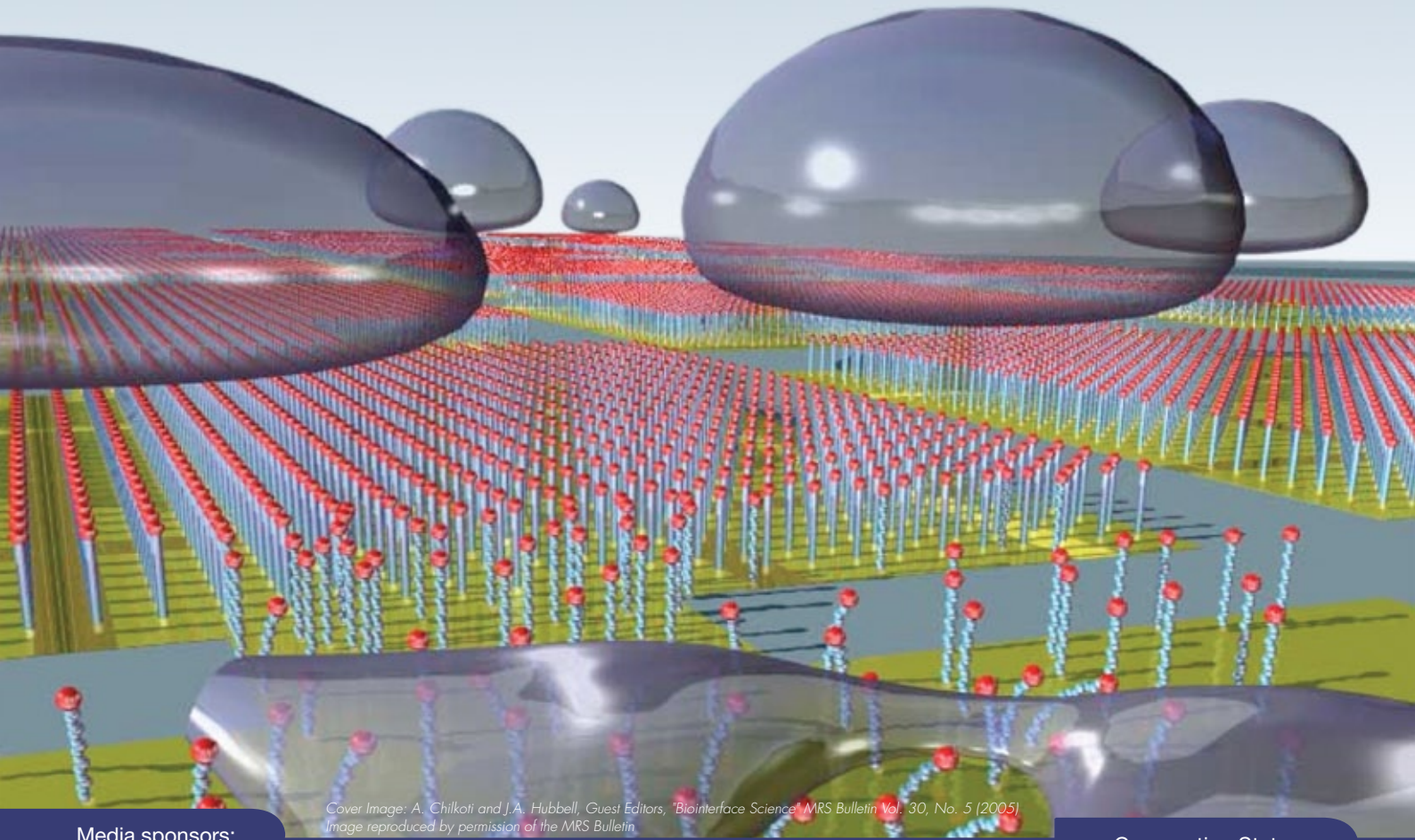


1st International Conference

Smart Polymer Systems

5-6 May, Atlanta, USA

2010



Cover Image: A. Chilkoti and J.A. Hubbell, Guest Editors, "Biointerface Science" MRS Bulletin Vol. 30, No. 5 (2005)
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Smart Polymer Systems 2010

Finding the next “blockbuster”...

Scientific developments have led to the commercialization of polymers that respond dramatically to small external stimuli. Pharmaceutical, cosmetic, aerospace, sports and automotive industries are just some of the sectors interested in using these predictable structural changes in polymers to their advantage both in current and future products.

Stimuli-responsive materials, sometimes referred to as “smart” or “intelligent” materials, prepared from thermo-, light-responsive, or pH-sensitive polymer systems have gained widespread interest in the material science and engineering communities, proving to be especially lucrative for the high technology markets. In particular, smart polymers have already opened new frontiers in medical diagnostics, pharmaceuticals, implants and therapies and other sectors are poised to follow suit.

*i*Smithers’ inaugural conference, **Smart Polymer Systems**, will highlight the most recent advances and developments in this rapidly evolving field and provide attendees with a broad and comprehensive outlook on the emerging trends, perspectives, and limitations of the technological applications of various classes of stimuli-responsive polymer materials.

An impressive panel of speakers from industry and academia including Unilever, Procter & Gamble, DSM, MIT, Duke, Stanford and Clarkson Universities will showcase the scope of these “smart” materials, their potential applications and how you might capitalize on this emerging technology.

Early Registration Offers

Register before 19 March 2010 to take advantage of the special Early Bird Discount registration fee.

Companies sending one or two delegates

\$950 per delegate before 19 March 2010

\$1100 per delegate after 19 March 2010

Companies sending three or more delegates

\$850 per delegate before 19 March 2010

\$1000 delegate after 19 March 2010

Academic Fee - PLEASE QUOTE CODE ‘NFP’

\$500 per delegate before 19 March 2010

\$600 delegate after 19 March 2010

Registration includes a copy of the proceedings, lunches and refreshments during the day. The cost of accommodation is not included in the delegate registration fee.

Conference Venue

Holiday Inn Atlanta Capitol Conference Ctr. Hotel

450 Capitol Avenue, Atlanta, Georgia 30312

Phone: + 1 (404) 591-2000, Fax: + 1 (404) 591-2001

Toll Free: (800) 972-2404

The Holiday Inn Capitol Conference Center is situated adjacent to Turner Field, approximately ten miles from Atlanta Hartsfield International Airport. Local attractions include CNN Center, Underground Atlanta, Centennial Olympic Park, Georgia Dome, and Buckhead. The hotel is only minutes away from shopping, dining, entertainment and the arts.



Accommodation

We are holding a number of rooms at the Holiday Inn Capitol Conference Center Hotel at a specially negotiated rate of \$99 per night. We’ve also teamed up with leading price comparison website “Hotels Combined” to offer you a list of competitively priced hotel accommodation elsewhere in Atlanta. Book your room via their website and you will be eligible to a 10% rebate on your costs. Accommodation booking forms will be sent with your joining instructions on receipt of your completed conference registration form.

For further assistance please contact

conferences@ismithers.net

Sponsorship & Exhibition

A limited number of cost effective sponsorship opportunities are available to maximize your corporate profile at this important event. For further information please contact Alix Reeves, areeves@ismithers.net.

Conference Language

Please note that the conference will be conducted in English.

*i*Smithers has been organising world class technical conferences for the polymer and related industries for over 30 years. Drawing authorities from industry and academia, conferences offer the ideal forum to hear original, pioneering technical papers and meet and exchange ideas with like-minded peers from across the world. With topics spanning the latest developments in rubber and plastics technology, legislative changes and market trends, *i*Smithers conferences continue to attract over 1,200 senior technical executives and decision makers per year.

Conference Agenda

Day One: Wednesday 5 May

Day Two: Thursday 6 May

08.15 REGISTRATION AND COFFEE
08.55 Welcome and Introduction to Smart Polymer Systems 2010

Session 1: Responsive Coatings

09.00 Stimuli-responsive polyelectrolyte multilayers: from pH and temperature-sensitive nanotube surface arrays to living cells with functional synthetic backpacks
Dr Michael Rubner, Department of Materials Science & Engineering, Massachusetts Institute of Technology, US

09.30 Self-repairing polymeric films
Dr Marek W Urban, School of Polymers & High Performance Materials, University of Southern Mississippi, US

10.00 Interactive polymer substrates via polymer grafting
Dr Igor Luzinov, School of Materials Science & Engineering, Clemson University, US

10.30 Hybrid materials for application in anti-reflective coatings for glass and plastics
Pascal Buskens, N Arfsten, R Habets, H Langermans, A Overbeek, B Plum, R de Rijk, J Scheerder, DSM Research, The Netherlands

11.00 COFFEE

Session 2: Smart Textiles

11.30 Preparation and application of responsive coatings prepared on textile fibers
Prof Jan Genzer & Kiran K Goli, North Carolina State University, US

12.00 Responsive coating design on substrates/ particles
Dr Maxim Orlov, D Salloum, R Sheparovych, V Gartstein & F Sherman, The Procter & Gamble Company, US & S Minko, M Motornov & R Lupitsky, Clarkson University, US

12.30 LUNCH

Session 3: Responsive Composites

13.45 New microfluidic elastomer composites with switchable shape, stiffness and color
Prof Orlin D Velev, Department of Chemical & Biomolecular Engineering, North Carolina State University, US

14.15 New smart plastic with reversible and tunable transparent to opaque transition
Dr Chris DeArmitt, Phantom Plastics, US

Session 4: Biointerfaces, Capsules, Sensors and Separation Devices

14.45 "Smart" (bio) polymeric surfaces: fabrication and characterization
Prof Stefan Zauscher, Department of Mechanical Engineering & Materials Science, Duke University, US

15.15 COFFEE

15.45 Emulsions-templated assembly of stimulus-responsive particles: smart colloidosomes with tunable permeability and dissolution trigger
Dr Sven Holger Behrens, School of Chemical & Biomolecular Engineering, Georgia Institute of Technology, US

16.15 Multifunctional layer-by-layer tailored capsules: delivery nanosystems with externally triggered properties
Prof Gleb B Sukhorukov, Centre for Materials Research, Queen Mary University of London, UK

16.45 Stimuli-responsive thin hydrogel films and membranes
Dr Sergiy Minko, Department of Chemistry & Biomolecular Science, Clarkson University, US

17.15 END OF DAY ONE

18.30 EVENING DRINKS RECEPTION

08.30 COFFEE

Session 5: Smart Colloids and Hydrogels

09.00 Biopolymer based colloidal delivery systems
Dr Ashok Patel, Unilever R&D Vlaardingen, The Netherlands

09:30 Autonomic self-healing in hydrogel thin films
Prof Andrew Lyon & Antoinette B South, Georgia Institute of Technology, US

10.00 Development of a temperature-responsive agarose-based ion-exchange chromatographic resin
Dr Brad Wootton, K De Silva, P Maharjan, CSIRO, Australia & M Hearn & W Jackson, ARC Special Research Centre for Green Chemistry, Australia

10.30 Remarkable scientific importance of smart gels in biomedical applications
Z Muhammad, T Shah & E Siores, Institute for Materials Research and Innovations (IMRI), University of Bolton, UK

11.00 COFFEE

Session 6: Cell Interactions with Responsive Biomaterials

11.30 Cell-responsive biomaterials for regenerative medicine applications
Prof Sarah Heilshorn, Stanford University, US

12.00 Micropatterned poly (NIPAM) for engineering cell sheets with defined structural organization
Prof Joyce Y Wong, B C Isenberg, C Williams, Y Tsuda, T Shimizu, M Yamato & T Okano, Department of Biomedical Engineering, Boston University College of Engineering, US

12.30 LUNCH

Session 7: Genetically Engineered "Smart" Polypeptides

13.45 Bioengineering of elastin-mimetic smart materials
Prof Vincent P Conticello, M Patterson, S Payne, W Kim, A McMillan & E Wright, Emory University, US

14.15 Recombinamers and derived functional systems: from nano-objects to macro gels
Prof J Carlos Rodriguez-Cabello, GIR BIOFORGE, University of Valladolid, Spain

14.45 Thermally targeted delivery of therapeutic peptides
Prof Drazen Raucher & Gene L Bidwell III, Department of Biochemistry, University of Mississippi Medical Center, US

15.15 END OF CONFERENCE

Please note: The conference organisers reserve the right to modify or change the above programme if necessary.

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Delegate Registration *Registration includes a copy of the proceedings, lunches and refreshments during the day and an evening drinks reception.*

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\$1100 per delegate from 19 March 2010

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\$850 per delegate before 19 March 2010

\$1000 per delegate from 19 March 2010

Academic Fee

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\$600 per delegate from 19 March 2010

Wallet Service:
\$1000 (Insertion of one pen or brochure, up to 6 A4 pages, in every delegate conference bag)

Tabletop Exhibition:
\$2500 (includes one delegate place)

Members Discount:
Rapra Members are entitled to a further discount off the standard registration fee.

If you have a Promotional Code please enter it here

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Cancellation Terms By completing and returning this form delegates are agreeing to be bound by the cancellation terms and conditions of registration. Substitutions can be made at any time, please inform us in writing prior to the conference. If you wish to cancel your registration please do so in writing. A full refund less 20% administration fee will be applicable 28 days before the conference. Cancellations received after this time will be liable for the full registration fee.

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