

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: <i>Polymer thin films embedded with in situ grown metal nanostructures – Invited lecture</i>	10
10:30 – 11:15	A. Pucci: <i>Optical properties of polymer/metal nanocomposites and application as smart materials – Invited lecture</i>	12
11:15 – 11:30	coffee break	
11:30 – 11:50	<u>Shigehito Deki</u> , Takashi Hasegawa and Minoru Mizuhata: <i>Synthesis of Metal Oxide Nanoparticles in Restricted Space of Perfluorosulfonate Ionomeric Membrane: Nafion®</i>	14
11:50 – 12:10	<u>W. L. Tan</u> , M. Abu Bakar: <i>Studies on LiCF₃SO₃-doped magnetite-ENR polymer electrolytes</i>	16
12:10 – 12:30	<u>Haybat Itani</u> , Patrick Keil, Monika Santa, Aleksander Kostka, Guido Grundmeier: <i>Spectroscopic Studies of the Structure and Stability of Silver Nanoparticles in LBL Polyelectrolyte Films</i>	18
12:30 – 12:50	<u>Dmitri Muraviev</u> , Amanda Alonso, Jordi Mas and Maria Muñoz: <i>Environmentally-safe polymer-metal nanocomposites</i>	20
13:00 – 14:00	Lunch	
14:00 – 15:00	Poster Session	
P1	<u>Z. Křižanová</u> , I. Krupa, V. Cecen, J. Prokeš, I. Vávra: <i>Structural and electrical properties of nanocomposites based on the EVA copolymer filled with nano-structuralized graphite</i>	22
P2	W. L. Tan, N.A. Mohd. Akib, N.H. Mohd. Hirmizi, <u>M. Abu Bakar</u> and J. Ismail: <i>Filtering Effect of the Polymer on Particles upon Aqueous to Organic Phase Transfer</i>	24
P3	<u>S. Novák</u> , M. Švec, R. Hrach, J. Pavlík: <i>Electrical properties of composite films</i>	26
P4	<u>P. Bartoš</u> , J. Blažek, P. Špatenka: <i>Charging of small particulates in plasma: study by computer simulations</i>	28
P5	<u>G.G. Gumarov</u> , A.I. Gumarov, V.Yu. Petukhov, N.R. Khabibullina, V.F. Valeev: <i>Magnetic properties of silicide nanoparticles ion-beam-synthesized in the external magnetic field</i>	30
P6	<u>Josef Paul</u> , Lucie Bačáková, Vladimír Starý, Ladislav Cvrček, Stanislav Daniš: <i>Structure and mechanical properties of biocompatible ZrN film on various substrates</i>	32
P7	<u>M. Vandrovcová</u> , A. Grinevich, L. Bačáková, V. Lisa, A. Shukurov, D. Slavinská, H. Biederman: <i>Effect of different concentration of Ti in hydrocarbon plasma polymer films on the adhesion, proliferation and differentiation of human osteoblast-like MG63 cells</i>	34
P8	<u>G. G. Gumarov</u> , M.M. Akhmetov, V.Yu. Petukhov, E.P. Zheglov, G.N. Konygin, R. B. Zaripov: <i>EPR study of nanodispersed calcium gluconate</i>	36
P9	<u>J. Matoušek</u> , J. Pavlík, L. Kováčik, M. Švec: <i>Tin/n-hexane nanocomposite films and their electrical properties</i>	38
P10	<u>A. Patra</u> , J. Piard, R. Métivier, K. Nakatani, T. P. Radhakrishnan: <i>Molecular nano/micro crystals: fabrication and optical properties</i>	40
P11	<u>M. Neuber</u> , J. Lucas, G. Hanke, A. Heilmann: <i>Laser Welding of Polymer Foils by using embedded Metallic Nanoparticles</i>	42
	Session chairman: Shigehito Deki	
15:00 – 15:20	<u>Stephan V. Roth</u> , Rainer Gehrke, Ulla Vainio, Kai Schlage, Ralf Röhlberger: <i>Investigating in-situ the formation of biofibre-metal nanocomposites with GISAXS</i>	44
15:20 – 15:40	<u>Darin Zimmerman</u> , Richard Bell, Joseph Filer II, Joshua Karli, Norman Wereley: <i>Percolation behavior of cobalt-nanowire-based magnetorheological fluids</i>	46
15:40 – 16:00	<u>Fanggao Chang</u> , Feng Yang, D. P. Almond, Shaoxiang Wang, Na Zhang, and Guilin Song: <i>Electrical properties of Ni-silicone rubber piezoresistive composites under uniaxial pressure</i>	48
16:20 – 18:00	Welcome party and organ concert (Refectory)	

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

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 50
- 9:45 – 10:30 A. Heilmann: *Laser-induced coalescence and agglomeration of noble metal nanoparticles embedded in a polymer matrix* – Invited lecture 52
- 10:30 – 10:50 Vladimír Čech, R. Trivedi, B. Čechalová, J. Studýnka: *Nanolayered composites of plasma polymer films* 54
- 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* 56
- 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* 58
- 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* 60
- 12:10 – 12:30 Pavel Solař, A. Choukourov, J. Hanuš, D. Slavinská, H. Biederman: *Magnetron Glancing Angle Deposition of Nanocomposite Thin Films* 62
- 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* 64
- 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* 66
- 14:30 – 14:50 F. Choffat, M. Fontana, J. Breml, P. Smith, Walter Caseri: *Polymeric Metal Wires* 68
- 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* 70
- 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* 72
- 15:30 – 16:00 coffee break
- 16:00 – 16:20 Yogendra K. Mishra, S. Jebril, 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* 74
- 16:20 – 16:40 Mathias A. Ruderer, R. Meier, P. Müller-Buschbaum: *Enhanced light harvesting in semiconducting nanoparticle/polymer composites* 76
- 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* 78
- 19:00 – Conference dinner (Restaurant "House for Professed")

Friday September 4th 2009

Session chairman: Hynek Biederman

- 9:00 – 9:45 B. Despax: *Nanocomposite films metal/plasma polymer or biomedical applications* – Invited lecture 80
- 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 82
- 10:30 – 10:50 Toshifumi Takeuchi: *Molecularly Imprinted Organic/Inorganic Hybrid Materials Capable of Protein Recognition Prepared by Liquid Phase Deposition* 84
- 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* 86
- 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* 88
- 11:50 – 12:10 S. Clémenson, Elianne Espuche, L. David: *Polymer/metal hybrid membranes : from in situ nanostructuring process to modulated functional properties* 90
- 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* 92
- 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* 94
- 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

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