American Coatings Conference 2018

Hosted by the American Coatings Association, in collaboration with Vincentz Network.

April 9-11, 2018
Indiana Convention Center
Indianapolis, Indiana
www.american-coatings-show.com

Conference Program
Over the course of two-and-a-half days, the American Coatings Conference will offer all you need to stay on top of your game: about 1000 coatings professionals will be gathering in Indianapolis to present recent developments in coatings science, to debate and to inform. No innovation trend will be overlooked.

The 10 pre-conference tutorials – run by renowned experts – are designed to quickly bring newcomers up to speed on state-of-the-art technology and to refresh what experienced professionals already know. These sessions are great preparation for what to expect on the ensuing days of the conference.

Whether during the conference breaks, the Poster Session or at the Networking Reception, the AC Conference offers numerous and varied networking possibilities to help you expand, cultivate and get the most out of your personal coatings network.

See you in Indianapolis!

Key reasons to attend:

Be the first to know
The AC Conference is the largest and most important coatings conference in the United States and offers a chance to look beyond the obvious to find out the latest research results from academia, government and industry.

Connect and reconnect
First-time attendees: You’ll have the chance to meet face-to-face with the brightest minds in coatings technology whom you have only heard about up to now. Returning attendees: You’ll have another chance to engage with some of the smartest coatings professionals in the industry, plus meet many more.

Revel in the inspiration
You’ll return home feeling rejuvenated and inspired from spending time with people who are as passionate as you are about coatings, with ideas and solutions in your pocket to help you deal with the challenges you face.

We are sure you won’t want to miss this important event, so register now!
AC Conference at a Glance

**Monday, April 9, 2018**

- **8:30 am – 10:00 am** Pre-Conference Tutorials 1-5
- **10:00 am – 10:30 am** Networking: Coffee Break
- **10:30 am – 12:00 pm** Pre-Conference Tutorials 6-10
- **11:30 am – 12:15 pm** Networking: Welcome Lunch
- **12:15 pm – 1:30 pm** Plenary Session
  - Welcome Address and Conference Introduction
  - Keynote Presentations
  - Award Ceremony
- **1:30 pm – 2:00 pm** Networking: Coffee Break
- **2:00 pm – 6:00 pm** Session 1: Science Today – Coatings Tomorrow
  - Session 2: Wood Coatings*
  - Session 3: Functional and Smart Coatings
  - Session 4: Grinding & Dispersing*
- **5:30 pm – 7:00 pm** Poster Session/Networking:
  - AC Conference Networking Reception

*Sessions with an asterisk end at 5:30 pm.

**Tuesday, April 10, 2018**

- **9:00 am – 12:30 pm** Session 5: Architectural Coatings I
  - Session 6: Polyurethanes I
  - Session 7: Radiation Curing
  - Session 8: Measuring & Testing
- **12:30 pm – 2:00 pm** Networking: Conference Lunch
- **2:00 pm – 5:30 pm** Session 9: Architectural Coatings II
  - Session 10: Polyurethanes II
  - Session 11: Epoxy Coatings
  - Session 12: Measuring, Testing & Automation

**Wednesday, April 11, 2018**

- **7:15 am – 8:30 am** 5K Fun Run to support student participation at AC Conferences
- **8:30 am – 9:30 am** Mattiello Lecture
- **9:30 am – 1:00 pm** Session 13: Protective Coatings
  - Session 14: Novel Materials
  - Session 15: Biobased Coatings
  - Session 16: Bio-Fouling & Microbial Protection
- **1:00 pm** End of Conference and Lunch on the Show Floor

**ATTENDEES’ CONFERENCE SURVEY**

Drawing on the combined expertise and market knowledge of both speakers and attendees at the American Coatings Conference, an anonymous survey will be held during the Plenary Session, shedding light on the views and expectations of this leading assembly regarding the current research situation and market climate the American Coatings Industry is experiencing. The results and an analysis of this survey will be available immediately after polling during the Plenary Session.
Monday, April 9 | 8:30 – 10:00 am

Tutorial 1: Rheology
Gina Paroline, Anton Paar
This tutorial is aimed at those new to rheology, or those who have used or are using rheology, and would like a refresher or to learn more. Participants will develop an understanding of basic rheology theory, be able to design meaningful experiments to characterize sample products, recognize and mitigate potential problems and pitfalls encountered during measurements, and interpret rheological data.

Tutorial 2: Easy-to-Clean Coatings
W. Marshall Ming, Georgia Southern University
Discussed and put forward in a variety of applications — including exterior and interior architectural coatings, industrial coatings and even automotive coatings — effective and lasting easy-cleanability and self-cleanability of surfaces is high on the wish-list of coatings functionality. This tutorial will explain the different concepts that are put to work in such coatings and review the state-of-the-art systems in practice.

Tutorial 3: Anticorrosive Coatings
Brian Skerry, The Sherwin-Williams Company
What principles govern the corrosion of metals, and how can protective coatings help in preventing corrosion? This tutorial will review the fundamentals of electrochemical processes, and typical ingredients and formulation characteristics of anticorrosive coatings will be outlined and discussed.

Tutorial 4: Waterborne High-Performance Coatings
Ivan Tyre, Alberdingk Boley & Timothy December, BASF
Waterborne coating is a fast-developing technology. In many applications, these systems have become a standard solution, replacing their solventborne counterparts. In some important clearcoat or topcoat applications, however, solventborne systems remain the preferred technology. This tutorial aims to discuss what is possible today with waterborne clearcoats for different substrates — including wood and metal — and what is not. It covers the theory behind different binder technologies, as well as fundamental aspects of the film formation process and the performance of these coatings systems. This tutorial will also cover some fundamental aspects of rheology for waterborne applications.

Tutorial 5: Radiation Curing
Jeffrey Klang, Sartomer
Radiation curing is an enabling technology for the coatings, inks, adhesives, electronics and other industries. UV and EB (electron beam) curing processes continue to be adopted at an increasing rate because of advantages in productivity, energy consumption, VOC emissions and final product performance. The tutorial will offer an introduction to radiation curing technology and its main end-uses with an emphasis on coatings applications. The basics of formulating, equipment choice, the relationship between equipment and chemistry and the effects on end-product performance will be discussed. Current trends in the industry and emerging applications for radiation curing will also be reviewed.

Monday, April 9 | 10:30 am – 12:00 pm

Tutorial 6: Polyurethanes
Mike Jeffries, Covestro
Their chemistry is very versatile, as is their application and application potential: Polyurethane (PUR) coatings and their typical components — polyisocyanates and polyols — will be reviewed and compared in this tutorial. This includes a discussion of the various PUR coatings technologies in use and their advantages and limitations, such as 1K and 2K solventborne, as well as waterborne chemistries, radiation curable PUR coatings and PUR powder coatings formulations, and their typical end-use applications.

Tutorial 7: Biocide Selection Process for Coatings
Beth Ann Browne, Ph.D.
The Dow Chemical Company
Prevention of microbial contamination in the wet-state and microbial defacement of the dry-film are critical objectives for coatings manufacturers. Biocide selection is complex, and formulators need to consider global regulatory status, sustainability concerns and impact on paint properties, in addition to antimicrobial efficacy spectra including resilient micro-organisms that thrive in manufacturing facilities. This tutorial will guide participants through the biocide selection process. Topics will include: in-can preservation (including a bacteriology overview, detecting and enumerating contaminants, and in-can test methodologies), dry-film protection (including fungal overview, dry-film defacement, and test methods), biocidal chemistry overview, and regulatory overview. Microbial audits of manufacturing facilities and industrial hygiene will also be discussed.

Tutorial 8: Functional Films
James Rawlins
University of Southern Mississippi
The most recent emerging technologies that provide a basis for the development of smart coatings will be reviewed. A brief discussion of smart polymers and coatings, governing principles, types and examples of smart coatings, necessary raw materials, approaches for their preparation, their unique properties, applications and markets will be presented.

Tutorial 9: Titanium Dioxide
Michael Diebold, Chemours
Coatings formulators are increasingly interested in finding ways to use less TiO₂ without compromising opacity performance. This tutorial covers TiO₂ light scattering fundamentals and then uses this knowledge to provide practical advice and strategies to maximize TiO₂ efficiency. In addition, alternative technologies for paint opacity will be discussed.

Tutorial 10: Sustainable Coatings and Processes
Jamil Baghdachi, Coatings Research Institute Eastern Michigan University
A sense of urgency is driving the frenzy of activity on both research and development of sustainable raw materials, coatings, processes and applications. As we project into the future, there are growing concerns regarding how to address the two seemingly opposing issues of economy and sustainability. This tutorial aims to discuss the efforts that are being taken to reach the goal of Sustainable Technologies without compromise. In addition, materials from renewable resources, energy efficient processes, new raw materials, and streamlined formulations will also be discussed.
12:15 pm
Welcome Address and Conference Introduction
Steve Sides, American Coatings Association
Sonja Schulte, Vincentz Network

1:00 — 1:30 pm  
Presentation of the American Coatings Award

12:30 — 1:00 pm

**Innovation in the Tech Era: fulfilling the color needs of end-users in a world of fast fashion and revolving apps**

Dr. Barry Snyder  
Senior Vice President and Chief Technology Officer  
Axalta Coating Systems

The human experience that comes from the coatings industry is vast and driven by color! Color is personal. It’s individual. It’s emotional. It is a huge part of our everyday lives. It can be playful or can make a statement. It’s part of who we are as humans. Artists and advertisers have long understood the role color plays in conveying a mood or a message.

People buy color, not “protection” or “low-temperature cure” and their preference for colors has become more diverse and more rapidly changing than ever before. Our response to this need for color has been traditional versus being proactive and visionary. And, while we react to societal evolution and changing tastes by delivering new tones, new textures, and new effects, change is often far too slow to keep up with new tastes and behaviors.

We tend to think of trends lasting years and the delivery of color in the same manner. Today’s trends, in reality, may last only a few months or even just one month. This “trend among trends” has left gaps and unmet needs in our industry that are being fulfilled by alternative sources and “band-aid” technologies from companies that may be the first movers but, hopefully, are not long-term solutions.

That’s the opportunity our industry must seize and become leaders in shaping. We must become nimbler and more in tune with our customers and their customers. In other words, how can we fulfill the color needs of end-users in a world of fast fashion and Snapchat? In his address, Snyder will discuss the challenge of reimagining coatings technology and learning from other industries that have already evolved toward servicing a millennial generation that is constantly in search of that next big trend.
**American Coatings Award**

The prestigious American Coatings Award will be given for the most outstanding technical presentation at the American Coatings Conference. Selected and sponsored by ACA and Vincentz Network, it is endowed with a $2,500 cash award along with an attractive sculpture. The winner of the American Coatings Award 2018 will be presented at the conference Plenary Session on April 9.

**Mattiello Award**

The Joseph J. Mattiello Lecture was designed to recognize an individual who has made outstanding contributions to science, technology, and engineering related to the coatings industry. The lecturer will present a paper on a phase of chemistry, engineering, human relationship, or other discipline fundamental to paint, coatings, varnish, lacquer, or related protective and decorative coatings. In order to be eligible for this award, one must be nominated. Each candidate nomination is judged based on the following criteria: technical accomplishment, service to the coatings industry, product and/or technology available to the industry, scope/impact, and presentation capability. This award is presented annually, with presentations alternating between the American Coatings Conference and the CoatingsTech Conference.

**ACS Career Center**

This year’s AC Show offers an enhanced Career Center for show and conference attendees. The ACS Career Center helps job seekers and employers make connections, by offering a platform for online resume and job searches that also allows for scheduling face-to-face interviews during the ACS. Visit www.american-coatings-show.com for details, or stop by the Career Center on the show floor April 10-12.
## Session 1:
### Science Today – Coatings Tomorrow
Chair: Prakash Balan, National Science Foundation

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<thead>
<tr>
<th>Time</th>
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<th>Presenter</th>
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<tbody>
<tr>
<td>2:00 – 2:30 pm</td>
<td>Synergistic or Antagonistic Effects of Polymer/Surfactant Supramolecular Assembly on the Colloidal Depletion Force</td>
<td>Robert Tilton</td>
<td>Carnegie-Mellon University</td>
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<tr>
<td>2:30 – 3:00 pm</td>
<td>Ultrapure Lignins Recovered from Paper-Mill Black Liquors as Renewable Biopolymers</td>
<td>Mark Thies</td>
<td>Clemson University</td>
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<tr>
<td>3:00 – 3:30 pm</td>
<td>Liquid Charging in Electrostatic Atomizers for Coating and Painting Applications</td>
<td>Farzad Mashayek</td>
<td>University of Illinois at Chicago</td>
</tr>
<tr>
<td>4:00 – 4:30 pm</td>
<td>Unprecedented Chain-growth Polymerization Method to Access Structurally Defined Hyperbranched Polymers</td>
<td>Haifeng Gao</td>
<td>University of Notre Dame</td>
</tr>
<tr>
<td>4:30 – 5:00 pm</td>
<td>Colloids with Programmable Surfaces: A Polymer Approach to Self-Assembly</td>
<td>Stefano Sacanna</td>
<td>New York University</td>
</tr>
<tr>
<td>5:00 – 5:30 pm</td>
<td>Nanostructured Composite Coatings to Harden and Toughen Polymer Surfaces</td>
<td>Daeyeon Lee</td>
<td>University of Pennsylvania</td>
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<tr>
<td>5:30 – 6:00 pm</td>
<td>Self-Stimulating Antimicrobial Photocatalytic Coatings</td>
<td>Brij Moudgil</td>
<td>University of Florida</td>
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## Session 2:
### Wood Coatings
Chair: Jeff Lackey, Diamond Vogel

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<tr>
<td>2:00 – 2:30 pm</td>
<td>Unique Waterborne Alternatives for Industrial Wood Applications</td>
<td>Laurie Morris</td>
<td>Alberdingk Boley</td>
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<tr>
<td>2:30 – 3:00 pm</td>
<td>Coatings for Mass Timber Products</td>
<td>Mojgan Nejad</td>
<td>Michigan State University</td>
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<tr>
<td>3:00 – 3:30 pm</td>
<td>Impacts of Silane Modified Colloidal Silica on Waterborne Clear Coatings</td>
<td>Peter Greenwood</td>
<td>Akzo Nobel Pulp &amp; Performance Chemicals</td>
</tr>
<tr>
<td>4:00 – 4:30 pm</td>
<td>Novel Oil Modified Urethane for Wood Flooring Applications</td>
<td>Yuting Li</td>
<td>Reichhold</td>
</tr>
<tr>
<td>4:30 – 5:00 pm</td>
<td>Going Higher-Novel High Solids Alkyds for Paints and Stains</td>
<td>Jeffrey Arendt</td>
<td>Arkema</td>
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<tr>
<td>5:00 – 5:30 pm</td>
<td>New Generation Binders for Deck Finishing</td>
<td>Masqood Ahmed</td>
<td>Allnex</td>
</tr>
<tr>
<td>5:30 – 6:00 pm</td>
<td>Self-Stimulating Antimicrobial Photocatalytic Coatings</td>
<td>Brij Moudgil</td>
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## Session 3:
### Functional and Smart Coatings
Chair: Jamil Baghdachi, Eastern Michigan University

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<tr>
<td>2:00 – 2:30 pm</td>
<td>Smart Temperature-Triggered On-Demand Release Catalyst</td>
<td>Jamil Baghdachi</td>
<td>Eastern Michigan University</td>
</tr>
<tr>
<td>2:30 – 3:00 pm</td>
<td>The Novel Photocatalytic Coating for the Industrial Coil System</td>
<td>Sheng-Wei Lin</td>
<td>Eternal Materials</td>
</tr>
<tr>
<td>3:00 – 3:30 pm</td>
<td>Improved Performance of Zinc-Rich Primers via Self-Healing Technology</td>
<td>Subramanyam Kasiomayajula</td>
<td>Autonomic Materials</td>
</tr>
<tr>
<td>4:00 – 4:30 pm</td>
<td>Multifunctional Coating Based on Nano Fillers and Natural Substances</td>
<td>Roberto Cafagna</td>
<td>Nanto Cleantech</td>
</tr>
<tr>
<td>4:30 – 5:00 pm</td>
<td>Graphene in Conductive Coatings</td>
<td>Lynn Chikosha</td>
<td>Applied Graphene Materials</td>
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<tr>
<td>5:00 – 5:30 pm</td>
<td>Design of Pigment Dispersants for High-Performance Applications</td>
<td>Andrew Shooter</td>
<td>Lubrizol</td>
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<tr>
<td>5:30 – 6:00 pm</td>
<td>Water-Based Superhydrophobic Coating on Al with Excellent Anti-corrosion</td>
<td>Shunli Zheng</td>
<td>Nanyang Technological University</td>
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## Session 4:
### Grinding & Dispersing
Chair: Brij Mohal, Chromafluro Technologies

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<tr>
<td>2:00 – 2:30 pm</td>
<td>Ultra High Solids Grinding Resin</td>
<td>Gautam Haldankar</td>
<td>Allnex</td>
</tr>
<tr>
<td>2:30 – 3:00 pm</td>
<td>Hydrophobic Water-Based Dispersion for Improved Coatings</td>
<td>Lang Nguyen</td>
<td>Cabot Corporation</td>
</tr>
<tr>
<td>3:00 – 3:30 pm</td>
<td>Improved Durability Through Reactive Dispersant Technology</td>
<td>Steffen Onclin</td>
<td>BASF</td>
</tr>
<tr>
<td>4:00 – 4:30 pm</td>
<td>New Polymeric Dispersants for Industrial Coatings</td>
<td>Mihai Polverejan</td>
<td>Elementis</td>
</tr>
<tr>
<td>4:30 – 5:00 pm</td>
<td>Design of Pigment Dispersants for High-Performance Applications</td>
<td>Andrew Shooter</td>
<td>Lubrizol</td>
</tr>
<tr>
<td>5:00 – 5:30 pm</td>
<td>Easy-Dispersing Inorganic Pigments for Water &amp; Solvent-Based Coatings</td>
<td>David Giner</td>
<td>Al-Farben (Torrecid Group)</td>
</tr>
</tbody>
</table>
The newly-extended Poster Session will be held on the first day of the conference from 5:30 pm to 7:30 pm, during the AC CONFERENCE Reception. Posters will be on display in the conference area, and poster contributors will be available to discuss their results with interested attendees. A designated student section will cover current academic research. The following is a list of accepted and confirmed posters:

- p.1 Formulating for a New Era: Using New VOC-Exempt and VOC-Compliant Solvents
  Dave Pasin, TBF Environmental Technology

- p.2 UV-Curable Green Polyurethane Coatings for High-Performance Applications
  Forough Zareanshahraki, Eastern Michigan University

- p.3 Low Temperatures Curing Powder Coatings System for New Applications
  Cal EzeAgu, Allnex

- p.4 Novel Two-Component Non-Isocyanate Polyurethanes for Sustainable Coatings
  Hamidreza Asemani, Eastern Michigan University

- p.5 Novel Fluorocarbon Resin Zendura™ C100 Introduction and Application
  Jeffrey Han, Honeywell International

- p.6 Thermal Barrier Coatings on Paper Substrate
  Mohammed Mustaees Khan, University of Mississippi

- p.7 High-Performance Polyamide Powders for Coating Applications
  Biao Liu, Wanhua Chemical Group

- p.8 The Stabilization of UV-Curable & Waterborne Formulations with Novel HALS
  Mervin Wood, BASF Corporation

- p.9 Cleaning, Fractionating, and Solvating Lignin for Materials Applications
  Junhuan Ding, Clemson University

- p.10 Synthesis and Application of Cationic PUD with High-Temperature Resistance
  Deng Junying, Wanhua Chemical Group

- p.11 Crosslink Density: A Model to Predict Performance of Automotive Clear Coats
  Raviteja Kommineni, Eastern Michigan University

- p.12 Development of Acrylic-Grafted Hybrid Polyurethane Dispersions
  Diana Rodríguez, Eastern Michigan University

- p.13 Study on H12MDA Epoxy Curing Agent Modified by Propylene Oxide
  Eric Liu, Wanhua Chemical Group

- p.14 Waterborne Alkyd Resin — An Approach to Address a Chronic Technical Challenge
  Nihal Pandrapragada, Eastern Michigan University

- p.15 Self-Dispersing and Stimuli-Responsive Polyurethane Dispersions
  Harshit Gupta, Eastern Michigan University

- p.16 Synthesis of Bio-Acrlyics Monomers & Polymers from Renewable Resources
  Parijat Ray, Monash University

- p.17 Application of 4-HBA in Waterborne Hydroxy Acrylate Emulsion
  Rick Lu, Wanhua Chemical Group

- p.18 Organic-Inorganic Hybrid Coating System Using UV-Initiated Click Chemistry
  Himanshu Manchanda, Eastern Michigan University

- p.19 Waterproofing Low-Slope Roofing Using a Unique Elastomeric System
  John Dockery, Trinseo

- p.20 Color and Light: Advancements in Curing Colored and Special-Effect Pigments
  Sidney Hutter, Sidney Hutter Glass & Light

- p.21 Effective Low-VOC Epoxy Solution in Practice — A Case Study from Hypothesis to Practice to Field Study
  Christian Piechocki, Olin Epoxy

- p.22 Broad Thermal Gradient Testing ISO 2812-5 Based
  Nico Frankhuizen, TQC

- p.23 Evaluation of Thin-Film Drying Profiles Using Non-Invasive Optical Analysis
  Matt Vanden Eynden, Formulaction

- p.24 All-Acrylic Binder for Institutional and Commercial Paint Applications
  Tyler Bell, EPS

- p.25 Low Surfactant Waterborne Acrylics for Concrete Applications
  Terri Carson, Alberdingk Boley

- p.26 A Novel Family of Coating Additives Based on Engineered Polysaccharides
  Stephen Raper, ChemQuest Technology Institute

- p.27 Designing New Soy-Based Dispersants for Pigments in Solvent-Based Coatings
  Jim Tanner, Ethox Chemicals

- p.28 Improved Organic Protective Coatings Via Microencapsulated Healing Agents
  Gerald Wilson, Autonomic Materials

- p.29 Cardanol-Based Epoxy; Use in UV-Cured Coating with Fire-Retardant Dilutet
  Rupanshu Rastogi, Harcourt Butler Technical University

For abstracts and online registration, visit: www.american-coatings-show.com/conference
### Session 5: Architectural Coatings I
Chair: Rajeev Farwaha, Celanese

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<tr>
<th>Time</th>
<th>Title</th>
<th>Speaker(s)</th>
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<tbody>
<tr>
<td>9:00 – 9:30 am</td>
<td>5.1 Early Rain Resistance and Surfactant Leaching Resistant Binder</td>
<td>Maurille Secher, Omnova Solutions</td>
</tr>
<tr>
<td>9:30 – 10:00 am</td>
<td>5.2 Developing and Evaluating Early Rain Resistance in Exterior Architectural Coatings</td>
<td>Shelby Kellogg, BASF</td>
</tr>
<tr>
<td>10:00 – 10:30 am</td>
<td>5.3 Technology Advancement to Enhance Versatility of VAE in Architectural Paint</td>
<td>Ming Tsang, Celanese</td>
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<tr>
<td>10:30 – 11:00 am</td>
<td>Networking: Coffee Break</td>
<td>A</td>
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<tr>
<td>11:00 – 11:30 am</td>
<td>5.4 Impact of Coalescent on Deck Restoration Products</td>
<td>Dan Stark, Arkema Coating Resins</td>
</tr>
<tr>
<td>11:30 am – 12:00 pm</td>
<td>5.5 Microscopic Study of Latex Film Formation by OCT-Gravimetry-Video Method</td>
<td>Hao Huang, Lehigh University</td>
</tr>
<tr>
<td>12:00 – 12:30 pm</td>
<td>5.6 Effects of Latex and Thickener Hydrophobicity on the Rheology and Stability of Aqueous Latex-HEUR Mixtures</td>
<td>Travis Smith, California Polytechnic State University</td>
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### Session 6: Polyurethanes I
Chair: Scott Grace, Covestro

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<tr>
<td>9:00 – 9:30 am</td>
<td>6.1 New Concepts for High-Performance Polyol Dispersions</td>
<td>Mohsen Soleimani, BASF</td>
</tr>
<tr>
<td>9:30 – 10:00 am</td>
<td>6.2 Aesthetic Value in Polyamide-Based Polyurethane Coatings</td>
<td>Gabor Erdodi, Lubrizol</td>
</tr>
<tr>
<td>10:00 – 10:30 am</td>
<td>6.3 New Urethane DIOL Resins for Improved Performance of WB Aminoplast Coatings</td>
<td>Matthew Gadman, King Industries</td>
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<tr>
<td>10:30 – 11:00 am</td>
<td>Networking: Coffee Break</td>
<td>A</td>
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<tr>
<td>11:00 – 11:30 am</td>
<td>6.4 Versatile Self-Crosslinking PUD for Low-VOc Coatings in Multiple Markets</td>
<td>Aditi Chavannavar, BASF</td>
</tr>
<tr>
<td>11:30 am – 12:00 pm</td>
<td>6.5 Isocyanate-Free 2K Polyurethane Coatings with Improved Scratch Resistance</td>
<td>Dmitry Chernyshov, Momentive Performance Materials</td>
</tr>
<tr>
<td>12:00 – 12:30 pm</td>
<td>6.6 Advances in Non-Isocyanate Polyurethane (NIPU) Coatings Platform</td>
<td>Vijay Mannari, Eastern Michigan University</td>
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### Session 7: Radiation Curing
Chair: Paul Lewis, Nexeo Solutions

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<tr>
<td>9:00 – 9:30 am</td>
<td>7.1 UV LED Curable Resins for Industrial Wood Coatings</td>
<td>Jonathan Shaw, Alinex</td>
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<tr>
<td>9:30 – 10:00 am</td>
<td>7.2 Development of Two Approaches for Waterborne UV Clear and Highly Pigmented Coatings</td>
<td>Ziniu Yu, BASF</td>
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<tr>
<td>10:00 – 10:30 am</td>
<td>7.3 New Hybrid Floor Coating Technology</td>
<td>Bob Wade, Covestro</td>
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<tr>
<td>10:30 – 11:00 am</td>
<td>Networking: Coffee Break</td>
<td>A</td>
</tr>
<tr>
<td>11:00 – 11:30 am</td>
<td>7.4 Blending Free-Radical chemistry with Thermally-Initiated Poly Addition Chemistry</td>
<td>Marcus Hutchins, Alinex</td>
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<td>11:30 am – 12:00 pm</td>
<td>7.5 Silyl-(meth)acrylate Additives for Improving Waterborne UV-Curable Coatings</td>
<td>Jacob Shevrin, Evonik</td>
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<tr>
<td>12:00 – 12:30 pm</td>
<td>7.6 Durable &amp; Low-VOc Colorants for UV-Cured Coatings</td>
<td>Romesh Kumar, Clariant Plastics &amp; Coatings</td>
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</tbody>
</table>

### Session 8: Measuring & Testing
Chair: James Laugal, BASF

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Speaker(s)</th>
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<tbody>
<tr>
<td>9:00 – 9:30 am</td>
<td>8.1 Degradation in a Stress, Mechanism and Response Framework: Acrylic Coatings</td>
<td>Donghui Li, Case Western Reserve University</td>
</tr>
<tr>
<td>9:30 – 10:00 am</td>
<td>8.2 Composite Particle Technology for Efficiency &amp; Performance of Wax Additives</td>
<td>Onome Agori-Iwe, Micro Powders</td>
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<tr>
<td>10:00 – 10:30 am</td>
<td>8.3 Comprehensive Stability Analysis of Concentrated Emulsions and Dispersions</td>
<td>Matt Vanden Eynden, Formulaction</td>
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<td>10:30 – 11:00 am</td>
<td>Networking: Coffee Break</td>
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<tr>
<td>11:00 – 11:30 am</td>
<td>8.4 Effects of a Crosslinking Gradient on Material Properties of a Thin Film</td>
<td>Matthew Hancock, University of Kentucky</td>
</tr>
<tr>
<td>11:30 am – 12:00 pm</td>
<td>8.5 Surface and Interfacial Interactions of Silane Coatings on Paper Substrates</td>
<td>Brenda Hutton-Prager, University of Mississippi</td>
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<tr>
<td>12:00 – 12:30 pm</td>
<td>8.6 Improving Surfactant Leaching of Architectural Latex and Paint Formulations</td>
<td>Robert Sandoval, EPS</td>
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<tr>
<td>Session 9: Architectural Coatings II</td>
<td>Session 10: Polyurethanes II</td>
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<td>Chair: Kent Young, Sherwin Williams</td>
<td>Chair: Alex Kruglov, Sherwin Williams</td>
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<td>2:00 – 2:30 pm 9.1 Hollow Microspheres in Elastomeric Cool Roof Coatings Jan Nordin, Akzo Nobel Pulp &amp; Performance Chemicals</td>
<td>2:00 – 2:30 pm 10.1 Highly Resistant Polyurethane Dispersions for High-Performance Coatings Mark Gilbert, Alberdingk Boley</td>
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<tr>
<td>2:30 – 3:00 pm 9.2 Thermochromic Additives Applied to Waterbased Acrylic Coating Kevin Arnaud, Université Laval</td>
<td>2:30 – 3:00 pm 10.2 1K PUR Dispersion with Comparable Performance to 2K Waterborne Coating Makoto Nakao, Covestro</td>
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<tr>
<td>3:00 – 3:30 pm 9.3 Develop Exceptional Quality Architectural Coatings with Novel Silicone Additives Yujie Lu, The Dow Chemical Company</td>
<td>3:00 – 3:30 pm 10.3 New Low Viscosity Polyester Polyols for High Solids 2K Polyurethane Coating Michael O'Brien, Stepan Company</td>
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<tr>
<td>3:30 – 4:00 pm Networking: Coffee Break</td>
<td>4:00 – 4:30 pm 9.4 Application of Redox Chemistry to Reduce Free Hydrophobic Monomers in Emulsions Michael O'Shaughnessy, Bruggemann Chemical</td>
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<tr>
<td>4:00 – 4:30 pm 9.5 The Role of Opacifiers in Abrasion Resistance Adam Cummings, BASF</td>
<td>4:00 – 4:30 pm 10.4 Application of the Vinyltrimethoxy Silane as Moisture Scavenger for the High Reactive 2K Polyurethane Coatings Ahmed Essa, El-Mohandes</td>
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<tr>
<td>4:30 – 5:00 pm 9.6 Novel Urethane Associative Thickeners for Waterborne Coatings Based on Hydrophilic Binders Chitra Jeurkar, Elementis</td>
<td>4:30 – 5:00 pm 10.5 A Novel Co-Polymerizable Benzotriazole UVA for Polyurethane Dispersion Christopher Karwowski, Chitec Technology</td>
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<tr>
<td>5:00 – 5:30 pm 10.6 Recent Developments in UV-Curable Waterborne Dispersions Jonathan Shaw, Allnex</td>
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</tbody>
</table>
## Session 11: Epoxy Coatings

**Chair:** Remi Briand, Tnemec

**2:00 – 2:30 pm**

11.1 New Waterborne Systems Bring Fast Return-to-Service & Excellent Aesthetics  
Shiying Zheng, Evonik

**2:30 – 3:00 pm**

11.2 Novel Waterborne Epoxy Systems for Anticorrosive and 2K Zinc-Rich Primers  
Wenjun Mi, Olin Epoxy

**3:00 – 3:30 pm**

11.3 A New Waterborne Acrylic-Epoxy Hybrid Polymer for Metal Protection  
Leo Procopio, The Dow Chemical Company

**4:00 – 4:30 pm**

11.4 New Novel Metal-Free Catalysts for Epoxy-Carboxy Coatings  
Ravi Ravichandran, King Industries

**4:30 – 5:00 pm**

11.5 Polyamine Curing Agents Meeting the Industry Need for Enhanced Productivity  
Michael Cook, Evonik

**5:00 – 5:30 pm**

11.6 Improving the Weathering of Epoxy-Based Coatings  
Mouhcine Kanouni, Clariant Plastics & Coatings

## Session 12: Measuring, Testing & Automation

**Chair:** Sarah Eckersley, The Dow Chemical Company

**2:00 – 2:30 pm**

12.1 Dynamic Mechanical Analysis of Paints for Offshore Wind Towers  
Isbelis Lopez, Northumbria University

**2:30 – 3:00 pm**

12.2 Aerial Robotic (Drone) Nondestructive Testing (NDT) at Height  
Robert Dahlstrom, Apellix

**3:00 – 3:30 pm**

12.3 Novel Applications of Confocal Microscopy Techniques in Coatings Research  
Wenjun Wu, Arkema

**4:00 – 4:30 pm**

12.4 Influence of the Mechanical Properties of Clearcoats on Scratch Resistance  
Kyle Price, Axalta Coating Systems

**4:30 – 5:00 pm**

12.5 High Throughput Experimentation – A Faster Path to Innovation and Success  
Kevin Henderson, The Dow Chemical Company

**5:00 – 5:30 pm**

12.6 Robots Reading Recipes: A Semantic Framework for Coatings Science  
Erik Sapper, California Polytechnic State University

### Networking: Coffee Break
Wednesday, April 11, 2018
8:30 – 9:30 am

**MATTIELLO LECTURE**

Rheological and Colloidal Aspects of Latex-Associative Thickener Formulations: Overcoming the Remaining Challenges

Ray Fernando, Ph.D.
Arthur C. Edwards Endowed Chair in Coatings Technology and Ecology
California Polytechnic State University

Waterborne latex paints are complex colloidal systems that present major challenges against establishing universal governing mechanisms of their stability and rheology. The complexities emanate from the wide variability of ingredients that make up the dispersed phase (latex, pigments, and fillers) as well as the continuous aqueous phase (thickeners, surfactants, dispersants, other additives, and electrolytes) of fully-formulated paints. A uniformly mixed latex paint that comes off of a mixing vessel, once poured into a container and stored, can undergo many changes such as flocculation, aggregation, sedimentation, and syneresis. Over the past four decades, associative thickeners have enhanced the formulating latitude towards circumventing some of these problems. However, a thorough understanding of these thickeners' multi-component interactions and their sensitivities to variables in fully-formulated coatings is still lacking. In this lecture, an overview of the current level of knowledge on the subject matter will be given, as well as an outline of what remains to be done in order to fill the existing knowledge gaps.
<table>
<thead>
<tr>
<th>Session 14: Novel Materials</th>
<th>Session 15: Biobased Coatings</th>
<th>Session 16: Bio-Fouling &amp; Microbial Protection</th>
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<tbody>
<tr>
<td><strong>Chair:</strong> Kevin Lassila, Altana</td>
<td><strong>Chair:</strong> Dean Webster, North Dakota State University</td>
<td><strong>Chair:</strong> Stacey Barnaby, The Dow Chemical Company</td>
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**9:30 – 10:00 am**

14.1 New Industrial Minerals from Paint Waste Through Gasification Process  
Christopher Surbrook, Elpis Technologies

15.1 Development of a Novel Biobased Hybrid Resin System for Hygienic Coating  
Tirthankar Jana, Berger Paints India Limited

16.1 Polymerizable Surfactants: N-Chloramine Reservoirs for Microbial Protection  
Marcelo Dubiel, Exigence Technologies

**10:00 – 10:30 am**

14.2 New Dicyclopentadien-Based Acrylic Resins  
Hui Yu, New Functional Polymers

15.2 Sustainable, Low Emissions, High-Performance Polyols for Wood Coatings  
Gary Spilman, Resinate Materials Group

16.2 Evaluation of Waterbased Paint to Optimize Microbial Protection  
Cecilia McGough, Lanxess

**10:30 – 11:00 am**

14.3 Enhanced Technology for Electrostatic Spray on Nonconductive Substrates  
Atman Fozdar, Chemical Dynamics

15.3 Soy-Based Low-Temperature Powder Coatings  
Jeff Cafmeyer, Battelle Memorial Institute

16.3 Initiator Influence on the Encapsulation and Leaching of Ag Nanoparticles  
Gabrielle Boivin, Université Laval

**Networking: Coffee Break**

**11:30 am – 12:00 pm**

14.4 Next Generation of Thickeners in Industrial Coatings & Construction Systems  
Jim Heck, Elementis

15.4 New CNSL-Based Waterborne Zn-Rich and Epoxy Primers for Protective Coatings  
Hong Xu, Cardolite Corporation

16.4 Improved Anti-Fouling Performance and Coatings Durability in Marine Coating  
Maria Nargiello, Evonik

**12:00 – 1:00 pm**

14.5 Cobalt Performance without the Cobalt for WB and SB Systems  
Morris Bingham, Allnex

15.5 Enzymatic Polymerization for Engineered PolySaccharides in Coatings  
Christian Lenges, DuPont Industrial BioSciences

16.5 A New Biological Antifoulant for Marine Paints  
Gonçalo Costa, Biomimetx

**12:30 – 1:00 pm**

14.6 Improving Adhesion: A Continuing Challenge with Modern, Compliant Coatings  
Jim Reader, Evonik

15.6 Novel Sugar-Based Neutralizing Agent for Ecolabel Certified Paints  
Tiffany Meyers, Clariant

16.6 A New Approach for Preservation of Coatings Formulations  
Scott Brown, Lonza

**End of Conference and Lunch on the Show Floor**
Your Key Contacts

Conference
Vincentz Network:
Bettina Hoffmann
Phone: +49 511 9910-271
For U.S. calls: 202-684-6630
bettina.hoffmann@vincentz.net

American Coatings Association:
Steve Sides
Phone: 202-462-6272, Ext. 225
ssides@paint.org

Conference Website
www.american-coatings-show.com/conference

Trade Show
Cameron Hames
Trade Show Manager
AC Media
Phone: 770-727-0407
chames@paint.org

Show Website
www.american-coatings-show.com


Venue
American Coatings Show and the
American Coatings Conference 2018
Indiana Convention Center
100 S. Capitol Ave.
Indianapolis, IN 46225

Organizers
American Coatings Association
901 New York Avenue, NW
Suite 300 West
Washington, DC 20001
Phone: 202-462-6272

Vincentz Network
2885 Sanford Ave., S.W. #15817
Grandville, MI 49418
Phone: 202-684-6630

Duration & Operating Hours
AC Conference: April 9-11, 2018
AC Show: April 10-12, 2018
AC Show Hours:
April 10-11, 2018: 9 am-5 pm
April 12, 2018: 9 am-1 pm

Registration Options
American Coatings Conference Registration
Fees include:
- Admittance to the Conference Day(s) booked
- Conference Proceedings
- List of Conference Attendees
- Permanent Exhibition Ticket
- Conference Lunch and Coffee Breaks

Pre-Conference Tutorials Registration
Fees include:
- 1.5 hours interactive lecture in a small group
- Pre-Conference Tutorial Proceedings as hardcopy
- List of Pre-Conference Tutorial Attendees
- Exhibition Ticket
- Coffee Break before or after the Pre-Conference Tutorial

American Coatings Show Registration
Fees include:
- Exhibition Ticket to the Exhibition Day(s) booked

Register online at
www.american-coatings-show.com/conference

Expo Logic
P.O. Box 41187
Phoenix, AZ 85080
Phone: 866-692-2071 or 980-233-3808
registration@expologic.com

Cancellation/Refunds
The cancellation deadline is April 1, 2018. All cancellations must be received in writing by April 1, 2018, to receive a refund, minus $100 processing fee. Refund requests received after April 1, 2018, will not be honored. All refund requests are processed post-show. Substitutions are welcome instead of cancellation anytime, free of charge.

Hotel Reservation
Hotel accommodation is not included in the registration fees. Reservations will be handled by our service partner “Eventsphere.” They have been designated as the only housing provider of this event. There are fraudulent companies and organizations that may try to present themselves as official ACC/ACS partners and offer potential rooms that might not be guaranteed or available.

Please do not forget to make your hotel reservation as early as possible. Due to the concurrent American Coatings Show the demand for hotel rooms is high. To secure your hotel of choice and to get special ACC/ACS housing rates, please visit www.american-coatings-show.com/conference and click on “Hotel Reservations.”

Visa Information
Please keep in mind that international attendees might need to obtain a visa for visiting the United States. In order to obtain a letter of invitation from the organizer, please contact the visitor service of AC Media at: chames@paint.org.

By registering, you understand that your participation and attendance at the ACC may be video taped, filmed and/or audio recorded. You agree that the recording may be used for any lawful purposes that the American Coatings Association, Vincentz Network, or its designees, in their sole discretion, may determine. You also acknowledge that you have no interest or ownership in the recording or its copyright.

This conference program is subject to change.
# Conference Registration Form

After April 6, 2018, interested attendees are asked to register on-site in Indianapolis. Please note that on-site registrations cannot be guaranteed, as conference attendance is limited. On-site registration carries an additional fee of 10% of the conference fee for processing costs.

Register online!  [www.american-coatings-show.com/conference](http://www.american-coatings-show.com/conference)

## Step 1  General Information

<table>
<thead>
<tr>
<th>First Name</th>
<th>Last Name</th>
<th>Title</th>
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E-mail

Phone  
Fax

**Mailing Address**

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<th>Company</th>
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## Step 2  Registration Options

### Full Conference  
April 9-11, 2018  
excl. Pre-Conference Tutorials

<table>
<thead>
<tr>
<th>Standard Fee</th>
<th>Reduced Fee*</th>
<th>University Members</th>
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<tr>
<td>$949</td>
<td>$859</td>
<td>$475</td>
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This is your all-access pass to the complete American Coatings Show and Conference. It covers all speakers and all sessions in every track — including the keynote presentation, all coffee breaks, luncheons, AC Conference Networking Reception, and full access to the American Coatings Show.

### Two-Day Pass  
Choose one combination:

- April 9 + 10, 2018  
  - $709
- April 10 + 11, 2018  
  - $709
- April 9 + 11, 2018  
  - $615

### Single-Day Pass  
Choose one:

- April 9, 2018  
  - $445
- April 10, 2018  
  - $499
- April 11, 2018  
  - $445

*Discounts: Companies who are exhibitors at the American Coatings Show 2018 or members of ACA will be given a discounted rate. (check only one)

I am an exhibitor/member of:  
- ☐ Exhibitor ACS 2018  
- ☐ ACA Member

### Pre-Conference Tutorials

Please note that the Pre-Conference Tutorials and the main conference are two individual events. Participation is limited at the exclusive tutorials and will be handled on a first-come, first-served basis. Advance registration is necessary.

- **Pre-Conference Tutorial 1 – 5  
  8:30 – 10:00 am**  
  Please choose one:
    - Tutorial 1, $225  
    - Tutorial 2, $225  
    - Tutorial 3, $225  
    - Tutorial 4, $225  
    - Tutorial 5, $225

- **Pre-Conference Tutorial 6 – 10  
  10:30 am – 12:00 pm**  
  Please choose one:
    - Tutorial 6, $225  
    - Tutorial 7, $225  
    - Tutorial 8, $225  
    - Tutorial 9, $225  
    - Tutorial 10, $225

### Fun Run  
April 11, 2018; 7:15 am start  
T-shirt included. Please choose one shirt size:  
- ☐ S  
- ☐ M  
- ☐ L  
- ☐ XL  
- ☐ 2XL  

$28

## Step 3  Method of Payment

After conference registration is sent, attendees will receive confirmation and a receipt.

**Credit Card**  
- ☐ Amex  
- ☐ Master Card  
- ☐ VISA

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Card Holder Name  
Expiration Date

Signature  
Date

Registration Customer Service:  
Expologic  
P.O. Box 41187  
Phoenix, AZ 85080  
Phone: 866-692-2071 or 980-233-3808  
registration@expologic.com

Register online at:  
[www.american-coatings-show.com/conference](http://www.american-coatings-show.com/conference)