



30th Annual OCTC

TIE Conference

Teachers, Industry & Environment Conference

Wednesday, October 18, 2023

- 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 19, 2023

- 7:00 a.m. Breakfast – Sponsored by Enbridge**
- 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. “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? Why can’t we recycle everything? What does it mean to be sustainable? The basic concepts of plastics (polymers) including the properties of plastics and their many uses will be discussed as well as recycling and sustainability.
Amy Weiskittel, Jan Galbraith, and Ankita Paul, 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.
Kelydra Welcker, Bonnie Bishop, and Puxiang (Sookie) Yu, Solvay
- There is No Point to this Pollution – Presented by Ohio EPA**
“Ask the Bugs” simulates bioassessment of a stream, the way that state and local agencies collect macroinvertebrates as an indicator of water quality. “There is No Point to the Pollution” asks students to interpret a topographic map and compare water sampling data to solve a mystery and reveal the cumulative impacts of nonpoint source pollution.
Heather Lauer, Carolyn Watkins and Linda Pettit Ohio EPA
- 12:00-1:00 p.m. Lunch – Sponsored by PPG**
- 1:00-1:15 p.m. Break**



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Thursday, October 19, 2023 (Continued)

1:15-2:15 p.m. &
2:30-3:30 p.m.

Concurrent Sessions

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 demonstrate polymer reactions, 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.

Jim Hamilton, Adam Houdeshell, Jeremy Bennett, Steve Burgess, Sarah Boes, Paul Robertson, Jacob Rohr, and Derek Fulk, Covestro

NASA STEM Computational Thinking: Landing Spacecraft on a Target

Explore the practice of computational thinking and include elements of a real NASA mission. NASA's Artemis program will return humans to the lunar surface for the first time since 1972. Have you ever wondered how hard it is to land at a specific spot on the Moon, Mars, or another planet? Find out in this activity by building a device that can zip down a line and drop a "lander" onto a target. We will follow the engineering design process to modify a cup to carry a marble down a zip line; attach a string to tip the cup; test the cup by sliding it down the zip line, releasing the marble, and trying to hit a target on the floor; and improve the system based on testing results.

Susan Kohler, NASA

3:30 p.m.

Snack Break – Sponsored by BASF

3:30-4:30 p.m.

Foodology - Presented by Univar Solutions

Food Science belongs in your classroom. We will explore trends, careers and create some edible fun.

Hopeton Watson, Univar Solutions

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

Friday, October 20, 2023

7:00 a.m.

Breakfast – Sponsored by Enbridge

7:15 a.m.

Opening Remarks (During Breakfast)

Jenn Klein, Ohio Chemistry Technology Council



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7:45 a.m.

You Be The Chemist Essential Elements – Presented by Univar Solutions & the Chemical Educational Foundation (CEF)

Essential Elements is based on the 5E learning cycle approach to teaching. Through this cycle, teachers and students build their own understanding of new concepts from both prior and new experiences by engaging in hands-on activities. Teachers will be able to participate in Elephant Toothpaste, Dancing Raisins, Goofy Putty, and Floating Paper Clips. Participants will also have the opportunity to learn about CEF's programs to help encourage the next generation of scientists.

Ferleshare Starks, Dwayne Sattler, Chemical Educational Foundation (CEF)

9:30-9:40 a.m.

Break

9:40-10:30 a.m. &
10:40-11:30 a.m.

Concurrent Sessions

Shake it Up – Presented by SESA

Teachers will complete a hands-on STEM activity that requires them to build an earthquake resistant structure. The structures will be put to the test on our "SESA Shake Tables". This activity will focus not only on teaching the topic of earthquakes and industry applications, but also fostering teamwork in a classroom setting.

Rachel Smith, SESA

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.

Kelydra Welcker, Bonnie Bishop, and Puxiang (Sookie) Yu, Solvay

11:30 a.m.

NASA STEM: The Solar Eclipse- Let's Get Ready! – Presented by NASA

A total solar eclipse is six months away. It will be the nation's biggest eclipse event since the Great American Eclipse of Aug. 21, 2017, when millions of Americans were able to enjoy the cosmic spectacle. Next year's eclipse is the last total solar eclipse that will be visible in the U.S. until 2044. Ohio, we are in the path of totality. Let's prepare some activities and stories. Learn how to use storytelling as a way to reach the narrative learner. We will review the top 5 Solar Eclipse Viewing Tips and explore a collection of multi-disciplinary, interactive exercises and activities based on the Sun and solar science.

Susan Kohler, NASA

12:30 p.m.

Conference Closing Remarks

Jenn Klein, Ohio Chemistry Technology Council

Departing Gifts Presented to Teachers

Swag Bags – Sponsored by Wiley

Swag – All Company Sponsors

Snack Box To Go – Sponsored by Univar Solutions

Gift Card – All Company Sponsors

Certificate of Completion – All Company Sponsors