

6<sup>th</sup> International ECNP Conference on

# Program

# Nanostructured Polymers and Nanocomposites

April 28-30, 2010  
Madrid (Spain)

## TUESDAY, APRIL 27<sup>th</sup> 2010

<b>TIMING</b>	<b>ROOM 8</b>	
18.00-20.00	<b>REGISTRATION OPEN</b>	

## WEDNESDAY, APRIL 28<sup>th</sup> 2010

8.00-9.00	<b>REGISTRATION</b>		
<b>TIMING</b>	<b>ROOM UNESCO</b>		
	<b>TITLE</b>	<b>SPEAKER</b>	
9:00-9:20	<b>WELCOME ADDRESS</b>		
	<b>Chairpersons: J.M. Kenny, J.F. Gerard</b>		
9:20-10:00	<b>INVITED LECTURE</b> <b>Engineered Interfacial Layers and Compatible Polymers for Organic Photovoltaics</b>	<b>T. J. Marks</b> <i>Center Northwestern University (USA)</i>	
	<b>SESSION I: FLEXIBLE ELECTRONICS</b>		
10:00-10:30	<b>KEY-NOTE LECTURE</b> <b>Highly Anisotropic Layers of Oligothiophenes</b>	<b>J. Ulanski</b> <i>Technical University of Lodz (Poland)</i>	
10:30-10:50	Thermoresponsive Plasmonic Polymer/Gold Nanostructures for Surface-Enhanced Spectroscopies	<b>C. Mangeney</b> <i>Université Paris Diderot (France)</i>	
10:50-11:10	Two-Step Electrospinning Production of Conductive PEDOT Nanofibers - Applications to Flexible Supercapacitors and Electrochromic Textiles	<b>A.Laforgue</b> <i>National Research Council Canada (Canada)</i>	
11:10-11:30	Nanostructured Inorganic-Organic Hybrids Based on Semiconducting Organic Nanofibres and Quantum Dots and their Application to Plastic Solar Cells	<b>F. Chandezon</b> <i>CEA Grenoble/INAC (France)</i>	
11:30-11:50	<b>COFFEE BREAK</b>		

	<b>Chairpersons: C. Mijangos, S. Russo</b>			
11:50-12:30	<b>INVITED LECTURE</b> <b>A Polymer Paradigm in the Organization of Inorganic Nanostructures</b>	<b>E. Kumacheva</b> <i>University of Toronto (Canada)</i>		
	<b>SESSION II: NANOSTRUCTURED HYBRIDS</b>			
12:30-13:00	<b>KEY-NOTE LECTURE</b> <b>Hyperbranched Polymers in Thin Film Applications</b>	<b>B. Voit</b> <i>Leibniz Institute of Polymer Research Dresden (Germany)</i>		
13:00-13:20	Hierarchirally Structured Nanoparticles on the Basis of Cross-Linked Micelles and Ionically Bound Low Molecular Weight or Macromolecular Counterions	<b>A. Yu. Bilibin</b> <i>Saint Petersburg State University (St.-Petersburg)</i>		
13:20-13:40	Scratch Resistant Tough Nanocomposite Epoxy Coatings Based on Hyperbranched Polyesters	<b>M. Sangermano</b> <i>Politecnico di Torino (Italy)</i>		
13:40-15:00	<b>LUNCH BREAK</b>			
	<b>ROOM 8</b>		<b>ROOM 9</b>	
	<b>SESSION III: NANOCOMPOSITES I</b>		<b>SESSION IV: MEMBRANES AND HYBRIDS</b>	
	<b>Chairperson: M. Stamm, J. San Roman</b>		<b>Chairperson. J. Ulanski, H. Sautereau</b>	
15:00-15:30	<b>KEY-NOTE LECTURE</b> <b>Nanostructuring of Polymers from Sol-gel Chemistry-Comparison with Conventional Approaches for nanocomposites</b>	<b>J. F. Gerard</b> <i>Ingénierie des Matériaux Polymères INSA Lyon (France)</i>	<b>KEY-NOTE LECTURE</b> <b>Composite Layers of Ionic Polythiophenes with Metal Nanoparticles: Electrical and Optical Properties</b>	<b>J. Pflieger</b> <i>Institute of Macromolecular Chem. (Czech Republic)</i>
15:30-15:50	Synthesis and Properties of Functional Nanoparticles, Nanostructures and Composites	<b>G. P Simon</b> <i>Monash University (Australia)</i>	Cellulose Acetate Copolymers with Nanostructured Architectures for the Purification of Bio-Fuels by the Pervaporation Membrane Process	<b>A. Jonquière</b> <i>Nancy Université, ENSIC (France)</i>
15:50-16:10	In-Situ Formation of Silica Particles in Isoprene Rubber by the Sol-Gel Method	<b>M. Messori</b> <i>Univ. of Modena e Reggio Emilia (Italy)</i>	Mass Transport in Nanocomposite Materials for Membrane Separations	<b>M. G. De Angelis</b> <i>Università di Bologna (Italy)</i>
16:10-16:30	Nanofillers for Hybrid Filler Networks	<b>M. Galimberti</b> <i>Pirelli Tyre SpA (Italy)</i>	Conversion Improvement of High Solids Waterborne Alkyd-acrylic Nanoscale Hybrid Systems and its Effect on Nanostructure	<b>M. Goikoetxea</b> <i>University of the Basque Country (Spain)</i>

16:30-16:50	Ionic Liquids a New Generation of Surfactants	<b>J. Duchet</b> <i>Université de Lyon (France)</i>	Soft Nanoparticles: Current Status and Perspectives	<b>J. Pomposo</b> <i>Donostia International Physics Center (Spain)</i>
16:50-17:10	Influence of Silanized Clay on the Molecular Mobility of Polycarbonate-based Nanocomposites	<b>L. A. Pessan</b> <i>Universidade Federal de São Carlos (Brasil)</i>	Ultrasonic Force Microscopy Investigation of SrTiO <sub>3</sub> Particles Embedded in a Polyvinyl Alcohol Matrix	<b>S. Marino</b> <i>University of Castilla la Mancha (Spain)</i>
17:10-17:30	Theoretical Study of Stabilization of Nanoparticles by Polymeric Surfactants	<b>E. Mayoral</b> <i>UIA (Mexico)</i>	Preparation of Poly-aniline-Modified Cadmium Hydroxide Nanowires	<b>V. Eskizeybek</b> <i>Selçuk University (Turkey)</i>
17:30-17:50	Advances in Small Scale Processing Equipment for Polymers and Additives	<b>B. Jakob</b> <i>Thermo Fisher Scientific (Germany)</i>	Light Scattering for Polymer Characterization	<b>L. Rouzic</b> <i>Wyatt Technology (France)</i>
17:50-19:00	<b>POSTER SESSION – COFFEE BREAK</b>			

## THURSDAY, APRIL 29<sup>th</sup> 2010

TIMING	ROOM 8		ROOM 9	
	TITLE	SPEAKER	TITLE	SPEAKER
	<b>Chairpersons: B. Voit, C. Galiotis</b>		<b>Chairpersons: L. Averous, A. Jimenez</b>	
9:00-9:40	<b>INVITED LECTURE</b> Design of Polymer Nanorod Arrays Using Self-Ordered Nanoporous Alumina Hard Templates	<b>M. Steinhart</b> <i>University of Osnabrück (Germany)</i>		
	<b>SESSION V: CARBON NANOTUBES I</b>		<b>SESSION VI: BIONANOCOMPOSITES I</b>	
9:40-10:10	<b>KEY-NOTE LECTURE</b> Viscoelasticity and Aggregation of Carbon Nanotubes in Semi-Dilute Suspensions	<b>Ph. Cassagnau</b> <i>Ingénierie des Matériaux Polymères INSA Lyon (France)</i>	<b>KEY-NOTE LECTURE</b> Polyester/Cellulose Nanowhisker Bionanocomposites : From Synthesis to Thermo-Mechanical Properties	<b>Ph. Dubois</b> <i>University of Mons (Belgium)</i>
10:10-10:30	Dispersability and Particle Size Distribution of Carbon Nanotubes in Aqueous Surfactant Dispersions	<b>B. Krause</b> <i>Leibniz IPF Dresden (Germany)</i>	Threshold Temperature Visual Indicators from Bio-Related Polymer Blends	<b>A. Pucci</b> <i>University of Pisa (Italy)</i>
10:30-10:50	CNT Treated Carbon Fibres for High Temperature Polymer Composites	<b>P. Fernberg</b> <i>Swerea SICOMP (Sweden)</i>	Estimation of Stiffness of Microfibrillated Cellulose based on Nanostructure Characterized by Transmission Electron Microscopy	<b>K. Gamstedt</b> <i>KTH (Sweden)</i>
10:50-11:10	Influence of Functionalization on the Mechanical Dispersion of MWCNT	<b>A. Ureña</b> <i>Universidad Rey Juan Carlos (Spain)</i>	In situ WAXS Characterization of the Strain-Induced Structural Evolution of Poly(D,L-Lactide) Blown Films	<b>R. Séguéla</b> <i>Université de Lille (France)</i>
11:10-11:40	<b>COFFEE BREAK</b>			
	<b>SESSION VII: COPOLYMERS</b>		<b>SESSION VIII: BIONANOCOMPOSITES II</b>	
	<b>Chairpersons: J.P. Pascault, I. Mondragon</b>		<b>Chairpersons: P. Dubois, J.M. Lagaron</b>	
11:40-12:10	<b>KEY-NOTE LECTURE</b> Copolymer Nanotemplates for Generation of Organised Nanostructures	<b>M. Stamm</b> <i>Leibniz Institute of Polymer Research Dresden (Germany)</i>	<b>KEY-NOTE LECTURE</b> Nano-Biocomposites Based on Biodegradable and Biobased Polymers. Analysis of the Structure-Properties-Process Relationships	<b>L. Averous</b> <i>University of Strasbourg (France)</i>
12:10-12:30	Phase Behaviour and Dynamics in a Symmetric Polystyrene-block-Poly(ethyl methacrylate) Copolymer	<b>A. Nogales</b> <i>Instituto de Estructura de la Materia, CSIC (Spain)</i>	Manufacturing and Structural Properties of Biodegradable Polymer/Montmorillonite Nanocomposites	<b>J. Zicans</b> <i>Riga Technical University (Latvia)</i>
12:30-12:50	Copolymers for Efficient Stabilization of Colloidal Particles	<b>I. I. Potemkin</b> <i>Moscow State University (Russia)</i>	Microstructural Effects and Thermal Conductivity in PLLA/MWCNT Composites	<b>J. R. Sarasua</b> <i>ETS de Ingeniería de Bilbao (Spain)</i>

12:50-13:10	Nanodomains Development in Polypropylene Block Copolymers	<b>M. T. Exposito</b> <i>Rey Juan Carlos University (Spain)</i>	Preparation, Structure and Properties of Thermoplastic Starch-Clay Nanocomposite Films	<b>B. Chen</b> <i>Trinity College Dublin (Ireland)</i>
13:10-13:30	Computer Simulations of Block Copolymer Dynamics: Soft Confinement in Nanostructured Phases	<b>A. Moreno</b> <i>Centro de Física de Materiales, CSIC (Spain)</i>	Preparation of Hybrid Organic-Inorganic Nanocomposites based on Poly( $\epsilon$ -Caprolactone) and Titanium	<b>A. V. Machado</b> <i>Institute of Polymers and Composites (Portugal)</i>
13:30-15:00	<b>LUNCH BREAK</b>			
	<b>Chairpersons: P. Cassagnau, L. Torre</b>		<b>Chairpersons: R. Verdejo, M.A. Lopez Manchado</b>	
15:00-15:40	<b>INVITED LECTURE</b> Nanoscale Organic-Inorganic Hybrids for Energy Applications	<b>E. P. Giannelis</b> <i>Cornell University (USA)</i>		
	<b>SESSION IX: HYBRIDS AND FIRE RETARDANCE</b>		<b>SESSION X: CARBON NANOTUBES II</b>	
15:40-16:10	<b>KEY-NOTE LECTURE</b> Thermal Degradation and Fire Retardance of Polymer Nanocomposites	<b>G. Camino</b> <i>Polytechnic of Turin (Italy)</i>	<b>KEY-NOTE LECTURE</b> Functionalization of Carbon Materials Using Diels-Alder Reaction	<b>V. Abetz</b> <i>Institute of Polymer Research, GKSS (Germany)</i>
16:10-16:30	Some Issues on Fire Response of Polymer Nanocomposites	<b>A. Dasari</b> <i>IMDEA Materials (Spain)</i>	Modulation of the Effect of Carbon Nanotubes in Nitrile Butadiene Rubber based Elastomer by the Control of the Process Parameters	<b>P. Verge</b> <i>University of Mons (Belgium)</i>
16:30-16:50	Nanohybrids based on Nanophasic Polymer Conetworks: The Application of the Nanoreactor Concept	<b>B. Ivan</b> <i>Institute of Materials and Environ. Chemistry (Hungary)</i>	Characterization of Multi-Walled Carbon Nanotubes and their Derivates	<b>C. Zenkel</b> <i>FutureCarbon GmbH (Germany)</i>
16:50-17:10	Chain-End Functionalized Polymers as a Tool to Control the Synthesis of Metal Nanoparticles	<b>M. Lazzari</b> <i>University of Santiago de Compostela (Spain)</i>	Surface Modification and Deposition of Large-Area Chemically Modified Graphene Films	<b>L. Valentini</b> <i>University of Perugia (Italy)</i>
17:10-17:30	Synthesis, Characterization and Film Formation Dynamics of Hybrid Silica-Poly(butyl methacrylate) Nanocomposite Dispersions	<b>K. I. Suresh</b> <i>Institute of Macromolecular Chemistry (Germany)</i>	Preparation and Properties of (Styrene-co-Acrylonitrile) Copolymer/Clay Nanocomposite Foams by Supercritical Fluid Technology	<b>M. Alexandre</b> <i>University of Liège (Belgium)</i>
17:30-17:50	Highly Open Porous Elastomeric PolyHIPE Solid Foam Reinforced by Organoclay	<b>M. R. Moghbeli</b> <i>Iran University of Science and Technology (Iran)</i>	A Vitrification and Curing Study by TMDSC-Photocalorimetry	<b>C. Gracia</b> <i>TA Instruments división de Waters Cromatografía</i>
17:50-19:00	<b>POSTER SESSION – COFFEE BREAK</b>			
21:00	<b>GALA DINNER</b>			

## FRIDAY, APRIL 30<sup>th</sup> 2010

TIMING	ROOM 8		ROOM 9	
	TITLE	SPEAKER	TITLE	SPEAKER
	<b>Chairpersons: C. Mijangos, M. Sangermano</b>		<b>Chairpersons: L. Berglund, P. Tiemblo</b>	
9:00-9:40	<b>INVITED LECTURE</b> Multifunctional Composite Colloidal Microgels	<b>L. M. Liz-Marzán</b> <i>Universidad de Vigo</i> (Spain)		
	<b>SESSION XI: NANOSTRUCTURED MATRICES</b>		<b>SESSION XII: CARBON NANOTUBES III</b>	
9:40-10:10	<b>KEY-NOTE LECTURE</b> Epoxy Polymers: New Materials and Innovations	<b>J. P. Pascault</b> <i>Ingénierie des Matériaux Polymères</i> <i>INSA Lyon (France)</i>	<b>KEY-NOTE LECTURE</b> Hybrid PANI/CNT Nano-composites Prepared by an Inverse Emulsion Polymerization Technique	<b>M. Narkis</b> <i>Technion-IIT (Israel)</i>
10:10-10:30	Thermo- and Electroresponsive Nanostructured Thermosetting Systems Modified with Liquid Crystal and TiO <sub>2</sub> Nanoparticles	<b>A. Tercjak</b> <i>University of the Basque Country (Spain)</i>	Polyethylene/Single Walled Carbon Nanotubes Nanocomposites	<b>K. Stoeffler</b> <i>National Research Center (Canada)</i>
10:30-10:50	Thermomechanical Fatigue of Segmented Polyurethanes. Evolution of Microstructures and Modeling of the Thermal Exchanges	<b>H. Sautereau</b> <i>Ingénierie des Matériaux Polymères</i> <i>INSA Lyon (France)</i>	Tuning by process of the Electrical Percolation Behaviour of Multiwalled Carbon Nanotubes/Epoxy Composites	<b>M. Giordano</b> <i>ICBMs, CNR (Italy)</i>
10:50-11:10	Microcellular Foaming of Amorphous Polymers in a Supercritical CO <sub>2</sub> Batch Process: Effect of Philic-Additives and Process Conditions on Microstructure	<b>J. A. Reglero Ruiz</b> <i>Université Bordeaux</i> (France)	Controlling the Dynamic Percolation of TPU/CNT Nanocomposites	<b>E. Bilotti</b> <i>Queen Mary Univ. of London (UK)</i>
11:10-11:40	<b>COFFEE BREAK</b>			
	<b>SESSION XIII: CARBON NANOTUBES IV</b>		<b>SESSION XIV: NANOSTRUCTURED FILMS</b>	
	<b>Chairpersons: A. Ureña, M. Alexandre</b>		<b>Chairpersons: J. Pflieger, M. Messori</b>	
11:40-12:10	<b>KEY-NOTE LECTURE</b> Mechanical Behaviour of Monolayer Graphene and Graphene-based Nanocomposites	<b>C. Galiotis</b> <i>ICEHT-FORTH</i> (Greece)	<b>KEY-NOTE LECTURE</b> Supramolecular Ordering of Nanostructured Polymers	<b>L. Matějka</b> <i>I. Macromol. Chem.</i> (Czech Republic)
12:10-12:30	Relaxation Phenomena in Chitosan-Carbon Nanotube Bionanocomposites	<b>E. Prokhorov</b> <i>Cinvestav del IPN</i> (Mexico)	Combination of Surface Modification Strategies: A Well-suited Route for Tailoring Properties of Nanostructured Polymer Films	<b>A. Charlot</b> <i>Université Lyon</i> (France)

12:30-12:50	New Strategies to Incorporate Carbon Nanotubes in Poly(ether ether ketone)	<b>A. M. Díez-Pascual</b> <i>ICTP-CSIC (Spain)</i>	Polymer Thin Films with in situ Grown Metal Nanoparticles: How to Control the Morphology	<b>E. Espuche</b> <i>Université Lyon (France)</i>
12:50-13:10	Novel Experimental Approach to Evaluate Filler Interactions in Rubber Nanocomposites	<b>J. L. Valentin</b> <i>ICTP-CSIC (Spain)</i>	Mechanics of Ultra-Thin Polymeric Films	<b>A. D'Amore</b> <i>University of Naples (Italy)</i>
13:10-13:30	High Resistance 2K PUR Coatings with Modified Siloxane Nanoparticles	<b>P. Vlasak</b> <i>Synpo a.s., (Czech Republic)</i>	Preparation of the Polymer/Silica Nanocomposites Via Solvent Crazing	<b>E. S. Trofimchuk</b> <i>Lomonosov Moscow State University (Russia)</i>
13:30-15:00	<b>LUNCH BREAK</b>			
	<b>Chairpersons: J.F. Gerard, B. Voit</b>		<b>Chairpersons: J. Kenny, R. Hernandez</b>	
15:00-15:40	<b>INVITED LECTURE</b> <b>POSS- and Metal POSS-based Polymer Systems</b>	<b>S. Russo</b> <i>Universita di Genova (Italy)</i>		
	<b>SESSION XV: POSS AND OTHER HYBRIDS</b>		<b>SESSION XVI: BIONANOCOMPOSITES III</b>	
15:40-16:00	Synthesis and Characterization of New Monofunctional POSS. Utilization as Dewetting Additive in Methacrylate based Self-standing Films	<b>F. Mammeri</b> <i>Univ. Paris Diderot (France)</i>	Tailoring the Nanostructure of Cellulose Composites, Hybrids and Aerogels	<b>L. Berglund</b> <i>KTH (Sweden)</i>
16:00-16:20	Porous and Worm-like Titanium Dioxide Nanostructures from PS- <i>b</i> -PEO based Micellar Solutions	<b>D. Scalalone</b> <i>University of Torino (Italy)</i>	Designing Nanostructured Biomaterials with Active and Bioactive Functionalities by Electrospinning	<b>J. M. Lagaron</b> <i>IATA-CSIC (Spain)</i>
16:20-16:40	Laser Efficiency Enhancement in Dye Doped POSS Materials Via Non-Resonant Feedback Lasing	<b>L. Cerdán</b> <i>Instituto de Química Física, CSIC (Spain)</i>	New Hybrid Materials Based on Combination of Enzymes and Self-Assembling Copolymers	<b>C.G. Palivan</b> <i>University of Basel (Switzerland)</i>
16:40-17:00	Molecular Motions of POSS Cages and Interfacial PPO Chains in a Model PPO/POSS Nanocomposite	<b>C. Lorthioir</b> <i>East-Paris Institute of Chemistry and Mat. Sci., CNRS (France)</i>	Bionanocomposites based on the Synergistic Use of Sepiolite Fibres and Carbon Nanotubes as Nanofillers	<b>F.M. Fernandes</b> <i>Materials Science Institute, CSIC (Spain)</i>
17:00-17:20	Structure and Mechanical Behaviour of Spherical Nanosilica-based PET Waste Composites	<b>R. Jeziórska</b> <i>Industrial Chemistry Research Institute (Poland)</i>	Nanostructured Polysaccharides on the Chitosan Bombyx Mori Base and Possibility their Using in Medicine	<b>R.Yu. Milusheva</b> <i>Institute of Polymer Chemistry and Physics Academy of Sciences (Uzbekistan)</i>
17:20	<b>CLOSING OF THE CONFERENCE</b>			



