

October 22 from 9:00am-10:00am in CHE117

19th Annual Queen's Graduate Chemistry Society (QGCS) Symposium

Speaker: Barb Morra - *University of Toronto*

Title: Greener Teaching: Scaffolded Methods of Incorporating Green and Sustainable Chemistry in the Classroom and Laboratory Instruction

Abstract: This presentation and interactive discussion will introduce green chemistry and the Twelve Principles through a range of examples demonstrating how green chemistry can be taught and assessed across all levels of undergraduate education, in both lecture and laboratory settings. The discussion will also consider the implications of recent changes to accreditation guidelines in Canada, that introduces green chemistry and sustainability within the broader educational context. Common challenges associated with incorporating green chemistry into undergraduate teaching will be explored, along with practical strategies for overcoming these barriers. Participants will also be introduced to a variety of tools, frameworks, and resources to support the adaptation and integration of green chemistry concepts throughout the undergraduate chemistry curriculum.

Biography: Barb Morra (she/her) is a Professor, Teaching Stream and the Associate Chair, Undergraduate Studies, at the University of Toronto. Barb's passion for chemistry and teaching translates into her pedagogical research and curriculum development initiatives which have resulted in a suite of research-based laboratory experiments, activities, and technological tools that help students connect chemistry with research and applications. Barb spearheaded a curriculum renewal initiative that transformed four introductory organic chemistry courses to be taught from a mechanistic perspective, with an emphasis on biological examples, research applications, and green chemistry principles. To further these and other pedagogical efforts, Barb actively collaborates with undergraduate and graduate students. Barb's enthusiasm for teaching green and sustainable chemistry has led to the transformation of undergraduate curricula within her department. Her role with international green chemistry collaborators has empowered global educators to make meaningful changes in their teaching through open-access materials and professional development opportunities. Barb's past and present educational leadership includes her role as faculty advisor within several student learning communities, Chair of the Chemistry Department Outreach Committee, Treasurer of the CIC Green Division, service towards conference organization, and most recently the department's leadership team. Barb's distinction in teaching and scholarly leadership has been recognized through several excellence awards including the prestigious University of Toronto Faculty of Arts & Science Outstanding Teaching Award in 2021 and the CIC Award for Chemistry Education in 2025.