiwan;* ⁴*Department of Engineering and System Science, National Tsing Hua University, Hsinchu 30013, Taiwan;* ⁵*Institute of Optoelectronic Sciences, National Taiwan Ocean University, Keelung 20224, Taiwan;* ⁶*Ecole Polytechnique Fédérale de Lausanne (EPFL), CH-1015 Lausanne, Switzerland*

11.45 We-am-E-C5 Spectroscopy of the two lowest-energy exciton levels in single CdSe/ZnS nanocrystals Ph. Tamarat, L. Biadala, Y. Louyer, and B. Lounis - *CPMOH, Université de Bordeaux and CNRS, 351 cours de la Libération, 33405 Talence, France*

12.00 We-am-E-C6 Kinetics and Mechanistic Investigation of the Light-Induced Formation of Nobel Metal Nanoparticles on the Surface of TiO₂ Hanan H. M.¹ and D. W. Bahnemann¹ - ¹*Institut für Technische Chemie, Gottfried Wilhelm Leibniz Universität Hannover, 30167 Hannover, Germany*

12.15 We-am-E-C7 Effect of precursor concentration on the formation of titania particles in a low pressure hydrogen flame O.O. Nalcaci¹, D. Akten¹, H. Bockhorn¹ - ¹*Karlsruhe Institute of Technology (KIT), Engler-Bunte-Institut Division of Combustion Technology (EBI-VBT), Kaiserstraße 12, 76131 Karlsruhe, Germany*

12.30 We-am-E-C8 Mechanism underlying desaggregation of detonation nanodiamonds A.E.Aleksenskiy, E.D. Eydelman A.Ya.Vul' - *Ioffe Physical-Technical Institute, 26 Polytechnicheskaya st. St.Petersburg, 194021, Russia*

12.45 We-am-E-C9 Aqueous phase-synthesized small CdSe quantum dots: adsorption layer structure and strong band-edge and surface trap emission Y.-S. Park^{1,2}, Y. Okamoto^{1,2}, N. Kaji^{1,2}, M. Tokeshi^{1,2}, and Y. Baba^{1,2,3} - ¹*Nagoya Univ., Applied Chemistry, Furo-cho, Chikusa-ku, Nagoya, 464-8603, Japan;* ²*Nagoya Univ., FIRST Research Center for Innovative Nanobiodevice, Furo-cho, Chikusa-ku, Nagoya, 464-8603, Japan;* ³*AIST, Health Technology Research Center, Takamatsu, 761-0395, Japan*

13.00 We-am-E-C10 Optical and Dielectric Characteristics of Eu₂O₃ and Gd₂O₃ Nanocrystals and Nanocrystalline Films Fabricated via Electrophoretic Deposition S. V. Mahajan¹ and J. H. Dickerson² - ¹*Vanderbilt University, Interdisciplinary Graduate Program in Materials Science, Nashville, TN, 37235, USA,* ²*Vanderbilt University, Department of Physics and Astronomy, Nashville, TN, 37235, USA*

WEDNESDAY sept 15 - Morning

Session We-am-F

T25 - Nanostructured semiconductors

ROOM F - Chemistry CAGLIOTI building (2nd floor)

CHAIRMAN: P. De Padova

9.45 INVITED - We-am-F-I1 Silicene: the silicon based alternative of graphene

G. Le Lay¹, P. De Padova², P. Vogt³, A. Pietsch⁴, F. Hennies⁴ and B. Aufray¹ - ¹CiNaM-CNRS, Campus de Luminy, F-13288 Marseille Cedex 09, France; ²ISM - CNR, via Fosso de Cavaliere 100, Rome, Italy; ³Technical University, Berlin, Germany; ⁴MAX-Lab, Lund, Sweden

10.15 Optical Properties and Ferromagnetism of Ternary Cd_{1-x}MnxTe Nanocrystals

Guo-Long Tan¹; Min Wang¹; Kai Wang¹; Lin Zhang¹, Xue-Feng Yu², Wei Gong² - ¹State Key Lab of Advanced Technology for Materials synthesis and Processing, Wuhan University of Technology, Wuhan 430070, China; ²Key Laboratory of Acoustic and Photonic Materials and Devices of Ministry of Education & Department of Physics, Wuhan University, Wuhan 430072, China

Coffee Break

11.15 INVITED - We-am-F-I2 Ge nanocrystals self-organized on nanopatterned substrates

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11.45 We-am-F-C3 The growth of taper-free and vertically oriented Ge nanowires below eutectic temperature by a two-temperature growth method on Si substrate using thin Ge buffer

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12.00 We-am-F-C4 Quantitative Kelvin probe force microscopy imaging on locally doped semiconductors

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12.15 We-am-F-C5 Silicon photovoltaic-like behavior induced by single step plasma surface nanotexturing

R. Di Mundo¹, M. Ambrico², P.F. Ambrico², R. d'Agostino¹, and F. Palumbo² - ¹Department of Chemistry, University of Bari, via Orabona 4, 70126 Bari (Italy); ²IMIP - CNR, Sezione Territoriale di Bari, Via Orabona, 4 I-70126 Bari (Italy), Italy

12.30 We-am-F-C6 Extraordinarily high near-UV Raman efficiency of Si nanowires with small cross-sections

V. Poborchii¹, T. Tada^{1,2}, Yu. Morita^{1,2}, T. Kanayama^{1,2} and P.I. Geshev³ - ¹MIRAI-AIST, Tsukuba Central 4, 1-1-1 Higashi, Tsukuba 305-8562, Japan; ²NIRC-AIST, Tsukuba Central 4, 1-1-1 Higashi, Tsukuba 305-8562, Japan; ³Institute of Thermophysics of the Russian Academy of Sciences, Lavrentyev Ave., 1, and Novosibirsk State University, Pirogova Str. 2, Novosibirsk 630090, Russia

12.45 We-am-F-C7 Surface-enhanced Raman spectroscopy (SERS): a new tool for studying the interface between semiconductor nanostructures and biomolecules

L. G. Quagliano – CNR, Institute for Photonics and Nanotechnologies, via Cineto Romano 42, 00156 Roma, Italy

13.00 We-am-F-C8 Valley splitting in Si-based etched quantum point contacts

G. Frucci¹, L. Di Gaspare¹, A. Notargiacomo², E. Giovine², V. Piazza³, F. Beltram³ and F. Evangelisti¹ - ¹Università Roma Tre, Dipartimento di Fisica, Via Vasca Navale 84, 00146 Roma, Italy; ²IFN-CNR, Via Cineto Romano 42, 00156 Roma, Italy; ³NEST, Scuola Normale Superiore and Istituto Nanoscienze-CNR, Piazza San Silvestro 12, 56127 Pisa, Italy