

COST Action D43:
Colloid and Interface Chemistry
for Nanotechnology



Spring Meeting 2010
Genoa - March 16th - 18th, 2010

Joint Meeting of Workgroups 3,4,5,6

Special Session:
Nanoparticles and Interfaces for Energetic Technologies

Co-sponsored by:



Dipartimento
di Energia e Trasporti



Institute for Energetics
and Interphases

2010 Spring meeting of COST D43 European network at CNR –IENI, Genoa, Italy

Joint Meeting of COST D43 Workgroups 3, 4, 5 and 6

Special Session: Nanoparticles and Interfaces for Energetic Technologies

Place of Meeting:

CNR – Consiglio Nazionale delle Ricerche
Area della Ricerca di Genova
Via De Marini 6,
16149 Genoa,
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Local Organizer:

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	Tuesday, March 16th
14:00 – 14:30	Opening, welcome and registration
14:30 – 15:45	Session with presentations of WG5 (Chairman: Zbigniew Adamczyk) “Active and Functional Interfaces”
14:30 – 14:55	<i>Interactions between charged surfaces and polyamines</i> K. Bohinc Co-author: D. Kovačević
14:55 – 15:20	<i>Calorimetric investigation of specific ionic effects on interactions of oppositely charged polyelectrolytes</i> D. Kovasevic Co-author: Josip Požar
15:20 – 15:45	<i>The development of nanostructured surfaces via polymer self-assembly for electronic applications</i> M. Morris
15:45 – 16:15	COFFEE BREAK
16:15 – 18:00	Session with presentations of WG6 (Chairman: Reinhard Miller) “Soft Nanoscale Devices and Machines”
16:15 – 16:40	<i>Bulk and interface exchange in single drops: Experiments and CFD simulations</i> A. Javadi Co-authors: J.K. Ferri, Th.D. Karapantsios, R. Miller
16:40 – 17:05	<i>Effect of hexane vapour on dynamic surface tension of water and aqueous surfactant solutions</i> N. Moradi Co-authors: A. Javadi, R. Miller
17:05 – 17:30	<i>Hydrodynamics of a water droplet in paraffin oil</i> M. Antoni Co-authors: Adil Lekhlifi, Jallil Ouazzani
17:30 – 17:55	<i>From spherical to polymorphous dispersed phase in water in oil emulsions</i> S. Limage Co-authors: M. Schmitt, J. Krägel, D. Grigoriev, L. Liggieri, R. Miller, V. Dutschk, S. Vincent-Bonnieu, M. Antoni
20:00	DINNER IN GENOA DOWNTOWN

	Wednesday, March 17th
9:00 – 12:30	Session with presentations of WG3 (Chairman: Regine von Klitzing) “Responsive Soft-Materials Through Self-Assembly”
9:00 – 9:25	<i>Elastic langmuir layers and membranes subjected to unidirectional compression: wrinkling and collapse</i> P. A. Kralchevsky Co-authors: K. D. Danov, S. D. Stoyanov
9:25 – 9:50	<i>Formulation and characterization of microemulsions based on mixed nonionic surfactants and peppermint oil</i> M. Fanun
9:50 – 10:15	<i>Mixed micelles of soluble and insoluble surfactants: competition between micellization and crystallization and the effect of counterion binding</i> K. Danov Co-authors: P. A. Kralchevsky, S. S. Kirkova, M. P. Boneva, A. J. Post, K. P. Ananthapadmanabhan, A. Lips
10:15 – 10:40	<i>Interaction between anionic biopolymer and cationic surfactant</i> F. Mravec Co-authors: T. Halasová, F. Stiborský, K. Vašíčková, M. Pekař
10:40 – 11: 10	COFFEE BREAK
11:10 – 11:35	<i>Ultrasound spectroscopy of hyaluronan-surfactant interactions</i> M. Pekar
11:35 – 12:00	<i>Investigation of the relationship between hydrogen bonds and properties in hybrid core-shell γ-Fe₂O₃-p(NIPAM-AAS) microgels</i> E. Lopez-Cabarcos Co-author: J. Rubio Retama
12:00 – 12:25	<i>Control of swelling behaviour of PNIPAM microgels for immobilisation of proteins at solid surfaces</i> R. von Klitzing Co-authors: A. Burmistrova, K. Gawlitza
12:30 – 13:30	LUNCH
13:30 – 14:30	Meeting for the next Cost Meeting Organization
14:30- 16:40	Session with presentations of Special Session (Chairman: Libero Liggieri) “Nanoparticles and Interfaces for Energetic Technologies”
14:30 – 14:55	<i>Nanostructured fuels and energetic materials</i> P. Massoli CNR-IM (Invited)
14:55 – 15:20	<i>Highly organized self-assembled nanostructured titania on microporous alumina thin film</i> M. Habibi Co-author: M. Zendedel

15:20 – 15:45	Nanostructured oxides for advanced energy conversion. Synthesis and properties. V. Buscaglia Co-authors: A. Bassano, M.T. Buscaglia, G. Canu, P. Nanni, S. Presto, M. Viviani
15:45 – 16:10	<i>Carbonaceous particles at w/a and w/h interfaces: investigation on the interfacial properties and their correlation with the corresponding foams and emulsions.</i> E. Santini Co- authors: F. Ravera, M. Ferrari, M. Alfè, A. Ciajolo, L. Liggieri
16:10 – 16:35	<i>Stabilization of lead sulfide nanoparticles by polyelectrolytes in aqueous solutions</i> E. Leontidis Co-authors: E. Koupanou, S. Ahualli, Á. Delgado, O. Glatter, F. Krumeich
16:40 – 18:00	COFFEE BREAK + POSTER SESSION
20:00	DINNER IN GENOA DOWNTOWN

	Thursday, March 18th
9:00 – 12:30	Session with presentations of WG4 (Chairman: Thomas Zemb) “Nanostructured and Bio-Inspired Materials”
9:00 – 9:25	<i>Nano-structured Lyotropic Phases for Formulating Hierarchically Organized Emulsions</i> O. Glatter Co-author: C. V. Kulkarni
9:25 – 9:50	<i>Characterization of nanoparticle formation from nano-emulsions via solvent evaporation</i> M. Obiols-Rabasa Co-authors: G. Calderó, P. Schurtenberger, M. J. García-Celma, C. Solans
9:50 – 10:15	<i>What controls “wall thickness” in mesoporous materials?</i> A. Grandjean Co-authors: G. Toquer, T. Zemb
10:15 – 10:40	<i>Assembly of magnetic nanoparticles into higher structures on patterned magnetic beads under influence of magnetic field</i> S. Bucak Co-authors: T. Ozdemir, D. Sandal, M. Culha, A. Sanyal, N. Z. Atay
10:40 – 11:10	COFFEE BREAK
11:10 – 11:35	<i>Oil-in-water microemulsions as confined reaction media for the synthesis of ultrafine mesoporous oxides for catalytic applications</i> M. Sánchez-Domínguez Co-authors: L. Liotta, G. Di Carlo, G. Pantaleo, A. M. Venezia, C. Solans, M. Boutonnet
11:35 – 12:00	<i>Nanostructured polymer thin films based on oblique angle polymerization</i> G. Demirel Co-author: M. C. Demirel
12:00 – 12:25	<i>Separation of metal cations with amphiphilic cations by liquid-solid extraction</i> W. Müller Co-authors: C. Déjournat, O. Diat, T. Zemb
12:30 – 13:30	Four Parallel Sessions: One per work-group
	CLOSING

	Posters
WG3	<i>Synthesis of pH responsive crosslinked membrane by the surface-initiated atom transfer radical polymerization</i> B. Elmas Co-author: T. E. Bedri
	<i>Development of novel star shaped membrane having ionic moiety</i> T. E. Bedri Co-authors: B. Elmas, E. E. Unveren
WG4	<i>Synthesis of cobalt nanoparticles from w/o and o/w microemulsions. Effect of the mode of preparation on the structural properties of cobalt supported on silica</i> G. Di Carlo Co-authors: M. Sanchez-Dominguez, M. Lualdi, C. Solans, M. Boutonnet
	<i>Dodecyltrimethylammonium chloride in aqueous sodium salicylate solutions: A thermodynamic study</i> B. Šarac Co-authors: J. Cerkovnik, M. Bešter-Rogač
WG5	<i>Structures of fibrinogen layers on mica determined by afm, streaming potential and the colloid enhancement</i> Z. Adamczyk Co-authors: M. Wasilewska, M. Nattich, J. Barbasz
	<i>Zeta potential characteristics of polythiophene and polythiophene/borax composite colloidal dispersions</i> H. I. Unal Co-authors: O.Y. Gümüs, O. Erol, M. Ersoz
	<i>Molecular design for reversibly photoresponsive surfaces</i> G. B. Demirel Co-authors: M. Çakmak, T. Çaykara
	<i>Self-assembly of colloidal particles on glass surfaces</i> M. Ersoz Co-authors: İ. H. Gubbuk, B. Ertekin, L. Gurfidan, O. Oguzhan, H. I. Unal
	<i>Protein-polyelectrolyte interactions</i> R. Curtis Co-authors: D. Robers
WG6	<i>Adsorption studies of ionic surfactant at water/oil interfaces</i> R. Miller Co-authors: A. Javadi, N. Mucic, A. Sharipova, V. Pradines, N. Moradi, J. Krägel
	<i>Interfacial shear and dilational rheology of adsorption layers of mixed protein- surfactant layers at water/air and water/hexane interfaces</i> J. Krägel Co-authors: C. Kotsmar, V. Pradines, R. Wüstneck, N. Mucic, E.V. Aksenenko, V.B. Fainerman, M.E. Leser and R. Miller
	<i>Interfacial Properties of Water/Hydrocarbon Systems: Experimental Study of High-Frequency Drop Oscillations</i> G. Loglio
Special Session	<i>Biosorption of tertiary butyl alcohol by yeast using nanofilter</i> G. Emtiazi Co-authors: E. Heydari, T. Saleh

	<p><i>The FP7 Collaborative Project IDEAL-Cell, Innovative Dual mEmbrAne fueL-Cell</i></p> <p>M. Viviani</p> <p>Co-authors: S. Presto, V. Buscaglia, A. Barbucci, P. Carpanese , P. Piccardo, R. Amendola</p>
	<p><i>Oxygen tensioactive effect on molten Pb-Bi system</i></p> <p>D. Giuranno</p> <p>Co-authors: R. Novakovic, E. Arato, E. Ricci</p>
	<p><i>Gas-liquid interactions in metal vaporisation processes</i></p> <p>D. Giuranno</p> <p>Co-authors: E. Arato, E. Ricci, P. Costa</p>
	<p><i>Particle size distribution of flame-formed polydispersed carbonaceous material</i></p> <p>M. Alfè</p> <p>Co-authors: B. Apicella, R. Barbella, A. Tregrossi, A. Ciajolo</p>
	<p><i>Wetting studies of surfactant solutions in liquid environment on superhydrophobic surfaces</i></p> <p>M. Ferrari</p> <p>Co-authors: L. Liggieri, F. Ravera, E. Santini</p>