



28th Annual OCTC

TIE Conference

Teachers, Industry & Environment Conference

Wednesday, October 13, 2021

- 4:00-6:00 p.m. **Conference Registration**
- 5:00-6:00 p.m. **Welcome Dinner - *sponsored by The Lubrizol Corporation***
- 6:15 p.m. **Shuttle Transportation to Ashland Chemical Company**
- 6:45 p.m. **Tour of Ashland Chemical Company**
Ashland Chemical Company is a global specialty chemical company that provides products, services and solutions throughout a variety of industries. The tour of Ashland Chemical Company provides conference participants an inside look at an operating chemical plant.
- 8:30 p.m. **Depart for Conference Hotel**

Thursday, October 14, 2021

- 7:00 a.m. **Breakfast – *Sponsored by BASF***
- 7:45 a.m. **Conference Opening Remarks**
Jenn Klein, President, Ohio Chemistry Technology Council
- 7:55 a.m. **Introduction of Ashland University Graduate Credit Opportunity**
Linda Pettit, Ashland University
- 8:00 a.m. **Teaching Science with TOYS - *Presented by LyondellBasell***
Unlock the mysteries of chemistry for your students by learning to use both homemade and purchased toys in your classes. Teachers will explore hands-on science activities that use toys and other common household items to teach the principles of scientific inquiry, physics and chemistry.
Amy Weiskittel, LyondellBasell
- 10:00-10:10 a.m. **Break**
- 10:10-11:00 a.m. &
11:10-12:00 p.m. **Concurrent Sessions**
- Dancing Bubbles - *Presented by Solvay***
In this activity teachers will observe the relative densities of household liquids, like syrup, oil and alcohol and solids, like plastics, wood and paper.
Bonnie Bishop & Kelydra Welcker, Solvay
- Project WET Sampler - *Presented by Ohio EPA***
On “The Incredible Journey,” students simulate the movement of water molecules within the water cycle. “Ask the Bugs” simulates bioassessment of a stream, the way that Ohio EPA collects macroinvertebrates as an indicator of water quality.
Carolyn Watkins & Ryan Bourgart, Ohio EPA



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Thursday, October 14, 2021 (Continued)

12:00-1:00 p.m.

Lunch & Keynote - Sponsored by PPG

Dr. Frederic Bertley, President and CEO of the Center of Science and Industry (COSI) will be the keynote speaker during the TIE luncheon. Dr. Bertley earned a Ph.D. in Immunology and has worked internationally in preventative medicine and basic vaccines in Haiti, The Sudan, and the Canadian Arctic.

1:00-1:15 p.m.

Break

1:15-2:15 p.m.

Concurrent Sessions

&2:30-3:30 p.m.

Plastics in Industry & Environment – Presented by Covestro

Through a series of interactive demonstrations, participants will experience the stages of plastics manufacturing, including polymerization, extrusion, molding, quality analysis, and recycling. Participants will create polymer worms, participate in a live color matching process, and experience tabletop-scale representations of extrusion, molding, and quality analysis processes. Participants will also be introduced to information on the career opportunities and education requirements in the industry.

Tim Frisch, Jim Hamilton, Adam Houdeshell, Jeremy Bennett, Steve Burgess, Paul Prince-Wright, Mel Van Balen, Travis Lester, Jacob Rohr, Derek Fulk

NASA: Mission to Earth? - Ecosystem Modeling - Presented by NASA

Our planet is changing and NASA is on it. NASA uses satellites, aircraft and even an occasional boat to study our planet's air, land and water. Explore the Vital Signs of the Planet Images and Data to learn how the planet is changing and the factors affecting the changes. Take the plunge into contextual Project Based Learning. Investigate a bag of leaf litter (the forest floor) while examining the ecology of a community. Engage in group collaboration on strategies for taking your students on a Nature Field Study Walk to collect and identify the biotic and abiotic factors in a backyard ecosystem.

Susan Kohler, Education Specialist, NASA

3:30 p.m.

Break – Sponsored by BASF

3:30-4:30 p.m.

Frosty Break - Presented by LyondellBasell

Liquid Nitrogen Fun!

Amy Weiskittel

4:30 p.m.

Ashland University Reflection

This session is offered to those interested in obtaining 1 semester hour of graduate credit through Ashland University. The fee for the credit is \$190.00. Participants will work with an Ashland University facilitator on a reflection of the sessions attended during the conference, and how to incorporate what was learned into their curriculum.

Linda Pettit, Ashland University

4:30 p.m.

Evening on Your Own



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Friday, October 15, 2021

7:00 a.m. **Breakfast – sponsored by The Shepherd Chemical Company**

7:45 a.m. **Opening Remarks**
Jenn Klein, President, Ohio Chemistry Technology Council

8:00 a.m. **The Carnegie Science Center**

9:00-9:10 a.m. **Break**

9:10-10:00 a.m. **Concurrent Sessions**

& 10:10-11:00 a.m.

Bouncy Balls: The Science of Polymers - Presented by LyondellBasell

Why do some balls bounce higher than others? Why do diapers absorb so much liquid, do all plastics repel water? The basic concepts of plastics (polymers) including the properties of plastics and their many uses will be discussed.

Amy Weiskittel, Jan Galbraith, LyondellBasell

Real Industrial Concepts as Student-Friendly Experiments - Presented by Solvay

Discover some of the processes that chemical companies must be knowledgeable about when they design and operate their plants. Participants will model the concepts by completing hands-on experiments that can easily be brought back to their classrooms. They will learn how these ideas are used in real world applications, and they will observe how severe the consequences can be when the hazards are not properly understood or mitigated.

Adam Beckmeyer, Solvay

11:00 a.m. **“Let it Glide”- NASA STEM Engineering Design Challenge - Presented by NASA**

NASA’s aeronautical innovators this past year persevered to accomplish their [mission to explore advances in atmospheric flight](#) despite a global pandemic that had a devastating impact on the industry. Take a look at what NASA has been working on in experimental flight. Explore NASA STEM Problem Based Learning to make variety of gliders to teach the Force and Motion of flight. Fly a glider and discover what modifications you can make to help your glider fly straighter and further. Explain how the wing design impacts the way the aircraft flies and maneuvers while acquiring some strategies for scaffolding using multiple levels of inquiry.

Susan Kohler, Education Specialist, NASA

12:15 p.m. **Conference Closing Remarks**

Jenn Klein, President, Ohio Chemistry Technology Council