# 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

during the American Coatings Show 2018 | April 10-12, 2018

Exclusive Media Partner: COATINGSTECH

ACA℠

VINCENTZ

# Building a Lasting Future
# Innovation for the World


**Steve Sides**
Vice President
Global Affairs and
Chief Science Officer
American Coatings
Association



**James Kassner**
Senior Advisor
American Coatings
Association



**Sonja Schulte**
Editor-in-Chief
Vincentz Network


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!

*For further show information visit:* ***www.american-coatings-show.com***

# 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<br>Welcome Address and<br>Conference Introduction,<br>Keynote Presentations,<br>Award Ceremony |
| 1:30 pm – 2:00 pm | Networking: Coffee Break |
| 2:00 pm – 6:00 pm | Session 1: Science Today – Coatings Tomorrow<br>Session 2: Wood Coatings*<br>Session 3: Functional and Smart Coatings<br>Session 4: Grinding & Dispersing* |
| 5:30 pm – 7:00 pm | Poster Session/Networking:<br>AC Conference Networking Reception |

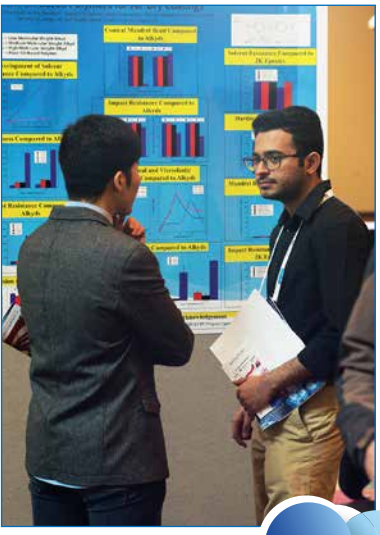
**Sessions with an asterisk end at 5:30 pm.*

## Tuesday, April 10, 2018

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

## Wednesday, April 11, 2018

| | |
|---|---|
| 7:15 am – 8:30 am | 5K Fun Run<br>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<br>Session 14: Novel Materials<br>Session 15: Biobased Coatings<br>Session 16: Bio-Fouling & Microbial Protection |
| 1:00 pm | End of Conference and<br>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.

# Pre-Conference
## TUTORIALS

### 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 curing 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 $TiO_2$ without compromising opacity performance. This tutorial covers $TiO_2$ light scattering fundamentals and then uses this knowledge to provide practical advice and strategies to maximize $TiO_2$ 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.

# Plenary Session

Monday, April 9, 2018 | 12:15 – 1:30 pm

12:15 pm

## Welcome Address and Conference Introduction

Steve Sides, American Coatings Association
Sonja Schulte, Vincentz Network

12:30 – 1:00 pm

## Keynote Presentation

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

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

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.

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

# 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.

2016 American Coatings Award winner Dr. Erin Vogel.

# 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.


2018 Mattiello Award recipient Dr. Ray Fernando will present the Mattiello Lecture on Wednesday, April 11.

**NEW**

# 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.

# Monday Afternoon

## SCHEDULE
**April 9, 2018 | 2:00 – 6:00 pm**

### Session 1:
## Science Today – Coatings Tomorrow
Chair: Prakash Balan, National Science Foundation

**2:00 – 2:30 pm**

1.1 Synergistic or Antagonistic Effects of Polymer/Surfactant Supramolecular Assembly on the Colloidal Depletion Force
Robert Tilton, Carnegie-Mellon University

**2:30 – 3:00 pm**

1.2 Ultrapure Lignins Recovered from Paper-Mill Black Liquors as Renewable Biopolymers
Mark Thies, Clemson University

**3:00 – 3:30 pm**

1.3 Liquid Charging in Electrostatic Atomizers for Coating and Painting Applications
Farzad Mashayek, University of Illinois at Chicago

**4:00 – 4:30 pm**

1.4 Unprecedented Chain-growth Polymerization Method to Access Structurally Defined Hyperbranched Polymers
Haifeng Gao, University of Notre Dame

**4:30 – 5:00 pm**

1.5 Colloids with Programmable Surfaces: A Polymer Approach to Self-Assembly
Stefano Sacanna, New York University

**5:00 – 5:30 pm**

1.6 Nanostructured Composite Coatings to Harden and Toughen Polymer Surfaces
Daeyeon Lee, University of Pennsylvania

**5:30 – 6:00 pm**

1.7 Self-Stimulating Antimicrobial Photocatalytic Coatings
Brij Moudgil, University of Florida

### Session 2:
## Wood Coatings
Chair: Jeff Lackey, Diamond Vogel

**2:00 – 2:30 pm**

2.1 Unique Waterborne Alternatives for Industrial Wood Applications
Laurie Morris, Alberdingk Boley

**2:30 – 3:00 pm**

2.2 Coatings for Mass Timber Products
Mojgan Nejad, Michigan State University

**3:00 – 3:30 pm**

2.3 Impacts of Silane Modified Colloidal Silica on Waterborne Clear Coatings
Peter Greenwood, Akzo Nobel Pulp & Performance Chemicals

**4:00 – 4:30 pm**

2.4 Novel Oil Modified Urethane for Wood Flooring Applications
Yuting Li, Reichhold

**4:30 – 5:00 pm**

2.5 Going Higher-Novel High Solids Alkyds for Paints and Stains
Jeffrey Arendt, Arkema

**5:00 – 5:30 pm**

2.6 New Generation Binders for Deck Finishing
Maqsood Ahmed, Allnex

### Session 3:
## Functional and Smart Coatings
Chair: Jamil Baghdachi, Eastern Michigan University

**2:00 – 2:30 pm**

3.1 Smart, Temperature-Triggered On-Demand Release Catalyst
Jamil Baghdachi, Eastern Michigan University

**2:30 – 3:00 pm**

3.2 The Novel Photocatalytic Coating for the Industrial Coil System
Sheng-Wei Lin, Eternal Materials

**3:00 – 3:30 pm**

3.3 Improved Performance of Zinc-Rich Primers via Self-Healing Technology
Subramanyam Kasisomayajula, Autonomic Materials

**4:00 – 4:30 pm**

3.4 Multifunctional Coating Based on Nano Fillers and Natural Substances
Roberto Cafagna, Nanto Cleantech

**4:30 – 5:00 pm**

3.5 Graphene in Conductive Coatings
Lynn Chikosha, Applied Graphene Materials

**5:00 – 5:30 pm**

3.6 Water-Based Superhydrophobic Coating on Al with Excellent Anti-corrosion
Shunli Zheng, Nanyang Technological University

**5:30 – 6:00 pm**

3.7 Water-Borne Superhydrophobic Coating
W. Marshall Ming, Georgia Southern University

### Session 4:
## Grinding & Dispersing
Chair: Brij Mohal, Chromaflo Technologies

**2:00 – 2:30 pm**

4.1 Ultra High Solids Grinding Resin
Gautam Haldankar, Allnex

**2:30 – 3:00 pm**

4.2 Hydrophobic Water-Based Dispersion for Improved Coatings
Lang Nguyen, Cabot Corporation

**3:00 – 3:30 pm**

4.3 Improved Durability Through Reactive Dispersant Technology
Steffen Onclin, BASF

**4:00 – 4:30 pm**

4.4 New Polymeric Dispersants for Industrial Coatings
Mihai Polverejan, Elementis

**4:30 – 5:00 pm**

4.5 Design of Pigment Dispersants for High-Performance Applications
Andrew Shooter, Lubrizol

**5:00 – 5:30 pm**

4.6 Easy-Dispersing Inorganic Pigments for Water & Solvent-Based Coatings
David Giner, Al-Farben (Torrecid Group)

**3:30 – 4:00 pm** — Networking: Coffee Break

**5:30 – 7:30 pm** — Poster Session | Networking: AC Conference Reception



# AC Conference Reception

Conference attendees, chairmen and speakers will be able to meet in a relaxed atmosphere at the AC Conference Networking Reception, Monday, April 9, 5:30-7:00 pm.

This year, the extended AC Conference Networking Reception is an ideal opportunity to renew and strengthen contacts, cultivate business relationships, exchange the latest news, and participate in open discussions. The reception is integrated with the Poster Session, as the two sessions are held concurrently. Refreshments will be provided.

# Poster Session

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 Mustafees 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 Rodriguez, 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-Acrylics 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

# Tuesday Morning

## SCHEDULE
**April 10, 2018 | 9:00 am – 12:30 pm**

### Session 5:
## Architectural Coatings I
Chair: Rajeev Farwaha, Celanese

**9:00 – 9:30 am**

5.1 Early Rain Resistance and Surfactant Leaching Resistant Binder
Maurille Secher, Omnova Solutions

**9:30 – 10:00 am**

5.2 Developing and Evaluating Early Rain Resistance in Exterior Architectural Coatings
Shelby Kellogg, BASF

**10:00 – 10:30 am**

5.3 Technology Advancement to Enhance Versatility of VAE in Architectural Paint
Ming Tsang, Celanese

**11:00 – 11:30 am**

5.4 Impact of Coalescent on Deck Restoration Products
Dan Stark, Arkema Coating Resins

**11:30 am – 12:00 pm**

5.5 Microscopic Study of Latex Film Formation by OCT-Gravimetry-Video Method
Hao Huang, Lehigh University

**12:00 – 12:30 pm**

5.6 Effects of Latex and Thickener Hydrophobicity on the Rheology and Stability of Aqueous Latex-HEUR Mixtures
Travis Smith, California Polytechnic State University

### Session 6:
## Polyurethanes I
Chair: Scott Grace, Covestro

**9:00 – 9:30 am**

6.1 New Concepts for High-Performance Polyol Dispersions
Mohsen Soleimani, BASF

**9:30 – 10:00 am**

6.2 Aesthetic Value in Polyamide-Based Polyurethane Coatings
Gabor Erdodi, Lubrizol

**10:00 – 10:30 am**

6.3 New Urethane Diol Resins for Improved Performance of WB Aminoplast Coatings
Matthew Gadman, King Industries

**11:00 – 11:30 am**

6.4 Versatile Self-Crosslinking PUD for Low-VOC Coatings in Multiple Markets
Aditi Chavannavar, BASF

**11:30 am – 12:00 pm**

6.5 Isocyanate-Free 2K Polyurethane Coatings with Improved Scratch Resistance
Dmitry Chernyshov, Momentive Performance Materials

**12:00 – 12:30 pm**

6.6 Advances in Non-Isocyanate Polyurethane (NIPU) Coatings Platform
Vijay Mannari, Eastern Michigan University

### Session 7:
## Radiation Curing
Chair: Paul Lewis, Nexeo Solutions

**9:00 – 9:30 am**

7.1 UV LED Curable Resins for Industrial Wood Coatings
Jonathan Shaw, Allnex

**9:30 – 10:00 am**

7.2 Development of Two Approaches for Waterborne UV Clear and Highly Pigmented Coatings
Ziniu Yu, BASF

**10:00 – 10:30 am**

7.3 New Hybrid Floor Coating Technology
Bob Wade, Covestro

**11:00 – 11:30 am**

7.4 Blending Free-Radical chemistry with Thermally-Initiated Poly Addition Chemistry
Marcus Hutchins, Allnex

**11:30 am – 12:00 pm**

7.5 Silyl-(meth)acrylate Additives for Improving Waterborne UV-Curable Coatings
Jacob Shevrin, Evonik

**12:00 – 12:30 pm**

7.6 Durable & Low-VOC Colorants for UV-Cured Coatings
Romesh Kumar, Clariant Plastics & Coatings

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

**9:00 – 9:30 am**

8.1 Degradation in a Stress, Mechanism and Response Framework: Acrylic Coatings
Donghui Li, Case Western Reserve University

**9:30 – 10:00 am**

8.2 Composite Particle Technology for Efficiency & Performance of Wax Additives
Onome Agori-Iwe, Micro Powders

**10:00 – 10:30 am**

8.3 Comprehensive Stability Analysis of Concentrated Emulsions and Dispersions
Matt Vanden Eynden, Formulaction

**11:00 – 11:30 am**

8.4 Effects of a Crosslinking Gradient on Material Properties of a Thin Film
Matthew Hancock, University of Kentucky

**11:30 am – 12:00 pm**

8.5 Surface and Interfacial Interactions of Silane Coatings on Paper Substrates
Brenda Hutton-Prager, University of Mississippi

**12:00 – 12:30 pm**

8.6 Improving Surfactant Leaching of Architectural Latex and Paint Formulations
Robert Sandoval, EPS

**10:30 – 11:00 am** — Networking: Coffee Break

**12:30 – 2:00 pm** — Networking: Conference Lunch

# Tuesday Afternoon

## S C H E D U L E
**April 10, 2018 | 2:00 – 5:30 pm**


### Session 9:

## Architectural Coatings II

Chair: Kent Young,
Sherwin Williams

**2:00 – 2:30 pm**

9.1 Hollow Microspheres in Elastomeric Cool Roof Coatings
Jan Nordin,
Akzo Nobel Pulp & Performance Chemicals

**2:30 – 3:00 pm**

9.2 Thermochromic Additives Applied to Waterbased Acrylic Coating
Kevin Arnaud,
Université Laval

**3:00 – 3:30 pm**

9.3 Develop Exceptional Quality Arcitectural Coatings with Novel Silicone Additives
Yujie Lu,
The Dow Chemical Company

**4:00 – 4:30 pm**

9.4 Application of Redox Chemistry to Reduce Free Hydrophobic Monomers in Emulsions
Michael O'Shaughnessy,
Bruggemann Chemical

**4:30 – 5:00 pm**

9.5 The Role of Opacifiers in Abrasion Resistance
Adam Cummings,
BASF

**5:00 – 5:30 pm**

9.6 Novel Urethane Associative Thickeners for Waterborne Coatings Based on Hydrophilic Binders
Chitra Jeurkar,
Elementis

### Session 10:

## Polyurethanes II

Chair: Alex Kruglov,
Sherwin Williams

**2:00 – 2:30 pm**

10.1 Highly Resistant Polyurethane Dispersions for High-Performance Coatings
Mark Gilbert,
Alberdingk Boley

**2:30 – 3:00 pm**

10.2 1K PUR Dispersion with Comparable Performance to 2K Waterborne Coating
Makoto Nakao,
Covestro

**3:00 – 3:30 pm**

10.3 New Low Viscosity Polyester Polyols for High Solids 2K Polyurethane Coating
Michael O'Brien,
Stepan Company

**3:30 – 4:00 pm** — **Networking: Coffee Break**

**4:00 – 4:30 pm**

10.4 Application of the Vinyltrimethoxy Silane as Moisture Scavenger for the High Reactive 2K Polyurethane Coatings
Ahmed Eessa,
El-Mohandes

**4:30 – 5:00 pm**

10.5 A Novel Co-Polymerizable Benzotriazole UVA for Polyurethane Dispersion
Christopher Karwowski,
Chitec Technology

**5:00 – 5:30 pm**

10.6 Recent Developments in UV-Curable Waterborne Dispersions
Jonathan Shaw,
Allnex

## 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

**Networking: Coffee Break**

**4:00 – 4:30 pm**

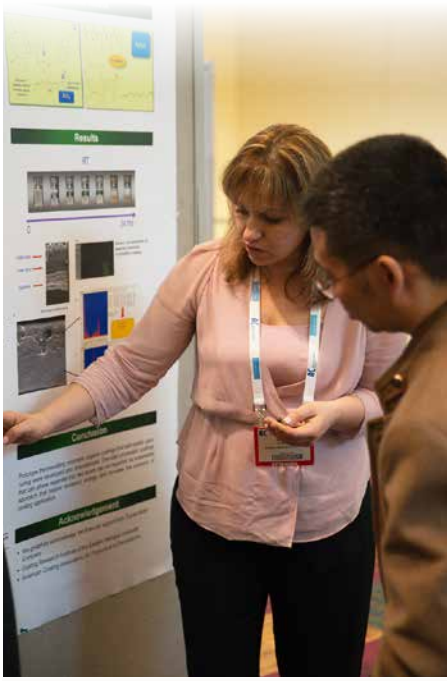
12.4 Influence of the Mechanical Properties of Clearcoats on Scratch Resistance
Kyle Price,
Axalta Coating Systems

**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




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.**

## Session 13:

### Protective Coatings

Chair: Yasmin Sayed-Sweet, Alberdingk Boley

**9:30 – 10:00 am**

13.1 A Versatile, High-Performance Polyol Chemistry for Broad Industrial Market Use
Jamie Dziczkowski,
Eastman Chemical Company

**10:00 – 10:30 am**

13.2 Maximizing the Performance of Low-VOC Acrylic Metal Coatings
Allen Bulick,
EPS

**10:30 – 11:00 am**

13.3 Discover the Advancement of Polysilazane in Coatings Applications
Wei Liu,
EMD Performance Materials

**11:00 – 11:30 am**

**11:30 am – 12:00 pm**

13.4 New Water-Based Binder for Thin Film Intumescent Coatings
Alan Fream,
Omnova Solutions

**12:00 – 12:30 pm**

13.5 100% Solids Ambient-Cure Liquid Pipe Coating with Excellent Cathodic Disbondment Results
Yong Zhang,
Olin Epoxy

**12:30 – 1:00 pm**

13.6 A New Epoxy-Siloxane Hybrid Resin for Industrial Coatings
Matthew Sumpter,
Hexion

**1:00 pm**

## Join the Fun Run — and support ACC student attendance!

**Wednesday, April 11, 2018 | 7:15 – 8:30 am**

Join us for the ACS 5K Fun Run! After the tremendous success of 2016, with over 300 participants, the show and conference hosts are encouraging every exhibitor and attendee to participate.

## Session 14:

### Novel Materials

Chair: Kevin Lassila,
Altana

**9:30 – 10:00 am**

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

**10:00 – 10:30 am**

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

**10:30 – 11:00 am**

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

## Session 15:

### Biobased Coatings

Chair: Dean Webster,
North Dakota State University

**9:30 – 10:00 am**

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

**10:00 – 10:30 am**

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

**10:30 – 11:00 am**

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

## Session 16:

### Bio-Fouling & Microbial Protection

Chair: Stacey Barnaby,
The Dow Chemical Company

**9:30 – 10:00 am**

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

**10:00 – 10:30 am**

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

**10:30 – 11:00 am**

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

**12:00 – 12:30 pm**

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

**12:30 – 1:00 pm**

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

**11:30 am – 12:00 pm**

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

**12:00 – 12:30 pm**

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

**12:30 – 1:00 pm**

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

**11:30 am – 12:00 pm**

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

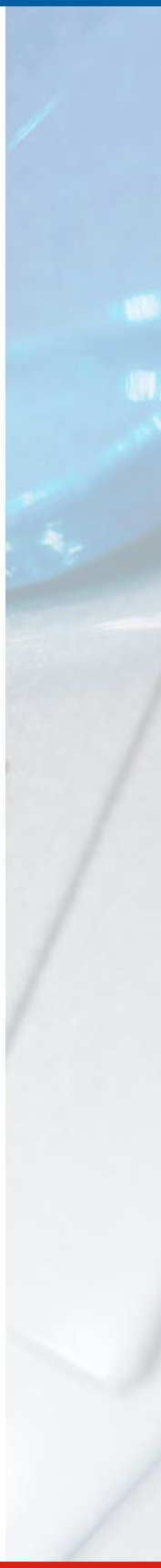
**12:00 – 12:30 pm**

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

**12:30 – 1:00 pm**

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

**End of Conference and Lunch on the Show Floor**



Proceeds from the ACS 5K Fun Run will be used to fund student participation at future AC CONFERENCES.

# All You Need To Know

## 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

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.

### 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 April1, 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.

# Conference Registration Form

American Coatings Conference 2018

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

## Step 1 General Information

☐ Free *CoatingsTech* Magazine Trial Subscription

First Name _____ Last Name _____ Title _____

E-mail _____

Phone _____ Fax _____

### Mailing Address

Company _____ Department (if applicable) _____

Address _____ City/State/ZIP _____ Country _____

## Step 2 Registration Options

| | Standard Fee | Reduced Fee* | University Members |
|---|---|---|---|
| **Full Conference** April 9-11, 2018<br>excl. Pre-Conference Tutorials (Best Value) | ☐ 949 | ☐ $859 | ☐ $475 |
| 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 | ☐ $635 | ☐ $369 |
| April 10 + 11, 2018 | ☐ $709 | ☐ $635 | ☐ $369 |
| April 9 + 11, 2018 | ☐ $615 | ☐ $549 | ☐ $339 |
| **Single-Day Pass** Choose one: | | | |
| April 9, 2018 | ☐ $445 | ☐ $405 | ☐ $225 |
| April 10, 2018 | ☐ $499 | ☐ $445 | ☐ $255 |
| April 11, 2018 | ☐ $445 | ☐ $405 | ☐ $225 |

***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<br>Please choose one: | ☐ Tutorial 1, $225<br>☐ Tutorial 2, $225 | ☐ Tutorial 3, $225<br>☐ Tutorial 4, $225 | ☐ Tutorial 5, $225 |
| **Pre-Conference Tutorial 6 – 10** 10:30 am – 12:00 pm<br>Please choose one: | ☐ Tutorial 6, $225<br>☐ Tutorial 7, $225 | ☐ Tutorial 8, $225<br>☐ Tutorial 9, $225 | ☐ Tutorial 10, $225 |
| **Fun Run** April 11, 2018; 7:15 am start<br>T-shirt included. Please choose one shirt size: ☐ S ☐ M ☐ L ☐ XL ☐ 2XL | ☐ Fun Run, $28 | | |

## Step 3 Method of Payment

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

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

☐☐☐☐ ☐☐☐☐ ☐☐☐☐ ☐☐☐☐

Card Number

Card Holder Name _____ Expiration Date _____

Signature _____ Date _____

**Registration Customer Service:**

Expo Logic
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**

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