



beyondbenign  
green chemistry education



GREEN CHEMISTRY &  
COMMERCE COUNCIL

# Green Chemistry Student Resources

# Examples of What You Can Do!

- Lead or Join a Student led initiative
  - ACS-GCI- encourage your Chemistry Club to get a green chemistry award
  - Encourage your Chemistry Department to join the Green Chemistry Commitment
  - Beyond Benign College Student fellow
- Consumer
  - Buy/Promote products using safer chemistry
    - Example- Safer Choice
  - Ask questions
- Learn/Work in Green Chemistry
  - Teach, Research, Innovate
    - Careers in green chemistry on GC3 website



<http://www.beyondbenign.org/he-webinars/>

Engaging the Community  
Through Student-Led  
Initiatives: Highlights and  
Opportunities

Green Chemistry K-12  
Outreach Education: Engaging  
Students Through Green  
Chemistry Innovations

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



**GREEN CHEMISTRY COMMITMENT**



### CONNECT WITH STUDENT-LED ORGANIZATIONS

Learn about Beyond Benign's College Student Fellows program, or connect with a student group from one of the Green Chemistry Commitment signer schools, such as the University of Toronto's Green Chemistry Initiative. Learn how students are leading change at their own institutions and beyond.

[College Student Fellows](#)

<http://www.beyondbenign.org/he-for-students/>



# American Chemical Society Green Chemistry Institute (ACS-GCI)

## Student Resources



### Student Awards

Browse green chemistry awards for international and U.S. students.



### Green Chemistry Student Chapters

Does your institution have an ACS Student Chapter? Learn how to make it green, and win a green chemistry chapter award.



### Student Workshops

Take a deeper look at green chemistry and learn how to apply its principles to your research and studies.



### ACS Summer School on Green Chemistry and Sustainable Energy

Explore scientific solutions to global challenges at this free, week-long summer school.



### Green Chemistry Academic Programs

Applying for college or graduate school? Find out which schools have green chemistry and green engineering programs.

## Green Chemistry and Engineering Conference, Portland June 2018

- **Joseph Breen Memorial Fellowship**

Up to \$2,000 to participate and present research in an international Green Chemistry conference or seminar

- **Kenneth G. Hancock Memorial Award**

\$1,000 award provides national recognition and honor for outstanding student contributions to furthering the goals of green chemistry through research and/or studies.

<https://www.acs.org/content/acs/en/greenchemistry/students-educators.html>

# Buy Safer Products

## Example- EPA Safer Choice

### Search Products that Meet the Safer Choice Standard

EN ESPAÑOL

Looking for safer cleaning and other products? Use the search box below to find products that meet the Safer Choice Standard.

#### Search Products

Product or Company Name (Optional)

Home or Business Use (Optional)

Show only:

Fragrance-free products<sup>1</sup>

Products with outdoor uses<sup>2</sup>

Product Type (Optional)

Note: in the product listing, the notation ("‡") means that the partner company is overdue for their yearly partnership review with Safer Choice.

<https://www.epa.gov/saferchoice/products>





# GC3 Safer Chemistry Training for Businesses (FREE)

Foundations for Green Chemistry and Green Engineering		
<b>Green Chemistry: Benign by Design</b> One of the fathers of green chemistry, Dr. John Warner, provides an introduction to green chemistry, as well as ideas for how to build this concept into education and practice.	<b>John Warner</b> Warner Babcock Institute for Green Chemistry	
<b>Introduction to Green Engineering</b> Green engineering applies principles similar to those of green chemistry to process and product design. In this webinar, experts in green engineering introduce principles, tools, and examples of this practice.	<b>Julie Zimmerman</b> Yale University	
	<b>Matthew Eckelman</b> Northeastern University	
	<b>Julie Schoenung</b> University of California Davis	
<b>The Role of Policy in Green Chemistry Research and Adoption</b> This webinar provides an overview of the range of policies that can affect chemical design and product development and adoption, with examples from a major chemical manufacturer.	<b>Robert Giraud</b> DuPont Company	
	<b>Joel Tickner</b> Green Chemistry & Commerce Council	
Green Chemistry in Business		
<b>The Value of Green Chemistry</b> Green chemistry leaders in industry discuss their efforts to build awareness and make a case within their firms, supply chains, and customers on the value of green chemistry.	<b>Helen Holder</b> Hewlett-Packard	
	<b>Tse-Sung Wu</b> Genentech	
	<b>Andy Shafer</b> Elevance Renewable Sciences	
<b>Building Market Share for Green Products</b> Is it better to advertise oneself as a green company, or to focus exclusively on product performance? Three companies share their approaches to marketing their sustainable practices.	<b>Steve Davies</b> NatureWorks	
	<b>Saskia van Gendt</b> Method	
	<b>Charlie Forslund</b> Steelcase	

## Integrating Toxicity Information into Chemical Design

Webinar Listings

### Webinar Description

When chemists design new molecules for products, they don't immediately consider toxicity—traditionally, this has been the responsibility of a toxicologist at a later stage of product development. If the chemical is deemed too toxic, the chemist will select a molecule with similar functionality, and often similar hazard, beginning the process over again. To break this continual loop of harmful choices, chemists can learn how changing the structure of a molecule can reduce toxicity while retaining necessary properties and function. Predictive screening tools can help with the process of designing inherently safer molecules.

In this webinar from the GC3 Green Chemistry Education series, three expert chemists introduce molecular design tools and explain how they can be used to design safer products.

[View the Webinar Online](#)

[Watch on Vimeo](#)

### Download Webinar for Offline Viewing

1 Slides Only (PDF, 10 MB)

To download video, visit this webinar on [Vimeo](#) and click "Download" below the video description.

### Presenters



**Marty Mulvihill**  
Executive Director, Berkeley Center for Green Chemistry  
Chemistry Rating: 2  
> [Read Biography](#)  
> [Jump to Presentation - Training Chemists to Consider Hazard](#)



**Jakub Kostal**  
Chief Scientific Officer, Sustainability A to Z  
Chemistry Rating: 5  
> [Read Biography](#)  
> [Jump to Presentation - Simplified Computational Approaches to Safer Chemicals](#)



**Nigel Greene**  
Associate Research Fellow, Pfizer Compound Safety Prediction Group  
Chemistry Rating: 5  
> [Read Biography](#)  
> [Jump to Presentation - Predictive Toxicology for Safer Early Drug Design at Pfizer](#)

- Description
- Slides
- Presentation(s)
- Recommended Prerequisite
- Additional Material

[www.greenchemistryandcommerce.org/safer-chemistry-training](http://www.greenchemistryandcommerce.org/safer-chemistry-training)



# Green Chemistry and Commerce Council (GC3)

**Careers in Green Chemistry** - Professionals working in different sectors of industry discuss how they got to where they are, how they use green chemistry, and what they would recommend to early-career scientists looking to pursue careers in the field.

- [Webinar 1:](#)

*Speakers:*

- *Cory Robertson, Environmental Chemist, Hewlett-Packard*
- *Kristi Budzinski, Green Chemistry/BioPharma Program Manager, Genentech*
- *Drummond Lawson, Environmental Chemist, Arc'teryx*

- [Webinar 2:](#)

*Speakers:*

- *Irene Erdelmeier, Organic and Medicinal Green Chemist, Co-founder of Tetrahedron, France*
- *Teresa McGrath, Environmental Regulatory Toxicologist, Valspar*
- *Jon Smieja, Environmental Chemist, Global Sustainability, Steelcase*

<http://greenchemistryandcommerce.org/projects/education>