Program Overview

Gateway to North America’s Polyurethanes Industry

September 22-24, 2014
Gaylord Texan Resort & Convention Center
Dallas, Texas

Register Online
www.americanchemistry.com/polyurethane
or call 1.202.249.6121

Visit www.americanchemistry.com/polyurethane for more information.
Connect with CPI and conference attendees on LinkedIn and Twitter. Follow @AmChemEvents
Important Deadlines:

- August 22: Poster abstract submissions deadline
- August 29: Early bird deadline for Conference and PDP registration
- August 29: Cutoff for hotel room reservations

SCHEDULE AT A GLANCE

**Sunday, September 21:**
- On-Site Registration: 8:30 AM – 6:00 PM
- Professional Development Program Courses: 9:00 AM – 5:00 PM
- Introduction to EH&S: 1:00 – 5:00 PM

**Monday, September 22:**
- On-Site Registration: 8:00 AM – 6:00 PM
- Opening Session: 9:30 – 11:00 AM
- PDP Courses: 9:00 AM – 5:00 PM
- Technical Sessions:
  - Blowing Agents: 2:00 – 5:00 PM
  - Flame Retardants/Combustibility: 2:00 – 5:00 PM
- Environment, Health & Safety: General: 2:00 – 5:00 PM
- Industry Reception: 6:00 – 7:30 PM

**Tuesday, September 23:**
- On-Site Registration: 8:30 AM – 5:00 PM
- PDP Courses: 9:00 AM – 4:30 PM
- Table Top Exhibits & Poster Session: 9:00 AM – 5:00 PM
- Technical Sessions:
  - Coatings & Adhesives: 9:00 AM – 12:00 PM
  - Construction: 9:00 AM – 12:00 PM
  - Elastomers: 2:00 – 5:00 PM
  - Environment, Health & Safety: SPF: 2:00 – 5:00 PM
  - Processing & Composites 1: 9:00 AM – 12:00 PM
  - Processing & Composites 2: 2:00 – 5:00 PM
  - Regulatory Roundtable: 9:00 AM – 12:00 PM
  - Supply Chain Symposium: 2:00 – 5:00 PM

**Wednesday, September 24:**
- On-Site Registration: 7:30 – 10:00 AM
- Table Top Exhibits & Poster Session: 8:00 – 10:30 AM
- Technical Sessions:
  - Chemistry & Renewables: 8:00 – 11:00 AM
  - Flexible Foams: 8:00 – 11:00 AM
  - Sprayed Polyurethanes: 8:00 – 11:00 AM
- Closing Session/Luncheon: 11:30 AM
- Awards Ceremony
Why You Should Attend

With more than 60 papers presented in 14 technical sessions, you’ll be among the first to learn about the industry’s latest technical developments.

Network! Network! Network! There’s no other event in North America where you can find more than 900 polyurethanes professionals all under one roof. Connect with the best in the industry to grow your business.

Why You Should Exhibit

• Reach a target audience of polyurethanes industry professionals representing the leading companies.

• Generate new and refresh existing business leads.

• Make the connection between conference themes and your business.


Be a part of this comprehensive event!

MAKE CONNECTIONS
**Hotel Reservations**

The Gaylord Texan Resort & Convention Center is the host hotel for this year’s conference. Room reservations must be booked by August 29 to receive the ACC/CPI discounted hotel room rates. For hotel reservations, call the Gaylord at 877-491-5138. Be sure to indicate that you are attending the 2014 Polyurethanes Technical Conference to qualify for the group rate of $210 plus tax per night (single/double occupancy). This year’s hotel room keycards are sponsored by Dow.

**Conference Proceedings**

A conference proceedings flash drive is included with all full and one-day conference and PDP registrations. Additional proceedings are available on-site for purchase.

This year’s Conference Proceedings flash drive is sponsored by Air Products.

**Early Registration Savings!**

Register by August 29 and save $200.00 on your full conference registration. Register at www.americanchemistry.com/polyurethane. Accepted forms of payment are VISA, MasterCard or American Express. For additional payment options, contact ACC Meeting Services at 1-202-249-6121.

**Registration Cancellation Policy**

Registrations cancelled by August 30 shall be refunded via the original method of payment less a $65 administrative fee. Cancellations after this date will not be refunded; however, substitutions are permitted at any time. The student registration and spouse registration items are exempt from any administrative cancellation fee.

**All requests for refunds must be submitted in writing to:**

2014 Polyurethanes Technical Conference, c/o American Chemistry Council 700 2nd Street NE, Washington, DC 20002
Tel: 1-202-249-6121 Fax: 1-202-478-2594 Email: online@americanchemistry.com

**Register Online**

americanchemistry.com/polyurethane or call 1.202.249.6121
Call for Posters

Technical poster abstracts will be accepted until August 22. Posters may address breakthrough technology in the polyurethane market or chemistry, developing markets such as medical or fiberboard markets, or advancements in product areas such as rigid foam insulation or coatings. Posters may also focus on environmental and stewardship issues, such as product emissions and end of life management. Submit your poster abstract at www.americanchemistry.com/polyurethane.

Become an Exhibitor

Exhibiting couldn’t be easier at this year’s conference! Each table top exhibit includes everything you need to present your company’s products and services to more than 900 conference attendees. To ensure maximum exposure, the exhibits will be located in the same ballroom as the Poster Session and complimentary refreshments. This is the best exhibit opportunity in North America for this value chain-wide audience.

Table Top Exhibits are limited – book yours today! Download the Exhibitor Prospectus and floor plan at www.americanchemistry.com/polyurethane or contact Mary Novack at mary@novackmanagement.com to reserve your space.

Become a Sponsor

Sponsorship at the 2014 Polyurethanes Technical Conference gives your company tremendous visibility to the polyurethane marketplace as well as greater visibility among your peers at the conference.

Available sponsorship packages include:

- Industry Reception
- Opening Session
- Technical Sessions
- Cell Phone Charging Stations
- Conference WiFi
- Conference Email Blasts

For more information about any of the above opportunities visit www.americanchemistry.com/polyurethane or contact Mary Novack at mary@novackmanagement.com

Polyurethane Innovation Award

Each year, CPI holds the Polyurethane Innovation Award Program, which highlights the role that innovation plays in the polyurethane industry by recognizing companies and individuals whose vision and perseverance bring new products, technologies and initiatives to the marketplace.

Award entries pertaining to a polyurethane product or polyurethane manufacture are required to relate to polyurethane chemistry, which is expressly defined as the reaction of an isocyanate with a polyl. Innovations in polyurethane chemistry may include finished products, initiatives, training or education programs, or processes or processing equipment. All entries for the 2014 award must not have been available for commercial sales longer than 15 months prior to June 18, 2014.

The 2014 Innovation Award winner will be announced on Wednesday morning, September 24 during the Closing Session. For more information on the 2014 Innovation Award, visit www.americanchemistry.com/polyurethane.

This year’s Innovation Award sponsored by
The **Professional Development Program** (PDP) is an exclusive offering of the Polyurethanes Technical Conference. Participants can broaden their technical knowledge and expertise as they learn from the best in the industry. During the three-day program that begins on Sunday, September 21, attendees can choose from eight seminars on a variety of topics. Led by subject-matter experts with years of experience in the industry, the PDP is an exceptional value, for an additional $200 for access to all eight courses. A full list of course offerings is included on the last page.
**TECHNICAL SESSIONS**

**Blowing Agents**

**Monday, September 22, 2014**

2:00 - 5:00 pm

*Sponsored by*

**Honeywell**

**Session Organizers:**
- Mike Krupa, BASF Corporation
- Jeff King, Dow
- David Williams, Honeywell

**Moderator:** Mike Super, Bayer MaterialScience, LLC

**Vice Moderator:** Mike Krupa, BASF Corporation

With greater global focus on the reduction of emissions of global warming gases, this year’s blowing agent session will provide critically important information to the industry on new blowing agent technologies in development. These new blowing agents aim to reduce emissions of global warming gases, both directly and indirectly, and will significantly change the blowing agents available to the foam formulator. The session will highlight papers discussing dimethoxymethane, and blowing agent changes in and options available for Article 5 countries will also be discussed. Each of the U.S. major blowing agent manufacturers will provide an update on the next generation HFOs.

Immediately following the blowing agent session, there will be a brief presentation from EPA on Significant New Alternatives Policy (SNAP) regarding rulings and timing of regulations on blowing agents used in the rigid foam industry within the U.S.

**Chemistry and Renewables**

**Wednesday, September 24, 2014**

8:00 - 11:00 am

**Session Organizers:**
- Rick Adkins, Bayer MaterialScience, LLC
- Robert Grigsby, Huntsman International, LLC
- Ladislau Heisler, Momentive Performance Materials, Inc.
- Hamdy Khalil, Woodbridge Foam Corporation

**Moderator:** Hamdy Khalil, Woodbridge Foam Corporation

**Vice Moderator:** Robert Grigsby, Huntsman International, LLC

The session introduces several new building blocks for polyurethanes with particular emphasis on bio-based materials. New routes to lignin-based polyols, thermoset polymerization simulations, and computational isocyanurate mechanisms will be examined. In addition, analytical methods for aldehydes in amine catalysts will be presented. These materials find uses in a broad range of polyurethane applications including rigid and flexible foams.

**Coatings and Adhesives**

**Tuesday, September 23, 2014**

9:00 am - 12:00 pm

**Session Organizers:**
- Christian Decker, DESMA GmbH
- Juan Carlos Medina, Dow
- Jason Stengel, Momentive Performance Materials, Inc.

**Moderator:** Daniel Rosenvasser, Huntsman International, LLC

**Vice Moderator:** Christian Decker, DESMA GmbH

The session will cover the latest developments in adhesives and coatings. This session will open with polyurethane gels used in diverse applications such as biomedical devices, footwear, bicycle saddles and bedding, as well as other uses. The second portion of the session will include a discussion on polyurethane coatings obtained with polycarbonate diols intended for pipelines’ internal coatings that are high-performing and durable. The third presentation will cover reactive hot melt adhesives from renewable, carbon dioxide-based polycarbonate polyols.

The fourth paper is on succinic acid-based polyester polyols, polyurethanes obtained with polycarbonate diol. The final presentation will be on spray urethane coatings, which can be formulated into both rigid and elastomeric spray coatings.

**Construction**

**Tuesday, September 23, 2014**

9:00 am - 12:00 pm

*Sponsored by*

**Honeywell**

**Session Organizers:**
- John Szymanski, Honeywell
- Eric Stebel, Huntsman International, LLC

**Moderator:** David Williams, Honeywell

This session highlights several features of polyurethanes in the construction sector. The first presentation will examine aromatic polyester polyols manufactured with pre-consumer, post-consumer and renewable content, including water and soda bottle scrap. Next, the presenter will focus on model construction code changes, the federal government’s role in code development and state adoption, and the policy landscape. The third presentation will focus on further exploring the benefits of formulating closed cell rigid PUR/PIR foam. The final presentation will focus on how continued emphasis on energy and environmental conversation has led the rigid polyurethane industry to examine blowing agents with improved thermal gas conductivity.
Elastomers

Tuesday, September 23, 2014
2:00 - 5:00 pm

Sponsored by

Session Organizers:
Christian Decker, DESMA GmbH
Juan Carlos Medina, Dow
Jason Stengel, Momentive Performance Materials, Inc.

Moderator: Beth Nicols, Dow
Vice Moderator: Rafael Carmargo, Huntsman International, LLC

This session will cover polyurethane-based elastomers with a focus on thermoplastic PU for consumer and industrial use such as high performance applications, automotive, textile, footwear and other uses. The presentations will focus on new designs of TPU materials with unique characteristics manufactured by novel processes. The use of specially selected or generated additives brings the TPU to the next level of performance. The discussion will focus on improvements in static and dynamic properties; flexibility and shore hardness; strength; increased temperature stability; rebound; UV stability oil and chemical resistance; and hydrolysis resistance.

Environment, Health and Safety
Session 1 (General)

Monday, September 22, 2014
2:00 - 5:00 pm

Sponsored by

Session Organizers:
Cynthia Graham, Huntsman International, LLC
William Robert, BASF Corporation

Moderator: William Robert, BASF Corporation
Vice Moderators: Stephanie Burt, Dow, Cynthia Graham, Huntsman

This EHS session will highlight key regulatory issues and their impact in Europe and North America. First, ISOPA will share insight into regulatory issues in Europe. Next, the issue of polymer hazard versus risk under the EU REACH program will be discussed. The LEED initiative to evaluate risk through Environmental Product Declarations (EPD) and Health Product Declarations (HPD) for polyurethane products in building materials will also be highlighted. Next, states are increasingly requiring manufacturers to assume disposal of their products and the mattress industry has new approaches to end-of-life concerns. The final presentation will be an EPA update on Pre-Manufacture Notices for disocyanates.

Environment, Health and Safety
Session 2 (Spray Foam)

Tuesday, September 23, 2014
2:00 - 5:00 pm

Sponsored by

Session Organizers:
Cynthia Graham, Huntsman International, LLC
William Robert, BASF Corporation

Moderator: William Robert, BASF Corporation
Vice Moderators: Stephanie Burt, Dow, Cynthia Graham, Huntsman

This EHS session will highlight key industry research on spray polyurethane foam (SPF). CPI’s ongoing research and the impact of ventilation rates on concentrations of SPF chemical vapor and particulates emitted during application of low pressure, half pound and two pound high pressure SPF will be discussed first. The ongoing development of an ASTM standard to measure VOCs and SVOCs from cured foam samples will be highlighted as well as a comparison of emissions of closed cell SPF to the predicted ASTM measurements. Next, the presenters will provide the results of a study on the safe re-entry time and emissions from open cell SPF after its application in new homes. Lastly, an evaluation of the impact of process parameters on emissions from SPF will be presented.

Flame Retardants and Combustibility

Monday, September 22, 2014
2:00 - 5:00 pm

Sponsored by

Session Organizers:
Mike Nagridge, Novomer
Bill Nicola, Bayer MaterialScience LLC

Moderator: Ian Hughes, Bayer MaterialScience LLC
Vice Moderator: Carl Powell, Chemtura

This session will focus on new developments to meet flammability standards in the flexible and rigid foam applications as well as an overview of regulatory issues with regard to industry flammability issues. The first presentation will examine the various individual components of rigid polyurethane formulations and their effect on the burn characteristics of the foam. The following presenter will discuss why the raw material selection is critical in achieving excellent burn performance. The next presenter will focus on new developments that will help flame retardants used on certain for rigid foam applications meet the various global construction standards. The Consumer Product Safety Commission is invited to provide an update of its work toward a national flammability standard for upholstered furniture. The fourth presenter will discuss development work utilizing sustainable, all-MDI based formulations for flexible foam applications. Finally, a presentation by the North American Flame Retardant Alliance (NAFRA) will provide an update on fire safety issues relevant to the polyurethane industry.
Flexible Foams
Wednesday, September 24, 2014
8:00 - 11:00 am

Sponsored by

Chromaflo Technologies
Where Art Meets Technology

Session Organizers:
Susan McVey, Bayer MaterialScience, LLC
Dale Hunter, Dow

Moderator: Robert Dawe, Lear Corporation
Vice Moderator: Mark Ragsdale, Milliken Chemical

The first presentation of the session begins with a paper on an aliphatic polyester polyol with recycled and renewable content for use in conventional and viscoelastic foams. The second presentation introduces a non-silicone additive for producing coarse and fine foam cell structure and another on the impact of the formulation water source on foam physical properties. The third presentation will discuss industry concerns regarding total VOCs in flexible foams. Technology that may reduce emissions and improve foam durability using a reactive gel amine will be presented. The session will conclude with a discussion on low density and low-VOC MDI-based high resilience foams for thin automotive seating.

Processing and Composites I
Tuesday, September 23, 2014
9:00 am - 12:00 pm

Session Organizers:
Bob Pierce, Cannon USA
Richard Rossio, Chem-Trend LC
Barry Metzler, Graco Ohio Inc.
John Tolley, Hennecke Inc.

Moderator: John Tolley, Hennecke Inc.
Vice Moderator: Barry Metzler, Graco Ohio Inc.

This Processing & Composites session will be composed of presentations with information on the latest advancements in the area of polymer composite technologies. This session will include discussions on composite equipment and designs with high strength-to-weight ratios that can be used in automotive floor boards, marine applications, and other applications requiring high strength properties. InterWet composite technology used on manhole covers and its potential benefits will also be presented. Presenters will also highlight how process advancements in polyurethanes and equipment are used in pultrusion and filament winding for pipe and tank manufacture. The final presentation will demonstrate an integrated design for multi-layer sports shoes.

Processing and Composites II
Tuesday, September 23, 2014
2:00 - 5:00 pm

Session Organizers:
Robert Pierce, Cannon USA
Rich Rossio, Chem-Trend LC
Barry Metzler, Graco Ohio, Inc.
John Tolley, Hennecke Inc.

Moderator: Richard Werner, Cannon USA
Vice Moderator: Rich Rossio, Chem-Trend LC

This session will start by showcasing updated technology on slab stock foaming systems that allow manufacturers to produce “short runs” while maintaining economic feasibility. This will be followed with information on an automated system for molding that offers flexible solutions in processing equipment and mold changes utilizing individually driven mold carriers. Presenters will then showcase new technologies related to various storage systems for blowing agents, which include the latest in safety standards. After the break, attendees will learn about advances in the production of discontinuous insulated panels, namely a retrofit kit that will allow the use of a vacuum in the foaming process. The session will conclude with an update on the latest technology that adds flexibility in footwear molding to process individual and customized parts in a standard high speed production line.

Regulatory Roundtable
Tuesday, September 23, 2014
9:00 am - 12:00 pm

Moderator: Lee Salamone, American Chemistry Council Center for the Polyurethanes Industry

Vice Moderator: Heather Palfrey, American Chemistry Council Center for the Polyurethanes Industry

Polyurethanes and the raw materials that are used to manufacture them continue to be of interest to regulators at all levels within the U.S. and NAFTA. This session will highlight some of the authorities, programs and regulatory pressures facing the industry. Speakers will cover the progress of the U.S. Occupational Safety and Health Administration’s National Emphasis Program (NEP) on Isocyanates, topics of interest to the U.S. Consumer Product Safety Commission, and new developments in California’s Safer Consumer Product regulations.
Sprayed Polyurethanes

Wednesday, September 24, 2014
8:00 - 11:00 am

Sponsored by

Session Organizers:
James Tobias, Air Products and Chemicals, Inc.
William Nicola, Bayer MaterialScience, LLC

Moderator: Richard Romero, Bayer MaterialScience, LLC
Vice Moderator: Kenneth Willoughby, Momentive Performance Materials, Inc.

The presentations in this session will showcase continued research efforts and development activities to explore and understand the key variables that can provide optimum performance for various spray polyurethane applications. The session includes a discussion on two papers that address the next generation HFOs for foam quality improvements in the latest applications for commercial and residential roofing and wall construction. Presentations will also include the importance of building designs with regards to spray foam, Environmental Product Declaration (EPD) and important updates on the Spray Polyurethane Foam Association (SPFA) Professional Certification Program (PCP) for spray foam installers. The final presentation will review ongoing research efforts to improve the overall economics and physical properties of structural polyurethane spray systems with reduced VOC emissions.

Supply Chain Symposium

Tuesday, September 23, 2014
2:00 - 5:00 pm

Organizers:
David Bazzetta, BASF Corporation/RGP
Bill Wehrle, BASF Corporation

Moderator: Bill Wehrle, BASF Corporation
Vice Moderator: David Bazzetta, BASF Corporation/RGP

The BASF Polyurethanes Supply Chain team has developed and implemented a collaborative process optimization methodology with its bulk trucking partners. Known as the “Isocyanates Bulk Trucking Symposium,” this event has taken place annually for the last five years. The roundtable discussion will advance continuous improvement focusing on sustainability and information technology. The final presentation summarizes regulatory requirements and industry best practices regarding the loading, transport and unloading of MDI in bulk quantities. It will also address key safety procedures to follow in the event of an incident during transportation, loading or unloading.
Now in its eleventh year, the Polyurethane Professional Development Program (PDP) provides education and training for the global polyurethanes industry. Participants choose from a variety of seminars that run concurrently with the 2014 Polyurethanes Technical Conference. In addition, participants wishing also to attend technical or poster sessions and tabletop exhibits can do so with a PDP registration. Participants must register for each seminar of interest to receive the training materials and admission to the 2014 Polyurethanes Technical Conference.

Visit [www.americanchemistry.com/polyurethane](http://www.americanchemistry.com/polyurethane) for details and registration.

**PU 101:** Introduction to Polyurethane Chemistry  
*Sunday, September 21, 9:00 am - 4:30 pm*

**PU 102:** Introduction to Polyurethane Technology  
*Tuesday, September 23, 9:00 am - 4:30 pm*

**PU 103:** Polyurethane Markets and Applications  
*Tuesday, September 23, 9:00 am - 4:30 pm*

**PU 104A:** Polyurethane Adhesives & Sealants  
*Sunday, September 21, 9:00 am - 4:30 pm*

**PU 104B:** Polyurethane Coatings & Elastomers  
*Monday, September 22, 9:00 am - 4:30 pm*

**PU 105:** Polyurethane Processing Equipment  
*Monday, September 22, 9:00 am - 4:30 pm*

**PU 201:** Polyurethane Raw Materials, Testing, Specifications and Performance: The Myth and the Magic  
*Monday, September 22, 1:00 – 4:30 pm*

**PU 204:** Physical Testing of Polyurethane Foams  
*Monday, September 22, 9:00 am – 1:00 pm*

**EH&S Pre-Conference Workshop:**  
*Sunday, September 21, 1:00 – 5:00 pm*

**PDP Course Materials**

Course materials will be provided on a flash drive for all Professional Development Program courses.

Paul Duffy, *Icynene*, Conference Committee Chair  
Susan Norris, *Momentive Performance Materials*, Conference Committee Vice Chair  
William Bunting, *Evonik Goldschmidt Corporation*, Poster Chair  
Dale Hunter, *Dow*, Poster Vice Chair  
Juan Carlos Medina, *Dow*, Polyurethane Professional Development Program Chair  
Richard Werner, *Cannon USA*, Polyurethane Professional Development Program Chair