



# SO YOU THINK YOU WANT TO TEACH **GREEN CHEMISTRY**



**Prof. Andrew Dicks**



**Prof. David Laviska**



**Prof. Nick Kingsley**





*Welcome to the*  
**Green Chemistry Connections**  
*Webinar Series*



**Host:**

**Natalie O'Neil, Ph.D.**

Higher Education Program Manager, **Beyond Benign**

**@natjoneil**



**Natalie O'Neil, Ph.D.**

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Executive Director and Co-Founder

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Submit questions in the **Control/Chat** box on the **Control Panel**

Recording and supporting documents will be available: <https://www.beyondbenign.org/he-webinars/>



# What is the GCC?

The **Green Chemistry Commitment** (GCC) is a consortium program that unites the green chemistry community around shared goals and a common vision to:

- expand the community of **green chemists**
- **grow** departmental resources
- share **best practices** in green chemistry education
- affect systemic and lasting **change** in chemistry education

<https://www.beyondbenign.org/he-green-chemistry-commitment/>



## Join the conversation online!



@beyondbenign  
#GreenChemistry



<https://www.facebook.com/beyondbenign/>



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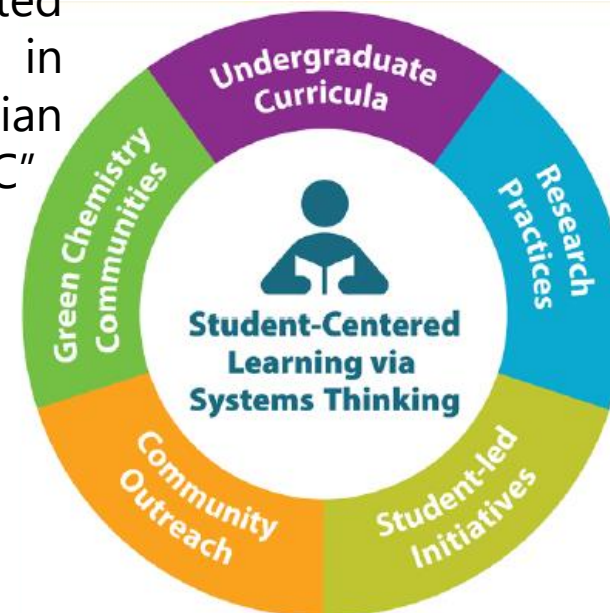
# UNIVERSITY OF TORONTO



green chemistry  
reflections in **first/second-year  
life science organic labs.**

**2012-2017**

"In 2016, the GCI initiated and facilitated UofT in becoming the first Canadian institution to sign the GCC"



**"Organic Synthesis  
Techniques"** begins:  
new third-year course

**2008**

**2005**

first "green"  
experiments run  
in third-year labs.

**2011-2013**

green chemistry  
principles in **second-year  
organic lab. for chemists,  
inorganic labs.**

**2018 onwards**

FIRST-YEAR  
**GENERAL  
CHEMISTRY**

Dicks, A. P.; et al. A Systems Thinking Department: Fostering a Culture of Green Chemistry Practice among Students *J. Chem. Ed.* **2019**, [10.1021/acs.jchemed.9b00287](https://doi.org/10.1021/acs.jchemed.9b00287)

## Driving forces for signing the GCC in 2019

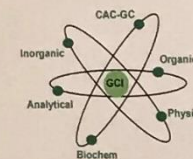
- Rapid growth in enrollment of students majoring in the sciences; Hackensack Meridian Medical School at Seton Hall opened in 2017.
- Laboratory space restrictions required the chemistry department to consider new teaching protocols with emphasis on safety and sustainability.
- Green Chemistry Committee formed in 2018.
- Entirely green(er) curriculum piloted in organic lab sequence in Summer 2019 & run full scale during AY 2019-20.
- Center for Green Chemistry and Catalysis formed in 2020.



### Center for Applied Catalysis and Green Chemistry



### Green Chemistry Initiative



COLLEGE OF ARTS AND SCIENCES  
SETON HALL UNIVERSITY

About ▾ Programs ▾ Resources ▾

## Chemistry Department Goes Green

The department commits to a new initiative focusing on chemical processes that use less energy and/or prevent waste products.

The banner features a dark blue header with the college and university names. Below the header is a photograph of a man in profile, looking at a computer monitor in a laboratory setting. The monitor displays a grid of chemical structures. The background of the photo is dimly lit with a green glow.



UNDERGRADUATE EDUCATION

## In these classrooms, chemistry is part of a larger whole

Chemistry educators are introducing systems thinking to help students see chemistry's connections to the wider world

by *Laura Howes and Sam Lemonick*

FEBRUARY 3, 2020 | APPEARED IN VOLUME 98, ISSUE 5



THINK LOCALLY

## In Flint, systems thinking connects chemistry to the water crisis

Students are learning how chemistry fits into local issues

Chemistry Club

Green Demos &

ACS Green Student

Chapter Award

Green Focused Research

Incorporating Green Technologies across the laboratory curriculum

2018

2020

2017



Started the first Bachelor of Science in Green Chemistry program

2019

“ We’re learning chemistry and policy and how they all interplay with society or economics.”

— *Shelly Maxwell, student, University of Michigan-Flint*



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# Thank you for joining us!



## Join us on June 3<sup>rd</sup> at 2 PM

Sneak Peek Preview: Education Symposia at the June 2020 Green Chemistry & Engineering Conference Webinar

