Successful Innovation
in Coatings Research

The American Coatings Conference offers all you need to stay on top of your game over the course of three days: About 1100 experts 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 experts already know. These sessions are great preparation for what to expect on the ensuing days of the conference and there are two new topics for you to explore.

The ACC 2020 offers numerous networking possibilities to help you expand, cultivate and get the most out of your personal coatings network, whether you engage during the extended conference breaks, lunch, or the Poster Session on the first conference day. Now taking place parallel with the American Coatings Show, the conference also gives you a chance to visit the show floor extensively and meet more than 580 exhibitors.

Key reasons to attend:

Be the first to know
The American Coatings Conference is the largest and most important coatings conference in the United States and offers a chance to look beyond the obvious and 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 in your projects and development work.

We are sure you won’t want to miss this important event, so register now!

See you in Indianapolis!
at a glance

Tuesday, March 31, 2020

8:00 am – 9:30 am  Pre-Conference Tutorials 1-5
9:30 am – 10:00 am  Networking: Coffee Break
10:00 am – 11:30 am  Pre-Conference Tutorials 6-10
11:15 am – 12:00 pm  Networking: Welcome Lunch
12:00 pm – 1:15 pm  Plenary Session:
                      Welcome Address and Conference Introduction,
                      Keynote Presentation, Award Ceremony
1:30 pm – 5:00 pm  Session 1: Powder Coatings
                  Session 2: Wood Coatings
                  Session 3: Functional and Smart Coatings
                  Session 4: Novel Materials
5:00 pm – 6:30 pm  Poster Session and Networking Reception (held on the show floor)

Wednesday, April 1, 2020

7:15 am – 8:15 am  Fun Run to support student participation at AC Conferences
8:30 am – 12:30 pm  Session 5: Architectural Coatings I
                    Session 6: Polyurethanes
                    Session 7: Radiation Curing
                    Session 8: Measuring & Testing I
12:30 pm – 2:30 pm  Networking: Lunch on the show floor
2:30 pm – 6:30 pm  Session 9: Architectural Coatings II
                    Session 10: Protective Coatings
                    Session 11: Waterbased Coatings
                    Session 12: Measuring & Testing II

Thursday, April 2, 2020

8:00 am – 12:00 pm  Session 13: Direct-to-Metal
                     Session 14: Appearance and Functionality
                     Session 15: Experimental Design and Concepts
                     Session 16: Biobased Coatings
12:00 pm  Light Lunch (held on the show floor)

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. The survey is designed to shed light on participants’ views and expectations with regards to current research and the market climate in the American coatings industry. The survey results and an analysis will be presented live during the Plenary Session.
Pre-Conference  
Tutorials

Tuesday, March 31 | 8:00 – 9:30 am

**TUTORIAL 1: RHEOLOGY**
RAY FERNANDO,  
CALIFORNIA POLYTECHNIC STATE UNIVERSITY

This tutorial is aimed at both seasoned professionals and those new to rheology. 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 quite 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: ANTICORROOSIVE 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**
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: 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.

Tuesday, March 31 | 10:00 – 11:30 am

**TUTORIAL 6: 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 7: 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 8: BIOCIDE SELECTION PROCESS FOR COATINGS**
BETH ANN BROWNE,  
DUPONT

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 9: FORMULATING WITH INTELLIGENCE: MACHINE LEARNING IN THE COATINGS LABORATORY**
ERIK SAPPER,  
CALIFORNIA POLYTECHNIC STATE UNIVERSITY

Artificial intelligence (AI) and machine learning (ML) applications are making broad and deep impacts in diverse fields and industries around the world. Polymer chemists are familiar with structure-property relationships that are used to describe the properties of macromolecules. Coatings formulators are becoming more adept at using principles of statistics and designed experiments to more thoroughly optimize their formulations and production processes. This tutorial will introduce attendees to a new way of approaching formulation science which augments traditional thinking with artificial intelligence and machine learning tactics and strategies. Strategies for implementing AI/ML workflows in the laboratory will be discussed, as well as approaches for handling unstructured, textual data. No prior mathematical or computational background is expected of attendees.

**TUTORIAL 10: AN OVERVIEW OF GREEN BUILDING STANDARDS, LIFE CYCLE ASSESSMENT, AND ACA’S FORTHCOMING SUSTAINABILITY PROGRAM**
DOUGLAS MAZEFFA,  
THE SHERWIN-WILLIAMS COMPANY

As sustainability efforts continue to gain prominence in both the regulatory landscape and marketplace, manufacturers are tasked with the challenge of designing products that meet standards that are often ambiguous or problematic from a business perspective. This session will provide an overview of Life Cycle Assessment and the leading green building programs to give context around this topic. Also discussed will be the forthcoming ACA Sustainability Program, which is a standard being developed through an multi-attribute, open-stakeholder process for Architectural Coatings to ensure that a credible eco-label exists for coating products. This effort is being completed to create a best-in-class program for use in leading Green Building Standards and incorporates elements of Life Cycle Assessment and Life Cycle Thinking.
Our customers are looking to the coatings industry to help them enable and differentiate their products and future innovations. From the role that coatings play on airplanes to electric vehicles to sustainable building design, our industry is increasingly relied upon to protect and beautify our customers’ products. So what’s next for the coatings industry? Where do we go from here to ensure that our products and technologies remain a critical piece to our customers’ success? There are several key trends and innovations that are pointing the way. This includes coatings that provide increased performance and functionality; improved ease of use; energy efficiency; sustainability; and enabling electric and autonomous mobility. These trends are driving innovation and major changes to our industry, and we must take the lead in providing new solutions.
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 2020 will be presented at the conference Plenary Session on March 31.

DuPont Industrial Biosciences’ Monica Harvey (left) and Christian Lenges (center) accept the prestigious American Coatings Award from Sonja Schulte and Steve Sides at the ACC 2018.

ACS Career Center

This year’s American Coatings Show offers a 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 and scheduling face-to-face interviews. Visit www.american-coatings-show.com for details, or stop by the Career Center on the show floor.
### Tuesday Afternoon

#### SESSION 1:
**Powder Coatings**  
Chair: Kent M. Young, Sherwin-Williams

<table>
<thead>
<tr>
<th>Time</th>
<th>Session Title</th>
<th>Speaker(s)</th>
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<tbody>
<tr>
<td>1:30 – 2:00 pm</td>
<td>1.1 Gloss Control Powder Coatings Resin for Robust Manufacturing and Processing Efficiency</td>
<td>Cal U. EzeAgu, allnex, Alpharetta, USA</td>
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<td>1.2 Specialty Crosslinkers for Improved Powder Coatings Properties</td>
<td>Bernd Knobloch, Ems Chemie, Switzerland</td>
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<td>1.3 Functional Powder Coatings via Isocyanate-Cured Phenolics and Benzoxazinones</td>
<td>Weih Q. Lee, Sherwin-Williams, USA</td>
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<tr>
<td>2:00 – 2:30 pm</td>
<td>1.4 Effect of Novolak Resins in Powder Coatings Properties</td>
<td>Peter C. Boyer, Georgia-Pacific Chemicals, USA</td>
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<td>1.5 Sustainable Powder Coating Solutions for Hyperdurable Applications</td>
<td>Jan Pieter Drijfhout, DSM Resins, The Netherlands</td>
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<td>1.6 New Generation Reactive Matting Additive for Epoxy and Hybrid Powder Coatings</td>
<td>Atman Fozdar, Chemical Dynamics, USA</td>
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#### SESSION 2:
**Wood Coatings**  
Chair: Scott Cooley, Polymers

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<thead>
<tr>
<th>Time</th>
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<tbody>
<tr>
<td>1:30 – 2:00 pm</td>
<td>2.1 Low Surface-Tension Oxygenated-Solvent</td>
<td>Gregory Jakociuk, Braskem, Brazil</td>
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<td>2.2 Hydrophobic Silicone Resin for High-Performance Waterborne Coatings</td>
<td>Ping Jiang, Momentive Performance Materials, USA</td>
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<td>2.3 Evaporative Dynamic Oscillation (EDOT) to Probe Drying, Film Formation, and Tg Evolution of Waterbased Coating Films</td>
<td>Ronald Obie, Adept Material Science, USA</td>
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<tr>
<td>2:00 – 2:30 pm</td>
<td>2.4 Inherently Dull Waterbased Acrylic Technology</td>
<td>Dana Charron, Interpolymer, USA</td>
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<td>2.5 A Novel Polymer/Wax Hybrid for Wood Coatings with Outstanding Weatherability</td>
<td>Adriaan Sanderson, Michelman SARL, Luxembourg</td>
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<td>2.6 The Environmental Case for Moving Back to Solventborne Coatings</td>
<td>Mike McLean, TBF Environmental Technology, Canada</td>
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#### SESSION 3:
**Functional and Smart Coatings**  
Chair: Jamil Baghdachi, Eastern Michigan University

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<tr>
<td>1:30 – 2:00 pm</td>
<td>3.1 Fluorine-Free Additives for Self-Healing and Self-Cleaning Coatings for Packaging and Non-Packaging Applications</td>
<td>Muhammad Rabnawaz, Michigan State University, USA</td>
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<td>3.2 Amphiphilically-Modified Self-Stratified Siloxane-Glycidyl Carbamate Coatings for Anti-Icing Application</td>
<td>Alirea Rahimi, North Dakota State University, USA</td>
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<td>3.3 New Additive that Improves Dirt Pick-Up Resistance and Provides Easy-to-Clean Surface</td>
<td>Kajal Parekh, Munzing, USA</td>
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<td>2:00 – 2:30 pm</td>
<td>3.4 Carbon Capturing Coatings</td>
<td>Steve McDaniel, Reactive Surfaces, USA</td>
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<td>3.5 Durable Superhydrophobic Coating by Radiation Curing</td>
<td>Roberto Cafagna, Nanto, USA</td>
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<td>3.6 Sustainable Protective Coatings with Extended Usage Lifetime Through Healing</td>
<td>Amanda Neely, Resinate Materials Group, USA</td>
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#### SESSION 4:
**Novel Materials**  
Chair: Ingrid Meier, Evonik

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<tr>
<td>1:30 – 2:00 pm</td>
<td>4.1 High-Performance Polymeric Dispersant for Carbon Black in Waterborne Systems</td>
<td>Susan Dong, Stepan Company, USA</td>
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<td>4.2 Polyester Resins for Formulation Latitude and Reactivity Control of Aspartic Coatings</td>
<td>Sarah Wolek, Stepan Company, USA</td>
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<td>4.3 Novel High-Performance Silicone Polyester Resins with FDA Approval</td>
<td>Maria Nargiello, Evonik Corporation, USA</td>
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<td>2:00 – 2:30 pm</td>
<td>4.4 Anti-Microbial Coating from Soybean Oil-Based Polyurethane Dispersions</td>
<td>W. Marshall Ming, Georgia Southern University, USA</td>
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<td>4.5 Extreme Coatings from Low-VOC Solutions</td>
<td>Terri A. Shefelbine, 3M, USA</td>
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<td>4.6 Highly Weatherable PFAS-free Coatings</td>
<td>Anna Johnson, Arkema, USA</td>
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#### Coffee Break

**3:00 – 3:30 pm**

#### Coffee Break

**3:30 – 4:00 pm**

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<tr>
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<tr>
<td>4:00 – 4:30 pm</td>
<td>4.7 New Generation Additive for Epoxy and Hybrid Powder Coatings</td>
<td>Atman Fozdar, Chemical Dynamics, USA</td>
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<td>4.8 The Environmental Case for Moving Back to Solventborne Coatings</td>
<td>Mike McLean, TBF Environmental Technology, Canada</td>
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<td>4.9 Sustainable Protective Coatings with Extended Usage Lifetime Through Healing</td>
<td>Amanda Neely, Resinate Materials Group, USA</td>
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#### Poster Session | Networking: AC Conference Reception

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<td>5:00 – 6:30 pm</td>
<td>5.0 Poster Session</td>
<td>Networking: AC Conference Reception</td>
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The newly extended Poster Session will be held after the presentations on the first day of the conference from 5:00 pm to 6:30 pm, during the American Coatings Conference Networking Reception. Posters will be on display on the show floor 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 to date:

**p.1** Pigment Dispersion in Powder Coatings via Ultrasonic Twin-Screw Extrusion
Robert Bouscher,
University of Akron, USA

**p.2** Coating of Carbon Nanotube-Polymer Nanocomposites on Osmosis Membranes for Water Desalination
Shanju Zhang,
California Polytechnic State University, USA

**p.3** A Clear Waterborne Fire- Retardant Coating System with a Novel Topcoat
John Hughes,
Armstrong World Industries, USA

**p.4** UV-Cured Organic-inorganic Hybrid Metal Pre-Treatments for Corrosion Resistance
Lin Luo,
Eastern Michigan University, USA

**p.5** Effect of Polymer Design and Coating Formulation on the Water Uptake and Sensitivity of Acrylic Waterborne Films
William Thompson,
California Polytechnic State University, USA

**p.6** An Advanced Acrylic Engineered for Gloss/Semi-Gloss Deep Bases
Ivan Tyre,
Alberdingk Boley, USA

**p.7** Amphiphilic Siloxane-polyurethane Fouling-Release Coatings: Effect of Pre-Polymer Composition and Surface Modifying Amphiphilic Additive Incorporation
Jackson Benda,
North Dakota State University, USA

**p.8** Evaluation of VOC Control Technologies: A Sustainable Response to the 2015 NAAQS Ozone Standard
William Rosenzweig,
Benjamin Moore, USA

**p.9** Reactive Plasticizers for UV-Curable Polyester Powder Coatings
Ted Hammer,
University of Akron, USA

**p.10** Novel Low VOC, Low Viscosity Epoxy Enabling High Solids Systems, Productivity, and Formulation Flexibility – 2 & 3-Year Field Trial Results
Marie-Josée Déry-Chauvette,
Olin, USA

**p.11** New Technology for Improving Milling Processes While Saving Money
David Tomlinson,
Netzsch, United Kingdom

**p.12** Coal-Derived, Solid Resins as Economic Raw Materials for Coatings and Adhesives
Stefan Holberg,
University of Wyoming, USA

**p.13** Synthesis of Novel Biobased Self Crosslinking Resin
Raul Setien,
North Dakota State University, USA

**p.14** Sustainable Polyurethane Multi-Substrate Adhesive Solutions
Wolfgang Geuking,
Croda, USA

**p.15** Automatic Non-Destructive Measurement of Panels for Corrosion Testing
Ralph Woerheide,
Orontec, Germany

**p.16** Achieving Excellent Multi-substrate Adhesion for Architectural Coatings
Kaliappa Ragunathan,
BASF, USA

**p.17** Polysilazanes – Ultimate Binder for Surface Protection
Yang Wang,
EMD Performance Materials, USA

Visit www.american-coatings-show.com/conference for recent abstract submissions of additional student posters.
### Wednesday Morning

<table>
<thead>
<tr>
<th>Session 5: Architectural Coatings I</th>
<th>Session 6: Polyurethanes</th>
<th>Session 7: Radiation Curing</th>
<th>Session 8: Measuring &amp; Testing I</th>
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</thead>
<tbody>
<tr>
<td><strong>Chair:</strong> Todd Wirdzek, Kelly-Moore Paints</td>
<td><strong>Chair:</strong> Scott Grace, Covestro</td>
<td><strong>Chair:</strong> Ramesh Subramanian, allnex</td>
<td><strong>Chair:</strong> Brij Mohal, Chromaflo</td>
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<tr>
<td><strong>8:30 – 9:00 am</strong></td>
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<tr>
<td>5.1 Recent Advances in Hydrophobically Modified Alkali Swellable Thickeners (HASE) for Waterbased Architectural Coatings</td>
<td>6.1 Rapid Room Temperature Curing of Non-Isocyanate Poly-Hydroxyalkyl Urethanes (HNIPUs) Crosslink with Aldehyde Moieties</td>
<td>7.1 New Radiation Curable Oligomers with High Renewable Carbon Content for Coating and 3D-Printing Applications</td>
<td>8.1 Coating Mechanics to Defend Against the Environmental Elements</td>
</tr>
<tr>
<td>Chitra Jeurkar, Elementis, USA</td>
<td>Allaudin Shaik, Asian Paints, India</td>
<td>Michael Gould, Rahn USA Corp., USA</td>
<td>Nicholas Foley, BASF, USA</td>
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<td><strong>9:00 – 9:30 am</strong></td>
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<tr>
<td>5.2 New Multifunctional Coalescent Platform Developed to Provide Improvements in Hardness, Efficiency, and Stability</td>
<td>6.2 Development of Hybrid Non-Isocyanate Polyurethane Coatings with Reduced Viscosity and Various Crosslinking Possibilities</td>
<td>7.2 Radiation-curable Interior Wood Coatings-based on Non-Isocyanate Urethane Acrylates</td>
<td>8.2 Towards a Comprehensive Understanding of Dirt-Pickup Resistance</td>
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<tr>
<td>Kyle Posselt, Emerald Kalama Chemical, USA</td>
<td>Hamidreza Aseman, Eastern Michigan University, USA</td>
<td>Forough Z. Shahraki, Eastern Michigan University, USA</td>
<td>Scott Brown, The Chemours Company, USA</td>
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<td><strong>9:30 – 10:00 am</strong></td>
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<tr>
<td>5.3 Waterborne Self-crosslinking Technology for High-Performance Low-VOC Concrete Coatings</td>
<td>6.3 Recent Innovations in Polymer Synthesis for Automotive Coatings</td>
<td>7.3 Corrosion-Resistant Organic-Inorganic Hybrid Pre-Treatments Obtained by Photo-Initiated Process</td>
<td>8.3 Thin Film Drying Mechanism Determination Using Non-Invasive Light Scattering Techniques</td>
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<tr>
<td>Terri John, Omnova Solutions, USA</td>
<td>Shanti Swarup, PPG, USA</td>
<td>Vijay Mannari, Eastern Michigan University, USA</td>
<td>Matt Vanden Eynden, Formulaction, USA</td>
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<tr>
<td><strong>10:00 – 11:00 am</strong></td>
<td>Coffee Break</td>
<td><strong>11:00 – 11:30 am</strong></td>
<td><strong>11:00 – 11:30 am</strong></td>
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<tr>
<td>5.4 Innovative Methodology to Quantify and Assess the Applied Opacity of Architectural Paint</td>
<td>6.4 Solving the Coalescence Riddle with Hydronomers</td>
<td>7.4 Anti-Scratch Additive for Waterbased UV-Curable Systems</td>
<td>8.4 Morphological Changes in Exterior Surface Coatings after Exposure to Cyclic Water Submersion and UV Exposure</td>
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<tr>
<td>Felipe G. Loera, The Chemours Company, USA</td>
<td>Mark Soucek, University of Akron, USA</td>
<td>Michelle Bauer, ICL Phosphate Specialty, USA</td>
<td>William Rosano, BASF, USA</td>
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<td><strong>11:30 am – 12:00 pm</strong></td>
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<tr>
<td>5.5 New Advances in High-Performance Quinacridone PR122 in Architectural Coatings</td>
<td>6.5 Polyurethane Topcoats Based on Recycled PET Outperform Epoxy Topcoats in Concrete Applications</td>
<td>7.5 Innovative Self-Initiating UV Curable PUDs</td>
<td>8.5 Polymeric Gradient Integrated Layer Coatings and Additives</td>
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<tr>
<td>Nilanjan Chakrabarti, Sun Chemical Corporation, USA</td>
<td>Lama T. Alzuhd, Resinate Materials Group, USA</td>
<td>Laurie E. Morris, Alberdingk Boley, USA</td>
<td>Jamil Baghdachi, Eastern Michigan University, USA</td>
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<td><strong>12:00 – 12:30 pm</strong></td>
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<td>Juliane P. Santos, Oxiteno, Brazil</td>
<td>Ronald Lewarchik, Chemical Dynamics, USA</td>
<td>Jon Shaw, allnex, USA</td>
<td>Ashish Zore, Missouri University of Science and Technology, USA</td>
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**Schedule:**
- **April 1, 2020 | 8:30 am – 12:30 pm**
- **10:00 – 11:00 am:** Coffee Break
- **12:30 – 2:30 pm:** Networking: Lunch on the Show Floor

Join the Fun Run — and support ACC student attendance!
## SESSION 9: Architectural Coatings II

**Chair:** Dale McIntyre, Behr

### 2:30 – 3:00 pm

**9.1 Novel PVDF Aqueous Dispersion for Flexible Exterior Applications**

Kelly Lutz, Arkema, USA

### 3:00 – 3:30 pm

**9.2 New Techniques to Understand Stain-Resistance Properties of Waterbased Architectural Paints**

Zeena Cherian, Ashland Specialty Ingredients GP, USA

### 3:30 – 4:00 pm

**9.3 Influence of Surfactants on the Rheology of HEUR-Thickness Waterborne Latex Systems**

Raymond Fernando, California Polytechnic State University, USA

### 4:00 – 5:00 pm

**Networking: Coffee Break**

### 5:00 – 5:30 pm

**9.4 Improving Weatherability of Architectural Coatings Through Spectroscopic Analysis**

Karl Booth, Engineered Polymer Solutions, USA

### 5:30 – 6:00 pm

**9.5 New Insights in Leaching Evaluation of Architectural Paints — Effect of Copolymerizable Surfactants**

Juliane P. Santos, Oxiteno, Brazil

## SESSION 10: Protective Coatings

**Chair:** David Cranfill, BASF

### 2:30 – 3:00 pm

**10.1 New Waterborne Siloxane Binders for High Temperature Resistant Liquid Applied Thermal Insulation Coatings**

Jenafer Jensen, Dow, USA

### 3:00 – 3:30 pm

**10.2 Unique Epoxy-amine Curing Agent Brings Fast Return to Services Properties to Industrial Protective Coatings**

Yong Zhang, Huntsman Corporation, USA

### 3:30 – 4:00 pm

**10.3 Waterborne Epoxy Solutions for Anti-Corrosive Coating**

Daniel Zhu, Olin Epoxy China, China

### 5:00 – 6:00 pm

**Networking: Coffee Break**

### 5:00 – 5:30 pm

**10.4 Improved Corrosion Performance of a New Polyvinylidene Chloride Acrylate Copolymer on Metals**

Ximing Li, Lubrizol, USA

### 5:30 – 6:00 pm

**10.5 Acrylic Dispersion for Improved Metal Protection**

Tony Neely, BASF, USA

### 6:00 – 6:30 pm

**10.6 High Solids System for Lower-VOC Two-Component Protective Coatings**

Rob Eisenhardt, Arkema Coating Resins, USA
### SESSION 11: Waterbased Coatings
**Chair:** Kevin Lassila, Altana

#### 2:30 – 3:00 pm
11.1 A New Waterborne Acrylic Resin and Formulation Strategies for Improved Adhesion to TPO
Robert Sandoval, EPS Materials, USA

#### 3:00 – 3:30 pm
11.2 New Additive to Eliminate Pinhole for Waterbased Coating Formulations
Jim Reader, Evonik Corporation, USA

#### 3:30 – 4:00 pm
11.3 New 100% Active Dispersants for UV and Waterborne Inks and Coatings
Jonathan Bird, Lubrizol, USA

#### 5:00 – 5:30 pm
11.4 Low-Temperature Curing of Waterborne Epoxy Coatings
Roy A. Kelly, Olin Corporation, USA

#### 5:30 – 6:00 pm
11.5 Improving Anticorrosive Performance of Waterbased Systems Using Graphene Nanoplatelets
Lynn Chikosha, Applied Graphene Materials, United Kingdom

#### 6:00 – 6:30 pm
11.6 Waterbased Intumescent Coatings with Dramatically Reduced Application Times
Vincent J. Goldman, BASF, USA

### SESSION 12: Measuring & Testing II
**Chair:** Jeff Lackey, Induron

#### 2:30 – 3:00 pm
12.1 Method Development toward Improved Bisphenol-A Non-intent Resin Technology in Food Contact Metal Packaging Coatings
Goliath Beniah, Eastman Chemical Company, USA

#### 3:00 – 3:30 pm
12.2 Influencing Factors Affecting the Reproducibility of Weathering Tests
Matthew McGreer, Atlas Material Testing Technology, USA

#### 3:30 – 4:00 pm
12.3 Ultra-High Solids Resins – Solution for Exempt Solvents
Gautam S. Haldankar, allnex, USA

#### 5:00 – 5:30 pm
12.4 Thermodynamic Characterization of Free and Surface Water of Colloidal Unimolecular Polymer (CUP) Particles Utilizing DSC
Peng Geng, Missouri University of Science and Technology, USA

#### 5:30 – 6:00 pm
12.5 Water Delivery During Accelerated Weathering Testing of Coatings for Improved Correlation to Outdoor Results
Andy Francis, Q-Lab Corporation, USA

#### 6:00 – 6:30 pm
12.6 Optimizing Application Time Interval for a Multi-Layer Protective Coating: Study of Curing Kinetic and Adhesion Strength
Seyed Mojtaba Mirabedini, Eastern Michigan University, USA

### Networking: Coffee Break
5:00 – 5:30 pm
5:30 – 6:00 pm
### SESSION 13: Direct-to-Metal Coatings
Chair: Kurt Wood, Arkema

<table>
<thead>
<tr>
<th>Time</th>
<th>Presentation</th>
<th>Presenter</th>
<th>Company</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00 - 8:30 am</td>
<td>13.1 Acrylic Polyol with Enhanced Performance for 2K PUR Direct-to-Metal Coatings</td>
<td>Vincent J. Goldman</td>
<td>BASF, USA</td>
</tr>
<tr>
<td>8:30 - 9:00 am</td>
<td>13.2 Functionalized Binders Derived from Novel Monomers to Enhance Performance of Waterborne Coatings</td>
<td>Lichang Zhou</td>
<td>Solvay, USA</td>
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<tr>
<td>9:00 - 9:30 am</td>
<td>13.3 High-Performance Waterborne Direct-to-Metal Acrylic for &lt; 50 g/L VOC Maintenance Coatings</td>
<td>Alicia Albrecht</td>
<td>Arkema Coating Resins, USA</td>
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<tr>
<td>10:30 - 11:00 am</td>
<td>13.4 Formulating High Performance Waterborne Acrylic DTM Coatings Under 25 g/L VOC</td>
<td>Matthew Padaon</td>
<td>The Dow Chemical Company, USA</td>
</tr>
<tr>
<td>11:00 - 11:30 am</td>
<td>13.5 Novel Silicone-Free Star Surfactants for Waterborne DTM applications with Broad Design Space for Optimized Foam/Wetting Behavior</td>
<td>Ralf Knischka</td>
<td>BASF, Germany</td>
</tr>
<tr>
<td>11:30 am - 12:00 pm</td>
<td>13.6 New Ambient Curing Resins for High Heat and Corrosion Resistance</td>
<td>Francisco Cortés Baledón</td>
<td>Evonik Corporation, USA</td>
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### SESSION 14: Appearance and Functionality
Chair: Remi Briand, Tnemec Company

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<th>Time</th>
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<tbody>
<tr>
<td>8:00 - 8:30 am</td>
<td>14.1 Novel Adaptive Surface Modifying Coating for Biofouling Control</td>
<td>Teluka Galhenage</td>
<td>Adaptive Surface Technologies, USA</td>
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<tr>
<td>8:30 - 9:00 am</td>
<td>14.2 Innovative Pearlescent Pigments for Automotive and Industrial Coatings with Increased Hiding Power and Safety</td>
<td>Adalbert Huber</td>
<td>Schlenk Metallic Pigments, Germany</td>
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<tr>
<td>9:00 - 9:30 am</td>
<td>14.3 Key Considerations for Development of Functional Microbicidal Paints – Copper-glass Ceramic Particles vs. Silver and Organic Additives</td>
<td>Joydeep Lahiri</td>
<td>Corning Incorporated, USA</td>
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<tr>
<td>10:30 - 11:00 am</td>
<td>14.4 Aluminum-Oxide Nanocomposite Wax Powders as PTFE Replacements</td>
<td>Rich Czarnecki</td>
<td>Micro Powders, Inc., USA</td>
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<tr>
<td>11:00 - 11:30 am</td>
<td>14.5 Carbon Nanotube-Based Optical Black Coatings for Optical and Infrared Applications</td>
<td>David Carnahan</td>
<td>NanoLab, Inc., USA</td>
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<tr>
<td>11:30 am - 12:00 pm</td>
<td>14.6 Silane-Modified Silicas as Functional Matting Agents</td>
<td>Daniel Clingerman</td>
<td>PPG, USA</td>
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### Thursday Morning
April 2, 2020 | 8:00 am - 12:00 pm

**Networking: Coffee Break**

**End of Conference and Light Lunch on the Show Floor**
### SESSION 15: Experimental Designs & Concepts
Chair: Erik Sapper, California Polytechnic State University

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
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</table>
| 8:00 – 8:30 am| 15.1 DOE Evolved: Formulation Discovery by Evolutionary Optimization                        
Erik Sapper, California Polytechnic State University, USA |
| 8:30 – 9:00 am| 15.2 Formulating for Broad-spectrum Washability – Learnings from a Formulation Latitude Design of Experiments (DoE) 
Doug Mall, Arkema Coating Resins, USA |
| 9:00 – 9:30 am| 15.3 Design Principles Used in the Development of Novel Repellent Skin-layer Coatings        
Gurminder K. Paink, Adaptive Surface Technologies, USA |
| 10:30 – 11:00 am| 15.4 Rational Coating Formulation Concept and Application                                    
Jamil Baghdachi, Eastern Michigan University, USA |
| 11:00 – 11:30 am| 15.5 Novel Approach to Formulating a High-Performance Epoxy Modified Self-Leveling Cementitious Coating 
Shafiq Fazel, Evonik Corporation, USA |
| 11:30 am – 12:00 pm| 15.6 Industry 4.0 Utilizing Modelling from Formulation Design through Paint Plant Optimization 
Steven De Backer, The Chemours Company, USA |

### SESSION 16: Biobased Coatings
Chair: Yasmin Sayed-Sweet, Lamberti

<table>
<thead>
<tr>
<th>Time</th>
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</table>
| 8:00 – 8:30 am| 16.1 Engineered PolySaccharides through Enzymatic Polymerization of Sucrose: Update on Coating Application Developments 
Christian Lenges, DuPont BioMaterials, USA |
| 8:30 – 9:00 am| 16.2 Novel CNSL-based Waterborne Curing Agents Designed for High-Performance and Low-VOC Protective Epoxy Coatings 
Hong Xu, Cardolite Corporation, USA |
| 9:00 – 9:30 am| 16.3 Lignin as a Renewable Raw Material for High Solids Industrial Coatings                
Matthew Skinner, PPG, USA |
| 10:30 – 11:00 am| 16.4 Novel Biobased Epoxy Resins Derived from Distilled Tall Oils                           
Wumin Yu, Ingevity, USA |
| 11:00 – 11:30 am| 16.5 Upgrading of Glycerol into a Specialty Epoxide for Use in Coatings, Surfactants and Thermoset Materials 
Sean Hardiman, Green Lizard Technologies, United Kingdom |
| 11:30 am – 12:00 pm| 16.6 Innovative Colorant Technology that Satisfies Dynamic Customer Requirements for Epoxy and Polyurethane Applications with Sustainable, Environmentally Friendly Products 
Kip Howard, Chromaflo Technologies, USA |

### Networking: Coffee Break
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 filmed and/or audio recorded. You agree that the photo recording may be used for any lawful purposes that AC Media in collaboration with American Coatings Association and 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.

Venue
American Coatings Show and American Coatings Conference 2020
Indiana Convention Center
100 S. Capitol Ave.
Indianapolis, IN 46225

Hosted by AC Media in collaboration with American Coatings Association and Vincentz Network
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 Show: March 31 – April 2, 2020
AC Show Hours:
March 31 – April 1, 2020: 9 am-5 pm
April 2, 2020: 9 am-1 pm

American Coatings Show Registration
Register online at www.american-coatings-show.com/conference

Cancellation/Refunds
The cancellation deadline is March 22, 2020. All cancellations must be received in writing by March 22, 2020, to receive a refund, minus $100 processing fee. Refund requests received after March 22, 2020, will not be honored. All refund requests are processed post-show. Substitutions are welcome instead of cancellation anytime, free of charge.

Hotel Reservation
Hotel accommodations are 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 make your hotel reservation as soon 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 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. To obtain a letter of invitation from the organizer, please contact the visitor service of AC Media at: chames@paint.org.

This conference program is subject to change.
Pre-Conference Tutorials Registration
Fees include:
- 1.5 hours interactive lecture in a small group
- Pre-Conference Tutorial Proceedings
- List of Pre-Conference Tutorial Attendees
- Permanent Exhibition Ticket
- Conference Lunch and Coffee Breaks

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

2020 FEE STRUCTURE

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<th>Reduced Fee*</th>
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<tr>
<td>Full Conference</td>
<td>$1099</td>
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<tr>
<td>Two-Day Pass</td>
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<td>$759</td>
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<td>Tutorials</td>
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*Discounts: Companies who are exhibitors at the ACS 2020 or ACA members will be given a discounted rate.

After March 27, 2020, 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.

Free CoatingsTech Magazine Trial Subscription: All conference registrants have the option of a free trial subscription to CoatingsTech magazine! Be sure to check the box for this option when registering online.

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