

Sponsored by: The International Society of Coating Science and Technology

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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



#### Who Should Attend:

This Symposium is designed for coating engineers and scientists in both industry and academia. It 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, in which coating is a key technology, will benefit from this Symposium.

# Call for Papers and First Announcement



14th International Coating Science and Technology Symposium September 7-10, 2008 Marriott Hotel Marina del Rey, California

# THE TIARA GROUP, LLC

530 W. Ojai Avenue, Suite 108 Ojai, California 93023-2471 Pre-sorted First Class Mail U.S. Postage Paid Permit # 334 Paramount, CA

# About the Symposium

### www.iscst.org



This Symposium, with contributions from experts from Europe, Asia, and the Americas, is the premier event 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 and Posters**

The following is a list of Symposium Topics for the 14th International Coating Science and Technology Symposium to be held in Marina del Rey, California 7-10 September 2008. Oral and Poster presentations can be submitted for all sessions, including the two special technical sessions. Posters will be on display throughout the Symposium. Please submit an abstract for the session that you think best fits the content of your presentation; however the organizers reserve the right to shift presentations to another session at their discretion.

### **Technical Sessions**

#### - Coating Application Processes

A hallmark of the ISCST meeting is this session on the engineering and science of coating application methods, either conventional or novel. Presentations are encouraged on topics of a fundamental, experimental, numerical or analytical nature that are related to liquid flows and rheology; defects and stability; air entrainment; wetting; and other application related issues.

#### - Solidification and Microstructure Development

After the application process, coatings are solidified and coating microstructures are established. Possible subtopics in this session are drying, curing, coalescence (film formation), particle aggregation, phase separation, convective assembly and gelation. Presentations on both experimental and numerical/computational approaches are encouraged.

#### - Discontinuous Coating Processes

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.

#### - 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 is 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 either more energy efficient or produce less waste

#### - New Directions in Coating Processes 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 Technical Sessions**

#### Coating Challenges in the Display Industry

The display industry is a rapidly growing sector. As the demand for displays of larger surface area grows, manufacturers must work to reduce cost while maintaining the quality of their products. Part of the process techniques and methodologies are transferable from the liquid coating and drying industry to the display industry. This forum, which will include invited presentations from members of the display industry and academia, will establish the grounding for interactions between the coating and display communities. Tribute to Prof. L.E. Scriven's Contribution to Coating Science
 The late Professor L. E. ("Skip") Scriven's and his students' work
 has figured prominently at the ISCST symposia, ever since they were
 inaugurated twenty five years ago, then under the auspices of the
 American Institute of Chemical Engineers. While direct evidence is
 clear in presentations and publications by individuals in his recent
 and past research groups (including those from former colleagues in
 academia and industry), his influence is far broader in the engineering
 and science communities. This special session highlights some of
 these broader impacts with contributions from scientists and engineers,
 including some invited speakers.

### **Networking Session**

The Networking session is a forum for people interested in showcasing 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, this session's presentations are intended to be far less formal and not expected to be as fully developed as presentations at the technical sessions.

#### **Tabletop Exhibits**

Companies offering products or services that may be of interest to the attendees are encouraged to participate at this Symposium. In past Symposia exhibitors have included representatives from companies offering specialized mixers, dies, coating applicators and other coating and drying equipment; companies offering coating services (toll coaters); companies offering software that predict coating flows and film drying; and companies offering instrumentation useful in the coating and drying processes. The exhibit hall will be open every day the technical or special technical sessions are running and will be accessible during the scheduled breaks.

# **To Present a Technical Paper or Poster**

Submission of papers will be handled through a web-based abstract submission system at the ISCST site (www.iscst.org). Alternatively, if you prefer, you may submit an abstract by email. If so, please submit the title, author's name and affiliation, and a 150-200 word abstract, to the Symposium Chair at joos@alum.mit.edu.

# To Present at the Networking Session

Submit: subject, author's name and affiliation and a 50 word description of the topic of interest to the ISCST website (www.iscst.org) or to e.j.lightfoot@usa.dupont.com

# **Deadlines for Technical Presentations**

| March 1, 2008 | 150-200 Word Abstract Due         |
|---------------|-----------------------------------|
|               | (Electronic submission preferred) |
| May 1, 2008   | Authors notified of Acceptance    |
| July 1, 2008  | Final Extended Abstracts Due      |
|               |                                   |

# Deadline for Networking SessionAugust 15, 2008Name, Affiliation and Topic

| August | 15, 2008 |  |
|--------|----------|--|
|        |          |  |

# **Deadline for ISCST Awards**

| June 1, 2008 | John A. Tallmadge Award         |
|--------------|---------------------------------|
| June 1, 2008 | L.E. Scriven Young Investigator |

# Letter from the Symposium Chairs www.iscst.org



#### Dear Colleagues,

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

The 2008 Symposium will feature two special technical sessions. The first, *Coating Challenges in the Display Industry*, will explore potential applications of coating and drying methodologies and processes to the rapidly growing display industry. The second special session is a *Tribute to Prof. L.E. Scriven's Contributions to Coating Science*. Here, presenters will show the far reaching influence of the late Prof. "Skip" Scriven's work (and that of members of his research group) on the understanding of coating science and chemical process engineering. Prior to the symposium, ISCST will be hosting two short courses: *Science & Technology of Coating and Drying Processes*, September 6-7, which has been totally revised with new presenters and materials; and, *The Role of Modeling & Visualization in the Coating Process*, September 7. Outlines for these courses are included 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

Min Jus

F. Miguel Joos, Symposium Chair Sr. Coating Process R&D Engineer 75 Wood Creek Drive, Pittsford, NY 14534, USA (585) 586 5769 joos@alum.mit.edu

# Symposium Steering Committee

Brian Higgins, University of California Davis (President) Edwin J. Lightfoot, Dupont, University of Alabama (First Vice President) Hadj Benkreira, University of Bradford (Second Vice President

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Lonaire 7.70

Lorraine F. Francis, Symposium Co-Chair Professor, Chemical Engineering and Materials Science University of Minnesota, Minneapolis, MN 55455 USA (612) 625 0559 Ifrancis@umn.edu

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# **ISCST** Awards

### www.iscst.org

#### John A. Tallmadge Award for Contributions to Coating Technology

This is the preeminent award for engineers and scientists in the international coating community. It 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.

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Award: A plaque and \$1,000.

#### Previous Recipients of the John A. Tallmadge Award

- 1992 L. E. Scriven, 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 Co., 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
- 2006 Peter M. Schweizer, Polytype Converting, Switzerland

### Nomination deadline for both ISCST awards: June 1, 2008.

#### L.E. Scriven Young Investigator Award

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 40 years old or younger. The award will be presented at the Symposium.

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### Award: A plaque and \$500.

# 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 Co., Rochester, NY
- 2002 Andrew Clarke, Kodak Ltd., Harrow, Middlesex, UK W. Blake Kolb, 3M, St. Paul, Minnesota
- 2004 Marcio D. Carvalho, Pontificia Universidade Catolica do Rio de Janeiro, Brazil
- 2006 Richard A. Cairncross, Drexel Universiy, Philadelphia, PA

**Nomination procedure for both ISCST awards:** 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, or the Young Investigator Award, (Adobe Acrobat PDF format) found at www.iscst.org, ISCST Awards & Honors. Complete the form, and e-mail it with the necessary attachments by June 1, 2008 to bghiggins@usdavis.edu (Tallmadge Award) or Ifrancis@umn.edu (Young Investigator Award).

Presentation: The two awards will be presented at the 14th International Coating Science and Technology Symposium, September 7-10, 2008 at the Marriott Hotel, Marina del Rey, CA.

# **Preliminary Program**

### www.iscst.org



# Networking Session (Sunday afternoon, September 7)

**Reception (Sunday evening)** 

Special Technical Session: Coating challenges in the Display Industry (Monday morning)

Technical Sessions (Monday afternoon and Tuesday all day)

#### Session subjects will depend on abstracts received.

- **Coating Application Processes**
- Solidification and Microstructure Development
- Discontinuous Coating Processes (spray, dip, gravure, spin, ink jet, etc.)
- Environmental Issues of Coating Processes (Bio-based coatings, VOC reduction.energy efficiency
- Coating of New Materials (Fuel and Solar Cells, LCD, Nano-composites, etc.)
- Special topics (composites, printable/flexible electronics, optical coatings)
- Recent and Future Directions in Coating Processes

#### Special Technical Session: Tribute to Prof. L.E. Scriven's Contributions to Coating Science (Wednesday morning)

#### **Poster Sessions**

Poster sessions are planned for Monday and Tuesday after lunch. Posters will be on display throughout the Symposium.

#### **Tabletop Exhibits**

The tabletop exhibit hall will be open throughout the Symposium.

# **Continuing Education Program**

Two short courses will be held prior to the Symposium.

# Science and Technology of Coating and **Drying Processes**

#### September 6-7, 2008

Instructors: Dr. Brent C. Bell (Isoflux), Dr. Dennis Coyle (GE), Prof. Kenneth J. Ruschak (RIT), Dr. Peter M. Schweizer (Polytype Converting), Timothy J. Walker (TJWalker & Assoc.), Prof. Steven J. Weinstein (RIT)

- Introduction
- Fluid Mechanics of Coating Flows Self-Metered Coating Methods Physical Fluid Properties and
- · Die Design · Pre-Metered Coating Methods
  - Drying and Curing
  - · Web Handling
- Measurement Methods Fluid Conditioning and Delivery

### The Role of Modeling & Visualization in the Coating Process September 7, 2008

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

# Go to www.iscst.org for up to date information

### Location Information & Reservations

ISCST 2008 will be held at the Marriott Hotel, located in Marina del Rey, CA. To make a reservation, call the Mariott Marina del Rey at 1-310/301-3000. Be sure to identify yourself as an attendee of the ISCST Symposium to receive the special rate of \$164, single and double occupancy, \$184, triple occupancy and \$204, quadruple occupancy, per night, plus tax. Reservations should be made by August 11, 2008 to receive this special rate. After this date reservations will be accepted on a space and rate available basis. You can reserve a room with a credit card or check (in U.S. dollars). A first night deposit is required at the time of reservation. Room reservations cancelled within 72 hours prior to day of arrival will be charged one night's fee. No-shows will be charged the first night room deposit.

For more information about the Marriott Marina del Rey go to http://www.marriott.com/hotels/travel/laxmb-marina-del-rey-marriott

# Tabletop Exhibits

This Symposium is expected to attract 200-300 engineers and scientists from the world's leading manufacturers of coated products and academic programs in coating science. It 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 \$995, 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.

# Symposium Registration

Register online at www.iscst.org. You may also call Mr. Terry Gorka at 805/659-2298 to register over the phone. We'll be happy to hold a seat for you for a limited period until payment is received.

| Registration (must be postmarked by August 11)                        | \$645   |
|---|---------|
| Registration (postmarked after August 11)                             | \$695   |
| Additional Registrant From Same Company                               | \$50    |
| Only one discount to apply to each registrant. No multiple discounts. |         |
| Student Registration  | \$250   |
| Faculty Registration  | \$495   |
| Tabletop Exhibit (includes one registration fee)                      | \$995   |
| Additional Exhibitor  | \$495   |
| Short Courses:  |         |
| Science & Technology of Coating & Drying Processes                    | \$1,095 |
| The Role of Modeling & Visualization in the Coating Process           | \$795   |

# E-mail Address Request

Important updated information will be sent out via e-mail. Please send your e-mail address to tgorka@thetiaragroup.com

# For Information Contact:

Mr. Terry Gorka, The Tiara Group, LLC tgorka@thetiaragroup.com 805-659-2298 • 877-235-4653 • FAX 805-659-1493