Fellow Chemistry Educators,

The 2YC3 (Two-Year College Chemistry Consortium), C3 (College Chemistry Canada), and ChemEd Xchange spring 2025 virtual presentation schedule has crystallized. The presentation schedule is found at the bottom of this communication. To register (= free) just click on the presentation title link. All presentations are on a Friday and all start at 1100 Pacific time (= noon Mountain = 1:00pm Central = 2:00pm Eastern). US Daylight Savings time adjustment is March 9.

January 31, 2025 (Friday)

Title: What did the Levant smell like 2000+ years ago?

Presenters: Eric Hill (Prof. of English/Director of Honors, Arizona Western College) and Scott Donnelly (2YC3, Arizona Western College)

Abstract: This interactive presentation is based on a simple question, What did a specific geographical region of the world smell like thousands of years ago? The geographical region - known historically as the Levant - is the eastern Mediterranean Sea. Trade routes over land and sea were robust, well established, and covered a vast geographical area. The genesis of this presentation is a cross-disciplinary collaboration between the arts/humanities and sciences involving Profs. Hill and Donnelly at Arizona Western College in Yuma, AZ. Hope you can make it.

February 7, 2025 (Friday)

Title: Learning Styles Theory: Could Students' Learning Preferences Make STEM Subjects Easier to Learn?

Presenters: Julio Garay, PhD (CUNY-Bronx Community College) and Jairo Orjuela Segura, MSc (Colegio Mayor de Cundinamarca, Bogota, Colombia)

Abstract: Understanding how learning occurs is crucial for optimizing teaching strategies and maximizing their effectiveness. However, this approach becomes more complex when multiple students with unique learning styles are placed in the same classroom. This challenge is particularly exacerbated in STEM subjects, where traditional teaching methods can negatively affect students' perceptions of these fields. Such experiences often lead to disengagement, causing students to miss out on the significant opportunities that STEM careers offer in an increasingly technology-driven society.

Predicting the preferred learning style for a specific group of learners is challenging due to a variety of influencing factors, including individual interests, prior exposure to the material, psychological and emotional states, the teacher's ability to engage students, and the perceived relevance of the content. Together, these factors can significantly impact the learning process and ultimately influence the outcomes.

February 28, 2025 (Friday)

Title: The Middle Ground: An "Atoms to Reactions" Approach in First Semester General Chemistry

Presenter: Kevin Revell, PhD (Prof. of Chemistry, Murray State University)

Abstract: Most first-semester general chemistry courses follow either a "reactions first" or an "atoms first" format. This presentation will compare the advantages and drawbacks of each approach, then introduce a third approach, called "atoms to reactions", that draws from the best features of each traditional format. This presentation will describe the organization of an experimental first-semester general chemistry 1 course, with an emphasis on class structure, exam sequence, and the relationship between class and lab.

March 7, 2025 (Friday)

Title: Seeking to inspire* Analytical Chemistry Students

Presenter: Charles (Chuck) Lucy, PhD ((Gunning/Lemieux Chemistry Centre, University of Alberta, Canada)

Abstract: Today's student can study fast-breaking fields such as artificial intelligence, genetics, and neuroscience, or that serve humanity such as medicine, pharmacy, and climate science. Meanwhile, analytical chemistry classes and labs can bog down in the details of titration calculations, QA/QC, and electronic circuits. Such minutia are important, but they should not detract from our primary objective of inspiring students with what analytical chemistry can do, and how it serves humanity and the environment. Some of the strategies that can be used to inspire [lowercase i]* students are:

- Case studies to put analytical chemistry and its role in context, e.g., distributed pharmaceutical analysis laboratory and Flint water crisis.
- Examples of analytical chemistry serving humanity and the environment, e.g., redox titrations for global health, continuous glucose monitoring, wearable electrochemistry
- Present topics in modern context, e.g., complexation based on antibodies and aptamers rather than EDTA

- Examples from current literature
- Using active learning strategies and personalized education, e.g., interactives and simulations, Choose your own adventure problems
- Show they belong, e.g., profiles of role models, use given names in citations.
- Highlight opportunities for undergraduate research and experiential learning
- Incorporate career information to show relevance of what is covered

This presentation will overview these strategies and resources to support the strategies for the teaching of analytical chemistry. However, the same strategies and analogous resources can be applied to teaching general and other sub-disciplines of chemistry.
*Inspire (capital letter I): evangelical; religious-fervour; life changing
inspire (lowercase i): soft persuasion; gentle coaxing; providing information; life changing

April 18, 2025 (Friday)

Title: Interdisciplinary Science at Great Salt Lake

Presenter: Bonnie Baxter, PhD (Prof. of Biology and Director of Great Salt Lake Institute, Westminster University)

Abstract: Click **here** to learn more about Bonnie and her work. Opinion piece about the troubles of the Great Salt Lake in The Salt Lake Tribune. Report (Dr. Baxter as one of the lead authors) entitled, Emergency measures needed to save Great Salt Lake from ongoing collapse