EUROPEAN
MATERIALS RESEARCH SOCIETY

Strasbourg (France)

E-MRS 2005 Spring Meeting
May 31 – June 3, 2005

SYMPOSIUM E

Synthesis, characterization and applications of mesostructured thin layers

Symposium Organizers :

André Ayral, IEMM, Montpellier, France

Hugh W. Hillhouse, Purdue University, USA

Michaela Klotz, Saint-Gobain Recherche, France

Makoto Ogawa, Waseda University, Japan

Eduardo Ruiz-Hitzky, CSIC, Madrid, Spain

Symposium Support

SAINT GOBAIN Recherche

Papers to be published in
Thin Solid Films

E-MRS 2005 Spring Meeting

SYMPOSIUM E

Tuesday, May 31, 2005 **Morning**
Mardi 31 mai 2005 Matin

Session I : Self assembling, self organizing layers, mesophase templating
Session chairs : Bradley F. Chmelka and David Grosso

E-I.01 8:30 -Invited- FORMATION OF MESOSTRUCTURED THIN FILMS AT THE AIR/WATER INTERFACE
Karen J Edler, Cristina Fernandez-Martin, Stephen J Roser Department of Chemistry, University of Bath, Claverton Down, Bath, BA2 7AY, U.K.

E-I.02 9:00 -Invited- PHASE AND ORIENTATION CONTROL OF MESOPOROUS SILICA THIN FILM VIA PHASE TRANSFORMATION
Tatsuya Okubo(a,b), Sajo P. Naik(a,b) and Masaru Ogura(a), (a)Department of Chemical System Engineering, The University of Tokyo and (b)PRESTO, JST, Bunkyo-ku, Tokyo 113-8656, Japan

E-I.03 9:30 SYNTHESIS AND STRUCTURE OF ORTHORHOMBIC PHASE MESOPOROUS TIN OXIDE THIN FILMS
Hugh W. Hillhouse, Purdue University, USA

E-I.04 9:45 SELF ASSEMBLY OF OXIDE LAYERS
G. Freiman(a,b), P. Barboux(a), J. Perrière(c), (a)LPMC, Ecole Polytechnique, 91128 Palaiseau Cedex, France, (b)STMicroelectronics, 850 rue Jean Monnet, 38926 Crolles Cedex, France, (c)GPS, Université Pierre et Marie Curie, 4 Place Jussieu, Paris Cedex, France

E-I.05 10:00 NON THERMAL PREPARATION OF FUNCTIONAL TITANIUM (IV) OXIDE THIN LAYERS
Petr Kluson(a), Hana Luskova(a), Tomas Cajthaml(b) and Olga Solcova(b), (a)Faculty of Chemical Technology, Institute of Chemical Technology, ICT Prague, Technicka 5, 166 28 Prague, Czech Republic, (b)Institute of Microbiology, Academy of Sciences of the Czech Republic, Videnska 1083 142 20 Prague 4, Czech Republic

E-I.06 10:15 MESOPHASES OF COLLOIDALLY DISPERSED NANOSHEETS PREPARED BY EXFOLIATION OF LAYERED NIOBATES AND TITANATES
Teruyuki Nakato, Institute of Symbiotic Science and Technology, Tokyo University of Agriculture and Technology, 2-24-16 Naka-cho, Koganei-shi, Tokyo 184-8588, Japan

10:30 **BREAK**

Session chairs : Karen J. Edler and Philippe Barboux

E-I.07 11:00 -Invited- VAPOR PHASE SYNTHESIS OF MESOPOROUS SILICA THIN FILMS
Norikazu Nishiyama(a), Shunsuke Tanaka(a), Yoshiaki Oku(b), Yasuyuki Egashira(a), and Korekazu Ueyama(a), (1)Osaka University, (b)ASET-MIRAI project, Japan

E-I.08 11:30 CROSS-LINKED POLY(STYRENE-block-2-VINYLPYRIDINE) THIN FILMS AS SWELLABLE TEMPLATES FOR MESOSTRUCTURED SILICA AND TITANIA
B.F. Chmelka, R.C. Hayward, E.J. Kramer, Department of Chemical Engineering, University of California, Santa Barbara CA 93106, USA

E-I.09 11:45 A GENERAL APPROACH TO SINGLE OXIDE AND MULTIMETALLIC OXIDE NANOCRYSTALLINE MESOPOROUS ORDERED LAYERS
David Grosso, Cédric Boissière, B. Smarsly, M. Antonietti, Clément Sanchez, Chimie de la Matière Condensée, UMR UPMC-CNRS 7574, 4 place Jussieu, 75252 Paris 05, France

E-I.10 12:00 STRUCTURE AND FIELD INDUCED PHASE TRANSITION IN MONOLAYERS OF FUNCTIONALIZED HEXA-PERI-HEXABENZOCORONENES
L. Piot, A. Marchenko, D. Fichou, CEA-Saclay, Labo Nanostructures et Semi-Conducteurs Organiques (CNRS-CEA-UPMC), SPCSI/DRECAM, 91191-Gif sur Yvette, France and J. Wu, K. Müllen, Max-Planck-Institut für Polymer Research, Ackermannweg 10, 55128 Mainz, Germany

E-I.11 12:15 VERY HIGH PHOTOREFRACTIVE OPTICAL GAIN AND COOPERATIVE EFFECTS OF AMORPHOUS BLENDS BASED ON POLY-N-VINYLINDOLES
A. Colligiani, Dept. of Food Science, University of Napoli "Federico II", 80055 Portici (Na) and INFM, Italy; F. Ciardelli, F. Greco, G. Ruggeri, Dept. of Chemistry and Industrial Chemistry, University of Pisa, 56126 Pisa and INFM, Italy; M. Angiuli, E. Tombari, Istituto per i Processi Chimico-Fisici, CNR, 56124 Pisa, Italy

E-I.12 12:30 SELF ASSEMBLED FILMS OF NON PLANAR PHTHALOCYANINES ON III-V SEMICONDUCTORS
Nicolas Papageorgiou, Eric Salomon, Thierry Angot, Universite de Provence, PIIM UMR-CNRS 6633, France

12:45 **LUNCH**

Session II: Template synthesis of mesostructured functional layers: in situ growth of nanoparticles, nanowires, interconnected networks

Session chairs : Hugh W. Hillhouse and Tatsuya Okubo

E-II.01 14:00 -Invited- ORDERED AND DISORDERED 1D ARRAYS WITHIN NANOPOROUS OXIDE FILMS
M. Hernández-Vélez, Applied Physics Department, C-XII, Autónoma University / Materials Science Institute from Madrid (CSIC). Carretera de Colmenar KM. 15 Km., Cantoblanco 28049 Madrid, Spain

E-II.02 14:30 -Invited- INTEGRATED CHEMICAL SYSTEMS BUILT USING NANOPOROUS GLASS/CERAMICS AS SUBSTRATES
Oswaldo Luiz Alves, Italo Odone Mazali and Ricardo Romano, Solid State Chemistry Laboratory – LQES, Institute of Chemistry – UNICAMP, Brazil

E-II.03 15:00 PREPARATION AND OPTICAL PROPERTY OF ZnO ELECTROCHEMICALLY DEPOSITED IN MESOPOROUS SILICA FILMS
Feifei Gao, Sajo P. Naik and Tatsuya Okubo, Department of Chemical System Engineering, the University of Tokyo and PRESTO, JST, Bunkyo-ku, Tokyo 113-8656, Japan and Yukichi Sasaki, Japan Fine Ceramics Center, Atsuta-ku, Nagoya 456-8587, Japan

E-II.04 15:15 TUNED PHOTOLUMINESCENCE EMISSION OF CDS DOTS EMBEDDED IN MESOPOROUS SILICA
V. Della Savia(a), M.C. Marchi(a), E. Otal(a), P. Bozzano(b), G. Soler-Illia(b), S.A. Bilmes(a), (a)Universidad de Buenos Aires, Facultad de Ciencias Exactas y Naturales, DQIAQF-INQUIMAE; Ciudad Universitaria Pab. II (C1428EHA) Buenos Aires, Argentina; (b)Unidad de Actividad Química and Unidad de Actividad de Materiales, CNEA, Centro Atómico Constituyentes, Avda. Gral. Paz 1499, (B1650KNA) San Martín, Buenos Aires, Argentina

E-II.05 15:30 FERROELECTRICS TEMPLATED IN NANOPOROUS ALUMINA MEMBRANES
E.D. Mishina, N.E. Sherstyuk, K.A. Vorotilov, V.A. Vasil'ev, A.S. Sigov, Moscow State Institute of Radioengineering, Electronics and Automation, Moscow, Russia; Th. Rasing, IMM Institute, University of Nijmegen, Nijmegen, The Netherlands; M.P. De Santo, R. Barberi, Universita' della Calabria, Rende, Italy

E-II.06 15:45 ELABORATION OF MACROPOROUS CARBON FILMS FROM COLLOIDAL CRYSTALS
Stéphane Reculusa(a), Pascal Masse(a), Alain Derré(a), Michel Couzi(b), Pierre Delhaès(a), Serge Ravaine(a), (a)CRPP-CNRS, Av. A. Schweitzer, 33600 Pessac, France, (b)LPCM, Université Bordeaux 1, 33405 Talence, France

16:00 **BREAK**

Session III : Lamellar and nanoporous materials layers : lamellar silica and silicates, layered metal oxides and chalcogenides, zeolites…
Session chairs : Imre Dekany and Makoto Ogawa

E-III.01 16:30 -Invited- HIGH-Tc SUPERCONDUCTING THIN FILM FROM BISMUTH CUPRATE NANO-COLLOIDS
Jin-Ho Choy, Intelligent Nanohybrid Materials Laboratory, Division of Nanoscience and Department of Chemistry, Ewha Womans University, Korea

E-III.02 17:00 Ni COLLOIDS-LDH NANOCOMPOSITES AS PRECURSORS OF CATALYSTS
D. Kostadinova, N. Sanson, C. Gérardin, D. Tichit, Laboratoire de Matériaux Catalytiques et Catalyse en Chimie Organique, UMR 5618 CNRS-ENSCM-UM1, Institut C. Gerhardt FR 1878, 8 rue Ecole Normale, 34296 Montpellier Cedex 5, France

E-III.03 17:15 COATING OF REACTIVE METAL OXIDE DERIVED FROM Mg-Al LAYERED DOUBLE HYDROXIDES ON CERAMIC SUBSTRATE
Pankaj Bharali(a), André Ayral(b) and Rajib L. Goswamee(a), (a)Material Science Division, Regional Research Laboratory (CSIR), Jorhat-785006, Assam, India, (b)Institut Européen des Membranes, UMR n° 5635 CNRS-ENSCM-UMII, CC047, Université Montpellier II, Place E. Bataillon, 34095 Montpellier Cedex 5, France

E-III.04 17:30 INTERCALATED HALOGEN MOLECULES AS RADIATIVE CENTERS IN TRANSITION METAL DICALCOGENIDES LAYERED CRYSTALS
D. Dumchenko, C. Gherman, L. Kulyuk, Institute of Applied Physics, Chisinau 2028, Republic of Moldova; E. Fortin Department of Physics, University of Ottawa, Ontario K1N 6N5, Canada; E. Bucher, Department of Physics, University of Konstanz, P.O. Box X916, 78457 Konstanz, Germany

E-III.05 17:45 COMPARISON OF BLTO FILMS DEPOSITED BY MAGNETRON SPUTTERING AND PULSED LASER DEPOSITION
M.P. Besland(a), H. Djani-ait Aissa(b), P.R.J. Barroy(a), P.Y. Tessier(a), B. Angleraud(a), M. Richard-Plouet(a), L. Brohan(a) and M.A. Djouadi(a) (a)Institut des Matériaux Jean Rouxel, UMR 6502, 2 rue de la Houssinière, B.P. 32229, 44322, Nantes cedex 3, France, (b)Division milieux Ionisés et lasers, Centre des Technologies Avancées CDTA, Baba Hassen Alger, Algérie

E-III.06 18:00 MICROWAVE SYNTHESIS OF ZEOLITE MEMBRANES BY DIRECT OR SECONDARY GROWTH
J. Motuzas(a,c), A. Julbe(a), R.D. Noble(b), Z.J. Beresnevicius(c), (a)Institut Européen des Membranes (UMR CNRS 5635), UMII, CC47, Place Eugène Bataillon, 34095 Montpellier Cedex 5, France, (b)University of Colorado, Chemical & Biological Engineering Dept., UCB 424, Boulder, CO 80309, USA, (c) Kauno Technologijos Universitetas, Organines Chemijos Katedra, Radvilenu pl. 19, 50299 Kaunas, Lithuania

E-III.07 18:15 A LOW TEMPERATURE OZONE ACTIVATION PROCESS FOR PREPARING HIGH QUALITY ZEOLITE MEMBRANES
Samuel Heng(a), Prudence Pui Sze Lau(a), King Lun Yeung(a), Malik Djafer(b) and Jean-Christophe Schrotter(c), (a)Department of Chemical Engineering, the Hong Kong University of Science and Technology, Clear Water Bay, Kowloon, Hong Kong, P.R. China, (b)Veolia Water Hong Kong, 22/F, 8 Queen's Road Central, Hong Kong, P.R. China, (c)Anjou Recherche, Veolia Water Research Center, Chemin de la Digue, BP 76, 78603 Maisons-Laffitte Cedex, France

E-III.08 18:30 SELF-SUPPORTED POLYELECTROLYTE MULTILAYER THIN FILMS OBTAINED BY DISINTEGRATION OF PH-RESPONSIVE LAYERS UNDER PHYSIOLOGICAL CONDITIONS
Shoko S. Ono(a,b), Gero Decher(a,c), (a)Institut Charles Sadron, 6 rue Baussingault, 67083 Strasbourg , France, (b)R&D Center, Mitsui Chemicals, Inc, 580-32, Nagaura, Sodegaura, Chiba 299-0265, Japan, (c)Université Louis Pasteur, Faculté de Chemie, 4 rue Blaise Pascal, 67000 Strasbourg, France

Session IV : Composite and hybrid layers
Session chairs : Eduardo Ruiz-Hitzky and André Ayral

E-IV.01 14:00 -Invited- MOLECULAR DESIGN OF MESOPOROUS NANO-STRUCTURED INORGANIC AND HYBRID ORGANIC-INORGANIC MATERIALS
Clément Sanchez, Cédric Boissière, David Grosso, Lionel Nicole, Laboratoire de Chimie de la Matière Condensée, Université Pierre et Marie Curie, 4 Place Jussieu, Tour 54, 75252 Paris, Cedex 05, France

E-IV.02 14:30 -Invited- MESOSTRUCTURED PIGMENTS IN VARIOUS COATINGS
Peter Alberius(a), Nina Andersson(a), Pär Wedin(a), Lennart Bergström(b), Andrew Fogden(a), (a)YKI Institute for Surface Chemistry, Stockholm, Sweden, (b)Inorganic Chemistry, Stockholm University, Stockholm, Sweden

E-IV.03 15:00 "DEFECT-FREE" SELF-ASSEMBLED HYBRID FILMS WITH A TETRAGONAL MESOSTRUCTURE
Plinio Innocenzi(a), Luca Malfatti(a), Tongjit Kidchob(a), Paolo Falcaro(b), Stefano Costacurta(b), Giovanni Mattei(c), Heinz Amenitsch(d), Augusto Marcelli(e), Mariangela Cestelli Guidi(e), Massimo Piccinini(e), Alessandro Nucara(f), (a)Laboratorio di Scienza dei Materiali e Nanotecnologie, Nanoworld Institute, Dipartimento di Architettura e Pianificazione, Università di Sassari,Palazzo Pou Salid, Piazza Duomo 6, 07041 Alghero (Sassari), Italy, (b)Dipartimento di Ingegneria Meccanica, Settore Materiali, Università di Padova, Via Marzolo 9, 35131 Padova, Italy, (c)Dipartimento di Fisica "Galileo Galilei", Università di Padova, via Marzolo 8, 35131 Padova, Italy, (d)Institute of Biophysics and X-ray Structure Research, Austrian Academy of Sciences, Schmiedelstraße 6, 8042 Graz, Austria, (e)Laboratori Nazionali di Frascati - INFN, Via E. Fermi 40, 00044 Frascati, Italy, (f)Dipartimento di Fisica, Università di Roma "La Sapienza", P.le A. Moro 2, 00185 Roma, Italy

E-IV.04 15:15 MICROPOROUS FILMS CONTAINING TITANIA NANO-PARTICLES DERIVED FROM THE THERMAL DECOMPOSITION OF THE TITANIA/PDMS HYBRID
M. Nakade, KOSÉ Corp., Azusawa 1-18-4, Itabashi-ku, 174-0051 Tokyo, Japan, K. Ichihashi and M. Ogawa, Waseda Univ., Nishi-waseda 1-6-1, Shinjuku-ku, 169-8050 Tokyo, Japan

E-IV.05 15:30 RUTHENIUM(II) COMPLEXES AND POLYMERS WITH POTENTIAL APPLICATIONS IN MESOSTRUCTURED THIN FILM SOLAR CELL DEVICES
Veronica Marin, Elisabeth Holder and Ulrich S. Schubert, Laboratory of Macromolecular Chemistry and Nanoscience, Eindhoven University of Technology (TU/e), P.O. Box 513, 5600 MB Eindhoven, The Netherlands and Dutch Polymer Institute (DPI), P.O. Box 902, 5600 AX Eindhoven, The Netherlands

E-IV.06 15:45 EXCESS NOISE IN A POLY(VINYL BUTYRAL)\CARBON BLACK NANOCOMPOSITE GAS SENSITIVE RESISTOR
K.I. Arshak, L.M. Cavanagh, E.G. Moore, Electronics and Computer Engineering Department, College of Informatics & Electronics, University of Limerick, Plassey Technological Park, Limerick Ireland

16:00 **BREAK**

Session chairs : Clément Sanchez and Shinji Inagaki

E-IV.07 16:30 -Invited- POLYMER AND BIOPOLYMER CLAY NANOCOMPOSITES FOR ELECTROCHEMICAL AND ELECTROANALYTICAL APPLICATIONS
P. Aranda, M. Darder and E. Ruiz-Hitzky, Instituto de Ciencia de Materiales de Madrid, CSIC, 28049 Madrid, Spain

E-IV.08 17:00 HYBRID CONDUCTING POLYMER-LAYERED CHALCOGENIDE NANOCOMPOSITES
P.G. Hill, P.J.S. Foot, R. Davis, Materials Research Group, School of CPS, Kingston University, Penrhyn Road, Kingston, Surrey KT1 2EE, U.K.

E-IV.09 17:15 SYNTHESIS AND CHARACTERIZATION OF SUPERPARAMAGNETIC NANOCOMPOSITES BY GRAFTING BIOCOMPATIBLE POLYMERS ONTO MAGHEMITE NANOPARTICLES
C. Flesch(a), C. Delaite(a), E. Bourgeat-Lami(b), E. Duguet(c), P. Dumas(a), (a)Laboratoire de Chimie Macromoléculaire – ENSCMu-CNRS (ICSI-UPR 9069), 3 rue A. Werner, 68093 Mulhouse cedex, France, (b)Laboratoire de Chimie et Procédés de Polymérisation – CNRS-CPE (LCPP-UMR 140) – Bât. 308F, 43, bd du 11 novembre 1918, 69616 Villeurbanne cedex, France, (c)Institut de Chimie de la Matière Condensée de Bordeaux – CNRS-UB1 (ICMCB-UPR 9048), Université Bordeaux-1, 87 avenue du Dr A. Schweitzer, 33608 Pessac, France

E-IV.10 17:30 STABLE BLUE-EMITTING CONJUGATED POLYMER/INORGANIC LAYERED COMPOUND GUEST/HOST NANOCOMPOSITES
Asaf Albo, Eyal Aharon, Michael Kalina and Gitti L. Frey, Department of Materials Engineering, Technion – Israel Institute of Technology, Haifa 32000, Israel

17:45-20:00 **POSTER SESSION I**

19:00 **AWARD CEREMONY**
The symposium organizers and the candidates to the graduate student award are requested to attend.

CONFERENCE RECEPTION

POSTER SESSION I

Wednesday, June 1, 2005

17:45 – 20:00

Session chairs : Makoto Ogawa and Michaela Klotz

E/PI.01 ELECTROFORMING PROCESSES FOR PLATINUM NANOISLAND THIN FILMS

C. Bertoni, D.E. Gallardo, S. Dunn, Nanotechnology Group, School of Industrial and Manufacturing Science, Cranfield University, Cranfield, Bedfordshire MK43 0AL, U.K.

E/PI.02 SPECTROSCOPIC INVESTIGATION ON THE IN SITU POLYMERIZATION OF SELF ASSEMBLED MONOLAYERS OF CARBAZOLYLDIACETYLENE CDS9 ON SILVER-COATED GLASS

E. Giorgetti(a), M. Muniz-Miranda(b), G. Dellepiane(c), G. Margheri(d), S. Sottini(a), M. Alloisio(c), C. Cuniberti(c) (a)INSTM and Istituto dei Sistemi Complessi - CNR, Via Panciatichi 64, 50127 Firenze, Italy; (b)Dipartimento di Chimica, Università di Firenze, Via della Lastruccia 3, 50019, Sesto Fiorentino, Italy; (c)INSTM and Dipartimento di Chimica e Chimica Industriale, Università di Genova, Via Dodecaneso 31, I-16146 Genova, Italy; (d)Istituto dei Sistemi Complessi - CNR, Via Panciatichi 64, 50127 Firenze, Italy

E/PI.03 SUBSTRATES DO INFLUENCE THE ORDERING OF MESOPOROUS THIN FILMS

A Chougnet, C. Heitz, E. Søndergard, M. Klotz, Surface du Verre et Interfaces, Unité Mixte de Recherche CNRS/Saint-Gobain, UMR 125, 39 Quai Lucien Lefranc, 93303 Aubervilliers cedex, France, J.-M. Berquier, Saint-Gobain Recherche, 39 Quai Lucien Lefranc, 93303 Aubervilliers cedex, France,, P.-A. Albouy, Laboratoire de Physique des Solides UMR 8502, Université de Paris Sud, 91405 Orsay, France

E/PI.04 PREPARATION OF MESOPOROUS SILICA COATING FILMS BY THE STöBER METHOD COMBINED WITH SUPRAMOLECULAR TEMPLATING APPROACH

Naoki Shimura(a), Makoto Ogawa(a,b), (a)Graduate School of Science and Engineering, Waseda University, Nishiwaseda 1-6-1, Shinjuku-ku, Tokyo 169-8050, Japan, (b)Department of Earth Sciences, Waseda University, Nishiwaseda 1-6-1, Shinjuku-ku, Tokyo 169-8050, Japan

E/PI.05 THE FCC STRUCTURE IN MESOPOROUS THIN FILMS

Michaela Klotz, Unité Mixte St Gobain/CNRS, UMR 125, 39 quai Lucien Lefranc, 93303 Aubervilliers, France, F. Bosc and A. Ayral, Institut Européen des Membranes, UMR 5635, CNRS-ENSCM-UMII, CC047,Université Montpellier II, 34095 Montpellier Cedex 5, France, P.-A. Albouy, Laboratoire de Physique des Solides UMR 8502, Université de Paris Sud, 91405 Orsay, France

E/PI.06 PREPARATION OF ULTRA THIN FILMS OF DNA BASES WITH LASER LIGHT AT 157 NM

A.C. Cefalas, E. Sarantopoulou, Z. Kollia National Hellenic Research Foundation, TPCI, Athens, Greece, Z. Samardlija, S. Kobe, Jozef Stefan Institute, Department of Nanostructured Materials, Ljubljana, Slovenia

E/PI.07 SOL-GEL FORMED VANADIUM DIOXIDE ON POROUS ALUMINA

Alexander Khodin(a,b), Hwack-In Hwang(a), Elena Outkina(a,c), Song-Min Hong(a), Alla Vorobiova(c), (a)Korean Electronics Technology Institute, Korea, (b)Institute of Electronics, National Academy of Sciences of Belarus, Belarus, (c)Belarussian State University of Informatics and Radioelectronics, Belarus

E/PI.08 ORDERED MAGNETIC NANOWIRES BASED ON MESOPOROUS SILICA THIN FILMS – SYNTHESIS AND CHARACTERISATION

K.S. Napolskii, A.A. Eliseev, A.V. Lukashin, Dept. of Materials Science, Moscow State University, Moscow 119992, Russia. E.A. Kelberg, S.V. Grigoriev, A.I. Okorokov, Petersburg Nuclear Physics Institute, Gatchina, St.Petersburg 188300, Russia, H. Eckerlebe, GKSS Forschungszentrum, 21502 Geesthacht, Germany, N.A. Grigorieva, St-Petersburg State University, St-Petersburg 198504, Russia, W.H. Kraan, Interfacultair Reactor Instituut, TU-Delft, 2629 JB Delft, The Netherlands

E/PI.09 FABRICATION OF THIN FILMS OF NANOSTRUCTURED MATERIALS USING ELECRODES MODIFIED BY MESOPOROUS SILICA THIN FILMS

U-Hwang Lee and Young-Uk Kwon

E/PI.10 OPTICAL PROPERTIES OF ZNO NANOPARTICLES STABILIZED IN LAYER SILICATE DISPERSIONS AND ULTRATHIN FILMS

Krisztina Szendrei, Tamás Szabó, József Németh, László Korösi and Imre Dékány, Department of Colloid Chemistry and Nanostructured Materials Research Group of the Hungarian Academy of Sciences, University of Szeged Aradi vt. 1, 6720 Szeged, Hungary

E/PI.11 COLLOID SYNTHESIS AND PHOTOCONDUCTIVITY OF CdS, V2O5 AND WO3 DOPED TITANATE FILMS

Szilvia Papp, László Korösi and Imre Dékány Nanostructured Materials Research Group of the Hungarian Academy of Sciences and Department of Colloid Chemistry, University of Szeged, H, Aradi v. t. 1., 6720 Szeged, Hungary

E/PI.12 PHOTOCATALYTIC TiO2 AND TiO2-SiO2 PILLARED CLAY

Jae-Hun Yang(a,b), Man Park(b) and Jin-Ho Choy(a), (a)Intelligent Nanohybrid Materials Laboratory, Division of Nanoscience & Department of Chemistry, Ewha Womans University, Seoul 120-750, Korea, (b)School of Chemistry and Molecular Engineering, Seoul National University, Seoul 151-747, Korea

E/PI.13 SELF-ASSEMBLED LAYERED DOUBLE HYDROXIDE/POLYMER COMPOSITES AND POLYMER NANOFILMS: THE EFFECT OF SALT CONCENTRATION ON THE FILM THICKNESS
Judit Ménesi, Viktória Hornok, András Erdohelyi, Imre Dékány

E/PI.14 VACUUM SEEDING AND SECONDARY GROWTH ROUTE TO SODALITE MEMBRANE
Sung-Reol Lee(a), Anne Julbe(b), Jin-Ho Choy(a), (a)Division of Nano Science & Department of Chemistry, Ewha Womans University, Seoul 120-750, Korea, (a)Institut Européen des Membranes(UMR 5635 CNRS), UMII, CC 047, place Eugène Bataillon, 34059 Montpellier Cedex 5, France

E/PI.15 MANIPULATION OF BOEHMITE SOLS FOR INK-RECEIVING LAYERS
Sung-Reol Lee, Jin-Ho Choy, Division of Nano Science & Department of Chemistry, Ewha Womans University, Seoul 120-750, Korea

E/PI.16 STUDIES ABOUT THE EXFOLIATION OF LAYERED HEXANIOBATE
Ana L. Shiguihara, Marcos A. Bizeto and Vera R.L. Constantino, Instituto de Química – Universidade de São Paulo, Av. Lineu Prestes 748, 05508-900 São Paulo, Brazil

E/PI.17 NEOFORMED PHASES EXHIBITING MESOSTRUCTURE IN THE FIELD OF NUCLEAR GLASS ALTERATION. INFLUENCE OF TEMPERATURE ON OBSERVED PHASES
P. Frugier(a), T. Chave(a), F. Rieutord(b), a)Commissariat à l'Énergie Atomique – CEA Valrhô DIEC/SESC/LCLT, BP 17171, 30207 Bagnols-sur-Cèze Cedex, France, (b)Commissariat à l'Énergie Atomique – CEA Grenoble DSM/DRFMC/SI3M/PCM, 38045 Grenoble Cedex 9, France

E/PI.18 POLYMER-NANOCLAY HYBRIDS OBRTAINED BY EMULSION POLYMERIZATION OF VINYL ACETATE IN PRESENCE OF POLYVINYL ALCHOL AND ORGANICALLY MODIFIED MONTMORILLONITE
Dan Donescu(a), Mihai Cosmin Corobea(a), Sever Serban(a), Catalin Ducu(b), Viorel Malinovschi(b), Ioan Stefanescu(b), (a)National R-D Institute for Chemistry and Petrochemistry- ICECHIM Bucharest, Spl.Independentei nr.202, 060021, Romania, (b)University of Pitesti, Research Center for Advanced Materials, Targul din Vale street, no.1, Pitesti, 110040, Romania

E/PI.19 STRUCTURE AND ELECTRONIC PROPERTIES OF GRAPHITE OXIDE AND ITS POLYMER COMPOSITE NANOFILMS
Tamás Szabó, Imre Konfár, Judit Ménesi, Viktória Hornok and Imre Dékány, Department of Colloid Chemistry and Nanostructured Materials Research Group of the Hungarian Academy of Sciences, University of Szeged, Aradi vt. 1, 6720 Szeged, Hungary

E/PI.20 STRUCTURAL CHARACTERIZATION OF LITHIUM IODATE/LAPONITE NANOCOMPOSITE THIN LAYERS
Y. Lambert, J. Teyssier, R. Le Dantec, Y. Mugnier, C. Galez, J. Bouillot, LAIMAN, Université de Savoie, BP 806, 74016 Annecy Cedex, J.C. Plenet, LPMCN,Université Claude Bernard lyon 1 et CNRS, Bâtiment Léon Brillouin, 43 Boulevard du 11 novembre 1918, 69622 Villeurbanne, France

E/PI.21 NANOCOMPOSITES PAN-PANI OBTAINED IN THERMOCENTRIFUGAL FIELDS
S. Vulpe, Ioan Stamatin, F. Nastase, Claudia Nastase, G. Stoian, 1University of Bucharest, Polymer Science Department,P.O. Box MG-11, 077125 Magurele - Bucharest, Romania 2Advanced Reserch Institute for Electrical Engineering, Splaiul Unirii 313, Bucharest, Romania

E/PI.22 DIRECT MEASUREMENT OF THE INTERACTION BETWEEN MICA SURFACES WITH ADSORBED STAR POLYMERS
Y. Hiotelis(a), G Sakellariou(a), C. Toprakcioglu(a), N. Hatzichristidis(b), A.A. Vradis(a), (a)Department of Physics, University of Patras, Patras 26500, Greece, (b)Department of Chemistry, University of Athens, Panepistimiopolis Zografou, 15771 Athens, Greece

E/PI.23 POLY(CAPROLACTONE-CONTAINING BIPYRIDINE RUTHENIUM COMPLEXES AND QUADRUPLE HYDROGEN-BONDING MOIETIES FOR DYE-SENSITIZED SOLAR CELLS
Veronica Marin, Elisabeth Holder and Ulrich S. Schubert, Laboratory of Macromolecular Chemistry and Nanoscience, Eindhoven University of Technology (TU/e), P.O. Box 513, 5600 MB Eindhoven, The Netherlands and Dutch Polymer Institute (DPI), P.O. Box 902, 5600 AX Eindhoven, The Netherlands

E/PI.24 SYNTHESIS AND CHARACTERIZATION OF HIGHLY PREFERRED ORIENTED LEAD BARIUM TITANATE THIN FILMS USING ACETYLACETONE AS CHELATING AGENT IN A SOL-GEL PROCESS
Wein-Duo Yang, Department of Chemical Engineering, National Kaohsiung University of Applied Sciences, Kaohsiung 807, Taiwan, ROC and Sossina M. Haile Materials Science 138-78, California Institute of Technology, Pasadena CA 91125, USA

E/PI.25 INVESTIGATION OF POROUS SILICON COMPOSITION AND MORPHOLOGY
T.I. Gorbanyuk, A.A. Evtukh, V.G. Litovchenko, V.S. Solnsev Institute of Semiconductor Physics, National Academy of Science of Ukraine, 41 prospect Nauki, 03028 Kiev, Ukraine

E/PI.26 EFFECT OF ALUMINIUM CONCENTRATION ON EXTENDED STATES IN RANDOM DIMER-BARRIER AlxGa(1-x)N/GaN SUPERLATTICES
H. Dakhlaoui and S. Jaziri

E/PI.27 NOVEL "TRANSROTATIONAL" MESOSTRUCTURES IN CRYSTALLIZING AMORPHOUS FILMS
V. Yu. Kolosov, Physics Dept., Ural State Economic University, 8th March St. 62, 620219 Ekaterinburg, Russia

E/PI.28 ELABORATION AND CHARACTERIZATION OF $Bi_2Sr_2CaCu_2O_{8+\delta}$
N. Boussouf, M.-F. Mosbah, A. Ait-Kaki, F. Bouaicha, S. Chamekh., Université Mentouri de Constantine, Laboratoire de Couches Minces et Interfaces, Campus de Chaabet-Erssas, 25000 Constantine, Algérie

E/PI.29 CHARACTERIZATION BY INFRA-RED TRANSMITTANCE SPECTROSCOPY OF TEXTURED BORON NITIDE THIN FILMS SYNTHESISED BY PECVD
P. Thévenin(a), M. Eliaoui(a,b), A. Ahaitouf(b), A. Bath(a), (a)LMOPS-Supelec, 2 rue E. Belin, 57070 Metz, France, (b)FST Fès-Saïs, University of Fès, BP 2202, Fès, Marocco

E/PI.30 MORPHOLOGICALLY DEPENDENT STRUCTURAL PECULIARITIES OF Ce-Zr-Al-O SYSTEM
E. Frolova, M. Ivanovskaya, Y. Kosareva, Research Institute for Physical Chemical Problems, BSU, Leningradskaya str. 14, 220050 Minsk, Belarus

E/PI.31 MESOSTRUCTURED THIN FILMS DEPOSITED BY PECVD FROM TMGE
P. Kazimierski, echnical University of Lodz, Faculty of Process and Environmental Engineering, 90-924 Lodz, Wolczanska 215, Poland

E/PI.32 STRUCTURAL AND OPTICAL INVESTIGATIONS OF AS-GROWN AND ANEALED Cu-DOPED CdTe THIN FILMS
M. Rusu, G.G. Rusu, M. Girtan, "Al. I, Cuza" University, Faculty of Physics, Blvd. Carol I 11, Iasi 700506, Romania

E/PI.33 SYNTHESIS, STRUCTURE AND SOME PROPERTIES OF Fe2O3-In2O3 THIN FILMS
M. Ivanovskaya, D. Kotsikau, Research Institute for Physical Chemical Problems of the Belarusian State University, 14 Leningradskaya, 220050 Minsk, Belarus, A. Taurino, S. Capone, P. Siciliano, Institute of Microelectronics and Microsystems, IMM-CNR, Lecce Department, Via Arnesano, 73100 Lecce, Italy

E/PI.34 ADSORPTION PROCESS IN LAYER-BY-LAYER FILMS OF NITSPC AND PAH
Nara C. de Souza(a), Josmary R. Silva(b), Osvaldo N. Oliveira Jr.(b), José A.Giacometti(a), (a)Depto. de Física Química e Biologia, Faculdade de Ciências e Tecnologia, Universidade Estadual Paulista, CP 467, 19060-900, Presidente Prudente/SP, Brazil, (b)Instituto de Física de São Carlos, Universidade de São Paulo, CP 369, 13560-970,São Carlos/SP, Brazil

E/PI.35 SYNTHESIS AND STRUCTURAL CHARACTERIZATION OF NANOSTRUCTURED La1-xCaxMnO3/ C60 THIN FILMS COMPOSITES
O. Pana(a), C. M. Teodorescu(b), D. Macovei(b), R. Turcu(a), Al. Darabont(c), M.L. Soran(a), (a)National Institute R&D for Isotopic and Molecular Technologies, PO Box 700, Cluj-Napoca, Romania, (b)National Institute R&D of Materials Physics, P.O.Box MG-7 Bucuresti-Magurele, Romania, (c)"Babes-Bolyai" Univ. of Cluj, Faculty of Physics, 1 Kogalniceanu str. Cluj-Napoca, Romania

E/PI.36 PREPARATION AND CHARACTERISATION OF CdSe/Cu MULTILAYERED THIN FILMS
C. Baban, G.G. Rusu, M. Girtan, "Al. I, Cuza" University, Faculty of Physics, Blvd. Carol I 11, Iasi 700506, Romania

E/PI.37 TITANIUM NITRIDE NANOTUBES GROWN BY REACTIVE MAGNETRON SPUTTERING
M.A. Auger(a), O. Sánchez(a), M. Hernández-Vélez(a,b), D. Navas(a), M. Jaafar(a), R. Sanz(a), K. R. Pirota(a), A. Asenjo[1] and M. Vázquez(a), (a)Instituto de Ciencia de Materiales de Madrid (CSIC).Cantoblanco 28049 – Madrid. Spain, (b)Departamento de Física Aplicada - C-XII, Universidad Autónoma de Madrid, Cantoblanco 28049 – Madrid, Spain

E/PI.38 CHANGES IN CORE-LEVEL AND VALENCE BAND SPECTRA OF GOLD PARTICLES UPON THIOL ADSORPTION AS A FUNCTION OF THE MEAN PARTICLE SIZE
M. Büttner, P. Oelhafen, Department of Physics, University of Basel, Klingelbergstr. 82 , 4056 Basel, Switzerland

E/PI.39 VAPOR INFILTRATION TECHNIQUES FOR SPIN-ON MESOPOROUS SILICA FILMS
Shunsuke Tanaka(a), Hiromi Tada(a), Norikazu Nishiyama(a), Yoshiaki Oku(b), Yasuyuki Egashira(a) and Korekazu Ueyama(a), (a)Osaka University, (b)ASET-MIRAI project, Japan

E/PI.40 ACID-BASE POST-SYNTHESIS TREATMENTS EFFECTS ON MESOPOROUS THIN FILMS TEMPLATED BY P123: STRUCTURAL STUDIES
Jean-François Bardeau(a), Agnès Gourbil(a), Maggy Dutreilh-Colas(a), Sandrine Dourdain(a), Ahmad Mehdi(b), and Alain Gibaud(a), (a)Laboratoire de Physique de l'Etat Condensé, Faculté des Sciences, Université du Maine, Avenue Olivier Messiaen, 72085 Le Mans Cedex 09, France, (b)Laboratoire de Chimie Moléculaire et Organisation du Solide, Université de Montpellier II, UMR 5637 CNRS, Place E. Bataillon, 34095 Montpellier Cedex 5, France

E/PI.41 INTERACTION OF SMALL AMOUNTS OF BOVINE SERUM ALBUMIN WITH PHOSPHOLIPIDS IN LANGMUIR MONOLAYERS AND LANGMUIR-BLODGETT FILMS

Nara C. de Souza(a), Wilker Caetano(b), Marystela Ferreira(a), Rosangela Itri(b), Osvaldo N. Oliveira Jr.(c), José A. Giacometti(a), (a)Depto. de Física Química e Biologia, Faculdade de Ciências e Tecnologia, Universidade Estadual Paulista, CP 467, 19060-900 Presidente Prudente/SP, Brazil, (b)Instituto de Física, Universidade de São Paulo, CP 66318, 05315-970, São Paulo/SP, Brazil, (c)Instituto de Física de São Carlos, Universidade de São Paulo, CP 369, 13560-970,São Carlos/SP, Brazil

E/PI.42 ANISOTROPICALLY CONDUCTING LANGMUIR-BLODGETT FILMS FABRICATED IN MAGNETIC FIELD

A.I. Alexandrov, A.V. Krasnov, T.V. Pashkova, Ivanovo State University, Ermak St, 39, Ivanovo 153025, Russia

E/PI.43 ADSORPTION-DESORPTION ISOTHERMS OF NANOPOROUS THIN FILMS MEASURED BY X-RAY REFLECTOMETRY

M. Klotz, Laboratoire CNRS/Saint-Gobain “Surface du Verre et Interfaces” UMR 125, 39 quai Lucien Lefranc, BP 135, 93303 Aubervilliers Cedex, France, D. Rébiscoul, CEA-LETI, D2NT/LBE, 17 rue des Martyrs, 38054 Grenoble Cedex 9, France, A. van der Lee, V. Rouessac, J. Durand and A. Ayral, Institut Européen des Membranes, UMR 5635, CNRS-ENSCM-UMII, CC047, Université Montpellier II, 34095 Montpellier Cedex 5, France

E/PI.44 ELECTRON SPIN RESONANCE OF SILICON NANO-WIRES

B.D. Shanina(a), S.P. Kolesnik(a), T.I. Kamins(b), S. Sharma2, P.M. Lytvyn(a), A.I. Klimovskaya(a), G.V. Beketov(a), I.V. Prokopenko(a), I.P. Ostrovskii(c), (a)Institute of Semiconductor Physics, Kyiv 03028 Ukraine; (b)Quantum Science Research, Hewlett-Packard Laboratories, Palo Alto CA 94304, USA; (a)State University “Lvivska Politehknika”, Lviv, Ukraine

E/PI.45 A NOVEL METHOD FOR THE PORE SIZE ANALYSIS OF THIN SILICA FILMS BASED ON KRYPTON ADSORPTION AT LIQUID ARGON TEMPERATURE (87.27K)

Matthias Thommes, Quantachrome Instruments, 1900 Corporate Drive, Boynton Beach FL 33426, USA

E/PI.46 PHOTO-EMISSION-ELECTRON-MICROSCOPY FOR CHARACTERISATION OF ORGANIC SEMICONDUCTROS AT APPLIED VOLTAGES

Klaus Müller, Yevgen Burkov, Dieter Schmeißer, Brandenburgische Technische Universität Cottbus, Angewandte Physik-Sensorik, 03013 Cottbus, P.O. Box 101344, Germany

E/PI.47 MICROSTRUCTURAL STUDY OF SOL-GEL ZIRCONIA THIN FILMS USING X-RAY REFLECTIVITY, DIFFRACTION AND GRAZING INCIDENCE SMALL ANGLE X-RAY SCATTERING

P. Lenormand(a), A. Lecomte(b), D. Babonneau(c), A. Dauger(b), (a)Centre Interuniversitaire de Recherche et d’Ingéniérie des MATériaux, Laboratoire de Chimie des Matériaux Inorganiques et Energétiques Université Paul Sabatier, Bât. 2R1,118 route de Narbonne, 31062 Toulouse cedex 4, France, (b)Science des Procédés Céramiques et de Traitements de Surface, CNRS UMR 6638, ENSCI, 47-73 av. A. Thomas, 87065 Limoges Cedex, France, (c)Laboratoire de Métallurgie Physique, UMR N°6630, Université de Poitiers - UFR Sciences, SP2MI, Boulevard Marie et Pierre Curie, BP 30179, 86962 Futuroscope Chasseneuil cedex, France

E/PI.48 CHARACTERIZATION OF MESOSTRUCTURED TIO2 THIN LAYERS BY ELLIPSOMETRIC POROSIMETRY

V. Rouessac(a), F. Bosc(b), J. Durand(a) and A. Ayral(a), (a)Institut Européen des Membranes CNRS UMR5635 - ENSCM - UMII, CC047, 2 Place Bataillon, 34095 Montpellier cedex 5, France, (b)Laboratoire des Matériaux, Surfaces et Procédés pour la Catalyse CNRS UMR 7515 – ECPM –ULP, 25 rue Becquerel, 67 087 Strasbourg cedex 2, France

E/PI.49 OPTICAL PROPERTIES OF ORDERED MESOPOROUS SILICA LAYERS

P. Cheyssac, Laboratoire de Physique de la Matière Condensée, UMR 6622 CNRS, Université de Nice Sophia-Antipolis, France, M. Klotz, E. Sondergaard, Unité Mixte de Recherche CNRS/Saint-Gobain, Surface du Verre et Interfaces, Saint-Gobain, France

E/PI.50 ELECTRICAL CONDUCTIVITY OF FREE-STANDING MESOPOROUS SILICON THIN FILMS

M. Khardani, M. Bouaïcha, W. Dimassi, B. Bessaïs, Laboratoire de Photovoltaïque et des Semi-conducteurs, Institut National de Recherche Scientifique et Technique, B.P. 95, 2050 Hammam-Lif, Tunisia

Session V : Nanoporous and/or textured layers
Session chairs : Oswaldo L. Alves and Pilar Aranda

E-V.01 8:30 -Invited- SYNTHESIS OF MESOSTRUCTURED ORGANOSILICA HYBRID FILMS
S. Inagaki, Y. Goto, O. Ohtani, S. Fujita, Y. Kumai, M. Ohashi, Toyota Central R&D Labs., Inc., Nagakure, Aichi, 480-1192, Japan

E-V.02 9:00 MORPHOLOGY, MESOPORE, AND PARTICLE SIZE CONTROL OF MESOCELLULAR FOAM VIA MODIFIED SYNTHESIS OF VARYING OPERATIONAL PARAMETER
W. Ratanachaithong(a,b,c), P. Hartley(a), M.L. Gee(b), G.W. Stevens(c), A.J. O'Connor(c), (a)CSIRO Molecular Science, Private Bag 10, Clayton, Victoria 3169, Australia, (b)School of Chemistry, The University of Melbourne, Victoria 3010, Australia, (c)Department of Chemical and Biomolecular Engineering, The University of Melbourne, Victoria 3010, Australia

E-V.03 9:15 STUDY OF THE MICROSTRUCTURE, MECHANICAL PROPERTIES AND WEAR BEHAVIOR OF THERMALLY SPRAYED ALUMINA-TITANIA COATINGS
S. Guessasma, T. Sahraoui, Laboratory of study and research in materials, processes and surfaces (LERMPS) - UTBM, Site de Sevenans, Belfort, France

E-V.04 9:30 IMPACT OF MESOPOROUS MSQ CROSSLINKING ON MECHANICAL PROPERTIES: APPLICATION TO MICROELECTRONIC INTERCONNECTIONS
F. Ciaramella(a), V. Jousseaume(a), S. Maitrejean(a), M. Verdier(b), B. Rémiat(a), A. Zenasni(a) and G. Passemard(c), (a)CEA-DRT-LETI, 17 rue des Martyrs, 38054 Grenoble cedex 9, France, (b)LTPCM, 1130 rue de la Piscine, 38402 Saint Martin d'Hères, France, (c)STMicroelectronics, 850 rue Jean Monnet, 38926 Crolles, France

E-V.05 9:45 ION IMPLANTATION OF NANOCAVITIES IN InP TO IMPLEMENT COMPLIANT SUBSTRATES
M. Chicoine(a), S. Roorda(a), P. Desjardins(a), and R.A. Masut(a,b), (a)Regroupement québécois sur les matériaux de pointe (RQMP), Département de Physique, Université de Montréal and Département de Génie Physique, École Polytechnique de Montréal, CP 6079 succ. Centre-ville, Montréal PQ H3C 3A7, Canada, (b)Instituto de Ciencia de Materiales de Madrid, Consejo Superior de Investigaciones Científicas, Cantoblanco, 28049 Madrid, Spain

E-V.06 10:00 NOVEL APPROACH TOWARDS SYNTHESIS OF MESOSTRUCTURED SnO2 THIN FILMS USING SPRAY PYROLYSIS
Young Kyu Hwang, Niranjan Ramgir, Hye-kyung Kim, Imtiaz S. Mulla and Jong-San Chang, Research Centre for Nanocatalysts (RCNC), Korea Research Institute of Chemical Technology (KRICT), Yuseong, Korea

E-V.07 10:15 NANOSTRUCTURED MANGANESE FERRITE THIN FILMS FOR GAS SENSOR APPLICATION I. Sandu, L. Presmanes, P. Alphonse, P. Tailhades, CIRIMAT – LCMIE, CNRS UMR 5085, Université Paul Sabatier, 118 Route de Narbonne, 31062 Toulouse Cedex, France

10:30 **BREAK**

Session VI : Functionalization
Session chairs : Shinji Inagaki and Norikazu Nishiyama

E-VI.01 11:00 -Invited-

STRUCTURAL AND PHOTOCATALYTICAL PROPERTIES OF SELF-ASSEMBLED ULTRATHIN FILMS PREPARED FROM INORGANIC/ORGANIC COLLOIDS
I. Dékány, L. Korösi, R. Kun, T. Szabó, J. Ménesi and Sz. Papp, Department of Colloid Chemistry and Nanostructured Materials Research Group of the Hungarian Academy of Sciences, University of Szeged, Aradi v.t.1.Hungary, 6720 Szeged, Hungary

E-VI.02 11:30 -Invited-

MODIFIED MESOPOROUS THIN FILMS OF SiO2, TiO2 AND ZnO
Jiri Rathousky, J. Heyrovsky Institute of Physical Chemistry, Academy of Sciences of the Czech Republic, Dolejskova 3, 18223 Prague 8, Czech Republic

E-VI.03 12:00

ORDERED MESOPOROUS ORGANOSILICA FILMS
Muriel Matheron, Thierry Gacoin, Jean-Pierre Boilot, Groupe de Chimie du Solide, Laboratoire de Physique de la Matière Condensée, UMR CNRS 7643, Ecole Polytechnique, 91128 Palaiseau, France, Alexis Bourgeois, Aline Brunet-Bruneau, Laboratoire d'Optique des Solides, UMR CNRS 7601, Université Paris VI, Campus Boucicaut, 140 rue de Lourmel, case 80, 75015 Paris, France, Pierre-Antoine Albouy, Laboratoire de Physique des Solides, Université Paris-Sud, 91405 Orsay Cedex, France

E-VI.04 12:15

ADSORPTION OF CATIONIC PORPHYRIN AND TRIS(2,2'-BIPYRIDINE) RUTHENIUM(II) ONTO NANOPOROUS SILICAS
Atsuko Yoshida(a), Minoru Somiya(a), Makoto Ogawa(a,b), (a)Graduate School of Science and Engineering, Waseda University, Nishiwaseda 1-6-1, Shinjuku-ku, Tokyo 169-8050, Japan, (b)Department of Earth Sciences, Waseda University, Nishiwaseda 1-6-1, Shinjuku-ku, Tokyo 169-8050, Japan

E-VI.05 12:30

SYNTHESIS AND CHARACTERIZATION OF TRANSITION METAL OXIDE DOPED MESOSTRUCTURED SILICA FILMS
R. Supplit, Institute of Materials Chemistry, Getreidemarkt 9/165, 1060 Vienna, Austria, N. Hüsing, Division of Inorganic Chemistry I, University of Ulm, Albert-Einstein Allee 11, 89069 Ulm, Germany

12:45 **LUNCH**

Session VII : Innovative Characterization methods
Session chairs : Kuei-jung Chao and Pierre-Antoine Albouy

E-VII.01 14:00 -Invited- X-RAY DIFFRACTION STUDY OF MESOSTRUCTURED THIN FILMS USING ULTRA-THIN SUBSTRATES
P-A. Albouy, Laboratoire de Physique des Solides, Bât.510, Université de Paris-Sud, 91405 Orsay, France

E-VII.02 14:30 -Invited- CHARACTERIZATION OF SIO2 MESOPOROUS FILM AND THE REDUCTION OF ITS WATER UPTAKE
Kuei-jung Chao, Kuo-ying Huang and Zhi-ping He, Department of chemistry, Tsinghua University, Hsinchu, Taiwan

E-VII.03 15:00 DETERMINATION OF POROUS PROPERTIES OF MESOPOROUS SILICA THIN FILMS BY QUANTITATIVE X-RAY REFLECTIVITY ANALYSIS AND GISAXS
S. Dourdain(a), A. Mehdi(b), J.F. Bardeau(a) and A. Gibaud(a), (a)Laboratoire de Physique de l'Etat Condensé, UMR CNRS 6087, Université du Maine, Avenue Olivier Messiaen, 72085 Le Mans Cedex 09, France, (b)Laboratoire de Chimie Moléculaire et Organisation du Solide, UMR 5637 CNRS, Université de Montpellier II, Place E. Bataillon, 34095 Montpellier Cedex 5, France

E-VII.04 15:15 POROSITY AND MECHANICAL PROPERTIES OF MESOPOROUS THIN FILMS ASSESSED BY ELLIPSOMETRIC POROSIMETRY (EP)
Cédric Boissiere(a), David Grosso(a), Lionel Nicole(a), Adrien Darragon(b), Clément Sanchez(a), (a)Laboratoire de Chimie de la Matière Condensée, Université Pierre et Marie Curie, 4 Place Jussieu, 75252 PARIS Cedex 5, France, (b)CTO SOPRA, 26 Rue Pierre Joigneaux, 92270 Bois Colombes, France

E-VII.05 15:30 MECHANICAL PROPERTIES OF MESOPOROUS SILICA THIN FILM: EFFECT OF SURFACTANT REMOVAL PROCESSES
N. Chemin(a), M. Klotz(a), V. Rouessac(b), A. Ayral(b), E. Barthel(a), (a) Laboratoire CNRS/Saint-Gobain "Surface du Verre et Interfaces"UMR 125, 39 quai Lucien Lefranc, BP 135, 93303 Aubervilliers Cedex, France, (b)Institut Européen des Membranes, UMR 5635, CNRS-ENSCM-UMII, CC047, Université Montpellier II, 34095 Montpellier Cedex 5, France

E-VII.06 15:45 DEPENDENCE OF MOLECULE DIFFUSION WITH PORE SURFACE FEATURES IN MESOPOROUS FUNCTIONALISED THIN FILMS ASSESSED BY ELECTROCHEMICAL TOOLS
E. Otal(a), P.C. Angelomé(b), S. Aldabe-Bilmes(a) and G.J.A.A. Soler-Illia(b), (a)DQIAyQF and INQUIMAE, Universidad de Buenos Aires, Pabellón II, Ciudad Universitaria, C1428 EHA, Buenos Aires, Argentina, (b)Unidad de Actividad Química, Comisión Nacional de Energía Atómica, CAC, Av. Gral Paz 1499, B1650KNA, San Martín, Buenos Aires, Argentina

16:00 **BREAK**

Session VIII : Environmental and analytical applications: membrane separation, catalysis, sensors

Session chairs : Peter Alberius and Mihail Barboiu

E-VIII.01 16:30 -Invited- FROM MOLECULAR INFORMATION TO HYBRID MEMBRANES, AS TOOLS FOR INFORMATION TRANSFER DEVICES
Mihail Barboiu, Institut Européen des Membranes, Montpellier, France

E-VIII.02 17:00 STUDIES ON FORMATION OF SUPPORTED LIPID BILAYERS CLOSE TO THE PHASE TRANSITION TEMPERATURE
B. Seantier(a), C. Breffa(a), O. Félix(a) and G. Decher(a,b), (a)Institut Charles Sadron (CNRS, UPR 22), 6 rue Boussingault 67083 Strasbourg Cedex, France, (b)Université Louis Pasteur, 4 rue Blaise Pascal 67000 Strasbourg, France

E-VIII.03 17:15 CORRELATIONS BETWEEN DIP COATING-FABRICATED CELLULOSE ACETATE MEMBRANES CHARACTERISTICS AND THEIR PERMEABILITY TO GLUCOSE AND GLUCOSE OXIDASE MEMBRANES
L. Setti, A. Fraleoni-Morgera, A. Filippini, D. Frascaro, Dept. of Industrial and Materials Chemistry, Univ. of Bologna, V. Risorgimento 4, 40136 Bologna, Italy

E-VIII.04 17:30 ANATASE-BASED MESOSTRUCTURED THIN FILMS AND MEMBRANES
Florence Bosc(a),André Ayral(b) and Christian Guizard(b), (a)Laboratoire des Matériaux, Surface et Procédés pour la Catalyse, UMR n°7515 CNRS-ECPM-UPL, Strasbourg, France, (b)Institut Européen des Membranes, UMR n°5635 CNRS-ENSCM-UMII, Montpellier, France

E-VIII.05 17:45 CATALYTIC COATINGS ON STAINLESS STEEL PREPARED BY SOL-GEL ROUTE
Dimitri Truyen, Matthieu Courty, Pierre Alphonse, Florence Ansart CIRIMAT, UMR-CNRS 5085, Paul Sabatier University, 118 route de Narbonne, 31062 Toulouse Cedex 04, France

E-VIII.06 18:00 PROCESSING AND STRUCTURAL CHARACTERIZATION OF POROUS REFORMING CATALYST FILMS
Xianghui Hou, Jey Williams, Kwang-Leong Choy, School of Mechanical, Materials and Manufacturing Engineering, The University of Nottingham, University Park, Nottingham NG7 2RD, U.K.

18:15-20:00 **POSTER SESSION II**

POSTER SESSION II

Thursday, June 2, 2005

18:15 – 20:00

Session chairs : Eduardo Ruiz Hitzky and André Ayral

E/PII.01 EFFECTS OF NiO/TiO2 ADDITION IN ZnFe2O4 – BASED GAS SENSORS IN THE FORM OF POLYMER THICK FILMS

K. Arshak and I. Gaidan, Microelectronic and semiconductor Research Group, ECE Department, University of Limerick, Plassey Technological Park, Limerick, Ireland

E/PII.02 PREPARATION, CHARACTERIZATION AND DEPOSITION OF LANGMUIR-BLODGETT Co, Al ORGANIC FILMS FOR THE CATALYTIC APPLICATIONS

J. Lojewska(a), A. Kolodziej(b), P. Dynarowicz-Latka(a), (a)Faculty of Chemistry, Jagiellonian University, Ingardena 3, 30060 Kraków, Poland (b)Institute of Chemical Engineering PAS, Baltycka 5, 44100 Gliwice, Poland

E/PII.03 THIN ORGANIC LAYERS PREPARED BY MAPLE AND GAS SENSOR APPLICATION

R. Frycek, P. Fitl, V. Myslík, M. Vrnata, Department of Solid-State Engineering, Institute of Chemical Technology Prague, Technická 6, 166 28 Prague 6, Czech Republic, M. Jelínek, T. Kocourek, The Academy of Sciences of the Czech Republic, Institute of Physics, Na Slovance 2, 18000 Prague 8, Czech Republic

E/PII.04 COMPUTER- AIDED ANALYTE-RECEPTOR INTERACTION FOR SENSOR DESIGN

C. Berlic, Ioan Stamatin University of Bucharest, Faculty of Physics, MG-11, 077125 Bucharest-Magurele, Romania

E/PII.05 PHOTOCATALYTIC PROPERTIES AND PHOTOCONDUCTIVITY OF HIGH SURFACE AREA PHOSPHATED TITANIA FILMS

László Korösi(a), Szilvia Papp(a), Vera Meynen(b), Imre Dékány(a,c), (a)Nanostructured Materials Research Group of the Hungarian Academy of Sciences, University of Szeged, Aradi v. t. 1, 6720 Szeged, Hungary, (b)Department of Chemistry, Laboratory of Adsorption and Catalysis, University of Antwerpen, Drie Eiken Campus, Universiteitsplein 1, 2610 Wilrijk, Belgium, (c)Department of Colloid Chemistry, University of Szeged, Aradi v. t. 1, 6720 Szeged, Hungary

E/PII.06 INVESTIGATION OF PROPERTIES OF THIN SnOx FILMS ANNEALED IN VARIOUS ATMOSPHERES

V.A. Botvin, K.A. Mit, D.M. Mukhamedshina, Institute of Physics and Technology, Almaty, Republic of Kazakhstan

E/PII.07 CHARACTERIZATION AND PHOTOCATALYTICAL APPLICATION OF TiO2/SiO2 AND ZINC-ALUMINUM LAYER DOUBLE HYDROXIDE MULTILAYERED FILMS PREPARED BY LBL IMMERSION METHOD

Robert Kun and Imre Dékány Department of Colloid Chemistry and Nanostructured Materials Research Group of the Hungarian Academy of Sciences, University of Szeged, Aradi vertanuk tere 1., 6720 Szeged, Hungary

E/PII.08 PHOTOCATALYTIC PROPERTIES OF PTHALOCYANINES ON TIO2 THIN FILMS

M. Drobek(a), T. Strasak(a), P. Kluson(a), M. Karaskova(b) and J. Rakusan(b), (a)Institute of Chemical Technology – ICT Prague, Faculty of Chemical Technology, Technicka 5, 166 28 Prague, Czech Republic, (b)Research Institute of Organic Syntheses 532 18 Pardubice-Rybitvi, Czech Republic

E/PII.09 DEVELOPMENT OF ORIENTED NANOPOROUS THIN FILMS AND MEMBRANES

S. Suzuki, Y. Yoshino, H. Taguchi and B.N. Nair, R&D Center, Noritake Company LTD., Aichi, Japan

E/PII.10 FORMULATION OF A THIN CATALYTIC MEMBRANE LAYER FOR OZONOLYSIS OF ORGANIC WATER POLLUTANTS

Samuel Heng(a,b,c), Antoine Godde(b), King Lung Yeung(b), Anne Julbe(c), Jean-Christophe Schrotter(d), (a)Environmental Engineering Program and (b)Department of Chemical Engineering, the Hong Kong University of Science and Technology, Clear Water Bay, Kowloon, Hong Kong SAR, (c)European Institute of Membranes, Place E. Bataillon, 34095 Montpellier Cedex, France, (d)Anjou Recherche, Veolia Water Research Center, Chemin de la Digue, BP 76, 78603 Maisons-Laffitte Cedex, France

E/PII.11 ENCAPSULATION OF ENZYMES IN ALUMINA MEMBRANES OF CONTROLLED PORE SIZE

M. Darder, P. Aranda, E. Manova, E. Ruiz-Hitzky, Instituto de Ciencia de Materiales de Madrid, CSIC, Cantoblanco, 28049-Madrid, Spain; and M. Hernández-Vélez, Facultad de Ciencias, Universidad Autónoma de Madrid, Cantoblanco, 28049-Madrid, Spain

E/PII.12 PHOTOCATALYTIC ACTIVITIES OF TiO2 THIN FILMS PRODUCED BY SURFACTANT-ASSISTED SOL-GEL PROCESSING

Urh Černigoj(a), Urška Lavrenčič Štangar(a), Polonca Trebše(a) and Dušan Strmčnik(b), Milena Zorko(b), (a)Laboratory for Environmental Research, Nova Gorica Polytechnic, P.O.B. 301, 5001 Nova Gorica, Slovenia, (b)National Institute of Chemistry, Hajdrihova 19, 1000 Ljubljana, Slovenia

E/PII.13 EPOXY POLYMER SURFACE MODIFICATION THROUGH WET-CHEMICAL ORGANIC SURFACE SYNTHESIS FOR ADHESION IMPROVEMENT IN MICROELECTRONICS

S. Siau, A. Vervaet and A. Van Calster, ELIS-TFCG microsystems, Universiteit Gent, Sint-Pietersnieuwstraat 41, 9000 Gent, Belgium, Etienne Schacht, Polymer materials, Universiteit Gent, Krijgslaan 281, 9000 Gent, Belgium and Ulric Demeter, Solid state sciences, Universiteit Gent, Krijgslaan 281, 9000 Gent, Belgium

E/PII.14 AMBIPOLAR PENTACENE FIELD EFFECT TRANSISTORS BY ELECTRONIC INTERFACE MODIFICATION
Roland Schmehel, Marcus Ahles, Heinz von Seggern, Darmstadt University of Technology, Material- and Geo-Science Department, Germany

E/PII.15 PHASE TRANSITION AND LUMINESCENCE PROPERTIES FROM VAPOR ETCHED SILICON
S. Aouida, M. Saadoun, K. Ben Saad, B. Bessaïs Institut National de Recherche Scientifique et Technique, Laboratoire de Photovoltaïque et des Semiconducteurs, BP 95, 2050 Hammam-Lif, Tunisie

E/PII.16 NOVEL DEVICE APPLICATIONS OF THIN SELF-SUPPORTED LAYERS
E.D. Gu, J. Zhou and M. Wu, State key laboratory of advanced technology for materials synthesis and processing, Wuhan University of Technology, Wuhan 430070, P.R. China

E/PII.17 DOSE DEPENDENCES OF THE OPTICAL PROPERTIES OF FULLERENE FILMS UNDER ELECTRON IRRADIATION
I.P. Dmytrenko, N.P. Eulish, N.I. Belyi and Yu.I. Prylutskyy, Kyiv National Shevchenko University, Department of Physics and Biophysics, Volodymyrska Str., 64, 01033 Kyiv, Ukraine; V.V. Shlapatskaya, Institute of Physical Chemistry of NAS of Ukraine, pr. Nauky, 31, 03028 Kyiv, Ukraine; H. Bernas, CNRS-UMR 8609, University Paris XI, France; P. Scharff, Technical University of Ilmenau, Institute of Physics, 98684 Ilmenau, Germany

E/PII.18 EVAPORATED THIACALIX[4]ARENE FILM ON SEMICONDUCTORS SUBSTRATES AS COPPER ION SENSING
M. Ben Ali(a,b), M.ALI MAAREF(b), C.Martelet(c), N. Jaffrezic-Renault(c), (a)Institut Supérieur des Sciences, Appliquées et de Technologies, Cité Taffela–Ebn Kaldoun, 4003 Tunisia, (b)Laboratoire de physique de semi-conducteurs et Capteurs, IPEST la Marssa, 2070 Tunis, Tunisia, (c)ICEGELY, Ecole Centrale de Lyon, Avenue Guy de Collongue, 69134 Ecully Cédex, France

E/PII.19 OPTICAL PROPERTIES OF CADMIUM SELENIDE HETEROSTRUCTURES WITH QUANTUM-SCALE SURFACE FORMATIONS
V.P. Makhniy, M.V. Demych, M.M. Slyotov, P.P. Horley, V.V. Gorley, Chernivtsi National University, 2 Kotsyubynsky Str., 58012 Chernivtsi, Ukraine, and Yu.V. Vorobiev, J. Gonzalez-Hernandez, CINVESTAV Unidad Queretaro, Libramiento Norponiente 2000, Fracc. Real de Juriquilla, 76230 Queretaro, QRO, Mexico

E/PII.20 PROCESSING AND CHARACTERIZATION OF HIGH DISPLACEMENT MONOLITHIC PIEZOELECTRIC ACTUATOR
Jong-Hoo Paik, Sei-Ki Kim, Mi-Jae Lee, Byung-Hyun Choi, Eun-Kyeong Lim, Korea Institute Ceramic Engineering and Technology

E/PII.21 PHOTOLUMINESCENCE STUDY OF HIGHLY RESISTIVE P-TYPE SILICON ANODIZED IN HF/ ETHYLENE GLYCOL SOLUTIONS
N. Chiboub, N. Gabouze, S. Sam, L. Guerbouze

E/PII.22 PROCESSING OF Si WIRE ARRAY FOR APPLICATION IN TELECOMMUNICATION
I.P. Ostrovskii, V.M. Myshchyshyn, Lviv Polytechnic National University, 1 Kotlarevsky Str., 79013 Lviv, Ukraine, and A.I. Klimovskaya, Institute of Semiconductor Physics of Ukrainian NAN, Kiev, Ukraine

E/PII.23 STRUCTURAL AND OPTICAL PROPERTIES OF POROUS-Si NANOSTRUCTURES FOR NANO-SCALE SENSORS
K. Das, S.S. Sarkar, A. Dhar and S.K Ray Department of Physics, Indian Institute of Technology Kharagpur, India

E/PII.24 ELECTRIC FIELD AND TEMPERATURE DRIVEN INSULATOR-METAL TRANSISIONS IN POLYCRYSTALLINE VOX THIN FILMS
Choong-Rae Cho, SungIl Cho, and InKyeong Yoo, U_team, Samsung Advanced Institute of Technology, Suwon 440-600, Korea, Jinhee Heo, Jaejin Lee and Ilsub Chung, School of Information & Communications Engineering, SungKyunKwan University, Suwon, Kyunggi-do 440-746, Korea

E/PII.25 NANOPARTICLE PATTERNING USING SELF-ASSEMBLED CONDUCTING/INSULATING BLOCK COPOLYMERS
Yi-Huan Lee(c), Chi-Jen Kao(c), Chi-An Dai(a,c), Chiun-Chi Ho(b), Wei-Fang Su(b,c), (a)Department of Chemical Engineering, (b)Department of Materials Science and Engineering and (c)Institute of Polymer Science and Engineering National Taiwan University, Taipei, Taiwan

E/PII.26 ENHANCED CARRIER INJECTION OF ORGANIC LIGHT EMITTING DEVICES USING SELF ASSEMBLED MONOLAYER IN THE CATHODE/ORGANIC INTERFACE
U. Manna(a), Sunyoung Sohn(b), Donggeun Jung(b), M. Gowtham(a), H. M. Kim(a), J.Yi(a), (a)School of Information and Communication Engineering, Sungkyunkwan University, Suwon 440-746, Korea, (b)Department of physics, Brain Korea 21 Physics Research Division and Institute of Basic Science, Sungkyunkwan University, Suwon 440-746, Korea

E/PII.27 THE IMPROVEMENT OF PENTACENE-BASED ORGANIC THIN-FILM TRANSISTOR (OTFT) BY INSERTING LITHIUM FLUORIDE (LiF) THIN LAYER BETWEEN PENTACENE LAYERS
D.S. Park, S.J. Kang, C.Y. Kim and C.N. Whang, Institute of Physics and Applied Physics, Yonsei University, Seoul, Korea

E/PII.28 DOPED AROMATIC DERIVATIVES WIDE-GAP CRYSTALLINE SEMICONDUCTOR STRUCTURED LAYERS FOR ELECTRONIC APPLICATIONS

A. Stanculescu(a), F. Stanculescu(b), H.V. Alexandru(b), M. Socol(a), (a)National Institute for Materials Physics, P.O. Box MG 7 Magurele, Bucharest, Romania, (b)Faculty of Physics, University of Bucharest, Romania

E/PII.29 ELECTRICAL PROPERTIES OF SOME NEW HIGH RESISTIVITY ORGANIC SEMICONDUCTORS IN THIN FILMS

L. Leontie(a), I. Druta(b), R. Danac(b), G.I. Rusu(a), (a)Faculty of Physics, "Al.I. Cuza" University, 11 Carol I Boulevard, 700506 Iasi, Romania, (b)Faculty of Chemistry, "Al.I. Cuza" University, 11 Carol I Boulevard, 700506 Iasi, Romania;

E/PII.30 PHOTO INDUCED AND PLASMA TREATMENT OF DIMETHACRYLATE-BASED POLYMER FOR LIQUID CRYSTAL ALIGNMENT

Song-Shiang Lin, Chein-Dhau Lee, Yu-Jen Chan, Vladimir Syromyatnikov, Lyudmyla Vretik, Ling-Na Tsai, Po-Jen Chu, Yu-Der Lee

E/PII.31 NEW ROUTE FOR PERPENDICULAR ORIENTATION OF THE DOMAIN IN PS-b-PMMA THIN FILMS

M. Dutreilh-Colas(a), J.-F. Bardeau(b), Sagrario Pascual(c), Laurent Fontaine(c) and A. Gibaud(b), (a)Centre de Recherche sur les Matériaux à Hautes Températures, UPR CNRS 4212, 45071 Orléans Cedex 02, France, (b)Laboratoire de Physique de l'Etat Condensé, UMR CNRS 6087, Université du Maine, 72085 Le Mans Cedex 09, France, (c)Laboratoire de Chimie Organique Macromoléculaire, UMR CNRS 6011, Université du Maine, 72085 Le Mans Cedex 09, France

E/PII.32 ORDERED 2D PATTERN FORMATION OF BLOCK COPOLYMER DUE TO DEWETTING PHENOMENON

A.J.F. Carvalho, M.A.P. da Silva and R.M. Faria, Instituto de Física de São Carlos, University of São Paulo, P.O.Box 369, 13560-970, São Carlos, Brazil

E/PII.33 P-PHENYLENE DERIVATIVES USING PLASMA POLYMERIZATION AND BINARY MIXTURES

Ioan Stamatin(a), F. Nastase(a), Claudia Nastase(a), D. Mihaiescu(b), A. Moldovan(c), (a)University of Bucharest, Polymer Science Department, P.O. Box MG-11, 077125 Magurele – Bucharest, Romania, (b)University of Agriculture Sciences and Veterinary Medicine, 59 Marasti, Bucharest, Romania, (c)National Institute for Lasers, Plasma and Radiation Physics, P.O. Box MG-36, 077125 Magurele – Bucharest, Romania

E/PII.34 PULSED LASER DEPOSITION OF PENTACENE THIN FILMS

I. Virt, K. Zembrowska, G. Wisz, P. Potera , M. Labuz, M. Kuzma, Institute of Physics, Rzeszów University, Rejtana 16a, 35-309 Rzeszów, Poland

E/PII.35 IONICALLY SELF-ORGANIZED THIN FILMS OF SEMI-CONDUCTING STARDOPANT-PROTONATED OLIGO(KETANIL)S

A. Iwan, D. Sek, Centre of Polymer Chemistry, Polish Academy of Sciences, 34 M. Curie-Sklodowska Street, 41-819 Zabrze, Poland, and J.P. Bonnet, P. Rannou, A. Pron, Laboratoire de Physique des Métaux Synthétiques, UMR5819-SPrAM (CEA-CNRS-Univ. J. Fourier-Grenoble I), DRFMC, CEA-Grenoble, 17 Rue des Martyrs, 38054 Grenoble Cedex 9, France

E/PII.36 NEW FUNCTIONAL MATERIALS ON THE BASE FLUOROCONTAINING THERMOSTABLE POLYMERS

E.V. Sheludko, G.A. Kovtun, O.N. Tsypina, Institute of Bioorganic Chemistry and Petrochemistry, National Academy of Science of Ukraine, 1 Murmanskaya ul., 02094 Kyiv, Ukraine and Z.I. Kazantseva, P.S. Smertenko, S.V. Svechnikov, V. Lashkarev Institute of Semiconductors Physics, National Academy of Sciences of Ukraine, 45 prospekt Nauki, 03028 Kyiv, Ukraine

E/PII.37 SURFACE POTENTIALS OF LAYER-BY-LAYER FILMS FROM NICKEL PHTHALOCYANINE AND POLY(ALLYLLAMINE HYDROCHLORIDE)

Josmary R. Silva(a), Nara C. de Souza(b), José A. Giacometti(b), Osvaldo N. Oliveira Jr (a), (a)Instituto de Física de São Carlos, Universidade de São Paulo, CP 369, 13560 – 970, São Carlos, SP, Brazil, (b)Faculdade de Ciências e Tecnologia, Universidade Estadual Paulista, CP 467, 19060-900, Presidente Prudente, SP, Brazil

E/PII.38 RADIOFREQUENCY PLASMA TREATMENTS OF POLYMERIC NUCLEAR TRACK MEMBRANES: MODIFICATION OF MORPHOLOGICAL, CHEMICAL AND PERMEATION PROPERTIES

A. Lazea, G. Dinescu, M. Dinescu, National Institute for Plasma Lasers and Radiation Physics, Magurele MG-16, 077125 Bucharest, Romania L. Kravets, S. Dimitriev, Joint Institute for Nuclear Research, Flerov Laboratory of Nuclear Reactions, Dubna, Russia

E/PII.39 THE EFFECTS OF THERMAL TREATMENTS AND DENDRIMERS CHEMICAL STRUCTURES ON THE PROPERTIES OF HIGHLY SURFACE CROSS-LINKING POLYIMIDE FILMS

Youchang Xiao, Tai-Shung Chung, Department of Chemical & Biomolecular Engineering, National University of Singapore, 10 Kent Ridge Crescent, 119260 Singapore

E/PII.40 SIMULATION OF SILICON NANOWIRE ENSEMBLE FORMATION BY CATALYTICALLY ENHANCED CVD

A.A. Efremov(a), A.I. Klimovskaya(a), T.I. Kamins(b), S. Sharma(b), R.S. Williams(b), (a)Institute of Semiconductor Physics, National Academy of Sciences, Kyiv 03028, Ukraine, (b)Quantum Science Research, Hewlett-Packard Laboratories, Palo Alto CA 94304, USA

E/PII.41 MODELLING THE EFFECTS OF MESOSTRUCTURE ON ELECTRONIC APPLICATIONS OF POLYMER THIN LAYERS

Marta M.D. Ramos, Helena M.G. Correia, Hugo Carmo, Departamento de Física, Universidade do Minho, Campus de Gualtar, 4710-057 Braga, Portugal

E/PII.42 THE EFFECT OF FINITE FILM THICKNESS ON THE CRYSTALLIZATION KINETICS OF AMORPHOUS FILM AND MICROSTRUCTURE OF CRYSTALLIZED FILM

Vladimir I. Trofimov, Ilya V. Trofimov, Institute of Radioengineering & Electronics of RAS, 11/7 Mokhovaya Street, 125009 Moscow, Russia and Jongil Kim, Cheonan Valley, CN-Regional Innovation Agency 43-5, Sameun-Ri, Jiksan-Eup Cheonan-Si, Chungnam-Do 330-816, South Korea

E/PII.43 THEORETICAL ABSORPTION SPECTRA OF SILICON CARBIDE NANOCRYSTALS

S.L. Shi and S.J. Xu Department of Physics and HKU-CAS Joint Laboratory on New Materials, The University of Hong Kong, Pokfulam Road, Hong Kong, China, X.J. Wang and G.H. Chen, Department of Chemistry, The University of Hong Kong, Pokfulam Road, Hong Kong, China

E/PII.44 SYNTHESIS AND CHARACTERIZATION OF HIGHLY CONCENTRATED SILVER NANO SOL FOR INKJET PRINTING

Beyong-Hwan Ryu, Youngmin Choi, Han-Sung Park, Jong-Hoon Byun, Kijeong Kong, and Jeong-O Lee, Advanced Materials Division, Korea Research Institute of Chemical Technology, Korea

E/PII.45 NUCLEATION AND COALESCENCE PROCESS OF Ag ON POLYMER SUBSTRATE

I. Prosyčevas(a), J. Puišo(a,b), A. Juraitis(a), S. Tamulevičius(a,b), M. Andrulevičius(a), B. Čyžiūtė(b), (a)Institute of Physical Electronics of Kaunas University of Technology, Savanoriu 271, Kaunas 50131, Kaunas, Lithuania, (b)Department of Physics, University of Technology, Studentu 50, Kaunas 51368, Lithuania

E/PII.46 CONTROL OF THE SURFACE ROUGHENING IN THE EPITAXIAL GROWTH OF MANGANITE FILMS

F. Sánchez, I.C. Infante, Ll. Abad, U. Lüders, Ll. Balcells, B. Martínez, J. Fontcuberta Institut de Ciència de Materials de Barcelona, CSIC, Campus U.A.B., 08193 Bellaterra, Spain

E/PII.47 GIANT STEP BUNCHING IN EPITAXIAL SrRuO3 FILMS ON VICINAL SrTiO3(001)

F. Sánchez(a), G. Herranz(a), C. Ferrater(b), M.V. García-Cuenca(b), M. Varela(b), J. Fontcuberta(a), (a) Institut de Ciència de Materials de Barcelona, CSIC, Campus U.A.B., 08193 Bellaterra, Spain, (b) Dep. de Física Aplicada i Òptica, Universitat de Barcelona, Diagonal 647, Barcelona 08028, Spain

E/PII.48 STRAIN EFFECT AND CURRENT-INDUCED ELECTRORESISTANCE IN EPITAXIAL THIN FILMS OF LA0.9SR0.1MNO3

H. Yao, F. X. Hu, and J. Gao Department of Physics, The University of Hong Kong, Pokfulam Road, Hong Kong, China

E/PII.49 STRUCTURAL AND MAGNETIC CHARACTERISTICS OF FeCo THIN FILMS MODIFICATED BY COMBINATORIAL ION IMPLANTATION

S. Groudeva-Zotova, A. Savan, J. Feydt, B. Wehner, T. Walther, A. Ludwig, CAESAR, L.-Erhard Allee 2, 53175 Bonn, Germany, and H. Karl, B. Stritzker, University of Augsburg, 86135 Augsburg, Germany

E/PII.50 PREPARATION AND CHARACTERIZATION OF ZNO-BASED NANOSTRUCTURED AND NANOPOROUS THIN LAYERS

Virginie Feuillad(a), Lívia Naszályi(a,b), Z. Hórvölgyi(b) and André Ayra(a), (a)Institut Européen des Membranes, UMR n° 5635 CNRS-ENSCM-UMII, cc047, Université Montpellier II, Place Eugène Bataillon, 34095 Montpellier cedex 5, France, (b)Budapest University of Technology and Economics, Department of Physical Chemistry, Centre for Colloid Chemistry, 1521 Budapest, Hungary.

E/PII.51 PREPARATION AND CHARACTERIZATION OF MESOPOROUS SILICA FILMS AS CATALYST SUPPORTS ON BOROSILICATE GLASS

O. Muraza(a), P.J. Kooyman(b), E.V. Rebrov(a), M.H.J.M. de Croon(a), J.C. Schouten(a), (a)Laboratory of Chemical Reactor Engineering, Eindhoven University of Technology, P.O. Box 513, 5600 MB, Eindhoven, The Netherlands, (b)National Centre for High Resolution Electron Microscopy, Delft University of Technology, Delft, The Netherlands

Session VIII : Environmental and analytical applications: membrane separation, catalysis, sensors
Session chairs : Jin-Ho Choy and Corinne Gerardin

E-VIII.07 8:30 TiO2 THIN-FILMS ON POLYMER SUBSTRATES AND THEIR PHOTOCATALYTIC ACTIVITY
Jae-Hun Yang(a,b), Yang-Su Han(b) and Jin-Ho Choy(a), (a)Intelligent Nanohybrid Materials Laboratory, Division of Nanoscience & Department of Chemistry, Ewha Womans University, Seoul 120-750, Korea; (b)School of Chemistry and Molecular Engineering, Seoul National University, Seoul 151-747, Korea

E-VIII.08 8:45 TIO2 MESOPOROUS THIN LAYER-BASED PHOTOCATALYSTS FOR VISIBLE LIGHT GAS-PHASE TOLUENE DEGRADATION
Florence Bosc, David Edwards, Nicolas Keller, Valérie Keller, Laboratoire des Matériaux, Surface et Procédés pour la Catalyse, UMR 7515 CNRS, and ELCASS (European Laboratory for Catalysis and Surface Sciences), Université Louis Pasteur, 25 rue Becquerel BP 08 67087 Strasbourg Cedex 2, France, and André Ayral, Institut Européen des Membranes, UMR 5635 CNRS, ENSCM, Université de Montpellier II, CC047 – Place Eugène Bataillon, 34095 Montpellier Cedex 5, France

E-VIII.09 9:00 A GENERAL CO-CONDENSATION PROCESS LEADING TO HIGHLY FUNCTIONALISED ORDERED MESOPOROUS SILICA FILMS: GENERAL APPROACH AND APPLICATION AS ADVANCED SELECTIVE OPTICAL SENSORS
L. Nicole, F. Cagnol, D. Grosso, C. Boissière, C. Sanchez, Laboratoire de Chimie de la Matière Condensée, UMR 7574, Université Pierre et Marie Curie, 4 Place Jussieu, 75252 Paris Cedex 5, France

E-VIII.10 9:15 A SELECTIVE CHEMICAL SENSOR BASED ON PLASMONIC RESPONSE OF PHOSPHININES-STABILIZED GOLD NANOPARTICLES HOSTED ON A PERIODICALLY ORGANISED MESOPOROUS SILICA THIN FILM
A. Moores(a), F. Goettmann(b), P. Le Floch(a), C. Sanchez(b), (a)Laboratoire «Hétéroéléments et Coordination» UMR CNRS 7653 (DCPH), Département de Chimie, Ecole Polytechnique, 91128 Palaiseau cedex, France, (b)Laboratoire de Chimie de la Matière Condensée, UPMC-CNRS, 4 place Jussieu, 75005 Paris, France

E-VIII.11 9:30 HYBRID MESOPOROUS NANOREACTORS AS NEW SENSORS FOR BORON TRIFLUORIDE AND BORON TRICHLORIDE
Loïc Legagneux(a),Thu-Hoa Tran-Thi(a), Peter Hesemann(b), Jöel Moreau(b), Lionel Nicole(c), D. Grosso(c), C. Boissiere(c), A. Quach(c), Clément Sanchez(c), (a)CEA/Saclay, DSM/DRECAM/SPAM, Laboratoire Francis Perrin, URA CNRS 2453, 91191 Gif-sur-Yvette Cedex, France, (b)Ecole Nationale Supérieure de Chimie, UMR 5076, 8 rue de l'Ecole Normale, 34296 Montpellier Cedex 5, France, (c)Laboratoire de Chimie de la Matière Condensée, UMR CNRS 7574, Université Pierre et Marie Curie, 4, Place Jussieu, 75252 Paris Cedex 05, France

E-VIII.12 9:45 THIN FILMS OF NANOSTRUCTURED UREASE - LAYERED DOUBLE HYDROXIDE HYBRID MATERIALS FOR APPLICATION AS UREA BIOSENSORS
S. Vial, C. Forano, Laboratoire des Matériaux Inorganiques, CNRS 6002, Université Blaise Pascal, Aubière cedex, France, B. Mailhot, Laboratoire de Photochimie Moléculaire et Macromoléculaire, CNRS 6505, Université Blaise Pascal, Aubière cedex, France, H. Barhoumi, C. Martelet, N. Jaffrezic, CEGELY, UMR 5005, Ecole Centrale de Lyon 69134 Ecully Cedex, France

E-VIII.13 10:00 NiO/Fe2O3 POLYMER THICK FILMS AS ROOM TEMPERATURE GAS SENSORS
K. Arshak and I. Gaidan, Microelectronic and semiconductor Research Group, ECE Department, University of Limerick, Plassey Technological Park, Limerick, Ireland

E-VIII.14 10:15 CO SENSOR ACTUALIZED FROM MESOSTRUCTURED Au-DOPED SnO2 THIN FILMS USING SPRAY PYROLYSIS
Young Kyu Hwang, Niranjan Ramgir, Hye-kyung Kim, Jin-Soo Hwang, Imtiaz S. Mulla and Jong-San Chang, Research Centre for Nanocatalysts (RCNC), Korea Research Institute of Chemical Technology (KRICT), Yuseong, Korea

10:20 **BREAK**

Session IX : Electronic and optical applications
Session chairs : Hugh W. Hillhouse and Frank Marlow

E-IX.01 11:00 -Invited- SOME CHALLENGES IN THE INTEGRATION OF SEMICONDUCTOR TECHNOLOGY AND MOLECULAR ASSEMBLY
Michael H. Bartl(a,b), David R. Rink(c), Lidong Zhang(c), Evelyn L. Hu(a,c), Galen D. Stucky(a,b), (a)California NanoSystems Institute, (b)Department of Chemistry and Biochemistry, and (c)Department of Electrical and Computer Engineering, University of California, Santa Barbara CA 93106, USA

E-IX.02 11:30 STRUCTURE AND PROPERTIES OF LOW-N MESOPOROUS SILICA FILMS FOR OPTICAL APPLICATIONS
Denan Konjhodzic, Helmut Bretinger, Frank Marlow, Max-Planck-Institut für Kohlenforschung, 45470 Mülheim an der Ruhr, Germany

E-IX.03 11:45 WET SYNTHESIS OF SEMI- CONDUCTOR QUANTUM DOTs DISPERSED IN POLYANILINE FOR LUMINESCENT DEVICES
Rajendra Kumar Pandey, Diksha Kaushik,Madhulika Sharma, Ragini Sengar and Dhirendra Gupta, Department of Physics,Bhopal University, Bhopal 462 026, India

E-IX.04 12:00 INTERFACIAL STRUCTURE IN CONJUGATED POLYMER DEVICES
Anthony M. Higgins(a), Simon J. Martin(b), Mark Geoghegan(b), Sasha Heriot(b), Richard A.L. Jones(b), (a)Multidisciplinary Nanotechnology Centre, School of Engineering, University of Wales Swansea, Singleton Park, Swansea SA2 8PP, U.K., (b)Dept of Physics and Astronomy, University of Sheffield, Hounsfield Road, Sheffield S3 7RH, U.K.

E-IX.05 12:15 PHOTOREFLECTANCE STUDY OF MULTILAYER STRUCTURES OF NANOCRYSTALLINE CDSE IN INSULATOR MATRIX
G. Manolis(a), D. Papadimitriou(a), and D. Nesheva(a), (a)National Technical University of Athens, Department of Physics, 15780 Athens, Greece, (b)Institute of Solid State Physics, Bulgarian Academy of Sciences, 1784 Sofia, Bulgaria

E-IX.06 12:30 STRUCTURE AND "IN SITU" VIBRATIONAL ANALYSIS OF CLUSTER ASSEMBLED SILICON THIN FILMS
G. Compagnini, L. D'Urso, A.A. Scalisi, O. Puglisi, Dipartimento di Scienze Chimiche, Università di Catania, Viale A.Doria 6, 95125 Catania, Italy

12:45 **LUNCH**