



CALL FOR PAPERS

INTERNATIONAL SYMPOSIUM ON SURFACE SCIENCE ASPECTS OF PHARMACEUTICAL SCIENCE, PHARMACOLOGY, COSMETICS AND BIO-TECHNOLOGY April 19-21, 2010 in Danbury, Connecticut, USA

The staff of MST CONFERENCES are happy to announce the inaugural symposium in a planned series on the surface science aspects of pharmaceutical science, pharmacology, cosmetics and bio-technology. The scope of the program will deal, among others, with all aspects which are critically dependent on understanding the nature of surface interactions which control the behavior and biological activity of therapeutical formulations as well as cosmetic and biomedical technologies such as bio-adhesives, drug delivery systems, cosmetic formulations and gene chip arrays.

The overall focus of the symposium will of necessity be multi-disciplinary in nature involving researchers engaged in developing new drugs to surface scientists concerned with the detailed nature of surface interactions and their accurate measurement. It is indeed a prime objective of the symposium to bring these normally disparate groups together within a forum where needs, ideas and methodologies can be discussed and mutually beneficial collaborations encouraged.

It is well recognized that a wide range of critical biological interactions occur at or across surfaces including drug absorption, cellular adhesion, autoimmune reactions, skin inflammation and cell growth to name a few.

Thus in order to control or modify these processes it is first critical to understand the fundamental nature of the surface interactions which control them. It is at this level that the surface scientist and the bio-technologist can collaborate to develop innovative technologies for drug delivery, cellular and bone repair, cosmetic formulations and advanced diagnostic methods such as gene chip arrays.

On the one hand, the pharmaceutical scientists and bio-technologists can elucidate the problems and methods of their disciplines with regard to issues relating to delivery and adsorption of drug metabolites, interactions leading to inflammation or implant rejection and adverse immune system response to medical treatments. The surface scientist, on the other hand, can demonstrate how the methods of surface analysis and measurement can be brought to bear on the problem of understanding the basic surface chemistry which controls these processes. As an example, the bio-technologist might explain the problems associated with a topical skin treatment whereas the surface scientist can demonstrate how contact angle measurements can be used to evaluate the wettability characteristics of skin and how this affects the absorption of and reaction with topical medications.

SYMPOSIUM TOPICS:

Needs of the Biomedical, Pharmaceutical and Cosmetic industries:

1. Interaction of biologically active molecules with tissue substrates.
2. Problems of drug delivery in vivo
3. Drug interactions with cellular surfaces relating to immune system response and implant rejection
4. Interactions with biomaterial surfaces
5. Biocompatibility
6. Problems relating to drug encapsulation in capsules or tablets
7. Skin surface chemistry and interactions

Tools and Methodologies of Surface Science:

1. Surface analytical methods
 - a. ESCA, AUGER, SIMS ...
 - b. Atomic Force Microscopy
 - c. Contact Angle Goniometry
 - d. Surface Micro-Calorimetry
2. Theoretical concepts of Surface Science
 - a. Hamaker theory
 - b. JKR theory
 - c. Surface thermodynamics
 - d. Acid-Base interactions
3. Surface Chemistry Modification
 - a. Silane adhesion promoters
 - b. Chemical grafting
 - c. Plasma and radiation modification

Applications:

1. Drug Delivery Systems
 - a. Delivery through fabrics made with surface modified fibers
 - b. Advanced capsule and tablet technologies
 - c. Delivery using surface activated particles
 - d. Drug screening, label free detection
2. Advanced adhesives for mending bone fractures
3. Gene chip arrays
4. Immobilization strategies of biomolecules on solid surfaces
5. Cosmetic applications

Cross-Disciplinary Studies:

1. Use of Atomic Force Microscopy to study biological surfaces
2. Contact angle measurements on skin and dental tissues
3. Bioadhesives such as hydrogels
4. Advanced adhesive applications employing the GECKO effect
5. Applications of superhydrophobicity and the LOTUS LEAF effect
6. Micro/Nano Technology; e.g. smart implants using MEMS

DATES:

April 19-21, 2010: INTERNATIONAL SYMPOSIUM ON SURFACE SCIENCE ASPECTS OF PHARMACEUTICAL SCIENCE, PHARMACOLOGY, COSMETICS AND BIO-TECHNOLOGY

LOCATION:

DANBURY PLAZA
Hotel & Conference Center
18 Old Ridgebury Road
Danbury, CT 06810
Tel. 203-794-0600
FAX. 203-798-7735

E-mail: aweber@danburyplaza.com

Web Site: www.danburyplaza.com

HOTEL:

Please make room reservations directly with the Danbury Plaza Hotel. A block of rooms has been set aside for conference registrants until March 15, 2010. After this date the hotel will accept reservations on a space available basis and they cannot guarantee that the special conference rate of \$99/night will apply. Make your reservations early and be sure to mention that you are attending the MST symposium in order to receive the reduced conference hotel rate.

TRANSPORTATION:

Limousine and shuttle service is available from Laguardia and Kennedy airports

TO SUBMIT AN ABSTRACT OR GET ON CONFERENCE MAILING LIST:

This symposium is being organized by MST Conferences under the direction of Dr. K. L. Mittal, Editor-in-Chief, Journal of Adhesion Science and Technology and in collaboration with the technical staff of the Boehringer Ingelheim and Corning corporations. It is planned to publish papers presented in this symposium in the Journal of Adhesion Science and Technology, edited by the conference director Dr. Mittal. Please notify the conference chairman of your intentions to present a paper as early as possible. An abstract of about 200 words should be sent by **March 15, 2010** to the conference chairman by any of the following methods:

BY PHONE: 845-897-1654; 845-227-7026

BY FAX: 212-656-1016

E-mail: rhl@mstconf.com

ONLINE:

www.mstconf.com/surfscipharm.htm

BY MAIL: SEND COMPLETED FORM BELOW TO:

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Chairman
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Hopewell Junction, NY 12533-6124, USA

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