Monday, September 13, Morning

ROOM E – RETTORATO building

Plenary lectures

Chairman: Dino Fiorani

11.15 **PL01 Spintronics Overview with Implications for Energy, Information and Medical Technologies**

S. D. Bader - *Materials Science Division and Center for Nanoscale Materials; Argonne National Laboratory, Argonne, Illinois 60439 USA*

Chairman: Dino Fiorani

12.00 **PL02 Functionalized Carbon Nanotubes: Versatile Building Blocks in Nanomedicine and Materials Science**

Maurizio Prato - *Dipartimento di Scienze Farmaceutiche, University of Trieste, Italy*

Chairman: Enrico Traversa

14.15 **PL03 Catalytic model systems studied by high-resolution, video-rate Scanning Tunneling Microscopy**

F. Besenbacher - *Interdisciplinary Nanoscience Center (iNANO) Aarhus University, DK-8000 Aarhus C, Denmark*

MONDAY sept 13 - afternoon

Session Mo-pm-A

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

ROOM A - Physics FERMI building

CHAIRMAN: H. Hahn

16.30 ***INVITED* - Mo-pm-A-I1 Local probing of graphene transport properties**
V. Raineri[1], C. Vecchio[2], and F. Giannazzo[1] - *[1]CNR-IMM, Zona Industriale Strada VIII n.5, Catania, 95121, Italy; [2]Scuola Superiore di Catania, via San Nullo, 5/i, Catania, 95123, Italy*

17.00 **Mo-pm-A-C1 Transport properties of nanowires presenting a homo- or a hetero-junction prepared by a template approach**
I.Enculescu[1], E.Matei[1], M.Enculescu[1], N.Preda[1], L.Ion[2], S. Antohe[2] - *[1]National Institute for Materials Physics, Atomistilor 105 bis, Magurele, Ilfov, Romania; [2]University of Bucharest, Faculty of Physics, Magurele, Ilfov, Romania*

17.15 **Mo-pm-A-C2 Influence of single palladium nanowire morphology on hydrogen sensing mechanism**
V. La Ferrara[1], B. Alfano[1], G. Fiorentino[2], T. Polichetti[1], E. Massera[1] and G. Di Francia[1] - *[1]ENEA Research Center, P.le E. Fermi 1, 80055 Portici, Italy; [2]Department of Physics, "Federico II" University of Naples, Monte S. Angelo, 80126 Napoli, Italy*

17.30 ***INVITED* - Mo-pm-A-I2 Electronically tuneable properties of nanostructured materials**
R.Kruk, S. Dasgupta, H. Hahn - *Karlsruhe Institute of Technology (KIT), Institute of Nanotechnology, Hermann-von-Helmholtz Platz 1, 76344 Eggenstein-Leopoldshafen, Germany*

MONDAY sept 13 - afternoon

Session Mo-pm-B

T14 - Catalysts

ROOM B - Chemistry Caglioti building ground floor

CHAIRMAN: G. Ferraris

16.30 **Mo-pm-B-C1 Gold nanoparticles supported on conventional silica as catalysts for the low-temperature CO oxidation**
E. Rombi, M.G. Cutrufello, C. Cannas, M. Casu, and I. Ferino - [1]*Università di Cagliari, Dipartimento di Scienze Chimiche, Complesso Universitario di Monserrato, 09042 Monserrato (Ca), Italy*

16.45 **Mo-pm-B-C2 On the use of surface x-ray diffraction to observe a catalytic surface during reactions**
O. Balmes[1], R. Felici[1], J.W.M. Frenken[2], A. Resta[1], R. van Rijn[1,2] and D. Wermeille[1] - [1]*European Synchrotron Radiation Facility, 6 rue J. Horowitz, 38043 Grenoble, France;* [2]*Kamerlingh Onnes Laboratory, Leiden University, P.O. Box 9504, 2300 RA, Leiden, The Netherlands*

17.00 **Mo-pm-B-C3 Partial oxidation of methane by NO_2 on Co-loaded SBA-15**
N. El Hassan[1,2], A. Davidson[2], P. Da Costa[2] And G. Djéga-Mariadassou[2] - [1]*Department Of Chemical Engineering, University Of Balamand, P.O. Box 33, Amioun, El Koura, Lebanon;* [2]*Laboratoire de Réactivité de Surface, Université Pierre et Marie Curie-Paris 6, UMR-CNRS 7609, Paris, France*

17.15 **Mo-pm-B-C4 New approaches to stabilization and modification of catalytically active supported metal nanoparticles**
E.V. Golubina[1], E.S. Lokteva[1], N.E. Kavalerskaya[1], A.V. Erokhin[1], S.A. Nikolaev[1], D.A. Yavsin[2], V.V. Lunin[1] - [1]*M.V. Lomonosov Moscow State University, Department of chemistry, Leninskie gory 1, build.3, 119991, Moscow, Russia;* [2]*Ioffe Physico-Technical Institute of RAS, St.-Petersburg 194021, Russia*

17.30 ***INVITED*** **- Mo-pm-B-I1 Nanocatalysis on Graphene and Metal-Graphene Nanocomposites**
M. Samy El-Shall - *Department of Chemistry, Virginia Commonwealth University, Richmond, Virginia 23284, USA*

MONDAY sept 13 - afternoon

Session Mo-pm-C

T26 - Nanomagnetism

ROOM C - CNR

CHAIRMAN: G.C. Hadjipanayis

16.30 ***INVITED* - Mo-pm-C-I1 Hybrid magnetic superconducting nanostructures**

I. K. Schuller[1], Y. J. Rosen[1], J. Villegas[2], D. Perez de Lara[3], E. M. Gonzalez[3] and J. L. Vicent[3] - *[1]Physics Department, University of California –San Diego, USA; [2]Unite Mixte de Physique CNRS/THALES Associee a l'Universite Paris-Sud, France; [3]Departamento de Fisica de Materiales, Universidad Complutense, 28040 Madrid, Spain*

17.00 ***INVITED* - Mo-pm-C-I2 Nonlinear magnetization dynamics and spin-wave instabilities in spin-transfer-driven nanomagnets**

G. Bertotti[1], R. Bonin[2], M. d'Aquino[3], C. Serpico[4], and I.D. Mayergoyz[5] - *[1]INRIM, 10135 Torino, Italy; [2]Politecnico di Torino, sede di Verrès, 11029 Aosta, Italy; [3]Dipartimento Tecnologie, Università "Parthenope", 80143 Napoli, Italy; [4]Dipartimento Ingegneria Elettrica, Università "Federico II", 80125 Napoli, Italy; [5]ECE Department, UMIACS, AppEl Center, University of Maryland, College Park MD 20742, USA*

17.30 **Mo-pm-C-C2 Optical measurements of field induced anomalies of the magnetic phase transition in quasi 2D MnS layers grown by MBE**

W. Heimbrodt[1], M. Demper[1], C. Bradford[2], and K. A. Prior[2] - *[1]Department of Physics and Material Science Center, Philipps University Marburg, Renthof 5, 35032 Marburg, Germany; [2]School of Engineering and Physical Sciences, Brewster Building, Heriot-Watt University EH14 4AS, Edinburgh, United Kingdom*

17:45 **Mo-pm-C-C3 Magneto-optical study of the coupling between magnetism and plasmons in hybrid nanosystems**

C. de Julián Fernández[1], F. Pineider[1], G. Campo[1], E. Fantechi[1], G. Poneti[1], C. Innocenti[1], C. Sangregorio[2], A. Caneschi[1] and D. Gatteschi[1] - *[1]INSTM- Università di Firenze, via della Lastruccia 3, 50019 Sesto Fiorentino, Italy; [2]INSTM - CNR, Via C. Golgi 19, 23310 Milano, Italy*

MONDAY sept 13 - afternoon

Session Mo-pm-D

T13 Nanocomposites materials + T27 Multiscale materials

ROOM D - Physics MARCONI building

CHAIRMAN: E.J. Lavernia

16.30 ***INVITED* - Mo-pm-D-I1 Manganese oxide-carbon nanotube nanocomposite supercapacitor electrodes**
T.Y. Tseng - *Department of Electronics Engineering, National Chiao Tung University, Hsinchu 300, Taiwan*

17.00 ***INVITED* - Mo-pm-D-I2 Bi-Modal Nanostructured Ceramic Composite Coatings with Extraordinary Damage Tolerance: A Case Study**
L. Kabacoff[1] , K. Scandell[2] - *[1]Office of Naval Research, 875 N. Randolph St., Arlington VA 22203-1995, USA, [2]NAVSEA NSWCCD C/9750, Maintenance Technologies Branch, 912 Corporate Lane, Chesapeake, VA 23320, USA*

17.30 **Mo-pm-D-C1 High resolution electron microscopy of Nb/Si multilayers to study the phase formation sequence after heat treatment**
Sanjay Kashyap[1], K. Chattopadhyay[1] - *[1]Department of Materials Engineering, Indian Institute of Science, Bangalore, 560012, India*

17.45 **Mo-pm-D-C2 Carbon nanotubes-based hybrid nanowires: Synthetic approach and applications.**
Miguel A. Correa-Duarte, Marcos Sanles-Sobrido, Cintia Mateo-Mateo, Luis Liz-Marzán.
Departamento de Química Física, Universidade de Vigo, 36310 Vigo, Spain

MONDAY sept 13 - afternoon

Session Mo-pm-E

T07 - Materials with controlled nanostructure via chemical methods

ROOM E - RETTORATO Building

CHAIRMAN: C. Feldmann

16.30 ***INVITED* - Mo-pm-E-I1 Low-cost and large scale oriented arrays of metal oxide quantum rods and dots**

L. Vayssieres - *World Premier International Center for Materials NanoArchitectonics, National Institute for Materials Science, Namiki 1-1, Tsukuba, Japan 305-0044*

17.00 **Mo-pm-E-C1 Single Step Sol-Gel Synthesis of Luminescent Europium-Doped Zirconia Nanoparticles**

I. Freris[1], P. Riello[1], F. Enrichi[2], D. Cristofori[1], and A. Benedetti[1] - *[1]Università Ca' Foscari di Venezia e INSTM, Dipartimento di Chimica Fisica, via Torino 155/b, Mestre-Venezia, 30172, Italy; [2]CIVEN (Coordinamento Interuniversitario Veneto per le Nanotecnologie), via delle Industrie 5, Marghera-Venezia, 30175, Italy*

17.15 **Mo-pm-E-C2 Soft chemistry routes for synthesis of rare earth oxide nanoparticles with well defined morphological and structural characteristics**

L. Mancic[1], B, Marinkovic[2], K. Marinkovic[1], M. Dramicanin[3], and O. Milosevic[1] - *[1]Institute of Technical Science of SASA, Knez Mihailova 35/IV, 11000, Belgrade, Serbia; [2]Pontificia Universidade Católica do Rio de Janeiro, Gavea 22453-900, Rio de Janeiro, Brazil; [3]Vinča Institute of Nuclear Sciences, P.O. Box 522, 11000 Belgrade, Serbia*

17.30 **Mo-pm-E-C3 Different one dimensional ZnO nanostructures grown in zinc nitrate-dimethylamine borane solutions**

Qiang Tian[a], Qian Wang[b], Jiangong Li[c] *- *Institute of Materials Science and Engineering, Lanzhou University, Lanzhou 730000, China ; [a]tianqiang00@lzu.cn, [b]wangqian03@lzu.cn, [c]lijg@lzu.edu.cn*

17.45 **Mo-pm-E-C4 Low temperature synthesis and formation mechanism of CdTe nanotetrapods**

A. Sugunan, J. Qin, M. S. Toprak, and M. Muhammed - *Division of Functional Materials, Royal Institute of Technology (KTH), Stockholm 16440, Sweden*

MONDAY sept 13 - afternoon

Session Mo-pm-F

T23 - Nanoporous materials

ROOM F - Chemistry CAGLIOTI building (2nd floor)

CHAIRMEN: J.T. De Hosson and A. Flamini

16.30 ***INVITED*** **- Mo-pm-F-I1 Novel functional materials based on nanoporous metals**

Jörg Weissmüller - *Institute of Materials Physics, Hamburg Technical University, Hamburg, Germany, and Hybride Materials Group, GKSS Research Centre, Geesthacht, Germany*

17.00 ***INVITED*** **- Mo-pm-F-I2 Tunable self-organization of nanocomposite multilayers**

Jeff Th.M. De Hosson, Y.T. Pei , C.Q. Chen , K.P. Shaha , D.I. Vainshtein - *Department of Applied Physics, Zernike Institute for Advanced Materials, University of Groningen, the Netherlands*

17.30 ***Mo-pm-F-C1*** **Electrochemical tuning of the electrical resistance of nanoporous gold prepared by dealloying**

P. Wahl, T. Traußnig, HJ. Jin, S. Landgraf, J. Weissmüller, R. Würschum *[1]Institute of Materials Physics*, *Graz Univ. of Technology, Petersgasse 16, 8010 Graz, Austria; [2]Institute of Nanotechnology, Karlsruher Institute of Technology, 76021 Karlsruhe, Germany; [3]Institute of Physical &. Theoret. Chemistry, Graz Univ. of Technology, Graz, Austria; [4]Univ. of Saarland, Techn. Phys. Saarbrücken, Germany*

17.45 **Mo-pm-F-C2 Breathing of nanoporous metals**

E.Detsi, P.R.Onck, J.Th.M. De Hosson - *Department of Applied Physics, Zernike Institute for Advanced Materials, University of Groningen, the Netherlands*

18:00 **Mo-pm-F-C3 Exploring Nanostructured Systems with Single Molecule Probes: From Nanoporous Materials to Drug Delivery Systems in Living Cells**

C. Bräuchle[1] - *[1]Department of Chemistry and Center for Nanoscience (CeNS), LMU München, Butenandtstr. 11, D-81377 München, Germany*

TUESDAY sept 14 - Morning

Plenary lecture

ROOM E – RETTORATO building

CHAIRMAN: H. Hahn

8.45 **PL04 Atomic and molecular scale control of electrochemical reactions**

M. Aono[1], T. Hasegawa[1], T. Nakayama[1], and Y. Okawa[1] - [1]*International Center for Materials Nanoarchitectonics (MANA), National Institute for Materials Science (NIMS), Namiki 1-1, Tsukuba, Ibaraki 305-0044, Japan*

TUESDAY sept 14 - Morning

Session Tu-am-A

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

ROOM A - Physics FERMI building

CHAIRMAN: A. Bearzotti

9.45 ***INVITED*** **- Tu-am-A-I1 Control of the Energy Levels of a Single Atom in a Back-Gated Silicon Quantum Dot**

E. Prati[1], M. Belli[1], S. Cocco[1], G. Petretto[1], and M. Fanciulli[1,2] - *[1]Laboratorio MDM, IMM-CNR, Via Olivetti 2, I-20041 Agrate Brianza; [2]Dipartimento di Scienza dei Materiali, Università degli Studi Milano-Bicocca, I-20125 Milano, Italy*

10.15 **Tu-am-A-C2 Fabrication and Properties of metal Doped ZnO Nanowires**

E.Matei[1], I.Enculescu[1], M.Enculescu[1], N.Preda[1], S. Granville[2], and J.-Ph. Ansermet[2] - *[1]National Institute for Materials Physics, Atomistilor 105 bis, Magurele, Ilfov, Romania; [2]Ecole Polytechnique Federale, Lausanne, Switzerland*

Coffee Break

11.15 ***INVITED*** **- Tu-am-A-I2 Micro/Nano Pillar Based Single Crystal Semiconductor Devices on Amorphous Substrates for Efficient and Low-cost Energy Conversion**

M. Saif Islam, Matthew Ombaba & Logeeswaran VJ - *Integrated Nanodevices & Systems Research, Dept. of Electrical & Computer Engineering, University of California-Davis*

11.45 **Tu-am-A-C3 Charge mobility in single-crystal organic field-effect-transistors (FETs)**

V.Y. Butko[1,2], W. So[3], D.V. Lang[3], X. Chi[4], J.C. Lashley[5], A.P. Ramirez[6] - *[1]Ioffe Physical Technical Institute, 26 Polytechicheskaia, St. Petersburg, 194021, Russia; [2]St. Petersburg Academic University-Nanotechnology Research and Educational Centre, 8/3 Khlopin, St Petersburg, 195220, Russia; [3]Lucent Technologies, 600 Mountain Avenue, Murray Hill, New Jersey, 07974, USA; [4]Texas A and M University Kingsville, USA; [5]Los Alamos National Laboratory, USA; [6]UC Santa Cruz, USA*

12.00 **Tu-am-A-C4 Structural and electrical properties of Nickel Silicide Nanodots on [001] Silicon**

A. Alberti[1], G. D'Arrigo[1] , C. Bongiorno[1] and E. Rimini[2] - *[1]Istituto per la Microelettronica e Microsistemi (CNR-IMM), Zona Industriale VIII Strada 5, 95121 Catania, Italy; [2]Dipartimento di Fisica, Università degli Studi di Catania, Viale A. Doria 6, 95125 Catania, Italy*

12.15 **Tu-am-A-C5 Bottom layer thickness effect on electrical and morphological properties of T6 /PDI8-CN_2 Heterostructure Field Effect Transistors**

F.V. Di Girolamo*, M. Barra, F. Chiarella, R. Di Capua, S. Lettieri, M. Salluzzo, V. Tkachenko, A. Cassinese - *CNR-SPIN and Department of Physics Science, University of Naples Federico II, Piazzale Tecchio 80125, Naples, Italy*

12.30 **Tu-am-A-C6 Superconducting nanostriplines as quantum detectors**

A. Casaburi[1], M. Ejrnaes[1], R. Cristiano[1], F. Mattioli[2], A. Gaggero[2], R. Leoni[2], N. Martucciello[3], S. Marchetti[4], S. Pagano[3,4] - *[1]Istituto di Cibernetica "E. Caianiello" del C.N.R., 80078 Pozzuoli, Italy; [2]Istituto di Fotonica e Nanotecnologie del C.N.R., 00156 Roma, Italy; [3]Istituto SPIN del C.N.R. 84081 Salerno, Italy; [4]Dipartimento di Matematica e Informatica, Università di Salerno, 84081 Fisciano, Italy*

TUESDAY sept 14 - Morning

Session Tu-am-B

T02 - Nanostructured materials for energy applications

ROOM B - Chemistry CAGLIOTI building (Ground floor)

CHAIRMAN: A. Bieberle-Hutter

9.45 ***INVITED* - Tu-am-B-I1 Advanced metal-air batteries based on silicon fuel**
Yair Ein-Eli - *Department of Materials Engineering, Technion-Israel Institute of Technology, Haifa 32000, Israel. -*

10.15 **Tu-am-B-C1 Control of the reflectivity of highly disordered Si nanowire for photovoltaic application**
A. Convertino, M.Cuscunà, and F. Martelli - *Istituto per la Microelettronica e i Microsistemi del Consiglio Nazionale delle Ricerche, via del Fosso del Cavaliere 100, 00133 Rome, Italy*

10.30 **Tu-am-B-C2 Pulsed KrF laser synthesis of single-wall-carbon-nanotubes, their purification and integration into SWCNTs/n-Si hybrid devices for photovoltaic applications**
V. Le Borgne[1], L.A. Gautier[1], M. Mohamedi[1], F. Rosei[1], P. Castrucci[2], M. Scarselli[2], M. De Crescenzi[2], and M. A. El Khakani[1,*] - *[1]Institut National de la Recherche Scientifique, INRS-Énergie, Matériaux et Télécommunications, 1650 Lionel-Boulet, Varennes, QC, Canada, J3X 1S2 [2]Dipartimento di Fisica, Università di Roma "Tor Vergata", 1 Via della Ricerca Scientifica, Roma, 00133 Italy*

Coffee break

11.15 **Tu-am-B-C3 Bulk nanostructured thermoelectric materials**
M. S. Toprak, S. Li, M. Saleemi, A. Khan, and M. Muhammed - *Royal Institute of Technology (KTH), Functional Materials Division, Isafjordsgatan 22, SE-16440 Kista, Sweden*

11.30 **Tu-am-B-C4 AC Electrical and Ferroelectric Properties of PbGeSe Thin Films**
Z.S. El Mandouh, H.A. El Meleegi, and M.O. Abou-Helal - *National Research Center, Physics Division, Electron Microscope and Thin Films Lab., EL Tahrir St. , Dokki , Cairo , Egypt;*

11.45 **Tu-am-B-C5 Nonequilibrium structure of nanostructured Ca_2SnO_4 and Zn_2SnO_4 prepared by mechanosynthesis**
V. Šepelák[1], S. Indris[1], I. Bergmann[2], S. M. Becker[1], M. Bruns[3], A. Feldhoff[4], C. Kübel[1], K. D. Becker[5], P. Heitjans[4], and H. Hahn[1] - *[1]Karlsruhe Institute of Technology, Institute of Nanotechnology, Eggenstein-Leopoldshafen, 76344, Germany;*

12.00 **Tu-am-B-C6 Surface treatment of carbon nanotubes, nanofibers and hollow spheres as nanomaterials for supercapacitors**
V.K.Varentsov[1,2], Yu.G.Mateyshina[1,3], N.F.Uvarov[1,2], B.B.Bokhonov[1], A.S.Ulihin[1], Kuvshinov G.G.[2], V.I.Varentsova[1], and S.I. Yusin[1,2] - *[1]Institute of Solid State Chemistry and Mechanochemistry SB RAS, Kutateladze Str., 18, Novosibirsk, 630128, Russia; [2]Novosibirsk State Technical University, Karl Marx Prosp. 42, Novosibirsk, 630092, Russia; [3]Novosibirsk State University, Pirogova Str., 2, Novosibirsk, 630090, Russia*

12.15 **Tu-am-B-C7 Electrical characterization of highly textured films of Y-doped barium zirconate grown by pulsed laser deposition (PLD)**
E. Fabbri[1], D. Pergolesi[1], S. Sanna[2], A. Tebano[3], A. D'Epifanio[2], E. Di Bartolomeo[2], G. Balestrino[3], S. Licoccia[2], and E. Traversa[1,2] - *[1]International Research Center for Materials Nanoarchitectonics (MANA), National Institute for Materials Science (NIMS), 1-1 Namiki, Tsukuba, Ibaraki 305-0044 Japan; [2]NAST Center & Department of Chemical Science and Technologies, University of Roma "Tor Vergata", 00133 Rome, Italy; [3]INFM CNR-SPIN and Department of Mechanical Engineering, University of Roma "Tor Vergata", Rome, Italy*

12.30 **Tu-am-B-C8 Structural and Optical properties of TiO_2 thin films derived by sol-gel dip coating process**
S.Kermadi, N.Agoudjil[1] ,S.Sali, M.Boumaour - [1.]Laboratoire des cellules photovoltaiques .Bd Frantz Fanon BP 399 Alger Algerie; [2.]Laboratoire de physico-chimie des matériaux et environnement Faculte de chimie USTHB . Algert Algerie

TUESDAY sept 14 - Morning

Session Tu-am-C
T26 - Nanomagnetism
ROOM C - CNR

CHAIRMAN: I.K. Schuller

9.45 ***INVITED*** **- Tu-am-C-I1 Magnetic nanoparticles for novel applications**
G.C. Hadjipanayis[1] - *[1]University of Delaware, Department of Physics and Astronomy, 217 Sharp Lab, 104 The Green, Newark, DE 19716 USA*

10.15 **Tu-am-C-C1 Qualitative and quantitative imaging of magnetic stray fields in $RECo_5$ thin films**
U. Wolff[1], S. Schnittger[2], J. Norpoth[2], C. Jooss[2], L. Schultz[1], V. Neu[1] - *[1]IFW Dresden, P.O. Box 270116, 01171 Dresden, Germany; [2]Institut für Materialphysik, Friedrich-Hund-Platz 1, 37077 Göttingen, Germany*

10.30 **Tu-am-C-C2 Effect of dipolar interaction on the magnetization state of chains of rectangular dots located either head-to-tail or side-by-side**
D. Bisero[1], P. Cremon[1], M. Madami[2], S. Tacchi[2], G. Gubbiotti[2], G. Carlotti[2], A.O. Adeyeye[3], N. Singh[3] and S. Goolaup[3] - *[1]CNISM-Dipartimento di Fisica, Università di Ferrara, Italy; [2]CNISM-Dipartimento di Fisica, Università di Perugia, Italy; [3] Department of Electrical and Computer Engineering, National University of Singapore 117576, Singapore*

Coffee Break

11.15 ***INVITED*** **- Tu-am-C-I2 Particular and granular magnetic nanostructures for advanced magnetic recording schemes**
Josef Fidler[1], Jehyun Lee[1], Markus Fuger[1], Dieter Suess[1], and Thomas Schrefl[2] - *[1]Inst. of Solid State Physics, Vienna University of Technology, 1040 Vienna, Austria; [2]St. Poelten University of Applied Science, 3100 St. Poelten, Austria*

11.45 **Tu-am-C-C3 Effects of the competition between intraparticle anisotropy and interparticle exchange anisotropy in Fe films produced by femtosecond pulsed laser deposition**
V. Iannotti[1], S. Amoruso[1], G. Ausanio[1], D. Fiorani[2], L. Lanotte[1], G. Margaris[3] and K.N. Trohidou[3] - *[1]CNR-SPIN Department of Physical Science, Naples Univ. Federico II, p.le V. Tecchio 80, I-80125 Napoli, Italy; [2]ISM - CNR, Area della Ricerca, Via Salaria km 29.500, 00016 Monterotondo Scalo, Italy; [3] Institute of Materials Science NCSR "Demokritos" Aghia Paraskevi, 15310 Athens, Greece*

12.00 **Tu-am-C-C4 Synthesis and magnetic properties of size-selected CoPt nanoparticles**
F. Tournus[1], N. Blanc[1], A. Tamion[1], M. Hillenkamp[2], and V. Dupuis[1] - *[1]LPMCN, Univ. Lyon 1, CNRS UMR 5586, 69622 Villeurbanne, France; [2]LASIM, Univ. Lyon 1, CNRS UMR 5579, 69622 Villeurbanne, France*

12.15 **Tu-am-C-C5 Piezomagnetic, piezoelectric and linear magnetoelectric effects inherent to nanosystems**
M. Glinchuk[1], E. Eliseev[1], A. Morozovska[2], B. Zaulychny[1], V. Skorokhod[1], and R. Blinc[3] - *[1]Institute for Problems of Materials Science, NAS of Ukraine, Krjijanovskogo 3, 03142 Kiev, Ukraine; [2]V. Lashkarev Institute of Semiconductor Physics, NAS of Ukraine, prospect Nauki 41, 03028 Kiev, Ukraine; [3]Jožef Stefan Institute, P. O. Box 3000, 1001 Ljubljana, Slovenia*

12.30 **Tu-am-C-C6 Collective Behavior of Magnetic NPs Applications**
V. Salgueirino, A. B. Davila-Ibanez, and N. Fontaina-Troitino - *Universidade de Vigo, Fisica Aplicada, 36310, Vigo, Spain*

12.45 **Tu-am-C-C7 Magnetic phase transitions in nanoclusters and nanostructures**
I. P. Suzdalev, and Yu.V.Maksimov - *Semenov Institute of Chemical Physics RAS, 119991 Moscow, ul. Kosygina 4, Russian Federation*

TUESDAY sept 14 - Morning

Session Tu-am-D

T04 - Advanced characterization techniques of nanostructures

ROOM D - Physics MARCONI building

CHAIRMAN: M. Vittori

9.45 ***INVITED*** **- Tu-am-D-I1 Picometre Electron Microscopy**

K. W. Urban - *Research Centre Juelich, Institute for Solid State Research and Ernst Ruska Centre for Microscopy & Spectroscopy with Electrons, 52425 Jülich, Germany*

10.15 **Tu-am-D-C1 Modifying topology and spin character of quantum- confined electronic states in Ag(111) films**

P. Moras[1], D. Topwal[2], P. M. Sheverdyaeva[3], L. Ferrari[4], J. Fujii[5], G. Bihlmayer[6], S. Blügel[6], K. He[7], Y. Takeichi[7], M. Ogawa[7], T. Okuda[7], A. Harasawa[7], T. Hirahara[8], A. Kakizaki[7], I. Matsuda[7], and C. Carbone[1] - *[1]ISM-CNR, Trieste, Italy; [2]ICTP, Trieste, Italy; [3]ELETTRA, Trieste, Italy; [4]ISC-CNR, Roma, Italy; [5]TASC-INFM-CNR, Trieste, Italy; [6]IFF, Jülich, Germany; [7]ISSP, The University of Tokyo, Chiba, Japan; [8]Department of Physics, The University of Tokyo, Tokyo, Japan*

10.30 **Tu-am-D-C2 Micro-Raman and TERS-based characterizations of nanostructures**

T.S. Perova[1], J. Wasyluk[1], P. Rainey[2], H.S. Gamble[2], and B.M. Armstrong[2] - *Department of Electronic and Electrical Engineering, University of Dublin, Trinity College, Dublin 2, Ireland; [2]Northern Ireland Semiconductor Research Centre, The Queen's University of Belfast, Ashby Building, Stranmillis Road Belfast UK BT9 5AH*

Coffee Break

11.15 ***INVITED*** **- Tu-am-D-I2 Small angle X-ray scattering as *in situ* tool at the nanoscale: watch molecules during the self-assembly**

H. Amenitsch[1] - *[1]Institute of Biophysics and Nanosystems Research, Schmiedlstr. 6, A-8042 Graz, Austria*

11.45 ***INVITED*** **- Tu-am-D-I3 Imaging with coherent x-rays for nanotechnology and nanomedicine**

G. Margaritondo[1], J. H. Je[2], and Y. Hwu[3] - *[1]Ecole Polytechnique Fédérale de Lausanne (EPFL), CH-1015 Lausanne, Switzerland; [2]X-ray Imaging Center, Pohang University of Science and Technology (POSTECH), Pohang 790-784, South Korea; [3]Institute of Physics, Academia Sinica, Nankang, Taipei 11529, Taiwan*

12.15 **Tu-am-D-C3 3D Fourier Transform Holography of a single nanostructure**

D. Carbone[1], V. Chamard[2], J. Stangl[3], A. Diaz[4], G. Chen[3], C. Alfonso[2], C. Mocuta[5], T.H. Metzger[1,6], T. Schulli[1] - *[1]European Synchrotron Radiation Facility, BP220 38043 Grenoble, France; [2]IM2NP-CNRS, Aix-Marseille University, FST av. Escadrille Normandie Niemen, 13397 Marseille, France. [3]Institute of Semiconductor and Solid State Physics, Johannes Kepler University, 4040 Linz, Austria; [4] Paul Scherrer Institut, 5232 Villigen, Switzerland [5]Synchrotron Soleil, L'Orme des Merisiers, Saint-Aubin 91192 Gif-sur-Yvette, France, [6]Max-Planck Institute of Colloids and Interfaces, 14424 Potsdam, Germany*

12.30 **Tu-am-D-C4 Polarized X-ray excited optical luminescence imaging of nano-LEDs**

G. Martinez-Criado[1], J. A. Sans[1], R. Tucoulou[1], P. Cloetens[1], J. Susini[1], A. Homs[1], B. Alen[2], L. Gonzalez[2], J. Yoo[3], and G. Yi[3] - *[1]European Synchrotron Radiation Facility, 38043 – Grenoble, France; [2]Microelectronics Institute Madrid, CNM-CSIC, 28760 – Tres Cantos, Spain; [3]Seoul National University, Seoul 151-747, Republic of Korea*

TUESDAY sept 14 - Morning

Session Tu-am-E

T01 - 2D molecular self assembling on surfaces and surface functionalization

ROOM E - RETTORATO Building

CHAIRMAN: G. Contini

9.45 **Tu-am-E-C2 Synthesis and characterization of modified silane covered magnetite for imaging and drug delivery**

F. Nepi[1], R. Salvati[1], M. Rossi[2], G. Varvaro[3], P. D'Elia[4], S. Capuani[5], B. Maraviglia[5], M. Barteri[1] - *[1]"La Sapienza" University, Department of Chemistry "Cannizzaro", P.le A. Moro 5, 00185 Rome, Italy; [2]"La Sapienza" University, Department of Energetics, Via A. Scarpa 14, 00185 Rome, Italy; [3]CNR – IMS – Via Salaria Km 29.500, 00016 Monterotondo Scalo, Italy; [4]Policlinico "Umberto I", Dipartimento di Ginecologia ed Ostetricia, Viale del Policlinico 155, 00161 Rome, Italy; [5]"La Sapienza" University, Department of Physics "Marconi" P.le A. Moro 5, 00185 Rome, Italy*

10.00 **Tu-am-E-C3 Hydrophilic grafted layer with tunable strength and the range of hydrophobic interactions**

Igor Luzinov[1], Olha Hoy[1], Bogdan Zdyrko[1], Robert Lupitskyy[2], Roman Sheparovych[2], Dennis Aulich [3], Jiafang Wang[4], Eva Bittrich[5], Klaus-Jochen Eichhorn[5], Petra Uhlmann[5], Karsten Hinrichs[3], Marcus Müller [4], Manfred Stamm[5], Sergiy Minko[2] - *[1]School of Materials Science and Engineering, 161 Sirrine Hall, Clemson University, Clemson, SC 29634, USA; [2]Department of Chemistry and Biomolecular Science, 8 Clarkson Ave, Clarkson University, Potsdam, NY 13699, USA; [3] ISAS-Institute for Analytical Sciences, Albert-Einstein-Str. 9, 12489 Berlin, Germany; [4]Institut für Theoretische Physik, Georg-August-Universität, Friedrich-Hund-Platz 1, 37077 Göttingen, Germany; [5]Leibniz-Institut für Polymerforschung Dresden e.V., Hohe Strasse 6, 01069 Dresden, Germany*

10.15 **Tu-am-E-C4 Protein adsorption on DC-Chol-DOPE cationic liposomes and DC-Chol−DOPE/DNA lipoplexes visualized by means of SDS-PAGE**

Daniela Pozzi, L. Callipo, G. Caracciolo, C. Cavaliere, A. Laganà, and R. Samperi - *Dipartimento di Chimica, Università di Roma "La Sapienza", P.le Aldo Moro 5, 00185 Roma, Italia*

Coffee Break

11.15 **Tu-am-E-C5 DNA Fixation on n-Type Silicon Surface and Electrophysical Properties of the Interface**

P.A. Sokolov, N.V. Bazlov, N. A. Kasyanenko - *St.-Petersburg State University, Faculty of Physics, Ulyanovskaya st.1, Petrodvorets, St-Petersburg, 198504, Russia*

11.30 **Tu-am-E-C6 Photocurrent generation through mono- and bi-component peptide-based self assembled monolayers: antenna and junction effect**

A. Porchetta,[1] E. Gatto,[1] M. Caruso,[1] M. Crisma,[2] F. Formaggio,[2] C. Toniolo[2] and M. Venanzi[1] - *[1]Department of Chemical Sciences and Technologies, University of Rome "Tor Vergata", 00133 Rome, Italy; [2]ICB, Padova Unit, CNR, Department of Chemistry, University of Padova, 35131 Padova, Italy*

11.45 **Tu-am-E-C7 Task-oriented engineering of zirconia nanoparticles surfaces**

O. Gorban, A. Doroshkevich, B.Perekrestov, S. Synyakina, I.Danilenko, V.Glazunova, G. Volkova, T. Konstantinova - *Donetsk Institute of Physics and Engineering NAS of Ukraine, R.Luxemburg str. 72, Donetsk, 83114, Ukraine*

12.00 **Tu-am-E-C8 Fabrication of super-hydrophobic surfaces by direct replication of lotus leaves**

E. Lepore[1], and N. Pugno[1] - *[1]Laboratory of Bio-Inspired Nanomechanics "Giuseppe Maria Pugno", Department of Structural Engineering and Geotechnics, Politecnico di Torino, Torino, Italy*

12.15 **Tu-am-E-C9 Endohedral metallofullerenes in self-assembled monolayers**

M. C. Gimenez-Lopez[1], J. A. Gardener[2], A. Q. Shaw[2], A. Iwasiewicz-Wabnig[2], K. Porfyrakis[2], C. Balmer[2], G. Dantelle[2], M. Hadjipanayi[3], A. Crossley[2], N. R. Champness[1], M. R. Castell[2], G. A. D. Briggs[2] and A. N. Khlobystov[1]. - *[1]School of Chemistry, University of Nottingham, UK NG7 2RD; [2]Department of Materials, University of Oxford, Oxford,UK OX1 3PH; [3]Department of Physics, University of Oxford, Parks Road, Oxford,UK OX1 3PU*

12.30 **Tu-am-E-C10 Co and Py nanodots obtained by self-assembling of polystyrene nanospheres and conventional electron beam litography**

P. Tiberto, L. Boarino, F. Celegato, M. Coisson, E. Enrico, N. De Leo, F. Vinai - *INRIM, Electromagnetism, Strada delle Cacce 91, 10135 Torino, Italy*

TUESDAY sept 14 - Morning

Session Tu-am-F

T09 - Mechanical properties of nanostructured materials

ROOM F - Chemistry CAGLIOTI building (2nd floor)

CHAIRMAN: S. Van Petegem

9.45 ***INVITED*** **- Tu-am-F-I1 Correlation between dislocation structure and mechanical behavior in nanometals**
X. Huang, J. Kidmose, G. Winther, and N. Hansen - *Risø National Laboratory for Sustainable Energy, Materials Research Division, Danish-Chinese Center for Nanometals, Technical University of Denmark, DK-4000 Roskilde, Denmark*

10.15 **Tu-am-F-C1 Extraordinary mechanical properties of SPD-produced nanostructured alloys: origin and innovation potential**
R. Z. Valiev - *Institute of Physics of Advanced Materials, Ufa State Aviation Technical University, 12 K. Marx str., Ufa 450000 Russia*

10.30 **Tu-am-F-C2 Deformations in nano-sized metallic systems**
A. Kuzmin, C.Q.Chen, Y.T.Pei, Jeff Th.M. De Hosson - *Department of Applied Physics, Zernike Institute for Advanced Materials, University of Groningen, the Netherlands*

Coffee Break

11.15 ***INVITED*** **- Tu-am-F-I2 Strengthening mechanism of nano-scale twins**
Lei Lu - *Shenyang National Laboratory for Materials Science, Institute of Metal Research, Chinese Academy of Sciences, Shenyang 110016, China*

11.45 **Tu-am-F-C3 Forced chemical mixing in Ag-Cu immiscible system using high pressure torsion**
M. Pouryazdan Panah[1], D. Wang[1], T. Scherer[1], R.S. Averback[2], and H. Hahn[1] - *[1]Karlsruhe Institute of Technology (KIT), Institute of Nanotechnology, D-76021, Karlsruhe, Germany; [2]Department of Materials Science and Engineering, University of Illinois at Urbana-Champaign, 1304 W. Green St., Urbana, IL 61801, USA*

12.00 **Tu-am-F-C4 Mechanical Properties of Hybrid Nanocrystalline Cellular Materials**
G. D. Hibbard - *University of Toronto, Materials Science and Engineering, 184 College Street, Toronto, M5S 3E4, Canada*

12.15 **Tu-am-F-C5 Fatigue Properties of Nanostructured Metals and Alloys**
A. Singh[1], M. Dao[1], L. Lu[2] and S. Suresh[1] - *[1]Department of Material Science and Engineering, Massachusetts Institute of Technology, 77 Mass Ave., Cambridge , MA, USA; [2]Shenyang National Laboratory for Materials Science, Institute of Metal Research , Chinese Academy of Sciences , Shenyang, China*

12.30 **Tu-am-F-C6 Cooperative grain boundary sliding and limited ductility of nanocrystalline Pd-10%Au alloy**
Yu. Ivanisenko[1], L. Kurmanaeva[1], C. Kübel[1], J. Weissmüller[1,2], J. Markmann[2] H.-J. Fecht[1,3] - *[1]Karlsruhe Institut für Technologie, Institut für Nanotechnologie, Karlsruhe, Germany;[2] Universität des Saarlandes, Technische Physik, Saarbrücken, Germany,[3] Universität Ulm, Institut für Mikro- und Nanomaterialien, Ulm, Germany*

12.45 Tu-am-F-C7 Synthesis, Microstructure and Mechanical Properties of Nanocrystalline and Ultrafine Grained Cu and Al Matrix Nanocomposites Produced by Powder Consolidation
Deliang Zhang[1*], Aamir Mukhtar[1], Amro A.Gazawi[1], Charlie Kong[2], Paul Munroe[2] *Waikato Centre for Advanced Materials (WaiCAM), School of Engineering, University of Waikato, Private Bag 3105, Hamilton, New Zealand; [2]Electron Microscopy Unit, University of New South Wales, Sydney, 2052, Australia*

TUESDAY sept 14 - Afternoon

Plenary lecture
ROOM E – RETTORATO building

CHAIRMAN: M. Girasole

14.15 **PL05** **Playing with Forces: how the stretching of proteins can alter their functions**

Viola Vogel - *Department of Materials, ETH Zurich, Wolfgang-Pauli-Strasse 10, CH-8093, Zürich, Switzerland*

TUESDAY sept 14 - Afternoon

Session Tu-pm-A
T10 - Modelling and simulation of nanostructures
ROOM A - Physics FERMI building

CHAIRMAN: A. Amore Bonapasta

16.30 ***INVITED*** **- Tu-pm-A-I1 Embedded and doped Si nanocrystals: Electronic, magnetic and optical properties from first principles**
F. Bechstedt - *Institut für Festkörpertheorie und –optik, Friedrich-Schiller-Universität, Max-Wien-Platz 1, Jena, 07743, Germany*

17.00 **Tu-pm-A-C1 Search for dark spin state in a triple quantum dot system**
B. R. Bułka[1], J. Łuczak[1], and T. Kostyrko[2] - *[1]Institute of Molecular Physics, Polish Academy of Sciences, ul. M. Smoluchowskiego 17, 60-179 Poznań, Poland; [2]Faculty of Physics, A. Mickiewicz University, ul. Umultowska 85, 61-614 Poznań, Poland*

17.15 **Tu-pm-A-C2 A new insight to structure of ultrafine isolated Al nanoparticles via Molecular dynamics simulation**
Amir Chamaani[1], Reza Darvishi[2], Yashar Behnamian[3], Ehsan Marzanrad[4], and Alireza Aghaei[4] - *[1]New materials Department, Materials and Energy Research Center, P.O. Box 14155-4777, Tehran, Iran; [2]ICAMS, Ruhr-University Bochum, Bochum 44801, Germany; [3]Chemical and Materials Engineering Department, University of Alberta Edmonton AB, T6G 2V4, Canada; [4] Ceramic Department, Materials and Energy Research Center, P.O. Box 14155-4777, Tehran, Iran*

17.30 ***INVITED*** **- Tu-pm-A-I2 Hierarchical pattern of microfibrils in a 3D fluorapatite–gelatine nanocomposite: Simulation of a bio-related structure building process**
J. Brickmann[1], P. Duchstein[2], S. Kokolakis[1], R. Kniep[2] - *[1]Physical Chemistry, TU Darmstadt, Petersenstr. 20, Darmstadt, 64287, Germany, [2]MPI for Chemical Physics of Solids, Nöthnitzer Str. 40, Dresden, 01187, Germany*

18.00 **Tu-pm-A-C3 Prediction of thermodynamic stability of metal/oxide interface**
Hong Mei Jin and Ping Wu - *Institute of High Performance Computing, 1 Fusionopolis Way, #16-16 Connexis, Singapore 138632, Singapore*

TUESDAY sept 14 - Afternoon

Session Tu-pm-B

T02 - Nanostructured materials for energy applications

ROOM B - Chemistry CAGLIOTI building (Ground floor)

CHAIRMAN: H.L. Tuller

16.30 ***INVITED*** **- Tu-pm-B-I1 Nanoionics: From Thin Metal/Metaloxide Films to Devices**

A. Bieberle-Hütter, J.M.L. Rupp, and L.J. Gauckler - *Nonmetallic Inorganic Materials, ETH Zurich, Wolfgang-Pauli-Str. 10, HCI G539, CH-8093 Zurich, Switzerland, anja.bieberle@mat.ethz.ch*

17.00 **Tu-pm-B-C1 Ordered crystalline growth of different SOFC electrolyte materials by pulsed laser deposition (PLD)**

D. Pergolesi[1], E. Fabbri[1], V. Esposito[2], S. Sanna[2], A. Tebano[3], A. D'Epifanio[2], E. Di Bartolomeo[2], G. Balestrino[3], S. Licoccia[2], and E. Traversa[1,2] - *[1]International Research Center for Materials Nanoarchitectonics (MANA), National Institute for Materials Science (NIMS), 1-1 Namiki, Tsukuba, Ibaraki 305-0044 Japan; [2]NAST Center & Department of Chemical Science and Technologies, University of Roma "Tor Vergata", 00133 Rome, Italy; [3]INFM CNR-SPIN and Department of Mechanical Engineering, University of Roma "Tor Vergata", Rome, Italy - Pergolesi.Daniele@nims.go.jp*

17.15 **Tu-pm-B-C2 Hollow Carbon Nanosphere Based Lithium-ion Negative Electrodes High Rate Low Temperature Performance**

J. Cox and M. J. Wagner - *Department of Chemistry,The George Washington University, Washington DC, 20052, USA*

17.30 **Tu-pm-B-C3 Detailed investigation on calcium-based heterogeneous basic nano-catalysts for transesterification reactions**

F. Deganello[1], M.L. Testa[1], V. La Parola[1] and G. Pantaleo[1] - *[1]ISMN-CNR sezione di Palermo, Via Ugo La Malfa 153, Palermo, Italy*

17.45 **Tu-pm-B-C4 Nanostructures and thin films of multiferroic materials for future spintronics and optoelectronics-related nanodevices**

R. Nechache,[1,2] E. Traversa,[2,3] S. Licoccia,[2] and F. Rosei[1] - *[1]Centre Énergie, Matériaux et Télécommunications, INRS, 1650, boulevard Lionel-Boulet, Varennes, Québec J3X 1S2, Canada. [2]NAST Center & Department of Chemical Science and Technology, U. of Rome Tor Vergata, Via della Ricerca Sceintifica, 00133 Rome (Italy). [3]International Research Center for Materials Nanoarchitectonics (MANA), National Institute for Materials Science (NIMS), 1-1 Namiki, Tsukuba, Ibaraki 305-0044 (Japan)*

18.00 **Tu-pm-B-C5 Irradiation effect on properties of nanomaterials**

R. Andrievskiy - *Institute of Problems of Chemical Physics, Russian Academy of Sciences, Semenov Prosp. 1, Chernogolovka, Moscow Region, 142432, Russia*

TUESDAY sept 14 - Afternoon

Session Tu-pm-C

T17 - Atomic clusters + T21 - Atomic manipulation

ROOM C - CNR

CHAIRMAN: P. Piseri

16.30 ***INVITED*** **- Tu-pm-C-I1 Ligand-protected gold clusters: building blocks of new nanomaterials?**

Hannu Häkkinen - *Departments of Physics and Chemistry, Nanoscience Center, University of Jyväskylä, FI-40014 Jyväskylä, Finland*

17.00 ***INVITED*** **- Tu-pm-C-I2 Counting the Atoms in Supported, Monolayer-Protected Gold Clusters**

Z. W. Wang[1], O. Toikkanen[2], F. Yin[1], Z. Y. Li[1], B. M. Quinn[2], J. Akola[3], O. Lopez-Acevedo[3], H. Häkkinen[3], R. E. Palmer[1] - *[1]Nanoscale Physics Research Laboratory, School of Physics and Astronomy, University of Birmingham, B15 2TT, U.K.; [2]Department of Chemistry, School of Science and Technology, Aalto University, P.O. Box 16100, FI-00076 Aalto, Finland; [3]Nanoscience Center, Departments of Physics and Chemistry, University of Jyväskylä, P.O. Box 35, FI-40014 Jyväskylä, Finland*

17.30 **Tu-pm-C-C1 X-ray photoemission from free lead clusters with complex morphology**

T. Mazza[1], P. Piseri[1], M. Devetta[1], L. Ravagnan[1], P. Milani[1], E. Kukk[2], M. Huttula[3], M. Mikkela[3], M. Tchaplyguine[4], and O. Björneholm[5] - *[1]Cimaina and Dipartimento di Fisica, Università degli Studi di Milano, via Celoria 16 I20133 Milano, Italy; [2] Department of Physics, University of Turku, FIN-20014 Turku, Finland; [3]Department of Physics, University of Oulu, FIN-90014 Oulu, Finland; [4]Max-lab, Lund University, Box 118, SE-22100, Lund, Sweden; [5]Department of Physics, Uppsala University, Box 530, SE-75121, Uppsala, Sweden*

17.45 **Tu-pm-C-C2 Ti Clusters Photofragmentation Experiments At The SCSS EUV FEL Facility**

M. Devetta[1], T. Mazza[1], P. Milani[1], P. Piseri[1], H. Fukuzawa[2], K. Motomura[2], X.-J. Liu[2], A. Yamada[2], M. Okunishi[2], K. Ueda[2], K. Nagaya[3], H. Iwayama[3], A. Sugishima[3], Y. Mizokuchi[3], M. Yao[3], N. Saito[4], M. Coreno[5], M. Nagasono[6], T. Ishikawa[6] - *[1]Dipartimento di Fisica and CIMAINA, Università degli Studi di Milano, Via Celoria 16, I-20133 Milano, Italy; [2]Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, Sendai 980-8577, Japan; [3]Department of Physics, Kyoto University, Kyoto 606-8502, Japan; [4]National Metrology Institute of Japan, AIST, Tsukuba 305-8568, Japan; [5]CNR-IMIP, Area della Ricerca di Roma I, Via Salaria Km 29.3, I-00016 Roma, Italy; [6]RIKEN, XFEL Project Head Office, Kouto 1-1-1, Sayo, Hyogo 679-5148, Japan*

18.00 **Tu-pm-C-C3 Manipulation and spectroscopy of individual Cu phthalocyanine molecules on InAs(111)A with a low-temperature scanning tunneling microscope**

Ch. Nacci[1], J.Yang[1], K. Kanisawa[2] and S. Fölsch[1] - *[1]Paul Drude Institute for Solid State Electronics, Hausvogteiplatz 5-7, Berlin, 10117, Germany; [2]NTT Basic Research Laboratories, NTT Corporation, 3-1 Morinosato-Wakamiya, Atsugi, Kanagawa, 243-0198, Japan*

TUESDAY sept 14 - Afternoon

Session Tu-pm-D

T04 - Advanced characterization techniques of nanostructures

ROOM D - Physics MARCONI building

CHAIRMAN: H. Amenitsch

16.30 ***INVITED*** **- Tu-pm-D-I1 Scanning Probe Microscopy in Material Science and Biology**

A.Cricenti - *Istituto di Stuttura della Materia, via Fosso del Cavaliere 100, 00133 Roma, Italy*

17.00 ***INVITED*** **- Tu-pm-D-I2 Spin mapping, spin manipulation, and magnetometry at the atomic level**

R. Wiesendanger - *Institute of Applied Physics and Interdisciplinary Nanoscience Center Hamburg, University of Hamburg, D-20355 Hamburg, Germany; www.nanoscience.de*

17.30 **Tu-pm-D-C1 Controlled in-situ shear tests on nanoscale pillars and metal formability**

A. Rinaldi[1], S. Licoccia[1], and E. Traversa[2] - *[1]Univ. Rome Tor Vergata, NAST and Chemical Science and Technology Dept., Via della Ricerca Scientifica, 00133, Rome, Italy; [2]National Institute for Materials Science, International Research Center for Materials Nanoarchitectonics (MANA), 1-1 Namiki, Tsukuba, 305-0044, Ibaraki, Japan*

17.45 **Tu-pm-D-C2 Phase – Electrostatic Force Microscopy measurements on operating Pentacene Thin Film Transistor**

C. Albonetti[1], G. Olivieri[2], P. Annibale[3] and F. Biscarini[1] - *[1]ISMN – CNR Bologna, Via Gobetti 101, 40129 Bologna, Italy; [2]Elettra Synchrotron, Basovizza SS 14 km 169.5, 34149 Trieste, Italy; [3]LBEN Ecole Polytechnique Federale Lausanne, Station 17, CH-1015 Lausanne, Switzerland*

18:00 **Tu-pm-D-C3 Optically driven reversible matter motion in thin films containing azobenzene derivatives.**

F. Fabbri[1,2], Y. Lassailly [1], S. Monaco[2], J.P. Boilot [1], K. Lahil [1] and J. Peretti [1]
[1]Laboratoire de Physique de la Matière Condensée – Ecole Polytechnique, CNRS, 91128 Palaiseau, France; [2]DIS – Università La Sapienza, Via Ariosto 25, 00185 Roma.

TUESDAY sept 14 - Afternoon

Session Tu-pm-E

T07 - Materials with controlled nanostructure via chemical methods

ROOM E - RETTORATO Building

CHAIRMAN: L. Vayssieres

16.30 ***INVITED*** **- Tu-pm-E-I1 Nanoscale Hollow Spheres: Microemulsion-based Synthesis, Properties and Application**

C. Feldmann[1] - *[1]Karlsruhe Institute of Technology (KIT), Institut für Anorganische Chemie, Engesserstraße 15, Karlsruhe, 76131, Germany*

17.00 ***INVITED*** **- Tu-pm-E-I2 Multiscale modelling of fracture chemo-mechanics in brittle materials**

A. De Vita[1], J. Kermode[1], G. Csanyi[2], M. Payne[3], S. Cereda[1], G. Moras[4], P. Gumbsch[4] and L. Colombi Ciacchi[5] - *[1]King's College London, Physics Department, Strand, London WC2R 2LS, UK; [2]Engineering Laboratory, University of Cambridge, CB2 1PZ, UK; [3]Cavendish Laboratory, University of Cambridge, CB3 0HE, UK; [4]Fraunhofer; Institut fur Werkstoffmechanik, Wohlerstrasse 11, Freiburg 79108, Germany; [5]University of Bremen, Bremen Center for Computational Materials Science, Bremen 28359, Germany*

17.30 **Tu-pm-E-C1 Growth control of C_{60} fullerene nanowhiskers**

K. Miyazawa, K. Hotta, and Y. Akasaka - *National Institute for Materials Science, Fullerene Engineering Group, Tsukuba, Ibaraki 305-0044, Japan*

17.45 **Tu-pm-E-C2 Electrochemical and hydrothermal deposition of ZnO on silicon: from continuous films to nanocrystals**

M. Balucani[1], P. Nenzi[1], E. Chubenko[2], A. Klyshko[2], and V. Bondarenko[2] - *[1] Sapienza Rome University, Electronic Department, Via Eudossiana 18, Rome, 18-00184, Italy; [2] Belarusian State Univ. of Informatics and Radioelectronics, Micro and Nanoelectronics Department, P. Brovka Str. 6, Minsk, 220013, Belarus*

TUESDAY sept 14 - Afternoon

Session Tu-pm-F

T09 - Mechanical properties of nanostructured materials

ROOM F - Chemistry CAGLIOTI building (2nd floor)

CHAIRMAN: R.Z. Valiev / T. Tsakalakos

16.30 ***INVITED*** **- Tu-pm-F-I1 Mechanical Behaviour of Nanostructured Coatings: An Eigenstrain Analysis by EDXRD Synchrotron Probe**

Thomas Tsakalakos[1], E. K. Akdogan[1], M. Croft[2], A. Ignatov[1,2], and Z. Zhong [3] - *[1]Materials Science and Engineering Dept, Rutgers Univ, Piscataway, NJ; 08854; [2]Department of Physics, Rutgers University, Piscataway, NJ 08854; [3]National Synchrotron Light Source, Brookhaven National Laboratory, Upton, NY; 11973. Contact E-mail: tsakalak@rci.rutgers.edu*

17.00 ***INVITED*** **- Tu-pm-F-I2 In situ diffraction study of nanocrystalline metals**

S. Van Petegem[1], H. Van Swygenhoven[1] - *[1]Materials Science and Simulations, NUM/ASQ, Paul Scherrer Institut, CH-5232 Villigen, Switzerland*

17.30 ***INVITED*** **- Tu-pm-F-I3 Mechanical properties and deformation in multi-scale nanostructured materials**

Y.H. Zhao[1], Y. Li,[1] T. Topping[1], Y.T. Zhu[2], R.Z. Valiev[3], E.J. Lavernia[1] - *[1]Department of Chemical Engineering and Materials Science, University of California at Davis, Davis, CA 95616, USA; [2]Department of Materials Science and Engineering, North Carolina State University, Raleigh, NC 27695; [3]Institute of Physics of Advanced Materials, Ufa State Aviation Technical University, Ufa 450000, Russia*

18.00 **Tu-pm-F-C7 Nanotechnology in steelmaking - State of the art**

Taha Mattar - *Egyptian Scientific Counsellor, Egyptian Embassy in Italy; Professor, Central Metallurgical R&D Institute*

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. Kornev[1], A.Tokarev[1], and B. Rubin[1], M.Bedford, J.Ballato[1], Y.Gogotsi[2] - *[1]School of Materials Science & Engineering, Clemson University, 161 Sirrine Hall, Clemson, SC, 29634, USA; [1]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. Herth[1], H. Ebrahimian[1], M. Giesguth[2], C. Budke[3], T. Koop[3], K.-J. Dietz[2], and G. Reiss[1] - *[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. Ensafi[1], 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. Forleo[1], L. Francioso[1], S. Capone[1], F. Casino[1], P. Siciliano[1], H. Huang[2], O.K. Tan[2] - *[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. Zampetti[1], S. Pantalei[1], A. Macagnano[1], S. Scalese[2], C. Spinella[2], A. Bearzotti[1] - *[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. Mosca[1], D. Calestani[1], M. Zha[1], A. Zappettini[1], M. Zanichelli[1], and L. Zanotti[1] - *[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. Tallarida[1], M. Michling[1], K. Kolanek[1], and D. Schmeisser[1] - *[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. Sarto[1] - *[1]Sapienza University of Rome, Research Center on Nanotechnology Applied to Engineering (CNIS), via Eudossiana 18, 00184 Rome, Italy*

WEDNESDAY sept 15 - Morning

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 Corato[1], Smriti R. Deka[2], Alessandra Quarta[1], Nadja C. Bigall[2] - *[1]National Nanotechnology Laboratory of CNR-NANO, via per Arnesano, 73100 Lecce (Italy); [2]Italian Institute of Technology, via Morego 30, 16163, Genova (Italy)*

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

V. Vergaro[1], Z. Zheng[2], X. Zhang[2], D. Vergara[3], C. Bellomo[1], F. Baldassarre[4], F. Scarlino[1], G. Giannelli[4], M. Maffia[3], Y. M. Lvov[2] and S. Leporatti[1] - *[1]NNL-Institute of Nanoscience of CNR, Via Arnesano 73100 Lecce, Italy; [2]Institute for Micromanufacturing, Louisiana Tech University, 911 Hergot Ave, Ruston (Lousiana), USA; [3]Department of Biological and Environmental Science and Technology (Di.S.Te.B.A.), University of Salento, Via Monteroni, 73100 Lecce, Italy; [4]Department 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. Apicella[1], S. Furlan[1,2], D. Dellasega[1], A. M. Frana[4], C.S. Casari[1], M. Soncini[2], M. A. Deriu[3], M.E. Regonesi[4], A. Li Bassi[1], P. Tortora[4],A. Redaelli[2], C. E. Bottani[1] - *[1]Dipartimento di Energia, Politecnico di Milano,Via Ponzio 34/3, 20133 Milan, Italy. [2]Dipartimento di Bioingegneria, Politecnico di Milano, Via Golgi 39, 20133 Milan, Italy. [3]Dipartimento di Meccanica, Politecnico di Torino, Corso Duca degli Abruzzi 24, 10129 Turin, Italy. [4]Dipartimento 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. Girasole[1], S. Dinarelli[1], G. Pompeo[1], G. Longo[1], A. Cricenti[1], A. Bellelli[2], G. Boumis[2] and G. Amiconi[2] - *[1]ISM-CNR, Via Fosso del Cavaliere 100, 00133 Rome, Italy; [2]Dept. 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. Malvindi[1], R. Di Corato[1], R. Mastria[1], M.G. Rimoli[2], A. Tino[3], C. Tortiglione[3], T. Pellegrino[4], A. Ragusa[1] - *[1]National Nanotechnology Laboratory of CNR-INFM, Unità di ricerca IIT and Scuola Superiore ISUFI, Via per Arnesano, 73100 Lecce, Italy; [2]Dep. of Pharm. and Toxicol. Chemistry, School of Pharmacy, University of Naples "Federico II," Naples, Italy; [3]CNR- ICIB, Via Campi Flegrei, 34, 80078 Pozzuoli, Italy; [4]Fondazione IIT, Via Morego 30, 16163 Genova, Italy*

12.15 **We-am-B-C5 Oriented CeO_2 Nanoparticles in PLGA Matrices Guide Stem Cell Alignment and Improve Cell Viability**

C. Mandoli[1], F. Pagliari[2], S. Pagliari[2], G. Forte[2], S. Licoccia[3], P. Di Nardo[2], E. Traversa[1] - *[1]National Institute for Materials Science, Nano-bio, Tsukuba, Ibaraki 305-0044, Japan. [2]University of Rome Tor Vergata, Cardiologia Molecolare e Cellulare, Via della Ricerca Scientifica, Rome 00133, Italy. [3]University of Rome Tor Vergata, Chemical Science and Technology, Via della Ricerca Scientifica, Rome 00133, Italy*

12.30 ***MOVED to FRIDAY Fr-pm-C-C5*** **We-am-B-C6 Synthesis of Core-Shell Magnetic Nanoparticles Fe_3O_4@Cu@Au like a probe for Biomedical Application: Imaging and Drug Delivery**

R. Salvati[1], F. Nepi[1] , G. Doddi[1], M. Barteri[1] - *[1]Università 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*

WEDNESDAY sept 15 - Morning

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. Givord[1] A. Dobrynin[1,*], O. Bourgeois[1], C. Macovei[1], S. Laureti[2], S. Suck[1,†] - [1]*Institut Néel, CNRS-UJF, BP166, 38042 Grenoble-cedex, France;* [2]*ISM - 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. Kozłowski[1], M. Antkowiak[1], G. Kamieniarz[1], G. A. Timco[2], R. J. Pritchard[2], F. Tuna[2] and R. E. P. Winpenny[2] - [1]*Deparment of Physics, A. Mickiewicz University, ul. Umultowska 85, PL-61-614 Poznań, Poland;* [2]*Department 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. Annese[1], J.Fujii[1], I. Vobornik[1], G. Rossi[1,2] - [1]*IOM CNR, Laboratorio TASC, Area Science Park- BASOVIZZA, 34149 Trieste* [2]*Università 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. Mannini[1], L. Margheriti[1], P.-E. Car[1], F. Totti[1], D. Chiappe[2], F. Buatier de Mongeot[2], P. Graziosi[3], I. Bergenti[3], V. A. Dediu[3], Ph. Sainctavit[4], E. Otero[5], A. Cornia[6], and R. Sessoli[1] - [1]*LAMM, Dept. of Chemistry "Ugo Schiff", Università di Firenze & INSTM, 50019 Sesto Fiorentino (Italy);* [2]*Dept. of Physics, University of Genova and CNISM, 16146 Genova (Italy);* [3]*ISMN-CNR, 40129 Bologna (Italy);* [4]*IMPMC, CNRS UMR7590, Université Pierre et Marie Curie, 75252 Paris Cedex 5 (France);* [5]*Synchrotron Soleil, 91192 Gif sur Yvette, France;* [6]*Dept. 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. Donati[1], M. Passoni[1], A. Mairov[1], C.S. Casari[1,2], C.E. Bottani[1,2], G. Fratesi[3], M.I. Trioni[4], A. Li Bassi[1,2] - [1]*Dipartimento di Energia and NEMAS – Center for NanoEngineered MAterials and Surfaces, Politecnico di Milano, via Ponzio 34/3, 20133 Milano, Italy;* [2]*Center for Nano Science and Technology - IIT@PoliMI, via Pascoli 70/3 20133 Milano, Italy;* [3]*Dipartimento di Scienza dei Materiali, Università di Milano-Bicocca, via Cozzi 53, 20125 Milano, Italy;* [4]*CNR-INFM, UdR Milano-Bicocca, via Cozzi 53, 20125 Milano, Italy*

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

M. Corbetta[1], H. Oka[1], S. Ouazi[1], Y. Nahas[1], S. Wedekind[1], D. Sander[1], P. Ignatiev[1], L. Niebergall[1], V. Stepanyuk[1] and J. Kirschner[1] - [1]*Max 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. Donati[1], A. Li Bassi[1,2], C.S. Casari[1,2], C.E. Bottani[1,2], G. Fratesi[3], L. Ning[4], A. Brambilla[5], M. Finazzi[5], F. Ciccacci[5], L. Duò[5], M.I. Trioni[6], M. Passoni[1] - [1]*Dipartimento di Energia and NEMAS – Center for NanoEngineered MAterials and Surfaces, Politecnico di Milano, via Ponzio 34/3, 20133 Milano, Italy;* [2]*Center for Nano Science and Technology - IIT@PoliMI, via Pascoli 70/3 20133 Milano, Italy;* [3]*Dipartimento di Scienza dei Materiali, Università di Milano-Bicocca, via Cozzi 53, 20125 Milano, Italy;* [4]*Department of Phyiscs, Anhui Normal University, Beijing East Road 1, P. R. China;* [5]*Dipartimento di Fisica, Politecnico di Milano, P.za L. Da Vinci 32, 20133 Milano, Italy;* [6]*CNR-INFM, 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. Wehling[3], L. Petaccia[1], S. Lizzit[1], A. Goldoni[1], S. Lebeque[4], O. Eriksson[4], M. I. Katsnelson[5], A. I. Lichtenstein[3], P. Gambardella[6], M. Veronese[7], P. Moras[7], and C. Carbone[7] - [1]*Sincrotrone Trieste SCpA, Trieste, Italy;* [2]*University of Nova Gorica Vipavska 11c, 5270 Ajdovscina, Slovenia;* [3]*Institute for Theoretical Physics, University of Hamburg, Hamburg, Germany;* [4]*Department of Physics and Materials Science, Uppsala University, Uppsala, Sweden;* [5]*Institute for Molecules and Materials, University of Nijmegen, Nijmegen, The Netherlands;* [6]*ICREA and Centre d'Investigacions en Nanociència i Nanotecnologia, Barcelona, Spain;* [7]*Istituto 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. Hernando[1] and M. A. García[2] - [1]*Instituto de Magnetismo Aplicado, UCM-CSIC-ADIF. Las Rozas. P. O. Box 155, Madrid 28230 and Dpmto. Física de Materiales, Universidad Complutense;* [2]*Instituto de Cerámica y Vidrio. CSIC c/Kelsen,5 Madrid 28049 and Dpmto. 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. Schadler[1], D. Dukes[1], B. Natarajan[1], J. Gao[1], B. Benicewicz[2], A. Rungta[2] - *[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 LaF_3 and $LaPO_4$ nanoparticles embedded in PMMA** F. El Haber[1], A. Bouhalouane[2], E. Gautron[1], C. Andraud[3], X. Rocquefelte[1], O. Chauvet[1], G. Froyer[1] - *[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. Ravagnan[1], G. Corbelli[1], C. Ghisleri[1], P. Milani[1] - *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/$L1_0$-FePt exchange-coupled systems** G. Varvaro[1], F. Albertini[2], E.Agostinelli[1], F. Casoli[2], D. Fiorani[1], S. Laureti[1], P. Lupo[2], P. Ranzieri[2], A.M. Testa[1] - *[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 Fornara[1], Carmen Vogt[1], Sergiy Khartsev[2],Shanghua Li[1], Jian Qin[1], Muhammet Toprak[1], Alexander Grishin[2] and Mamoun Muhammed[1] - *[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 $L1_0$ FePt nanoparticles within Carbon Nanotubes by Wet Chemical Procedure** A. Capobianchi[1], D. Fiorani[1], S. Laureti[1], S. Foglia[2] E. Palange[3] - *[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. McCrea[2], D. Facchini[2], and G. Palumbo[2] - *[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. Kolipaka[1], V. Brüser[1], A. Quade[1], H. Wulff[2], and F. Faupel[3] - *[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), Namiki1-1, Tsukuba, Ibaraki 305-0044, Japan*

12.45 ***INVITED*** **- We-am-D-I2 Highly flexible manipulation and dispensing of nano-drops by a pyro-electro-hydrodynamic 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. Chattopadyay - *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. Redón[1], F. Ramírez[1] and A. L. Fernández[2] - *[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. Wang[1], S. F. Lai[2], P. C. Hsao[3], C.K. Lin[3], W. C. Chen[2]. H. H. Chen[1], C. C. Chien[1, 4], Ivan M. Kempson[1], Y. Hwu[1,4,5], G. Margaritondo[6] - *[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 TiO_2** Hanan H. M.[1] and D. W. Bahnemann[1] - *[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. Nalcaci[1], D. Akten[1], H. Bockhorn[1] - *[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 Eu_2O_3 and Gd_2O_3 Nanocrystals and Nanocrystalline Films Fabricated via Electrophoretic Deposition** S. V. Mahajan[1] and J. H. Dickerson[2] - *[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 Lay[1], P. De Padova[2], P. Vogt[3], A. Pietsch[4], F. Hennies[4] and B. Aufray[1] - *[1]CiNaM-CNRS, Campus de Luminy, F-13288 Marseille Cedex 09, France; [2]ISM - CNR, via Fosso de Cavaliere 100, Rome, Italy; [3]Technical University, Berlin, Germany; [4]MAX-Lab, Lund, Sweden*

10.15 **Optical Properties and Ferromagnetism of Ternary Cd1-xMnxTe Nanocrystals**

Guo-Long Tan[1]; Min Wang[1]; Kai Wang[1]; Lin Zhang[1], Xue-Feng Yu[2], Wei Gong[2] - *[1]State Key Lab of Advanced Technology for Materials synthesis and Processing, Wuhan University of Technology, Wuhan 430070, China; [2]Key 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**

I. Berbezier[1], L. Favre[1], M. Aouassa[1,4], G. Amiard[1], A. Ronda[1], K. Gacem[2], A. El Hdyi[2], M. Troyon[2], M. Scarselli[3], P. Castrucci[3], M. De Crescenzi[3], D. Lockwood[4], N. Rowell[4], H. Maaref[5] - *[1]IM2NP, CNRS – Univ. Aix Marseille, Campus St. Jérôme, 13397 Marseille CEDEX 20, Fr ; [2]LMEN, Case 15, UFR Sciences, Université de Reims, Champagne-Ardenne, 51687 Reims Cedex 2, Fr ; [3]Univ. Di Roma 2 Tor Vergata, Via della Ricerca Scientifica , Roma, Italy ; [4]National Research Council of Canada, 1200 Montreal Road, Ottawa, ON K1A 0R6, Canada; [5]LPSCE, Faculté des Sciences de Monastir, Uni. Monastir, 5019 Monastir, Tunisia - isabelle.berbezier@im2np.fr*

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**

Yong Kim[1], J. H. Kim[1], J. H.Jung[1], Z. G. Chen[2], J. Zou[2], and C. Jagadish[3] - *[1]Dept. Physics, Dong-A Univ., Sahagu, Busan 604-714, Korea; [2]Materials Eng. and Centre for Microscopy and Microanalysis, Univ. Queensland, Brisbane, QLD 4072, Australia; [3]Dept. Elec. Materials Eng., Research School of Physics and Engineering, The Australian Nat. Univ., Canberra, ACT0200, Australia*

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

C. Baumgart[1], A.-D. Müller[2], F. Müller[2], M. Helm[1], and H. Schmidt[1] - *[1]Forschungszentrum Dresden-Rossendorf, Institut für Ionenstrahlphysik und Materialforschung, P.O. Box 510119, 01314 Dresden; [2]Anfatec Instruments AG, Melanchthonstr. 28, 08606 Oelsnitz*

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

R. Di Mundo[1], M. Ambrico[2], P.F. Ambrico[2], R. d'Agostino[1], and F. Palumbo[2] - *[1]Department of Chemistry, University of Bari, via Orabona 4, 70126 Bari (Italy); [2]IMIP - 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. Poborchii[1], T. Tada[1,2], Yu. Morita[1,2], T. Kanayama[1,2] and P.I. Geshev[3] - *[1]MIRAI-AIST, Tsukuba Central 4, 1-1-1 Higashi, Tsukuba 305-8562, Japan; [2]NIRC-AIST, Tsukuba Central 4, 1-1-1 Higashi, Tsukuba 305-8562, Japan; [3]Institute 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. Frucci[1], L. Di Gaspare[1], A. Notargiacomo[2], E. Giovine[2], V. Piazza[3], F. Beltram[3] and F. Evangelisti[1] - *[1]Università Roma Tre, Dipartimento di Fisica, Via Vasca Navale 84, 00146 Roma, Italy; [2] IFN-CNR, Via Cineto Romano 42, 00156 Roma, Italy; [3]NEST, Scuola Normale Superiore and Istituto Nanoscienze-CNR, Piazza San Silvestro 12, 56127 Pisa, Italy*

Thursday, Sept. 16 Morning

Plenary lecture
ROOM E – RETTORATO building

CHAIRMAN: M. Venanzi

8.45 **PL07 Nanoengineered Particles for Therapeutic Delivery**

F. Caruso[1] - [1]*Centre for Nanoscience and Nanotechnology, Department of Chemical and Biomolecular Engineering, The University of Melbourne, Melbourne, Victoria - 3010, Australia*

Thursday, Sept. 16 Morning

Session **Th-am-A**

T15 - Organic-inorganic hybrid materials

ROOM A - Physics FERMI building

CHAIRMAN: C. Bellitto

9.45 ***INVITED*** **- Th-am-A-I1 Hybrid Organic Inorganic Quantum Nano- Devices**
Y. Paltiel - *Applied Physics Department, Center for nano science and nano technology, Hebrew University, Givat Ram, Jerusalem 91904, Israel*

10.15 **Th-am-A-C1 Luminescent Mesostructured Hybrid Nanoparticles**
I. Miletto[1,2], E. Bottinelli[1,2], G. Caputo[2,3], S. Coluccia[1,2] and E. Gianotti[1,2] - *[1]University of Torino, Department of Inorganic, Physics and Material Chemistry, Via P.Giuria, 7. 10135 Torino, Italy; [2]NIS (Nanostructured Interfaces and Surfaces) Interdepartmental Centre of Excellence, at the Centre for Innovation, via Quarello 11/a, 10135 Torino, Italy; [3]Cyanine Technologies S.p.A. Via Quarello 11°, 10135 Torino, Italy*

10.30 **Th-am-A-C2 Atomic scale modeling of the polymer P3HT adhesion on inorganic nanostructures (titania, zinc oxide, carbon nanotubes)**
A. Mattoni[1], C. Melis[1,2], C. Caddeo[1,2], L. Colombo[1,2] - *[1]Istituto Officina dei Materiali del CNR UOS SLACS, Monserrato (Ca), Italy; [2]Dipartimento di Fisica, Università di Cagliari, Italy*

Coffee Break

11.15 ***INVITED*** **- Th-am-A-I2 Interface effects on an ultrathin Co film in multilayered stacks based on the organic semiconductor Alq3**
C. Pernechele[1], A.A. Sidorenko[1], I. Bergenti[2],P. Lupo[1], M. Ghidini[1], M. Solzi[1], L. E. Hueso[2], R. De Renzi[1] and V. Dediu[2] - *[1]Department of Physics, University of Parma, V.le G.P. Usberti 7/A, 43124 Parma, Italy, [2]ISMN-Bo CNR, via Gobetti 101, 40129 Bologna, Italy*

11.45 **Th-am-A-C3 Structural Investigation of Nanostructured Magnetic Organic-Inorganic Hybrid Material: A case study**
R. Matassa[1], M. Carbone[2], G. Righini[3], and E. M. Bauer[3] - *[1]Dipartimento di Chimica, Università "Sapienza", P. le A. Moro 5, I-00185 Rome, Italy; [2]Dipartimento di Scienze e Tecnologie Chimiche, Università di Tor Vergata, Via della Ricerca Scientifica 1, 00133 Rome, Italy; [3]ISM - CNR, P.O. Box 10, I-00015 Monterotondo, Italy*

12.00 **Th-am-A-C4 Conductive UV-cured acrylic inks for resistor fabrication: morphology, stability and electrical properties**
A. Chiolerio[1], L. Vescovo[2], and M. Sangermano[2] - *[1]Physics Department, Politecnico di Torino, Corso Duca degli Abruzzi 24, IT-10129 Italy; [2]Materials Science and Chemical Engineering Department, Politecnico di Torino, Corso Duca degli Abruzzi 24, IT-10129 Italy*

12.15 **Th-am-A-C5 Hybrid organic-inorganic sol-gel photoresist for sensing applications**
G. Grenci[1], L. Brigo[2], A. Carpentiero[1], F. Romanato[3,4], M. Tormen[1] and G.Brusatin[2] - *[1]CNR-IOM, Lilit Beamline, Basovizza S.S. 14 km 163.5, 34149 Trieste, Italy; [2]Mechanical Engineering Department - Materials Sector, University of Padova, Via Marzolo 9, 35131 Padova, Italy; [3]Physics Department G. Galilei, University of Padova, Via Marzolo 8, 35131 Padova, Italy; [4]LaNN, Laboratory for Nanofabrication of Nanodevices, Veneto Nanotech, Via San Crispino 106, 35129 Padova, Italy*

12.30 **Th-am-A-C6 Growth of highly oriented AlN on polyimide Kapton tape for wearable pressure sensors**
S. Petroni[1], G. Caretto[2], A. Passaseo[2], M. De Vittorio[1,3] and R. Cingolani[1] - *[1]Istituto Italiano di Tecnologia, Via Barsanti, Arnesano (LE), 73010, Italy; [2]CNR-INFM Distretto Tecnologico-ISUFI, Via Arnesano, 73100 Lecce, Italy; [3]Università del Salento, Via per Arnesano, Lecce, 73100, Italy*

Thursday, Sept. 16 Morning

Session **Th-am-B**

T02 - Nanostructured materials for energy applications

ROOM B - Chemistry CAGLIOTI building (Ground floor)

CHAIRMAN: S. Licoccia

9.45 ***INVITED*** **- Th-am-B-I1 Nanoscale grain refinement and H-sorption properties of MgH_2-based composites processed by severe plastic deformation** W.J. Botta[1], D.R. Leiva[1], Jacques Huot[2], A.M. Jorge Jr[1], C.S. Kiminami[1] and T.T. Ishikawa[1] - *[1]Universidade Federal de São Carlos, Departamento de Engenharia de Materiais, rod. Washington Luiz, km 235, 13565-905, São Carlos, SP, Brazil; [2]Institut de Recherche sur l'Hydrogène, Université du Québec à Trois-Rivières : 3351, Boulevard des Forges, CP500, Trois-Rivières (Québec) G9A5H7, Canada*

10.15 **Th-am-B-C1 Dipole versus aromaticity: towards the gap-state engineering of the ZnO(10-10) surface for optoelectronic applications** A. Calzolari[(1)], A. Ruini[(2,3)], A. Catellani[(4)] - *[(1)]Democritos National Simulation Center, CNR-IOM Officina dei Materiali I-34012 Trieste, Italy; [(2)]S3 National Center, CNR-Istituto di Nanoscienze, Modena Italy; [(3)]Dipartimento di Fisica, Università di Modena e Reggio Emilia, 41100 Modena, Italy; [(4)]CNR-IMEM, I-43100 Parma, Italy*

10.30 **Th-am-B-C2 Autonomous segmented metal oxide/metal nanowires for photocatalytic generation of hydrogen** M.G. Maas, E.J.B. Rodijk, A.W. Maijenburg, D.H.A. Blank, and J.E ten Elshof - *University of Twente, MESA$^+$ Institute for Nanotechnology, P.O. Box 217, 7500 AE Enschede, the Netherlands.*

Coffee break

11.15 **Th-am-B-C3 On the rate limiting step of the hydrogen reaction in catalysed magnesium** A. Montone[1], A. Aurora[1], D. Mirabile Gattia[1] and M. Vittori Antisari[1] - *[1]ENEA Research Center of Casaccia, UTTMAT, Via Anguillarese, 301 – 00123 Rome, Italy*

11.30 **Th-am-B-C4 Polymer–fullerene blends for efficient organic photovoltaics: nanoscale structural /morphological properties and aging effects** B. Paci[1], A. Generosi[1], D. Bailo[1,2], R.de Bettignies[3] and V. Rossi Albertini[1] - *[1]ISM- C.N.R., Via Fosso del Cavaliere 100, 00133 Rome, Italy; [2] Dipartimento di Chimica, Università 'La Sapienza', P.le A. Moro 5, 00185 Roma, Italy [3]Laboratoire Composants Solaires CEA INES-RDI, 50 avenue du lac Léman, 73377 Le Bourget du Lac, France*

11.45 **Th-am-B-C5 Hybrid polymer-CdS solar cell active layers formed by in situ growth of the CdS nanoparticles** S. Masala[1,3], S. Del Gobbo[3], C. Borriello[1], V. Bizzarro[2], C. Minarini[1], T. Di Luccio[1] and M. De Crescenzi[3] - *[1]Italian National Agency for New Technologies, Energy and Sustainable Economic Development (ENEA) , P.le E.Fermi, 80055 Portici, Italy; [2] IMAST Portici, P.le E. Fermi, 80055 Portici, Italy; [3]University of Rome Tor Vergata, Department of Physics, Via della Ricerca Scientifica 1, 00133 Rome, Italy*

12.00 **Th-am-B-C6 Incorporation of metallic nanoparticles in organic photovoltaic devices using carbon nanotubes transparent electrodes** E. Kymakis[1], E. Stratakis[2], E. Koudoumas[1] and C. Fotakis[2] - *[1]Electrical Engineering Dept & Center of Advanced Materials and Photonics, Technological Educational Institute (TEI) of Crete, Heraklion, Greece; [2]Institute of Electronic Structure and Laser, FORTH, Heraklion, Crete, Greece*

12.15 **Th-am-B-C7 Nanoporous hybrid membranes with high stability for energy-efficient molecular separation** H.L. Castricum[1,2], G.G. Paradis,[3] M.C. Mittelmeijer-Hazeleger[1], R. Kreiter[3], D.H.A. Blank[2], J.F. Vente[3], and J.E. ten Elshof[2] - *[1]Univ. of Amsterdam, Van 't Hoff Inst. for Molecular Sciences, Nieuwe Achtergracht 166, 1018 WV Amsterdam, The Netherlands; [2]Univ. Twente, MESA+ Inst. for Nanotechnology, Inorganic Materials Science, P.O. Box 217, 7500 AE Enschede, The Netherlands; [3]Energy research Centre of the Netherlands, Molecular Separation Technology, P.O. Box 1, 1755 ZG Petten, The Netherlands*

12.30 **Th-am-B-C8 Magnesium Nanoparticles for Hydrogen Storage** Luca Pasquini[1], Elsa Callini[1], Emanuela Piscopiello[2], Federico Boscherini[1], Amelia Montone[3], Marco Vittori Antisari[3], Ennio Bonetti[1] - *[1]Dept. of Physics, University of Bologna, Bologna, Italy; [2]C.R. Brindisi, ENEA, Brindisi, Italy [3]C.R. Casaccia, ENEA, Rome, Italy*

12.45 **Tu-pm-B-C9 Nanostructured MgB_2 superconducting wires for energy related applications** G. Grasso, S. Brisigotti, A. Tumino, S. Berta, M. Palombo, V. Cubeda - *Columbus Superconductors SpA, Via delle Terre Rosse 30, Genova, 16133, Italy*

Thursday, Sept. 16 Morning
Session Th-am-C
T26 - Nanomagnetism
ROOM C - CNR

CHAIRMAN: C. CARBONE

9.45 ***INVITED*** **- Th-am-C-I1 Switchable spin-crossover nanoparticles**
E. Coronado[1], M. Monrabal-Capilla[1], M. Giménez-Marqués[1], F. Prins[2], H. S. J. van der Zant[2], J. R. Galán-Mascarós[3] - *[1]Instituto Ciencia Molecular (ICMol), Universidad de Valencia, P.O. Box 22085, Valencia, Spain; [2]Kavli Institute of NanoScience, Delft University of Technology, 2628 CJ Delft, The Netherlands; [3]Institute of Chemical Research of Catalonia (ICIQ). Av. Paisos Catalans, 16. 43007 – Tarragona, Spain*

10.15 **Th-am-C-C1 Mapping the spin texture in exchange-biased IrMn/CoFe with isotope-resolved tracer layers**
L. E. Fernandez-Outon, J. D. Ardisson, and W. A. A. Macedo - *Serviço de Nanotecnologia, Centro de Desenvolvimento da Tecnologia Nuclear, 30123-970 Belo Horizonte, MG, Brazil*

10.30 **Th-am-C-C2 Unexpectedly Long-Range Influence on Thin-Film Magnetization Reversal by a Rectangular Array of FeMn Pinning Films**
Yu.P. Kabanov[1], V. I. Nikitenko[1-2], O.A. Tikhomirov[1], V. Gornakov[1], W.F. Egelhoff[2], A. J. Shapiro[2], R. D. Shull[2] - *[1]Institute of Solid State Physics, RAS, Chernogolovka, 142432 Russia; [2]National Institute of Standards and Technology, Gaithersburg, MD, USA*

Coffee Break

11.15 ***INVITED*** **- Th-am-C-I2 Magnetic nanoparticles: free nanocompass and quantum mechanical rotation**
J. Tejada - *Facultat de Física, Universitat de Barcelona, Diagonal 645, 08028 Barcelona, Spain*

11.45 **Th-am-C-C5 Evidence for interactions among magnetite nanoparticles dispersed in photoreticulated PEGDA-600 matrix**
P. Allia[1], P. Tiberto[2], M. Coisson[2], A. Chiolerio[1], F. Celegato[2], F. Vinai[2], M. Sangermano[1], L. Vescovo[1], L. Suber[3], and G. Marchegiani[1,3] - *[1]Politecnico di Torino DISMIC, Corso Duca degli Abruzzi 24, 10125 Torino, Italy; [2]INRIM, Electromagnetism, Strada delle Cacce 91, 10135 Torino, Italy; [3]ISM - CNR, Area della Ricerca di Roma 1, Via Salaria km 29.500, 00016 Monterotondo Scalo, Italy*

12.00 **Th-am-C-C6 Interface charge transfer in polypyrrole coated perovskite manganite magnetic nanoparticles**
O. Pana[1], N.G. Gheorghe[2], C. Leostean[1], M. L. Soran[1], S. Macavei[1], R. Turcu[1], C.M. Teodorescu[2] - *[1]Natl. Inst. of R&D for Isotopic and Molec. Technol. 65-103 Donath st., 400293 Cluj-Napoca, Romania; [2] Natl. Inst. of R&D for Mater. Phys., 105 Atomistilor st., 077125 Bucharest -Magurele, Romania*

12.15 **Th-am-C-C7 Effect of disorder on the magnetic and magneto-resistive properties of Co antidots prepared by self-assembling of polystyrene nanospheres**
M. Coïsson[1], L. Boarino[1], F. Celegato[1], N. De Leo[1], P. Tiberto[1] and F. Vinai[1] - *[1]INRIM, strada delle Cacce 91, 10135 Torino (TO), Italy*

12.30 **Th-am-C-C3 Effect of Ar ion irradiation on optical and magnetic properties of ZnO nanorods**
B. Panigrahy[1], M. Aslam[2], D.S. Misra[2], and D. Bahadur[1*] - *[1]Department of Metallurgical Engineering & Materials Science, Indian Institute of Technology Bombay, Powai, Mumbai-400 076, India; [2]Department of Physics, Indian Institute of Technology Bombay, Powai, Mumbai-400 076, India. Corresponding author,*

12.45 **Th-am-C-C4 Nanomagnetism in nanocrystalline multiferroic bismuth ferrite lead titanate**
V. Tuboltsev[1], A. Savin[2], W. Sakamoto[3], A. Hieno[3], T. Yogo[3], and J. Räisänen[1] - *[1]Division of Materials Physics, Department of Physics, University of Helsinki, P.O. Box 43, Helsinki 00014, Finland; [2] Low Temperature Laboratory, Aalto University P.O. Box 15100, Aalto 00076, Finland; [3]Division of Nanomaterials Science, EcoTopia Science Institute, Nagoya University, Furo-cho, Chikusa-ku, Nagoya 464-8603, Japan*

Thursday, Sept. 16 Morning

Session Th-am-D

T16 - Nanomaterials for information storage

ROOM D - Physics MARCONI building

CHAIRMAN: J. Fidler

9.45 *INVITED* - **Th-am-D-I1 Magnetic films on templates: A route towards percolated media**
D. Makarov[1], C. Brombacher[1], C. Schulze[1], J. Lee[2], J. Fidler[2], M. Faustini[3], D. Grosso[3], and M. Albrecht[1] - *Institute of Physics, Chemnitz University of Technology, 09107 Chemnitz, Germany; [2]Institute of Solid State Physics, Vienna University of Technology, Vienna, Austria; [3]Laboratoire de Chimie de la Matière Condensée, Collège de France, Paris, France*

10.15 **Th-am-D-C1 Magnetic proximity effect across an MgO barrier in the Fe/MgO/(GaMn)As system**
P. Torelli[1], M. Soda[2], J. Fujii[1], G. Panaccione[1], M. Sperl[2] and H. C. Back[2] - *[1]Istituto IOM-CNR, TASC Laboratory in Area Science Park, S.S. 14, km. 163.5, I-34012 Trieste, Italy; [2]Institut für Experimentelle Physik, Universität Regensburg, D-93040 Regensburg, Germany*

10.30 **Th-am-D-C2 $La_{0.7}Sr_{0.3}MnO_3$ thin films on $SrTiO_3$ and $CaTiO_3$ buffered Si substrates: static and dynamic magnetic properties**
M Belmeguenai[1], S Mercone[1], C Adamo[2], L Méchin[3], P Monod[4], P Moch[1], D G Schlom[2] - *[1]LPMTM (CNRS-UPR 9001), Université Paris 13, 93430 Villetaneuse, France; [2]Department of Materials Science and Engineering, Cornell University, Ithaca, New York 14853-1501, USA: [3]GREYC (CNRS-UMR 6072) ENSICAEN Université de Caen, 6 boulevard Maréchal Juin, 14050 Caen Cedex, France ; [4]LPEM (CNRS-UPR A0005) ESPCI, 10 Rue Vauquelin, F-75231 Paris cedex 5, France*

Coffee Break

11.15 *INVITED* - **Th-am-D-I2 Graded L10-FePt media as candidates for ultrahigh magnetic recording storage beyond 1 Tbit/in^2**
V. Alexandrakis,[1] Th. Speliotis[1], E. Manios[1] and D. Niarchos[1], G. Varvaro[2], E. Agostinelli[2] and A.Testa[2] - *[1]IMS, NCSR Demokritos, Aghia Paraskevi, Attikis, Athens 15310, Greece [2]Istituto di Struttura della Materia – CNR,Area della Ricerca di Roma1,Via Salaria km 29,300, P.O.Box 10 - 00016 Monterotondo Scalo (RM) Italy*

11.45 *INVITED* - **Th-am-D-I3 Laterally-confined hard-soft magnetic media based on $L1_0$ FePt grown on substrates with variable matching**
F. Albertini, F. Casoli, P. Lupo, L. Nasi, S. Fabbrici, P. Ranzieri, R. Cabassi, F. Bolzoni - *CNR - Istituto dei Materiali per l' Elettronica ed il Magnetismo, Parco Area delle Scienze 37/A - 43124 Parma, Italy*

12.15 **Th-am-D-C3 Collapse-revivals of the entanglement between electronic spin and subband states in a Rashba nanoloop**
R. Safaiee[1,2] and M. M. Golshan[1]
[1]Physics Department, Shiraz University, Adabiat Crossing, Shiraz, Iran, 71454; [2]Nanotechnology Research Institute, Shiraz University, Shiraz, Iran

12.30 **Th-am-D-C4 Au-catalyzed self assembly of Ge-Sb-Te nanowires by Metalorganic Chemical Vapour Deposition**
M. Longo[1], C. Wiemer[1], O. Salicio[1], R. Fallica[1], M. Fanciulli[1,2], L. Lazzarini[3], L. Nasi[3] and E. Rotunno[3] - *[1]Laboratorio MDM, IMM-CNR, Unità di Agrate Brianza, , Via C. Olivetti 2, 20041, Agrate Brianza, (MB), Italy; [2]Dipartimento di Scienza dei Materiali, University of Milano-Bicocca, via R. Cozzi, 53, 20125 Milano, Italy; [3]IMEM-CNR, Parco Area delle Scienze 37/A, 43124, Parma, Italy*

Thursday, Sept. 16 Morning

Session Th-am-E

T18 - Nanoparticles

ROOM E - RETTORATO Building

CHAIRMAN: P. Tiberto

9.45 ***INVITED*** **- Th-am-E-I1 Magnetic Nanoparticles: Correlation between Structural and Magnetic Properties**
Jean-Marc Greneche - *Laboratoire de Physique de l´Etat Condensé LPEC, UMR CNRS 6087, Université du Maine, 72085 Le Mans, Cedex 9, France*

10.15 **Th-am-E-C1 Magnetic properties of nanoporous assemblies of $CoFe_2O_4$ nanoparticles with cubic magnetic anisotropy**
S. Laureti[1], G. Varvaro[1], A.M. Testa[1], D. Fiorani[1], E. Agostinelli[1], G. Piccaluga[2], C. Cannas[2], A. Musinu[2], A. Ardu[2], D. Peddis[1, 2] - *[1]ISM - CNR, Area della Ricerca, Via Salaria km 29.500, 00016 Monterotondo Scalo, Italy; [2]Dipartimento di Scienze Chimiche, Università di Cagliari, Cittadella Universitaria di Monserrato, 09042, Cagliari, Italy*

10.30 **Th-am-E-C2 Correlation of Soft Magnetic Properties with microstructure in nanocrystallized Modified FINEMET Alloy $Fe_{68.5}Nb_3Si_{18.5}B_9Cu_1$**
A.P. Srivastava[1], Sandeep Sharma[2], D. Srivastava[1], P. K. Pujari[2], K. G. Suresh[3] and G. K. Dey[1] - *[1]Materials Science Division,Bhabha Atomic Research Centre, Mumbai 400085, India, [2]Radio Chemistry Division, Bhabha Atomic Research Centre, Mumbai 400085, India,[3]Physics department, Indian Institute of Technology, Bombay, Mumbai 400076, India*

Coffee Breaks

11.15 **Th-am-E-C3 Investigation on the phase coexistence in nano-sized (La,Ca)MnO_3 manganites by NPD and magnetic measurements**
A. Martinelli[1], D. Peddis[2,3] V. Caratto[1,4] and M. Ferretti[1,4] - *[1]SPIN - CNR, Corso Perrone 24, 16152 Genova, Italy, [2]ISM - CNR, Area della Ricerca, Via Salaria km 29.500, 00016 Monterotondo Scalo, Italy, [3]Dipartimento di Scienze Chimiche, Cittadella Universitaria di Monserrato, bivio per Sestu, 09042, Monserrato, Italy, [4]Dipartimento di Chimica e Chimica Industriale, Università di Genova, Via Dodecaneso 31, 16146 Genova, Italy*

11.30 **Th-am-E-C4 In situ Small Angle X ray Scattering study of silver nanocrystals formation in a template of polynaphthalene polymer aqueous solutions**
G. Campi[1], A. Mari[2], Heinz Amenitsch[3], A. Pifferi[1] and L. Suber[2] - *[1]IC-CNR, Area della Ricerca, Via Salaria km 29.300, 00015 Monterotondo Scalo - Roma, Italy; [2]ISM-CNR, Area della Ricerca, Via Salaria km 29.300, 00015 Monterotondo Scalo - Roma, Italy; [3]Institut of Biophysics and Nanosystems Research, Austrian Academy of Sciences, Schmiedlstrasse 6, 8042 Graz, Austria*

11.45 **Th-am-E-C5 Structural characterization of the supported gold nanoclusters determined by EXAFS and XRD methods**
V. Rednic[1], N. Aldea[1] and F. Matei[2] - *[1]National Institute for Research and Development of Isotopic and Molecular Technologies, Donath 65-193, 400293 Cluj-Napoca, Romania; [2]University of Agricultural Sciences and Veterinary Medicine Cluj-Napoca, Romania*

12.00 **Th-am-E-C6 Mesoscopic phenomena in oxide nanoparticles systems: growth, consolidation and sintering**
T.E. Konstantinova, I.A. Danilenko, V.A. Glazunova, and G.K. Volkova - *Donetsk Institute of Physics and Engineering NAS of Ukraine, R.Luxemburg str. 72, Donetsk, 83114, Ukraine*

12.15 **Th-am-E-C7 The effect of oxidation on surface-near relaxation in transition metal nanoparticles**
B. Bieniek[1], D. Pohl[1], L. Schultz[1]and B. Rellinghaus[1] - *[1]IFW Dresden, P.O. Box 270116, D-01171 Dresden, Germany*

12.30 **Th-am-E-C8 AFM-based study on controlling nanocluster dynamics on graphite**
M. Rovatti [1,2], G. Paolicelli [2], and S. Valeri [1,2] - *[1]Università di Modena e Reggio Emilia, Dipartimento di Fisica, Via Campi 213/A, 41125, Modena, Italy; [2]CNR-Istituto di Nanoscienze, Centro di Ricerca S3, Via Campi 213/A, 41125, Modena, Italy*

12.30 **Th-am-E-C8 Improving Aggregation Stability of Silver Nanoparticles by Surfactants and Polymers**
L. Kvitek[1], R. Prucek[1], A. Panacek[1], J. Soukupova[1], and R. Zboril[1,2] - *[1]Palacky University, Department of Physical Chemistry, Tr. 17. Listopadu 12, 77146 Olomouc, Czech Republic; [2]Palacky University, Centre for Nanomaterial Research, Slechtitelu 11, 78346 Olomouc, Czech Republic*

Thursday, Sept. 16 Morning

Session Th-am-F

T25 - Nanostructured semiconductors

ROOM F - Chemistry CAGLIOTI building (2nd floor)

CHAIRMAN: I. Berbezier

9.45 ***INVITED*** **- Th-am-F-I1 Nanostructure by high-energy XRD and atomic pair distribution functions**
Valeri Petkov - *Dept. Physics, CMU, Mt. Pleasant, MI 48858*

10.15 **Th-am-F-C1 Electron confinement in silicon nanoribbons grown on the Ag(110) surface**
F. Ronci[1], S. Colonna[1], P. Gori[1], A. Cricenti[1], P. De Padova[1], C. Ottaviani[1], C. Quaresima[1], B. Aufray[2], G. Le Lay[2] - *[1]ISM-CNR, via del Fosso del Cavaliere, 00133 Roma, Italy; [2]CINaM-CNRS, Campus de Luminy, Case 913, 13288 Marseille Cedex 9, France*

10.30 **Th-am-F-C2 Correlation between chemical structure and electrical properties in sol-gel derived Al-doped zinc oxide thin films**
B. Nasr, S. Dasgupta, D. Wang, R. Kruk, and H. Hahn - *Karlsruhe Institute of Technology (KIT), Institute of Nanotechnology, Hermann-von-Helmholtz Platz 1, 76344 Eggenstein-Leopoldshafen, Germany*

Coffee Break

11.15 ***Th-am-F-C3*** **A. Telegin WITHDRAWN Replaced by:**
11:15 **Niobium doped titania nanoparticles: synthesis, assembly into mesoporous films and electrical conductivity**
Y. Liu1, J. M. Szeifert1, J. M. Feckl1, B. Mandlmeier1, J. Rathousky2, O. Hayden3, D. Fattakhova-Rohlfing1*, T. Bein1*
1Department of Chemistry and Center for NanoScience (CeNS), University of Munich (LMU), Butenandtstr. 5-13, 81377 Munich, Germany; 2J. Heyrovský Institute of Physical Chemistry, v.v.i., Academy of Sciences of the Czech Republic, Dolejskova 3, 18223 Prague 8, Czech Republic; 3Siemens AG, Corporate Technology, Günther-Scharowsky-Str. 1, 91050 Erlangen, Germany

11.30 **Th-am-F-C4 Role of hydrogen in metal oxide nanotubes**
M. Kumar,[1] K.V. Lakshmi,[2] and J.P. Singh[1] - *[1]Department of Physics, Indian Institute of Technology Delhi, Hauz Khas, New Delhi-110016, India; [2]Department of Chemistry and Chemical Biology and The Baruch '60 Center for Biochemical Solar Energy Research, Rensselaer Polytechnic Institute, 110 8th Street, Troy, NY 12180, USA*

11.45 **Th-am-F-C5 Quantum transport in a core-shell GaAs/AlGaAs nanowire**
D. Lucot, F. Jabeen, J.-C. Harmand, G. Faini, D. Mailly - *Laboratoire de Photonique et de Nanostructures – CNRS, Route de Nozay, 91460 Marcoussis, France*

12.00 **Th-am-F-C6 Understanding and controlling the MOVPE growth and optical properties of GaAs-AlGaAs core-shell nanowires**
I. Miccoli[1], P. Prete[2], F. Marzo[1], and N. Lovergine[1] - *[1]Università del Salento, Dipartimento di Ingegneria dell'Innovazione, S.P. 6 Lecce-Monteroni, 73100 Lecce, Italy; [2]IMM - CNR, Unità di Ricerca di Lecce, S.P. 6 Lecce-Monteroni, 73100 Lecce, Italy*

12.15 **Th-am-F-C7 STM study of sub-monolayer Mn deposition on GaAs(001) and InAs/GaAs(001) quantum dots**
S. Colonna[1], F.Ronci[1], A. Cricenti[1], E. Placidi[1,2], F. Arciprete[2], A. Balzarotti[2] - *[1]CNR Istituto di Struttura della Materia Via del Fosso del Cavaliere, 100 00133 Rome, Italy; [2]Dipartimento di Fisica, Università di Roma ''Tor Vergata'', Via della Ricerca Scientifica 1, 00133 Roma, Italy*

12.30 **Th-am-F-C8 Nano-Raman measurements on single and ensemble GaN and InN nanowires: a comparison**
T. Stoica[1], E.O. Schäfer-Nolte[1], E. Sutter[2], P. Sutter[2], R. Calarco[1], and D. Grützmacher[1] - *[1]Institute of Bio-and Nanosystems (IBN-1) and JARA-FIT, Forschungszentrum Jülich, 52425 Jülich, Germany; [2]Center for Functional Nanomaterials, Brookhaven National Laboratory, Upton, New York 11973, USA*

Thursday, Sept. 16 Afternoon

Plenary lecture
ROOM E – RETTORATO building

CHAIRMAN: F. Bechstedt

14.15 ***P*L08 Nanofriction and nanocontact conductance: classical and quantum surprises**

E. Tosatti - *SISSA, CNR-IOM Democritos, and ICTP , Trieste, Italy*

Thursday, Sept. 16 Afternoon

Session Th-pm-A

T15 - Organic-inorganic hybrid materials

ROOM A - Physics FERMI building

CHAIRMAN: C. Pernechele

16.30 **Th-pm-A-C1 Controlling the magnetic properties of a single phthalocyanine molecule through its strong coupling with a semiconductor**
A. Amore Bonapasta[1], G. Mattioli[1,2], F. Filippone[1], and P. Alippi[1] - *[1]ISM - CNR, Area della Ricerca, Via Salaria km 29.500, 00016 Monterotondo Scalo, Italy; [2]Università degli studi di Roma "La Sapienza", P.le A. Moro 2, 00185 Roma, Italy*

16.45 **Th-pm-A-C2 Bonding configuration of pyrrole molecules adsorbed on different GaAs(001) surface reconstructions studied by STM and STS**
T. Bruhn[1,2], E. Speiser[2], B. O. Fimland[3], M. Kneissl[1], N. Esser[1,2] and P. Vogt[1] - *[1]TU Berlin, Institut für Festkörperphysik, Hardenbergstr.36, 10623 Berlin, Germany; [2]Leibniz-Institut für Analytische Wissenschaften – ISAS, Albert-Einstein-Str.9, 12489 Berlin, Germany; [3]Department of Electronics and Telecommunications, NTNU, NO-7491 Trondheim, Norway*

17.00 **Th-pm-A-C3 Surface enhanced Raman Effect of ultra-thin CuPc films employing periodic silver nanostructures prepared by nanosphere lithography**
M. Ludemann[1], O. D. Gordan[1], and D. R. T. Zahn[1] - *[1]Chemnitz University of Technology, Semiconductor Physics, Reichenhainer Str. 70, Chemnitz, 09126, Germany*

17.15 **Th-pm-A-C4 FePc and CoPc ordered chains on the Au(110) surface: symmetry of the interacting states**
Riccardo Frisenda[1], Pierluigi Gargiani[1], Albano Cossaro[2], Alberto Verdini[2], Luca Floreano[2], Roberto Biagi[3], Carlo Mariani[1] and Maria Grazia Betti[1] - *[1]Dipartimento di Fisica Università di Roma "La Sapienza", p.le Aldo Moro 5, 00185 Roma [2]IOM-CNR, Laboratorio Nazionale TASC, Basovizza SS-14, Km 163.5, I-34012 Trieste [3]Università di Modena e Reggio Emilia Via G. Campi 213/a I-41100 Modena*

17.30 **Th-pm-A-C5 Fully-fluorinated tetraphenylporphyrin and 3C-SiC nanowires: a novel hybrid material for biomedical applications**
Filippo Fabbri[1], Francesca Rossi[1], Giovanni Attolini[1], Giancarlo Salviati[1], Salvatore Iannotta[1], Lucrezia Aversa[2], Roberto Verucchi[2], Marco Nardi[2] - *[1]IMEM-CNR Institute, Parco Area delle Scienze 37/A, 43124 Parma (Italy); [2]IFN-CNR Institute, Via alla Cascata 56/C – Povo, 38123 Trento (Italy)*

17.45 **Th-pm-A-C6 UHV In situ Fe-Tetraphenylporphyrin complex formation: XPS and NEXAFS studies with Synchrotron Radiation**
G. Di Santo[1], C. Castellarin-Cudia[1], P. Borghetti[2], M. Fanetti[1], B. Taleatu[1], L. Floreano[3], A. Cossaro[3], A. Verdini[3], F. Bondino[3], E. Magnano[3] and A. Goldoni[1] - *[1]Sincrotrone Trieste S.C.p.A, s.s. 14 km 163,5, 34149 Trieste, Italy; [2]Dip. di Matematica e Fisica, Univ. Cattolica del Sacro Cuore, Via dei Musei 41, 25121 Brescia, Italy; [3]Istituto Officina dei Materiali-CNR, Lab. TASC, s.s. 14 km 163,5, 34149 Trieste, Italy*

Thursday, Sept. 16 Afternoon

Session Th-pm-B

T02 - Nanostructured materials for energy applications

ROOM B - Chemistry CAGLIOTI building (Ground floor)

CHAIRMAN: W.J. Botta

16.30 **Th-pm-B-C1 Strong thermoelectric effect in carbon nanostructures**

E. Eydelman[1,2], A. Vul`[1] - *[1]Ioffe Physical-Technical Institute of the Russian Academy of Sciences, 26 Polytechnicheskaya st., St.-Petersburg, 194021, Russia; [2]St.-Petersburg Chemical-Pharmaceutical Academy, 14 Professor Popova st., St.-Petersburg, 197376, Russia*

16.45 **Th-pm-B-C2 Novel Hybrid Solar Cells architecture based on quasi-1D hierarchical TiO_2 nanostructures**

F. Di Fonzo[1], E. Canesi[1], R. Sturini[2], A. Petrozza[1], R.S.S. Kumar[1], C.S. Casari[1,4], C. Bertarelli[1,2], C.E. Bottani[1,4], G. Lanzani[1,3], A. Li Bassi[1,4] - *[1]Center for Nano Science and Technology - IIT@PoliMI, Via Pascoli 70/3, 20133 Milano (Italy); [2]Dipartimento di Chimica, Materiali e Ing. Chimica "G. Natta", Politecnico di Milano, Piazza L. Da Vinci 32, 20133 Milano (Italy); [3]Dipartimento di Fisica, ULTRAS INFM-CNR, Politecnico di Milano, Piazza L. Da Vinci 32, 20133 Milano (Italy); [4]Dipartimento di Energia and NEMAS – Center for NanoEngineered Materials and Surfaces, Politecnico di Milano, Via Ponzio 34/3, 20133 Milano (Italy)*

17.00 **Th-pm-B-C3 Improved Photovoltaic Performance of Heterostructured Tetrapod-Shaped CdSe/CdTe Nanocrystals Using C60 Interlayer**

G. Gigli[1], R.Mastria[2], L.Yanqin[2], A. Fiore[2] and L. Manna[3] - *[1]CNR-NNL Nanoscience Institute, Innovation Engineering Department, University of Salento, Via Arnesano 16, 73100 Lecce, Italy; [2]CNR-NNL Nanoscience Institute, Via Arnesano 16, 73100 Lecce, Italy; [3]Italian Istitute of Technology (IIT), Via Morego 30, 13163 Genova, Italy*

17.15 **Th-pm-B-C4 Dye-sensitizing of nanostructured TiO_2/AZO transparent electrodes by self-assembly of functionalized photoactive molecules**

G. Pellegrino[1], A. Alberti[1], A. Sciuto[1], G. G. Condorelli[2] and V. Privitera[1] - *[1]Istituto per la Microelettronica e Microsistemi (CNR-IMM), Zona Industriale VIII Strada 5, 95121 Catania, Italy; [2]Università degli Studi di Catania, Viale A. Doria 6, 95125 Catania, Italy*

17.30 **Th-pm-B-C5 Orientation dependent optical and electrical properties of self assembled semiconductor core-shell nanorod arrays**

Roman Krahne[1], Anna Persano[2], Adriano Cola[2] , and Liberato Manna[1] - *[1]IIT- Italian Institute of Technology, Via Morego 30, 16163 Genova, Italy [2]IMM-CNR, Institute for Microelectronics and Microsystems – Unit of Lecce, Via Monteroni, I-73100 Lecce, Italy*

17.45 **Th-pm-B-C6 Low core losses of FeSiBPCu nanocrystalline alloys with high B_s of 1.8-1.9 T**

A. Makino[1], A. Urata[2], H. Matsumoto[2], S. Yoshida[2], T. Kubota[1], and A. Inoue[3] - *[1]Institute for Materials Research, Tohoku University, 2-1-1 Katahira, Sendai 980-8577, Japan; [3]NEC TOKIN Corporation, 6-7-1 Kohriyama, Sendai 982-8510, Japan; [2]Tohoku University, 2-1-1 Katahira, Sendai 980-8577, Japan*

Thursday, Sept. 16 Afternoon

Session Th-pm-C

T03 - Environment + T20 - Nanotoxicology

ROOM C - CNR

CHAIRMAN: L. Ghibelli

16.30 ***INVITED*** **- Th-pm-C-I1 Nanotoxicology - Biological Principles and Methodological Flaws**

H.F. Krug[1], C. Hirsch[2] and P. Wick[2] - *Empa - Swiss Federal Laboratories for Materials Science and Technology, [1]Department Material meets Life, [2]Materials-Biology Interactions Laboratory, Lerchenfeldstr. 5, CH-9014 St. Gallen, Switzerland*

17.00 **Th-pm-C-C1** ***Evaluation of toxicity effect of the gold nanoparticles and QDs in Drosophila melanogaster***

G. Vecchio[1], A. Galeone[1], V. Brunetti[1], G. Maiorano[1], M.A. Malvindi[1], S. Sabella[1], R. Cingolani[1,2] and P.P. Pompa[1] - [1]Italian Institute of Technology, Center for Bio-Molecular Nanotechnology, Via Barsanti, 1 – 73010 Arnesano (Lecce); [2]Italian Institute of Technology, Central Research Laboratories, Via Morego, 30 – 16136 Genova, Italy

17.15 **Th-pm-C-C2 Antimicrobial activity of silver nanoparticles in relation to their toxicity**

A. Panacek[1], L. Kvitek[1], R. Prucek[1], M. Kolar[2] and R. Zboril[1] - *[1]Department of Physical Chemistry, Faculty of Science, Palacky University, Tr. 17. listopadu 12, Olomouc, 77146, Czech Republic; [2]Department of Microbiology, Faculty of Medicine and Dentistry, Palacky University, Hnevotinska 3, Olomouc, 77515, Czech Republic*

17.30 **Th-pm-C-C3 Removal of metal ions from water using functionalized magnetic nanoparticles: particle size and solution salinity effects**

P. Figueira[1], C. Lopes[1], A. Daniel-da-Silva[1], M. Otero[1], E. Pereira[1], T.Trindade[1] - *[1]CICECO & CESAM, Chemistry Department, University of Aveiro, 3810-193 Aveiro, Portugal*

17.45 **Th-pm-C-C4 Fabrication of nano-sized ferroalloys from industrial wastes by thermal techniques**

K.S. Abdel-Halim[1], M. Bahgat[1], M.H. Khedr[2], O.A. Fouad[1], M. Rashad[1] and A. Zaki[2] - *[1]Central Metallurgical R & D Institute, CMRDI, P.O. Box: 87 Helwan, Cairo, Egypt; [2]Materials Chemistry Dept, Faculty of Science, Beni Suef University, Egypt*

Thursday, Sept. 16 Afternoon

Session Th-pm-D

T10 - Modelling and simulation of nanostructures

ROOM D - Physics MARCONI building

CHAIRMAN: F. Bechstedt

16.30 ***INVITED*** **- Th-pm-D-I1 Electronic and optical properties of graphane and related 2-D systems**

P. Gori[1], M. Marsili[2], V. Garbuio[2], and O. Pulci[2] - *[1]ISM - CNR, Via del Fosso del Cavaliere, Rome, Italy; [2]ETSF, Dept. of Physics University of Rome Tor Vergata, Via della Ricerca Scientifica 1, I-00133 Rome, Italy*

17.00 **Th-pm-D-C1 First principle study of Fe doped graphene nanoribbons**

Narjes Gorjizadeh[1], Yoshiyuki Kawazoe[1] - *Institute for Materials Research, Tohoku University, Sendai 980-8577, Japan*

17.15 **Th-pm-D-C2 Phonon-Induced Breakdown of Quasi Particle Approximation in Conjugated Polymers**

E. Cannuccia, A. Marini - *Department of Physics, University of Rome "Tor Vergata", Via della Ricerca Scientifica 1, Roma (Italy)*

17.30 *17.30* **Th-pm-D-C4 Energy spectra of a particle confined in a pyramid well**

T. Torchynska Yu.V. Vorobiev[1], V.R. Vieira[2], P. Ribeiro[2], P.M. Gorley[3], P.P. Horley[4,2], J. González-Hernández[4], T.V. Torchynska[5] and A. Diaz Cano[1,5] - *[1]Unidad Querétaro del CINVESTAV-IPN, Querétaro 76230, Mexico; [2]CFIF IST, Lisboa 1049-001, Portugal; [3]Yuri Fedkovych Chernivtsi National University, Chernivtsi 58012, Ukraine; [4]CIMAV Chihuahua / Monterrey, Av. Miguel de Cervantes 120, Chihuahua 31109, Mexico; [5]Department of Physics, ESFM-IPN, México D.F. 07738, Mexico*

17:45 **Th-pm-D-C4 Competition between defect formation, stress, and chemical bonding at the nanoscale: the curious case of GaSb(001)**

Conor Hogan, Rita Magri, Rodolfo Del Sole
CNR-ISM Rome, ETSF and Department of Physics "Tor Vergata" Roma. Italy

Thursday, Sept. 16 Afternoon

Session Th-pm-E

T07 - Materials with controlled nanostructure via chemical methods

ROOM E - RETTORATO Building

CHAIRMAN: D. Peddis

16.30 **Th-pm-E-C1 Emergent behaviour in metal nanorod arrays**
Pushan Ayyub - *Department of Condensed Matter Physics & Materials Science, Tata Institute of Fundamental Research, 1 Homi Bhabha Road, Mumbai 400005, India*

16.45 **Th-pm-E-C2 Nanoparticle heterostructures: Selective growth of metal dots onto dihexagonal pyramidal CdSe nanocrystals**
M. Meyns[1], N. G. Bastús[1], Y. Cai[1], A. Kornowski[1], B. H. Juárez[2] and C. Klinke[1] - *[1]Institute of Physical Chemistry, University of Hamburg, Grindelallee 117, 20146 Hamburg, Germany. [2]IMDEA Nanociencia, Avda. Fco. Tomás y Valiente 7, 28049 Cantoblanco, Madrid, Spain*

17.00 **Th-pm-E-C3 Nanotexturing of transparent polymers with plasma etching: configuring topography for low reflectivity**
R. Di Mundo[1], M. Troia[1], F. Palumbo[2], and R. d'Agostino[1,2,3] - *[1]Dipartimento di Chimica, Università degli Studi di Bari Aldo Moro; [2]Istituto di Metodologie Inorganiche e dei Plasmi, CNR; [3]Plasma Solution s.r.l. via Orabona, 4 -70126 Bari (Italy)*

17.15 **Th-pm-E-C4 Synthesis of oxide nanoparticles with controlled structure by precipitation technique and physical actions**
I. Danilenko[1], T.Konstantinova[1], G. Volkova[1], V. Glasunova[1] - *[1]Donetsk Institute of Physics and Engineering NAS of Ukraine, Material science department, R.Luxemburg str. 72, Donetsk, 83114, Ukraine*

17.30 **Th-pm-E-C5 Effect of thiourea on pulse electrodeposition of Nanocrystalline copper**
K. Shravan Kumar[1], Krishanu Biswas[1] and R. Balasubramaniam[1] - *[1]Dept. of Material and Mett. Engg., Indian Institute of Technology Kanpur, Kanpur, 208016, India*

17.45 **Th-pm-E-C6 Nano structured CuO for Gas Sensors**
Soumee Chakraborty[1], Arindam Das[1], Sandip Dhara[1], V. N. Singh[3], Rigana Begum[2], A. K. Tyagi[1], B. R. Mehtha[3] - *[1]SND,Indira Gandhi Centre for Atomic Research, Kalpakkam, [2]Pondicherry University, Pondicherry, [3]Department of Physics, IIT Delhi, New Delhi, India*

Thursday, Sept. 16 Afternoon

Session Th-pm-F

T19 - Carbon nanotubes and graphene

ROOM F - Chemistry CAGLIOTI building (2nd floor)

CHAIRMAN: K. Miyazawa

16.30 ***INVITED*** **- Th-pm-F-I1 Edge state and magnetic properties of nanographene**
Toshiaki Enoki - *Department of Chemistry, Tokyo Institute of Technology, Ookayama, Meguro-ku, Tokyo 152-8551, Japan*

17.00 **Th-pm-F-C1 Superlattice of resonator on monolayer graphene created by intercalated gold nanoclusters**
L. Simon[1], M. Cranney[1], F. Vonau[1], D. Aubel[1], P. Pillai[2], M.M. De Souza[2] - *[1]Institut de Sciences des Matériaux de Mulhouse LRC 7228-CNRS, 4, rue des Frères Lumières, 68093 Mulhouse, France ; [2]Department of Electronic and Electrical Engineering, Mappin Building, Mappin Street, Sheffield S1 3JD, UK*

17.15 **Th-pm-F-C2 Rapid identification of graphene flakes: Alumina does it better**
P. De Marco[1,2], F. Bisti[1], S. Prezioso[1], M. Donarelli[1], M. Nardone[2], A. Del Vitto[3], M. Alessandri[3], S. Santucci[1,2], L. Ottaviano[1,2] - *[1]Dipartimento di Fisica, Università dell'Aquila, Via Vetoio, 67100, Coppito-L'Aquila, Italy; [2]CNR-SPIN L'Aquila, Via Vetoio, 67100, Coppito-L'Aquila, Italy; [3]Numonyx Agrate Brianza, Milano, Italy*

17.30 **Th-pm-F-C3 Core level dispersion in graphene**
S. Lizzit[1], G. Zampieri[2], L. Petaccia[1], R. Larciprete[3], P. Lacovig[1,4], E. D. L. Rienks[5], G. Bihlmayer[6], A. Baraldi[4,7] and P. Hofmann[5] - *[1]Sincrotrone Trieste SCpA, Trieste, Italy [2]Centro Atomico Bariloche and Inst. Balseiro, CNEA, Bariloche, Argentina, [3]CNR-Institute for Complex Systems, Rome, Italy, [4]Univ. of Trieste-Physics Dept. and CENMAT, Trieste, Italy, [5]E.D.L., Inst. for Storage Ring Facilities and Interdisciplinary Nanoscience Center, Aarhus, Denmark, [6]Inst. für Festkörperforschung, Forschungszentrum Jülich, Jülich, Germany, [7]CNR-IOM Lab. TASC, Trieste, Italy*

17.45 **Th-pm-F-C4 Tuning the Electronic Properties of Graphene by Substrate Interaction and Perturbing Potentials: an Angle-Resolved Photoemission and Scanning Tunnelling Microscopy Study**
M. Papagno[1], S. Rusponi[2], D. Pacilé[1,3], D. Topwal[4,5], P. Moras[1], P. M. Sheverdayeva[5], F. D. Natterer[2], A. Lehnert[2], S. Vlaic[2], M. Etzkorn[2], E. Frantzeskasis[2], S. Pons[2,6], M. Grioni[2], H. Brune[2], and C. Carbone[1] - *[1]ISM – CNR, Basovizza, Trieste, Italy; [2]IPMC, Ecole Polytechnique Fèdèrale de Lausanne (EPFL), Lausanne, Switzerland; [3]INFN, Università della Calabria, Rende, Cosenza, Italy; [4]International Center for Theoretical Physics, Trieste, Italy; [5]Sincrotrone Trieste Scpa, Trieste, Italy; [6]IJL, Nancy Université-CNRS, France*

Friday, Sept. 17 Morning

Plenary lecture
ROOM E – RETTORATO building

CHAIRMAN: R. D. Shull

8.45 **PL09 The First 15 Years of Nanoimprint Lithography – An Enabling Engine to Nanotechnology**
Stephen Y. Chou - *NanoStructure Laboratory, Department of Electrical Engineering, Princeton University, Princeton, New Jersey, USA; Founder and Chairman, Nanonex Corporation, New Jersey, USA*

Friday, Sept. 17 Morning
Session Fr-am-A
T06 - Nanofabrication
ROOM A - Physics FERMI building

CHAIRMAN: G. Faini

9.45 ***INVITED* - Fr-am-A-I1 Nanofabrication by combining top-down and bottom-up approaches**
L. Vila[1,2] - [1]*Laboratoire Nanostructures et Magnétisme, Institut Nanosciences et Cryogénie, 17 rue des martyrs, 38054 Grenoble Cedex;* [2]*Université Joseph Fourier, Grenoble*

10.15 **Fr-am-A-C1 Soft UV-NIL at 20 nm scale using flexible bilayer stamp casted on HSQ master mold**
A. Cattoni, E. Cambril, D. Decanini, G. Faini, A. M. Haghiri-Gosnet - *CNRS - Laboratoire de Photonique et de Nanostructures, 91460 Marcoussis, France*

10.30 **Fr-am-A-C2 A novel approach to low-cost fabrication of organic-based lasers for optical communications using a versatile table-top X-ray Interference Nano-Lithography tool**
S. Prezioso[1], M. Donarelli[1], F. Bisti[1], P. De Marco[1], S. Santucci[1], L. Palladino[1], S. Penna[2], A. Reale[2], and L. Ottaviano[1] - [1]*Università dell'Aquila, Dipartimento di Fisica, Via Vetoio, 67100 L'Aquila, Italy;* [2]*Dipartimento di Ingegneria Elettronica, Università di Roma "Tor Vergata", Viale Politecnico I, 00133, Roma, Italy*

Coffee Break

11.15 ***INVITED* - Fr-am-A-I2 Nanostructured scaffolds for nervous tissue regeneration**
F. Gelain[1,2], D. Cigognini[1,2], A. Caprini[1,2], D. Silva[1,2], F. Taraballi[1,2] and A. Vescovi[1,2] - [1]*Center for Nanomedicine and Tissue Engineering, A.O. Ospedale Niguarda Ca' Granda, Piazza dell'Ospedale Maggiore 3, 20162, Milan, Italy;* [2]*Biosciences and Biotechnology Department, University of Milan-Bicocca, Piazza della Scienza 2, 20126, Milan, Italy*

11.45 **Fr-am-A-C3 Production of Micro/Nano-structured surfaces and devices by combining 2D molecular self-assembly and standard micro-fabrication processes and their applications in biotechnology**
R. Pugin[1], N. Blondiaux[1], A.M. Popa[1], M.J.K. Klein[1,2], F. Montagne[1], M. Giazzon[1], G. Weder[1], B. Wenger[1], M. Liley[1], H. Heinzelmann[1] - [1]*Swiss Center for Electronics and Microtechnology (CSEM SA); Jaquet-Droz 1, Case Postale CH-2002 Neuchâtel, Switzerland;* [2]*Microsystems Laboratory LMIS1, EPFL, CH-1015 Lausanne, Switzerland*

12.00 **Fr-am-A-C4 Synthesis of Titanium nanofibers, nanospheres and nanodiscs using femtosecond laser material processing**
M. Alubaidy[1], K. Venkatakrishnan[1], B. Tan[2], and Abdulsalam Mahmood[1] - [1]*Department of Mechanical Engineering, Ryerson University, 350 Victoria Street, Toronto, Ontario, M3N 2H8, Canada;* [2]*Department of Aerospace Engineering, Ryerson University, 350 Victoria Street, Toronto, Ontario, M3N 2H8, Canada*

12.15 **Fr-am-A-C5 Direct laser writing for the realization of micro- and nano-structures in microfluidic devices**
N. Rossetto[1], I. Fortunati[1], R. Signorini[1], C. Ferrante[1], G. Della Giustina[2], G. Brusatin[2], M. Guglielmi[2], V. Tagliazucca[3], S. Dirè[3], E. Sorato[4], D. Guidolin[4], G. Albertin[4] - [1]*Università di Padova, Dip. Scienze Chimiche, via Marzolo, 1, 35131 Padova, Italy;* [2]*Università di Padova, Dip. Ing. Meccanica, Sett. Materiali, via Marzolo, 9, 35131 Padova, Italy;* [3]*Università di Trento, Dip. Ing. dei Materiali, via Mesiano, 77, 38050 Trento, Italy;* [4]*Università di Padova, Dip. Anatomia e Fisiologia Umana, via Gabelli, 65, 35131 Padova, Italy*

12.30 **Fr-am-A-C6 Atomic layer deposition based stamp fabrication for UV nanoimprint lithography**
M. Klonner , M. Ali, S. Suihkonen, M. Sopanen, and H. Lipsanen - *Aalto University School of Science and Technology, Department of Micro and Nanosciences, Tietotie 3, 02150 Espoo, Finland*

Friday, Sept. 17 Morning

Session Fr-am-B

T01 - 2D molecular self assembling on surfaces and surface functionalization

ROOM B - Chemistry CAGLIOTI building (Ground floor)

CHAIRMAN: M. Venanzi

9.45 ***INVITED*** **- Fr-am-B-I1 Exploring molecular assembly at surfaces: from supramolecular systems to robust surface confined polymers**

Federico Rosei[1] - *[1]INRS Energie, Materiaux et Telecommunications, Université du Québec 1650 Boul. Lionel Boulet, J3X 1S2 Varennes (QC), Canada,*

10.15 **Fr-am-B-C1 Interaction across organic-inorganic interfaces: The case of metal-phthalocyanines on noble metal surfaces**

I. Kröger[1,2], B. Stadtmüller[1,2], C. Kleimann[1,2], and C. Kumpf[1,2] - *[1]Institute of Bio- and Nanosystems (IBN-3), Jülich Research Center, D-52425 Jülich, Germany; [2]Jülich-Aachen Research Alliance – Fundamentals of Future Information Technologies (JARA-FIT)*

10.30 **Fr-am-B-C2 Metal-phthalocyanine array on the Moiré pattern of a graphene sheet: interaction and molecular orientation**

M. Scardamaglia[1], G. Forte[1], P. Gargiani[1], S. Lizzit[2], A. Baraldi[2], R. Larciprete[3], C. Mariani[1] and M. G. Betti[1] - *[1]Dipartimento di Fisica, Università di Roma "La Sapienza", Piazzale Aldo Moro 5, I-00185 Roma; [2]Sincrotrone Trieste, Str.St.14 km163.5, I-34012 Trieste;CNR-ISC, Via Fosso del Cavaliere 100, I-00133 Roma*

Coffee Break

11.15 **Fr-am-B-C3 From local to global chirality: from single chiral molecule to chiral superstructures**

G. Contini[1], P. Gori[1], F. Ronci[1], N. Zema[1], S. Colonna[1], M. Aschi[2], A. Palma[3], S. Turchini[1], D. Catone[1], A. Cricenti[1] and T. Prosperi[1] - *[1]Istituto di Struttura della Materia, CNR, Via Fosso del Cavaliere 100, 00133 Roma, Italy; [2]Istituto per lo Studio dei Materiali Nanostrutturati, CNR, Via Salaria Km 29.3, 00016 Monterotondo S. (RM), Italy; [3]Università di L'Aquila, Dipartimento di Chimica, Ingegneria Chimica e Materiali - Coppito (AQ)*

11.30 **Fr-am-B-C4 Initial stages of 6,13 Pentacenequinone growth on Silicon Oxide: a systematic investigation**

P. De Marco[1,2], F. Fioriti[1], F. Bisti[1], S. Prezioso[1], M. Donarelli[1], P. Parisse[1,2], S. Santucci[1,2], A. Ambrosio[3], S. Lettieri[3], P. Maddalena[3], L. Ottaviano[1,2] - *[1]Dipartimento di Fisica, Università dell'Aquila, Via Vetoio, 67100, Coppito-L'Aquila, Italy; [2]CNR-SPIN L'Aquila, Via Vetoio, 67100, Coppito-L'Aquila, Italy; [3]CNR-SPIN & Dipartimento di Scienze Fisiche - Università degli studi di Napoli "Federico II", Via Cintia, 80126, Napoli, Italy*

11.45 **Fr-am-B-C5 Functionalization of the Si_3N_4 and SiO_2 surfaces with a naphthalene carboxylic acid by Supersonic Molecular Beam approach**

M.V. Nardi[1], R. Verucchi[1], L. Aversa[1], E. Froner[2], M. Scarpa[2], L. Pasquardini[3] , C. Pederzolli[3] and S. Iannotta[4] - *[1]CNR-IFN Institute for Photonics and Nanotechnologies Trento Division; [2]Università degli Studi di Trento – NanoScience Laboratory Trento; [3]FBK Fondazione Bruno Kessler – BioSint Division Trento; [4]IMEM Istituto per i materiali ed il magnetismo Parma*

12.00 **Fr-am-B-C6 Controlled Synthesis of fullerenes and bucky-bowls by surface assisted catalysis**

Nasiba Abdurakhmanova - *Max Planck Institute for Solid State Research Heisenbergstrasse 1 Stuttgart 70569 Germany*

12.15 **Fr-am-B-C7 A combined reflectance anisotropy spectroscopy and scanning tunnelling microscopy investigation of tetraphenyl porphyrin deposited on graphite**

G. Bussetti[1], S. Cirilli[1], A. Violante[1], B. Bonanni[1], P. Chiaradia[1], C. Goletti[1], M. Scarselli[1], M. De Crescenzi[1], D. Monti[2] and R. Paolesse[2] - *[1]Tor Vergata Univ., Dipartimento di Fisica, v. ricerca scientifica 1, Roma, 00133, Italy; [2]Tor Vergata Univ., Dipartimento di Scienze e Tecnologie Chimiche, v. ricerca scientifica 1, Roma, 00133, Italy*

12.30 **Fr-am-B-C8 Electronic Properties of Nickel-octaethylporphyrins Self Assembled ordered layers on Au(111)**

M. Kumar[1], M. Pedio[1], A. Resta[2], A. Verdini[1], L. Floreano[1], A. Cossaro[1], A. Giglia[1] and R. Felici[2] - *[1]IOM-CNR TASC laboratory, Area Science Park, 34949 Basovizza Trieste, Italy; [2]ESRF, F-38043 Grenoble, France*

Friday, Sept. 17 Morning

Session Fr-am-C

T12 - Nanobiotechnologies

ROOM C - CNR

CHAIRMAN: J.M. Seddon

9.45 ***INVITED* - Fr-am-C- I1 Label-free sensing of biomolecules and neural networks with ultra-thin film organic field effect transistors**
F. Biscarini, P. Stoliar, E. Bystrenova, B. Chelli, A. Shehu, S. Casalini, S. Quiroga - *CNR-Istituto per lo Studio dei Materiali Nanostrutturati, Bologna Italy*

10.15 **Fr-am-C-C1 Semiconductor quantum dots with interface states in biology and medicine**
T.V. Torchynska - *ESFM – National Polytechnic Institute, México D. F. 07738, México,*

10.30 **Fr-am-C-C2 DNA Metallocomplexes and Their Application for the Creation of Nanostructures**
N. Kasyanenko, I. Volkov, E. Morozova, A. Puchkova, P. Sokolov - *Faculty of Physics, St.-Petersburg State University, 198504, Russia*

Coffee Break

11.15 ***INVITED* - Fr-am-C-I2 Cell Membrane Penetrating Nanoparticles**
F. Stellacci[1] - *[1]Department of Materials Science and Engineering, EPFL, Lausanne, CH-1015, Switzerland*

11.45 **Fr-am-C-C3 Receptor-Mediated Interactions between Gold Nanoparticles and Endothelial Cells: Towards Manipulation of Angiogenesis**
Dorota Bartczak[a], Tilman Sanchez-Elsner[b], Tim Millar[b], Antonios G. Kanaras[a*] - *[a]School of Physics and Astronomy, The University of Southampton, Southampton, UK; [b]School of Medicine, General Hospital, Southampton, UK;*

12.00 **Fr-am-C-C4 On chip magnetic conduit networks for manipulating biological entities**
A. Torti[1], E. Sogne[1], M. Donolato[1], D. Petti[1], R. Bertacco[1] - *[1] L-NESS–Dipartimento di Fisica Politecnico di Milano, Via Anzani 42, 22100 Como, Italy*

12.15 **Fr-am-C-C5 Effect of Gold Nanoparticle Morphology on Adsorbed Protein Structure & Function**
J.E. Gagner[1,2], J.S. Dordick[1,3], and R.W. Siegel[1,2] - *[1]Rensselaer Nanotechnology Center; [2]Department of Materials Science and Engineering; [3]Department of Chemical and Biological Engineering, Rensselaer Polytechnic Institute, 110 8th Street Troy, New York 12180, USA*

12.30 **Fr-am-C-C6 Biofunctionalized magnetic nanocomposite particles**
M. A. Martins[1], A. J. Guiomar[2], V. S. Amaral[3], T. Trindade[1] - *[1]Department of Chemistry, CICECO, University of Aveiro, 3810-193 Aveiro, Portugal; [2]Department of Biochemistry, FCT, University of Coimbra, 3001-401 Coimbra, Portugal; [3]Department of Physics, CICECO, University of Aveiro, 3810-193 Aveiro, Portugal*

Friday, Sept. 17 Morning

Session Fr-am-D

T13 - Nanocomposites materials + T27 - Multiscale materials

ROOM D - Physics MARCONI building

CHAIRMAN: S. Iannotta

9.45 ***INVITED*** **- Fr-am-D-I1 Functionalization of the Thermal Properties of Composite/ Nanocomposite Materials**

M. S. Aly-Hassan[1,2,3] - *[1]Venture Laboratory, Kyoto Institute of Technology, Matsugasaki, Sakyo-Ku, Kyoto-Shi, Kyoto 606-8585, Japan; [2]Japan Aerospace Exploration Agency, 3-1 Yoshinodai, Sagamihara-Shi, Kanagawa-Ken 229-8510, Japan; [3]Hassan Associates Co. Ltd. 33-401 Nanakayamadai-Cho 50, Ogurisu, Fushimi-Ku, Kyoto-Shi, Kyoto 601-1463, Japan*

10.15 **Fr-am-D-C1 Production of core-shell nanofibers using coaxial electrospinning**

K. Kanjanapongkul[1], T. Yoovidhya[1], S. Wongsasulak[1], and J. Weiss[2] - *[1]King Mongkutt University of Technology Thonburi, Department of Food Engineering, Bangkok, 10140, Thailand; [2]University of Hohenheim, Institute of Food Science and Biotechnology, 70599 Stuttgart, Germany*

10.30 **Fr-am-D-C2 Acentric nanocrystals for Piezoelectric and Nonlinear Optical Nanocomposites**

L. Houf[1], M. El Kass[1], Y. Mugnier[1], R. Le Dantec[1], R. Hadji[2], B. Vincent[2], D. Rouxel[2], C. Galez[1] - *[1]SYMME, Polytech'Savoie, Université de Savoie, BP 80439, 74944, Annecy Le Vieux Cedex, France; [2]IJL, UMR CNRS 7198, Faculté des Sciences et Techniques, BP 70239, 54506 Vandoeuvre Les Nancy Cedex, France*

Coffee Break

11.15 **Fr-am-D-C3 Ag-titanate nanofibers composite prepared via polyelectrolyte multilayers.**

I. Bračko[1], M. Logar[1], B. Jančar[1] and D. Suvorov[1] - *[1]Institute Jožef Stefan, Advanced Materials Department, Jamova 39, Ljubljana, 1000, Slovenia*

11.30 **Fr-am-D-C4 Functionalization of porous silicon by deposition of low dimensional ferromagnetic nanostructures**

K. Rumpf[1], P. Granitzer[1], M. Albu[2], P. Pölt[2] - *[1]Institute of Physics, Karl Franzens University Graz, Universitaetsplatz 5, 8010 Graz, Austria; [2]Institute for Electron Microscopy, University of Technology Graz, Steyrergasse 17, 8010 Graz, Austria*

11.45 **Fr-am-D-C5 Mechanical and Dynamic Mechanical Properties of Carbon Nanotube Added Conductive Polypropylene Nanocomposite Fibers**

M.S. Ersoy[1], E. Önder[1], N. Sarıer[2], M. Skrifvars[3] - *[1]Department of Textile Engineering, Istanbul Technical University, Turkey; [2]Department of Civil Engineering, Istanbul Kültür University, Turkey; [3]School of Engineering, University of Borås, Sweden*

12.00 **Fr-am-D-C6 Interfacial polymerization: a suitable route to prepare homogeneous, conductive and transparent graphene/polyaniline and carbon nanotubes/polyaniline thin films**

S.H. Domingues[1], R.V. Salvatierra[1], M.M. Oliveira[1,2], A.J.G. Zarbin[1] - *[1]Departament of Chemistry, Federal University of Paraná (UFPR), CP 19081, CEP 81531-990, Curitiba-PR-Brazil; [2]Department of Biology and Chemistry, Technological Federal University of Paraná (UTFPR), Curitiba-PR-Brazil*

12.15 **Fr-am-D-C7 Morphology and properties of nanocomposites formed from ethylene-vinyl acetate copolymers containing graphene, carbon nanotubes and expanded graphite**

V. Cecen[1,2], P. Steurer[2], M. Wissert[1], K.-A. Wartig[1], R. Vogt[1], R. Thomann[2], C. Friedrich[1,2] - *[1]Freiburger Materialforschungszentrum, Stefan-Meier-Str. 21, D-79104 Freiburg i. Br., Germany; [2]Institut für Makromolekulare Chemie, Stefan-Meier-Str. 31, D-79104 Freiburg i. Br., Germany*

12.30 **Fr-am-D-C8 Laser welding of polymer foils by using metal nanoparticles as absorber layer**

M. Neuber, T. Hanke, L. Berthold, J. Lucas, A. Heilmann - *Fraunhofer Institute for Mechanics of Materials, Walter-Hülse-Str.1, 06120 Halle (Saale), Germany*

Friday, Sept. 17 Morning
Session Fr-am-E
T18 - Nanoparticles
ROOM E - RETTORATO Building

CHAIRMAN: J.M. Greneche

9.45 ***INVITED*** **- Fr-am-E-I1 A novel strategy for the synthesis of metal oxides nanocrystals using high molecular weight solvents: Synthesis and Functionalization in a Single Step**
Edson R. Leite[1] and R. H. Gonsalves[1] - *[1]Chemistry Department – Federal University of Sao Carlos, Sao Carlos, 13565-905, CP 676, SP, Brazil*

10.15 **Fr-am-E-C1 Preparation of copper and copper oxide nanoparticles**
R. Prucek[1], L. Kvítek[1], Aleš Panáček[1] and R. Zbořil[1,2] - *[1]Department of Physical Chemistry, Faculty of Science, Palacky University, 17 Listopadu 12, Olomouc 771 46, Czech Republic; [2]Centre for Nanomaterial Research, Palacky University, Slechtitelu 11, Olomouc, 783 71, Czech Republic*

10.30 ***WITHDRAWN*** **Fr-am-E-C2 Shape-Controlled Synthesis of Ferroelectric Barium Titanate Colloidal Nanocrystals**
S. Adireddy, A. Yourdkhani, A. K. Perez and G. Caruntu - *Chemistry Department and the Advanced Materials Research Institute University of New Orleans*

11.15 **Fr-am-E-C3 Experimental and Theoretical Analysis of Size Dependent Microstructure for Ag-Ni Nanoparticles**
C. Srivastava[1], S. Chithra[1], K. D. Malviya[1], S. K. Sinha[1] and K. Chattopadhyay[1] - *[1]Department of Materials Engineering, Indian Institute of Science, Bangalore-560012, India*

11.45 **Fr-am-E-C5 Low-temperature preparation of α-Al_2O_3 nanoplatelets from bayerite and potassium sulfate mixture**
Xinghua Su and Jiangong Li - *Institute of Materials Science and Engineering, Lanzhou University, Lanzhou 730000, China*

12.00 **Fr-am-E-C6 Size effect of starting nanoparticles on the electrical and piezoelectric properties of barium stannate titanate ceramics**
K. Chandramani Singh[1], A.K. Nath[1], Radhapiyari Laishram[2] and O. P. Thakur[2] - *[1]Department of Physics, Sri Venkateswara College, University of Delhi, New Delhi-110021, India; [2]Solid State Physics Laboratory, Lucknow Road, Timarpur, Delhi – 110054, India*

12.15 **Fr-am-E-C7 Sound assisted fluidization and mixing of binary mixtures of nanoparticles**
P. Ammendola[1], R. Chirone[1], and F. Raganati[1] - *[1]Istituto di Ricerche sulla Combustione - CNR, P.le Tecchio 80, 80125 Napoli, Italy*

12.30 **Fr-am-E-C8 Preparation of Aqueous Highly Conductive Metal Nanoparticle Ink and its Inkjet Printing**
Beyong-Hwan Ryu, Sunho Jeong, Youngmin Choi, Hae Chon Song, Ji-Yoon Lee, Priyesh V. More, and Byung Seok Lee - *Device Materials Research Center, Korea Research Institute of Chemical Technology, P.O. Box 107, Yuseong, Daejeon, 305-600, Korea*

12.45 **Fr-am-E-C9 Optical properties of ClAlPc nanoparticles thin film using as an effective gas sensor device**
M. J. Jafari, E. Karimi-Kerdabadi, and M. E. Azim-araghi - *Applied Physics Division, Physics Department, Tarbiat Moallem University, 49 Mofateh Avenue, Tehran, Iran*

Friday, Sept. 17 Morning
Session Fr-am-F
T19 - Carbon nanotubes and graphene
ROOM F - Chemistry CAGLIOTI building (2nd floor)

CHAIRMAN: R. Paul

9.45 ***INVITED* - Fr-am-F-I1 Multi wall carbon nanotube–silicon heterojunction photovoltaic devices**
M. De Crescenzi, P. Castrucci, L. Camilli, S. Del Gobbo and M. Scarselli - *Dipartimento di Fisica - Universita' di Roma Tor Vergata 00133, Roma - Italy*

10.15 **Fr-am-F-C2 X-ray source utilizing carbon nanotube-based cold cathodes**
M. Fratini[1], A. Rizzo[2], S. Iacobucci[1], M. Ilie[1], F. Scarinci[1], S. Lagomarsino[1], G. Stefani[2], Y. Zhang, M. Mann, W.I. Milne - *[1]CNR-IFN (Istituto Fotonica e Nanotecnologia), Via Cineto Romano 42 00156 Roma; [2]Università degli Studi Roma Tre, via della Vasca Navale 84, 00146 Roma; [3]Engineering Dept., University of Cambridge, UK*

Coffee Break

11.15 **Fr-am-F-C3 A novel photosensor made of MWCNTs grown on silicon substrate**
V. Grossi[1], S. Santucci[1], M. Ambrosio[2], A. Ambrosio[3], P. Maddalena[3], and M. Passacantando[1] - *[1]Dipartimento di Fisica, Università degli Studi dell'Aquila, Via Vetoio 10, I-67100 Coppito (L'Aquila), Italy; [2]INFN Sezione di Napoli, Complesso Universitario di Monte Sant'Angelo, Via Cintia, I-80126 Napoli, Italy; [3]CNR-INFM, CRS-COHERENTIA and Dipartimento di Scienze Fisiche, Università di Napoli Federico II, Via Cintia, I-80126 Napoli, Italy*

11.30 **Fr-am-F-C4 Hydrogen sulphide gas nano-sensors based on MWCNTs for applying in the room temperature**
F. Mohammadzadeh[1], M. Jahanshahi[1] and A.M. Rashidi[2] - *[1]Nanobiotechnology Research Centre, Faculty of Chemical Engineering, Babol University of Technology, Iran; [2]Department of Nanotechnology, Research Institute of Petroleum Industry, Tehran, Iran*

11.45 **Fr-am-F-C5 Loading of model drug on layer-by-layer polyelectrolyte coating of carbon nanotubes**
C. Iamsamai[1], S.T. Dubas[2], U. Ruktanonchai[3], A. Soottitantawat[4], and S. Hannongbua[5] - *[1]Nanoscience and Technology Program, Graduate School, Chulalongkorn University, Bangkok, 10330, Thailand; [2]Metallurgy and Materials Science Research Institute, Chulalongkorn University, Bangkok, 10330, Thailand; [3]National Nanotechnology Center, National Science and Technology Development Agency, Pathumthani, 12120, Thailand; [4]Department of Chemical Engineering, Faculty of Engineering, Chulalongkorn University, Bangkok, 10330, Thailand; [5]Department of Chemistry, Faculty of Science, Chulalongkorn University, Bangkok, 10330, Thailand*

12.00 **Fr-am-F-C6 Pulsed KrF-laser synthesis of single-wall-carbon-nanotubes: effects of catalyst content and furnace temperature on their nanostructure and photoluminescence properties**
V. Le Borgne[1], B. Aïssa,[1] M. Mohamedi[1], Y.A. Kim[2], M. Endo[2], and M. A. El Khakani[1] - *[1]Institut National de la Recherche Scientifique, INRS-Énergie, Matériaux et Télécommunications, 1650 Lionel-Boulet, Varennes, QC, Canada, J3X 1S2[2] Faculty of Engineering, Shinshu University, Wakasato, Nagano-shi 380-8553, Japan*

12.30 **Fr-am-F-C8 Synthesis and study of optical and electrical characteristics of a hybrid structure of single wall carbon nanotubes and silver nanoparticles**
R. Paul[1], A. Maity[1], P. Kumbhakar[1] and A.K. Mitra[1] - *[1]Nanoscience Laboratory, Department of Physics, National Institute of Technology Durgapur, Durgapur-713209, West Bengal, India*

Friday, Sept. 17 Afternoon

Plenary lecture
ROOM E – RETTORATO building

CHAIRMAN: E. Traversa

14.15 **PL10 Development of highly efficient dye-sensitized solar cell sub-modules**
Hironori Arakawa - *Graduate School of Chemical Science and Technology, Tokyo University of Science, Shinjuku, Tokyo, 162-0826, Japan*

Friday, Sept. 17 Afternoon

Session Fr-pm-A

T24 - Nanometrology

ROOM A - Physics FERMI building

CHAIRMAN: R.D. Shull

15.30 ***INVITED*** **- Fr-pm-A-I1 Mapping Protein Distributions with Optical Antennas**
C. Hoeppener and H. Fuchs - *Research Group 'Nanobiophotonics" Institute of Physics University of Muenster Wilhelm-Klemm-Strasse 10 - 48149 Muenster - Germany*

16.00 ***INVITED*** **- Fr-pm-A-I2 Nanometrology using Size-selected Clusters**
Ziyou Li - *Nanoscale Physics Research Laboratory, School of Physics and Astronomy, The University of Birmingham, Birmingham B15 2TT, U.K.*

16.30 **Fr-pm-A-C1 Volumetric measurements of adhered aerosol nanoparticles with an Atomic Force Microscope**
K. Dirscherl - *Danish Fundamental Metrology, Matematiktorvet 307, DK-2800 Kgs. Lyngby, Denmark, kdi@dfm.dtu.dk*

16.45 **Fr-pm-A-C2 Nanometrology of X-ray Diffraction**
G. Berti[1], F. De Marco[2] - *[1]Pisa Univ., Laboratorio di Ricerca e Sviluppo in XRD e Centro Interdipartimentale Ingegnerai dei Materiali – Dip. di Scienze della Terra &, Via S. Maria 24, Pisa, 56126, Italy; [2]XRD-TOOLS, Via Cosimo Ridolfi 14, 56124 Pisa, Italy*

Friday, Sept. 17 Afternoon

Session Fr-pm-B

T08 - Nanophotonics

ROOM B - Chemistry CAGLIOTI building (Ground floor)

CHAIRMAN: S. Orlando

15.30 ***INVITED*** **- Fr-pm-B-I1 Single-crystalline plasmonic nanostructures**

B. Hecht, P. Biagioni, C. Brüning, P. Geisler, J.-S. Huang, J. Kern, J.C. Prangsma, J. Ziegler - *Nano-Optics & Biophotonics Group, Experimentelle Physik 5, Physikalisches Institut, Wilhelm-Conrad-Röntgen-Center for Complex Material Systems, Universität Würzburg, Am Hubland, D-97074 Würzburg, Germany*

16.00 **Fr-pm-B-C1 Optical properties of self-organized silver and gold nanoparticles on rippled dielectric surfaces**

S. Camelio, D. Babonneau, L. Simonot, E. Vandenhecke, F. Pailloux - *Institut PPRIME, Département de Physique et Mécanique des Matériaux, UPR 3346 - CNRS-Université de Poitiers-ENSMA, SP2MI - BP 30179 86962 Chasseneuil- Futuroscope Cedex - France*

16.15 **Fr-pm-B-C2 Electrochemically tunable photonic metamaterial**

L.-H. Shao, M. Ruther, S. Linden, J. Weissmüller, M. Wegener - *Institut für Nanotechnologie, Institut für Angewandte Physik, and DFG-Center for Functional Nanostructures (CFN), Karlsruhe Institute of Technology (KIT), Karlsruhe, Germany*

16.30 **Fr-pm-B-C3 Intersubband transitions in the conduction band of Ge/SiGe MQWs**

M. De Seta[1], Y. Busby[1], G. Capellini[1], F. Evangelisti[1], M. Ortolani[2], M. Virgilio[3], G. Grosso[3], G. Pizzi[4], A. Nucara[5] and P. Calvani[5] - *[1]Dipartimento di Fisica, Università di Roma Tre, via Vasca Navale 84, I-00146 Roma, Italy; [2]CNR-Istituto di Fotonica e Nanotecnologie, via Cineto Romano 42, I-00156 Roma, Italy; [3]NEST-Istituto Nanoscienze-CNR and Dipartimento di Fisica "E. Fermi", Università di Pisa, largo Pontecorvo 3, I-56127 Pisa, Italy; [4]NEST-Istituto Nanoscienze-CNR and Scuola Normale Superiore, Piazza dei Cavalieri 7, I-56126 Pisa, Italy; [5]CNR-SPIN and Dipartimento di Fisica, Università di Roma La Sapienza, P.le A. Moro 2, I-00185 Roma, Italy*

16.45 **Fr-pm-B-C4 XPS and UPS analysis of a new organic molecule for DFB lasers fabrication: Erbium-tris(8-hydroxyquinoline)**

M. Donarelli[1], F. Bisti[1], S. Prezioso[1], P. De Marco[1,2], and L.Ottaviano[1,2] - *[1]Università dell'Aquila, Dipartimento di Fisica, Via Vetoio, 67100 L'Aquila, Italy; [2]CNR-SPIN L'Aquila, Via Vetoio, 67100, Coppito-L'Aquila, Italy*

Friday, Sept. 17 Afternoon

Session Fr-pm-C

T12 - Nanobiotechnologies

ROOM C - CNR

CHAIRMAN: F. Biscarini

15.30 ***INVITED*** **- Fr-pm-C-I1 Amphiphile self-assembling materials with potential applications in nanomedicine**

J. M. Seddon[1], N. J. Brooks[1], A. I. I. Tyler[1], T.-Y. D. Tang[1], G. C. Shearman[1], O. Ces[1], R. V. Law[1], R. H. Templer[1], C. V. Kulkarni[2], and A. M. Seddon[3] - *[1]Chemistry Department and Chemical Biology Centre, Imperial College London, London SW7 2AZ, UK; [2]Karl-Franzens University, Physical Chemistry, Heinrichstarsse 28, A-8010 Graz, Austria; [3]Bristol Centre for Functional Nanomaterials, Tyndall Avenue, Bristol BS8 1FD, UK*

16.00 **Fr-pm-C-C2 X-ray micro-diffraction imaging: a new tool to study biomaterials for tissue engineering**

Cedola A.[1], Giannini C.[3], Guagliardi A.[3], Sorrentino A.[1], Ladisa M.[3], Lagomarsino S.[1], Cancedda R.[2] and Mastrogiacomo M.[2] - *[1]Istituto di Fotonica e Nanotecnologie - CNR, Roma, Italy; [2]Istituto Nazionale per la Ricerca sul Cancro, and Dipartimento di Oncologia, Biologia e Genetica dell'Università di Genova, Italy; [3]Istituto di Cristallografia, CNR-IC, 70126 Bari, Italy*

16.15**Fr-pm-C-C3 Grafting poly(L,L-lactide) on iron oxide nanoparticles: towards a bifunctional drug delivery system**

Jian Qin[1], Sophie Laurent[2], Robert N. Muller[2], Mamoun Muhammed[1] - *[1]Functional Materials Division, Royal Institute of Technology (KTH), 164 40 Kista, Sweden; [2]Department of General, Org. & Biomed. Chem., NMR and Molecular Imaging Laboratory, University of Mons, B-7000 Mons, Belgium*

16.30 **Fr-pm-C-C4 Neurons sense nanoscale roughness with nanometer sensitivity**

V. Brunetti, G. Maiorano, L. Rizzello, B. Sorce, S. Sabella, G. Vecchio, R. Cingolani and P. P. Pompa - *Italian Institute of Technology, Center for Bio-Molecular Nanotechnology, Via Barsanti, 73010 Arnesano (Lecce), Italy*

16:45 MOVED from We-am-B-C6 Fr-pm-C-C5 Synthesis of Core-Shell Magnetic Nanoparticles Fe_3O_4@Cu@Au like a probe for Biomedical Application: Imaging and Drug Delivery

R. Salvati[1], F. Nepi[1] , G. Doddi[1], M. Barteri[1] - *[1]Università di Roma "La Sapienza", Dipartimento di Chimica, P.le Aldo Moro 5, Roma, 00185, Italy*

Friday, Sept. 17 Afternoon

Session Fr-am-D

T22 - Defects in nanostructures

ROOM D - Physics MARCONI building

CHAIRMAN: V. Petkov

15.30 ***INVITED*** **- Fr-pm-D-I1 Advanced characterization of nanostructured materials: positron annihilation spectroscopy**

F. Tuomisto - *Department of Applied Physics, Aalto University, P.O.B. 11100, FI-00076 Aalto, Espoo, Finland*

16.00 ***INVITED*** **- Fr-pm-D-I2 Counting dopants/atoms in (3D) nanoscale structures**

W. Vandervorst[1,2], P. Eyben[1], A. Schulze[1,2], J. Mody[1,2], S. Koelling[1,2], M. Gilbert[1] - [1]*Imec, Kapeldreef 75, B-3001 Leuven . Belgium;* [2]Instituut voor Kern- en Stralingsfysica, K. U. Leuven, Celestijnenlaan 200D B-3001 Leuven, Belgium

16.30 **Fr-pm-D-C1 Crystal and Defect Analysis in Corneal Nipple Nanostructures on Nymphalis Antiopa Butterfly Eyes**

U. Erb - *University of Toronto, Materials Science and Engineering, 184 College Street, Toronto, Ontario, M5S 3E4, Canada*

16.45 ***Fr-pm-D-C2 The origin of sample-size dependant plasticity in nanoscale metal pillars***

A. Rinaldi[1], S. Licoccia[1], and E. Traversa[2]
[1]*Univ. Rome Tor Vergata, NAST and Chemical Science and Technology Dept., Via della Ricerca Scientifica, 00133, Rome, Italy;* [2]*National Institute for Materials Science, International Research Center for Materials Nanoarchitectonics (MANA), 1-1 Namiki, Tsukuba, 305-0044, Ibaraki, Japan*

Friday, Sept. 17 Afternoon

Session Fr-am-E

T18 - Nanoparticles

ROOM E - RETTORATO Building

CHAIRMAN: E.R. Leite

15.30 ***INVITED*** **- Fr-pm-E-I2 Polymer-based multifunctional magnetic nanoparticles for biomedical applications**

A. Millán, R. Piñol, and F. Palacio
Instituto de Ciencia de Materiales de Aragón, CSIC – Universidad de Zaragoza, Departamento de Física de la Materia Condensada, Facultad de Ciencias - 50009 Zaragoza. Spain

16.00 **Fr-pm-E-C1 Molecular Assembly via Nano-size Mixed Micelle System: A Model Study from Chitosan Nanosphere and pH–thermo-multi-responsive Fluorescent Micelle**

N. Suchao-in,[1,2] S. Perrier[3], and S. Chirachanchai[1,2] - *[1]The Petroleum and Petrochemical College, Chulalongkorn University, Soi Chula 12, Wangmai, Pathumwan, Bangkok, 10330, Thailand; [2]Center for Petroleum and Petrochemical, Chulalongkorn University, Soi Chula 12, Wangmai, Pathumwan, Bangkok, 10330, Thailand; [3]Key Centre for Polymers & Colloids, School of Chemistry, Building F11, Eastern Avenue, University of Sydney, NSW, 2006, Australia*

16.15 **Fr-pm-E-C3 Boronic-acid-protected silver nanoclusters: High affinity for chiral saccharides and induced optical activity**

H. Yao[1], M. Saeki[1], and K. Kimura[1] - *[1]Graduate School of Material Science, University of Hyogo, 3-2-1 Koto, Kamigori-cho, Hyogo 678-1297, Japan*

16.30 **Fr-pm-E-C4 The potential toxicity and reactivity of hydroxylapatite (HAP) nanoparticles: implications for nanobiomaterial safety**

K. Skartsila[1] and E. Valsami-Jones[1] - *[1]Natural History Museum, Dep. of Mineralogy, NaNoRISK Team, Cromwell Rd, SW7 5BD, London, UK*

Friday, Sept. 17 Afternoon

Session Fr-pm-F

T19 - Carbon nanotubes and graphene

ROOM F - Chemistry CAGLIOTI building (2nd floor)

CHAIRMAN: V. Grossi

15.30 **Fr-pm-F-C1 Self-rewetting carbon nanofluid as working fluid for space and terrestrial heat pipes**
R. Di Paola[1], R. Savino, D. Mirabile Gattia[2], R. Marazzi[2], M. Vittori Antisari[2] - *[1]University of Naples Federico II, DIAS Dept., Napoli, Italy; [2]MATCOMP, ENEA, Via Anguillarese 301, 00123, Rome, Italy*

15.45 **Fr-pm-F-C2 Chemical synthesis and investigation on photoluminescence properties of triphenylphosphine functionalized single wall carbon nanotubes**
R. Paul[1], P. Kumbhakar[1] and A.K. Mitra[1] - *[1]Nanoscience Laboratory, Department of Physics National Institute of Technology Durgapur, Durgapur-713209, West Bengal, India*

16.00 **Fr-pm-F-C3 Graphene-based Josephson junctions: fabrication and characterization**
C. Portesi, M. Bruna, E. Taralli, L. Lolli, M. Rajteri, S. Borini, E. Monticone - *Istituto Nazionale di Ricerca Metrologica Strada delle Cacce 91 I-10135 Torino Italy*

16.15 **Fr-pm-F-C4 Unraveling the bimetallic nature of the Fe/Al catalyst in the super long growth of carbon nanotubes**
R. K. Joshi[1], J. Engstler[1], L. Houben[2], M. B. Sadan[2], A. Weidenkaff[3], P. Mandaliev[3], A. Issanin[4] and J. J. Schneider[1] -
[1]Technische Universität Darmstadt, Fachbereich Chemie, Eduard-Zintl- Institut, Fachgebiet Anorganische chemie, Petersenstrasse 18, 64287 Darmstadt, Germany. E-mail: joerg.schneider@ac.chemie.tu-darmstadt.de [2]Ernst-Ruska-Zentrum für Elektronenmikroskopie (ER-C), 52425 Jülich, Germany, [3]Eidgenössische Material-Prüfungsanstalt, EMPA 8600 Duebendorf, Switzerland, [4]Technische Universität Darmstadt, Fachbereich Material und Geowissenschaften, Fachgebiet Oberflaechenforschung, Petersenstrasse 23, Darmstadt, Germany

16.30 **Fr-pm-F-C5 Strong carbon nanotube doping by *m*-tweezer molecules**
A. Wurl[1], T. Reumann[1], E. M. Peréz[2], N. Martín[2] and Ch. Klinke[1] - *[1]Institute of Physical Chemistry, University of Hamburg, Grindelallee 117, 20146 Hamburg, Germany; [2]Departamento de Química Orgánica, Facultad de Química, Universidad Complutense, E-28040 Madrid, Spain*

16.45 **Fr-pm-F-C6 Chemical structure and thermal behaviour of oxidised graphene**
R. Larciprete[1], A. Baraldi[2,3], S. Fabris[4,5], T. Sun[5], P. Lacovig[6,2], S. Gardonio[6] and S. Lizzit[6] -
[1]CNR- Institute for Complex Systems, Roma, Italy, [2]University of Trieste-Physics Department and CENMAT, Trieste, [3]CNR-IOM Lab. TASC, Trieste, Italy, [4]CNR-IOM DEMOCRITOS Simulation Center, Trieste, Italy, [5]SISSA, Scuola Internazionale Superiore di Studi Avanzati, Trieste, Italy, [6]Sincrotrone Trieste SCpA, Trieste, Italy