

*Call for Papers
and First Announcement*

Sponsored by:
The International Society of
Coating Science and Technology (ISCST)

Cosponsored by
American Institute of Chemical Engineers
Association of Industrial Metallizers,
Coaters and Laminators

Industrial Partnership for Research in
Interfacial and Materials engineering
(I PRIME), University of Minnesota

Pressure Sensitive Tape Council (PSTC)

In cooperation with
The European Coating Symposium
The Japan Coating Symposium

Facilitated by
The Tiara Group, LLC

ISCST
International Society of Coating Science and Technology
2006

*13th International Coating Science
and Technology Symposium*

September 11-13, 2006

Grand Hyatt , Denver, Colorado, USA

About the Symposium

The 2006 International Coating Science and Technology Symposium is sponsored by the International Society for Coating Science and Technology (ISCST) and cosponsored by the American Institute of Chemical Engineers (AIChE); the Association of Industrial Metalizers, Coaters and Laminators (AIMCAL); and the Industrial Partnership for Research in Interfacial Engineering (I Prime), University of Minnesota. This will be the thirteenth in the continuing biannual symposia on coating science and technology.

This Symposium, with contributions from experts from Europe, Asia, and the Americas, is the premier symposium in the area of liquid film coating and related process phenomena. The meeting provides a forum for discussion of recent advances in understanding the processes of applying and solidifying thin liquid coatings. Both fundamental and applied papers are encouraged; however, preference will be given to papers that appear to be of interest to the broadest audience.

Call for Papers

The following is a list of Symposium Topics for the 13th International Coating Science and Technology Symposium to be held in Denver, Colorado 11-13 September 2006. Oral and Poster presentations can be submitted to all sessions (posters will be on display throughout the symposium). The list of topics includes the traditional ISCST technical session topics and some special topics. Please submit an abstract to the session that you think best fits the content of your presentation; however the organizers reserve the right to shift presentations to another session if necessary.

- Coating Process Fundamentals

A hallmark of the ISCST meeting is application of engineering and science fundamentals to improve our understanding of coating applications. The "Coating Fundamentals" sessions have always been well attended throughout the ISCST Symposia.

- Experimental and Numerical Methods

This symposium topic is a forum for presenting new techniques or advances on previous techniques for studying coating processes. Both experimental and numerical/computational techniques are highly valuable tools for understanding coating processes and have been the subject of many presentations at ISCST Symposia.

- Microstructure Development during Coating and Drying

Solidification is a necessary step in the production of coatings and is often one of the last steps which affect the quality of coated products. Presentations on drying, curing, phase separation, stress development, suspension aggregation, and microstructure development during coating or post-coating processing (such as drying) are solicited for this topical area. In past symposia, this topic has included a diverse array of presentations from experimental characterization of microstructures developing during drying to mathematical modeling of solvent diffusion in drying films.

- Discontinuous and Particulate Coatings

Many coated materials today are produced by techniques in which the substrate is not a continuous flexible web or the coating liquid is applied in discrete parcels; examples include spray coating, dip coating, gravure coating, spin coating, powder coating, ink jet printing, etc. This topical area is a forum for presenting research on discontinuous or particulate coatings.

- Environmental Issues of Coating Processes

There have been a number of trends towards environmentally friendly coating materials and coating processes, such as Bio-based coatings, VOC reduction, aqueous coatings, and 100% solids coatings. As energy prices rise, there will also be a higher demand for energy efficient coating processes, which is especially challenging for aqueous based coating formulations. For this topical area, presentations are solicited which discuss coating materials that are more environmentally benign or coating processes that are more energy efficient or produce less waste.

- New Directions in Coatings and Coating of New Materials

Many companies are developing new coating processes for producing new types of coated products or discovering new materials to be coated for advanced applications; some examples of applications of these novel coating processes and novel coating materials include: batteries, displays, nano-composites, printable/flexible electronics, and optical coatings. This session is intended to be a forum for introducing and educating the ISCST community about these novel applications, identifying the challenges of these novel applications, and expanding beyond the traditional coating applications frequently discussed at the ISCST Symposium.

- *SPECIAL SESSION* on Dynamic Wetting and Air Entrainment

Coating flows necessarily involve configurations where air-liquid interfaces having surface tension intersect a moving solid surface. In models, boundary conditions are mathematically required along the contact line, i.e., the line of intersection between the air, liquid and solid. These conditions provide additional physics that incorporate macroscopically the net result of anisotropic intermolecular forces arising in the direct vicinity of contact (the contact line region) that are not otherwise present in the bulk fluid. In the classical hydrodynamic approach, application of kinematic constraints along the air/liquid interface and solid, i.e. the application of the usual non-slip condition along the solid, leads to a non-integrable and non-physical stress singularity at the contact line. To avoid the singularity, relaxation of the non-slip boundary condition has been proposed as well as the introduction of methods that can model molecular interactions at the nanometer level. Computational fluid dynamics methods, while being powerful for many engineering applications, lack the ability to predict flows when interfacial dynamics are important.

New theories have arisen in the past 15 years, and increased computational power has led to the ability to examine the contact line region via molecular-type simulations. It is time to have a brief review of the state of the art in dynamic wetting modeling and how well these models compare with experimental observations.

The special session on "Continuum and Molecular Approaches to Dynamic Contact Lines" will be held on Monday, September 11, 2006 at the 2006 ISCST conference. The session will include oral presentations, poster presentations, and a panel discussion. Posters will be on display throughout the symposium, and poster presenters will be given an opportunity to advertise their poster with a brief announcement during the oral session. As has occurred in past ISCST meetings, dynamic wetting issues will also be addressed during numerous talks related to modeling and experimental studies of coating flows throughout the remainder of the symposium.

To Present a Technical Paper

Submission of papers will be handled through a web-based abstract submission system at <http://conference.sandia.gov/ISCST/list/mslist.lasso>. You can also access this webpage through the ISCST site (www.iscst.org) or through the conference website (https://www.thetiargroup.com/Pages/iscst_symposium.html). Alternatively, if you prefer you may submit an abstract by email or hard copy; if so, please submit the title, author's name and affiliation, and a 150-200 word abstract to:

Richard Caimcross
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To Present at the Networking Session (Sunday)

Submit: subject, author's name and affiliation and a 50 word description of the topic of interest

Letter from the Program Chairs

Dear Colleagues,

The ISCST Symposium provides a forum for researchers with both academic and industrial perspectives on coating applications to discuss the latest research on application and solidification of thin liquid films. The Symposium features contributions on both fundamental and applied research and development from many of the experts in coating process science and technology. This forum is designed to provide mechanisms for the exchange of information between academia and industry.

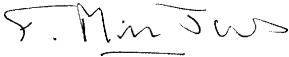
The 2006 Symposium will feature a special session on Dynamic Wetting and Air Entrainment, which will reexamine the state-of-the-art of the various theories used to describe dynamic wetting and how those theories apply to coating processes. Prior to the symposium ISCST will be hosting two short courses: *Science & Technology of Coating and Drying Processes*, September 9-10, and *The Role of Modeling & Visualization in the Coating Process*, September 10. Complete information on these courses is listed in this brochure.

We hope that you will participate in this event. Please visit our website www.iscst.org for up to date information on the program.

Sincerely



Richard Caimcross, Symposium Chair
Associate Professor
Drexel University



F. Miguel Joos, Symposium Co-Chair
Technical Associate
Eastman Kodak Company

BF/
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Deadlines for Technical Presentations

March 1, 2006	150-200 Word Abstract Due (Electronic submission preferred)
May 1, 2006	Authors notified of Acceptance
July 1, 2006	Final Extended Abstracts Due

Deadlines for Networking Session

August 15, 2006	Name, Affiliation and Topic
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Who Should Attend:

This Symposium is designed for coating engineers and scientists in both academia and industry and will provide both practical and fundamental understanding of the coating process as well as networking opportunities. Past industrial participants have mainly come from the imaging, electronics, medical/life sciences, metal coil coating, paper, printing, information storage, automobile, chemical, computer, and textile industries. However, participants from other industries where coating is a key technology will benefit from this Symposium

Official Language

The official language for the Symposium is English. Those who are not comfortable making a presentation in English are encouraged to present their work in the form of a poster.

Tabletop Exhibits

Companies offering products or services that may be of interest to the attendees are encouraged to participate as exhibitors at this Symposium. The Symposium, which is expected to attract 200-300 engineers and scientists from the world's leading manufacturers of coated products and academic programs in coating science, is an ideal opportunity for companies to reach individuals who improve and scale up new coating processes, new coated products and those who are likely to do so in the future.

The Exhibit Hall will be open each day of the Symposium and will be located in the area where all scheduled breaks are held. The fee for exhibiting is \$795, which includes one registration fee. Your display will be a true tabletop exhibit in which all materials must fit safely on a 6 foot table.

For further information on the exhibits or logistical information, contact:

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Visit our Website at www.iscst.org

Preliminary Program

Session subjects will depend on abstracts received.

Networking Session (afternoon of Sunday, September 10)

A networking session will be held on Sunday afternoon. The networking session is a forum for people interested in collaboration to showcase areas of interest in which collaboration is actively being sought. This collaboration may take the form of direct industrial support, joint research proposals, internships, etc. As such, the networking session presentations are intended to be far less formal and are not expected to be as fully developed as presentations at the technical sessions.

Welcoming Reception (evening of Sunday, September 10)

Technical Sessions (All day Monday and Tuesday and Morning Session on Wednesday)

- *Special Session* on Dynamic Wetting and Air Entrainment (Monday Sept, 11) with panel of experts analyzing state of the art models, simulations, and experiments.
- Coating Process Fundamentals and Technology
- Experimental and Numerical Methods
- Microstructure Development during Coating and Drying
- Discontinuous and Particulate Coatings (spray, dip, gravure, spin, ink jet, etc.)
- Environmental Issues of Coating Processes (Bio-based coatings, VOC reduction, energy efficiency)
- New Directions in Coatings
- Coating of New Materials (Battery, Display, LCD, Nano-composites, etc.)
- Special topics (composites, printable/flexible electronics, optical coatings)
- Recent and Future Directions in Coating Research
- Industrial Coaters Forum

Poster Sessions

In addition to the oral presentations in the technical sessions, poster sessions are planned for Monday and Tuesday after lunch. Posters will be on display throughout the symposium.

Exhibits

The table top exhibit hall will be open throughout the symposium

ISCST Awards

John A. Tallmadge Award for Contributions to Coating Technology

Description: Recognizes an individual's significant contributions to the understanding or improvement of the technology of the coating of continuous webs. The award is presented biannually, in even numbered years.

Sponsored by: International Society of Coating Science and Technology, Eastman Kodak, and AIChE.

Nomination deadline: June 1, 2006.

Award: A plaque and \$1,000.

Nomination procedure: Nominations must include a brief professional history of the nominee and specify how the nominee meets the criteria of the award.

To submit a nomination, open and print the Tallmadge Award Nomination form (Adobe Acrobat PDF format*) found at www.iscst.com, ISCST Awards & Honors. Complete the form, and mail it with the necessary attachments by June 1, 2006.

Presentation: The next award will be presented at the 13th International Coating Science and Technology Symposium, September 11-13, 2006 at the Grand Hyatt Denver, CO.

Previous Recipients of the John A. Tallmadge Award

- 1992 L. E. Scriven, Regents Professor, Dept. of Chemical Engineering, Univ. of Minnesota-Twin Cities
- 1994 E. B. Gutoff, Consultant
- 1996 J. E. Hens, retired, AGFA
- 1998 Kenneth J. Ruschak, Eastman Kodak Company, Rochester, NY
- 2000 Edward D. Cohen, retired, DuPont Fellow
- 2002 Terrence D. Blake, Kodak Ltd., Harrow, Middlesex, UK
- 2004 Brian G. Higgins, University of California, Davis

L.E. Scriven Young Investigator Award

Description: This award is given in recognition of outstanding sustained achievements or one-time breakthroughs in the area of continuous liquid film coating science and technology. Those nominated for this award must be forty years old or younger. The award will be presented at the Symposium.

Sponsored by: International Society of Coating Science and Technology
Nomination deadline: June 1, 2006.

Award: A plaque and \$500.

Nomination procedure: Nominations must include a brief professional history of the nominee and specify how the nominee meets the criteria of the award. To submit a nomination, open and print the Young Investigator Award Nomination form (Adobe Acrobat PDF format*), found at www.iscst.com, ISCST Awards & Honors. Complete the form, and mail it with the necessary attachments by June 1, 2006.

Presentation: The next award will be presented at the 13th International Coating Science and Technology Symposium, September 11-13, 2006 at the Grand Hyatt Denver, CO.

Past Recipients of the Young Investigator Award

- 1998 Cyrus Aidun, Institute of Paper Chemistry, Georgia Institute of Technology-Atlanta
- Dennis Coyle, General Electric Company, Niskayuna, NY
- 2000 Steven J. Weinstein, Eastman Kodak Company, Rochester, New York
- 2002 Andrew Clark, Kodak Ltd., Harrow, Middlesex, UK
- W. Blake Kolb, 3M, St. Paul, Minnesota
- 2004 Marcio D. Carvalho, Pontificia Universidade Catolica do Rio de Janeiro, Brazil

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Peter Schweizer, *Polytype
Converting AG*
Maya Stevanovic, *Duracell*
L.E. "Skip" Scriven,
University of Minnesota
Kathleen Stebe,
Johns Hopkins University
Steven Weinstein, *Eastman Kodak*
James Wheeler, *Weseeco*
Yukio Yamaguchi, *University of Tokyo*
Masato Yamamura, *Kyushu Institute
of Technology*

Continuing Education Program

Two short courses will be held prior to the symposium.

Science & Technology of Coating and Drying Processes September 9-10, 2006

Instructors: Dr. Edward D. Cohen (Consultant), Dr. Dennis J. Coyle (GE), Edgar B. Gutoff (Consultant), Prof. Wilhelm Schabel (U. Karlsruhe, Germany), and Dr. Steven Weinstein (Eastman Kodak)

- Practical Technology for Coating Processes
- Fluid Flow throughout the Coating Process
- Roll and Gravure Coating
- Metered Coating Processes
- Drying and Solidification of Coatings

The Role of Modeling & Visualization in the Coating Process September 10, 2006

Instructors: Prof. Marcio Carvalho (PUC - Rio) and Wieslaw Suszynski (Univ. Minnesota)

- Coating and Visualization Equipment
- Visualization Techniques
- Numerical Methods for Modeling Coating
- Experiments and Theory: Examples of Results

About the 12th International Coating Science & Technology Symposium

The 12th International Coating Science and Technology Symposium was held at the Hyatt Regency in Rochester, New York, from September 20 – 22, 2004 (General Sessions) and September 18 and 19 (Short Courses).

The Symposium was attended by 289 coating engineers and researchers. 239 attendees were from industrial companies and 50 attendees from academia and research institutions. Both Europe and Asia were represented in significant numbers.

Some comments from participants ...

"Great opportunity to network. I met some great new contacts."

"The variety of presentations was excellent. A lot of good down-to-earth presentations."

"The exhibit session was especially valuable. Keep encouraging companies to exhibit."

"What I learned from this symposium will be a great asset to my company."

"I appreciated learning new technology, the opportunity to connect with potential solutions, and the opportunity to network with technology leaders and colleagues."

"I saw a snapshot of what coating practitioners and coating-oriented academics are interested in, which was my goal in attending."

"Learning the latest in my field of research was very valuable."

