

Program Overview of the 4th International Workshop on Polymer/Metal Nanocomposites

Wednesday September 2nd 2009

8:00 – 9:30 REGISTRATION (Room S6)

9:30 – 9:45 Opening Remarks (Hall S5)

Session chairman: Milan Tichý

9:45 – 10:30 T.P. Radhakrishnan: *Polymer thin films embedded with in situ grown metal nanostructures* – Invited lecture

10:30 – 11:15 A. Pucci: *Optical properties of polymer/metal nanocomposites and application as smart materials* – Invited lecture

11:15 – 11:30 coffee break

11:30 – 11:50 Shigehito Deki, Takashi Hasegawa and Minoru Mizuhata: *Synthesis of Metal Oxide Nanoparticles in Restricted Space of Perfluorosulfonate Ionomeric Membrane: Nafion®*

11:50 – 12:10 W. L. Tan, M. Abu Bakar: *Studies on LiCF₃SO₃-doped magnetite-ENR polymer electrolytes*

12:10 – 12:30 Haybat Itani, Patrick Keil, Monika Santa, Aleksander Kostka, Guido Grundmeier: *Spectroscopic Studies of the Structure and Stability of Silver Nanoparticles in LBL Polyelectrolyte Films*

12:30 – 12:50 Dmitri Muraviev, Amanda Alonso, Jordi Mas and Maria Muñoz: *Environmentally-safe polymer-metal nanocomposites*

13:00 – 14:00 Lunch

14:00 – 15:00 Poster Session

P1 Z. Křižanová, I. Krupa, V. Cecen, J. Prokeš, I. Vávra: *Structural and electrical properties of nanocomposites based on the EVA copolymer filled with nano-structuralized graphite*

P2 W. L. Tan, N.A. Mohd. Akib, N.H. Mohd. Hirmizi, M. Abu Bakar and J. Ismail: *Filtering Effect of the Polymer on Particles upon Aqueous to Organic Phase Transfer*

P3 S. Novák, M. Švec, R. Hrach, J. Pavlík: *Electrical properties of composite films*

P4 P. Bartoš, J. Blažek, P. Špatenka: *Charging of small particulates in plasma: study by computer simulations*

P5 G.G. Gumarov, A.I. Gumarov, V.Yu. Petukhov, N.R. Khabibullina, V.F. Valeev: *Magnetic properties of silicide nanoparticles ion-beam-synthesized in the external magnetic field*

P6 Josef Paul, Lucie Bačáková, Vladimír Starý, Ladislav Cvrček, Stanislav Daniš: *Structure and mechanical properties of biocompatible ZrN film on various substrates*

P7 M. Vandrovcová, A. Grinevich, L. Bačáková, V. Lisa, A. Shukurov, D. Slavinská, H. Biederman: *Effect of different concentration of Ti in hydrocarbon plasma polymer films on the adhesion, proliferation and differentiation of human osteoblast-like MG63 cells*

P8 G. G. Gumarov, M.M. Akhmetov, V.Yu. Petukhov, E.P. Zheglov, G.N. Konygin, R. B. Zaripov: *EPR study of nanodispersed calcium gluconate*

P9 J. Matoušek, J. Pavlík, L. Kováčik, M. Švec: *Tin/n-hexane nanocomposite films and their electrical properties*

P10 A. Patra, J. Piard, R. Métivier, K. Nakatani, T. P. Radhakrishnan: *Molecular nano/micro crystals: fabrication and optical properties*

P11 M. Neuber, J. Lucas, G. Hanke, A. Heilmann: *Laser Welding of Polymer Foils by using embedded Metallic Nanoparticles*

Session chairman: Shigehito Deki

15:00 – 15:20 Stephan V. Roth, Rainer Gehrke, Ulla Vainio, Kai Schlage, Ralf Röhlberger: *Investigating in-situ the formation of biofibre-metal nanocomposites with GISAXS*

15:20 – 15:40 Darin Zimmerman, Richard Bell, Joseph Filer II, Joshua Karli, Norman Wereley: *Percolation behavior of cobalt-nanowire-based magnetorheological fluids*

15:40 – 16:00 Fanggao Chang, Feng Yang, D. P. Almond, Shaoxiang Wang, Na Zhang, and Guilin Song: *Electrical properties of Ni-silicone rubber piezoresistive composites under uniaxial pressure*

16:20 – 18:00 Welcome party and organ concert (Refectory)

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Thursday September 3rd 2009

Session chairman: Walter Caseri

- 9:00 – 9:45 Luca Ravagnan: *Cluster beam deposition: a tool for nanoscale science and technology* – Invited lecture
- 9:45 – 10:30 Andreas Heilmann: *Laser-induced coalescence and agglomeration of noble metal nanoparticles embedded in a polymer matrix* – Invited lecture
- 10:30 – 10:50 Vladimír Čech, R. Trivedi, B. Čechalová, J. Studýnka: *Nanolayered composites of plasma polymer films*
- 10:50 – 11:10 H.T. Beyene, F. D. Tichelaar, M.C.M van de Sanden and M. Creatore: *Plasma deposition of dielectric/metal nanocomposite layers exhibiting surface plasmon resonance effects*
- 11:10 – 11:30 coffee break
- 11:30 – 11:50 Aleš Marek, J. Vyskočil, J. Valter, P. Plíhal: *Magnetron based gas-aggregation deposition system – nanoclusters production and stability*
- 11:50 – 12:10 J. Hanuš, O. Kylián, A. Artemenko, J. Kousal, J. Pešička, D. Slavinská, H. Biederman: *Nanocomposite metal/plasma polymer films prepared by means of gas aggregation cluster source*
- 12:10 – 12:30 Pavel Solář, A. Choukourov, J. Hanuš, D. Slavinská, H. Biederman: *Magnetron Glancing Angle Deposition of Nanocomposite Thin Films*
- 12:30 – 12:50 Vladimir Zaporojtchenko, C. Pakula, H. Takele, V.S.K. Chakravadhanula, A. Kulkarni, C. Pochstein, H. Greve, T. Strunskus and F. Faupel: *Nanocomposite Films with Embedded Metal Nanoparticles Near the Percolation Threshold - Physico-Chemical Properties and Applications*
- 13:00 – 14:00 Lunch
- Session chairman:** Franz Faupel
- 14:10 – 14:30 Susanne Seyffarth and Hans-Ulrich Krebs: *Preparation of PMMA/Cu-Nanocomposites by pulsed laser deposition*
- 14:30 – 14:50 F. Choffat, M. Fontana, J. Bremi, P. Smith, Walter Caseri: *Polymeric Metal Wires*
- 14:50 – 15:10 Ezzeldin Metwalli, K. Schlage, V. Körstgens, S. Couet, R. Meier, G. Kaune, S.V. Roth, R. Röhlberger, P. Müller-Buschbaum: *Real time GISAXS study of magnetic nanoparticle assemblies on polymer templates*
- 15:10 – 15:30 G. Kaune, M.A. Ruderer, E. Metwalli, R. Meier, W. Wang, S. Couet, K. Schlage, R. Röhlberger, S. V. Roth, P. Müller-Buschbaum: *Growth of metal thin films on conductive polymer surfaces*
- 15:30 – 16:00 coffee break
- 16:00 – 16:20 Yogendra K. Mishra, S. Jebil, D. C. Agarwal, V. S. K. Chakravadhanula, V. Zaporojtchenko, D. K. Avasthi, R. Adelung and F. Faupel: *Noble metal-polymer nanocomposites as plasmonics and optoelectronics*
- 16:20 – 16:40 Mathias A. Ruderer, R. Meier, P. Müller-Buschbaum: *Enhanced light harvesting in semiconducting nanoparticle/polymer composites*
- 16:40 – 17:00 Mottakin M. Abul Kashem, Jan Perlich, Alexander Diethert, Weinan Wang, Mine Memesa, Jochen S. Gutmann, Eva Majkova, Ignác Capek, Peter Müller-Buschbaum & Stephan V. Roth: *Particle co-operated self-assembly in thin film of diblock copolymer*
- 19:00 – Conference dinner (Restaurant "House for Professed")

Program Overview of the 4th International Workshop on Polymer/Metal Nanocomposites

Friday September 4th 2009

Session chairman: Hynek Biederman

- 9:00 – 9:45 Bernard Despax, C. Saulou, P. Raynaud, M. Mercier-Bonin, S. Zanna and P. Marcus: *Nanocomposite films metal/plasma polymer for biomedical applications* – Invited lecture
- 9:45 – 10:30 Eloisa Sardella, R. Gristina, M. Altomare, D. Caruso, G. Da Ponte, C. Ingrosso: *Plasma deposited nanocomposite coatings for biomedical applications: silver and hydroxyapatite containing thin films* – Invited lecture
- 10:30 – 10:50 Toshifumi Takeuchi: *Molecularly Imprinted Organic/Inorganic Hybrid Materials Capable of Protein Recognition Prepared by Liquid Phase Deposition*
- 10:50 – 11:10 Enrico Körner, A. Ritter, P. Rupper, E. Michel, D. Hegemann: *Design of bioactive Ag-Nanocomposites with a single-step plasma process*
- 11:10 – 11:30 coffee break

Session chairman: Andreas Heilmann

- 11:30 – 11:50 Lucie Bačáková, Chadi Ali, Zdeněk Čejka, Martin Pařízek, Marta Vandrovcová, Lubica Grausová, Věra Lisá: *Adhesion, growth and differentiation of human osteoblast-like MG 63 cells on metallic and polymeric materials developed for artificial joint replacements*
- 11:50 – 12:10 S. Clémenson, Elianne Espuche, L. David: *Polymer/metal hybrid membranes : from in situ nanostructuring process to modulated functional properties*
- 12:10 – 12:30 Antonella Milella, E. Dilonardo, F. Palumbo, S. Martin, R. d'Agostino, F. Fracassi: *Plasma deposited platinum-containing nanocomposite films as catalysts for fuel cells*
- 12:30 – 12:50 Minoru Mizuhata, Katsumasa Matsumoto, Yoshikazu Miyachi, Masako Oga, Shigehito Deki: *Fabrication of Pt/Conductive Polymer Composite for Durability Improvement of Catalyst for Fuel Cells*
- 13:00 – 14:00 Lunch and IOC Meeting

Session chairman: Hynek Biederman

- 14:15 – 15:00 General Discussion
- 15:00 – 15:30 Closing of Workshop