

# 2025 STATUS REPORT

## GREEN CHEMISTRY COMMITMENT AUDIT RESULTS

 **beyondbenign**  
green chemistry education



**GREEN  
CHEMISTRY  
COMMITMENT**  
[beyondbenign.org](http://beyondbenign.org)



# A MESSAGE FROM THE HIGHER EDUCATION TEAM

While 2024 was a year of outstanding growth in our community, 2025 has strengthened the Green Chemistry Commitment (GCC) as a global program. We are proud to share that our community has grown to 264 signers, impacting more than 6,700 faculty members and more than 1.6 million students annually. This year, we welcomed 52 new institutions to our community. Notably, 71% of this growth came from international institutions, driven by Beyond Benign's participation at conferences all over the world, the advocacy of our GCC and Community Ambassadors, as well as workshops and activities organized by our GCC signers to promote green chemistry to the broader community. The expansion and impact of the GCC program were also evident on digital platforms, as the GCC page was the second-most active on our website.

The GCC welcomed 15 new institutions in the U.S. in 2025, an increase of 12% from the previous year. While globally, the GCC expanded its international presence to 36 countries and welcomed the first GCC institutions in France, Malaysia, Mexico, the Republic of Korea, Spain, Taiwan, Trinidad and Tobago, and Zimbabwe. Europe led this international growth, accounting for 25% of the GCC signers in 2025, followed by the Asia-Pacific region with 17%. A highlight of the GCC's growth in Europe has been the outstanding leadership of the Chimie Verte Academy in France, which successfully facilitated the incorporation of its five participating institutions in the GCC. The program is also thrilled to welcome the first institution from the Caribbean region, the University of the West Indies – St. Augustine, an achievement only made possible by the dedicated advocacy of our GCC Ambassadors.

The GCC program and its participating institutions have continued to receive international recognition, now through the [Royal Society of Chemistry's \(RSC\) Horizon Prize for Education](#), honoring its role in building a global community of practice that empowers educators to integrate green chemistry across the science curriculum. We continued to support our educators through publishing opportunities and funding initiatives. In 2025, the GCC program partnered with the [RSC Sustainability](#)

and [Sustainability & Circularity NOW](#) to develop Special Issues focused on green chemistry education, creating opportunities for GCC signers to showcase their work with the community. Through its [2025 Green Chemistry Education Awards](#), the GCC also supported eight institutional and individual initiatives worldwide aimed at advancing laboratory transformation, curriculum redesign, professional development, and student engagement.

In 2025, [Dr. Michelle Duarte](#) joined Beyond Benign as a Program Manager of the GCC program. Michelle is leading some of the program's key engagement and support activities, including the Annual Summit and the Grants program, as well as working with the rest of the team to strategize the development of initiatives and programs that help minimize challenges and promote increased adoption of green chemistry in GCC signing institutions.

Our efforts to empower educators with resources to integrate green chemistry into their curricula continued in 2025, marking a significant milestone with the launch of our first online course, '[An Introduction to Undergraduate Green Chemistry Teaching and Practice](#)'. Through the Green Chemistry Teaching and Learning Community (GCTLC), we also released a new '[An Easy-to-Use Template for Creating Green Chemistry Case Studies for Teaching](#)' to support educators in creating their own case studies and introduced the '[Soy Chemistry Curriculum: Innovating for Sustainability](#)' to help educators in teaching green chemistry and sustainability.

In this report, you can find data collected from **August to November 2025**. It is presented in a format consistent with the [2024 GCC Status Report](#) to support long-term tracking and comparative analysis of the GCC program's evolution.

We are deeply grateful to all of our community members for continuing to promote green chemistry education and driving long-lasting impact towards a sustainable future and present. Here's to continued progress in the years to come.

## THE HIGHER ED TEAM,



**Dr. Michelle Duarte**

Green Chemistry Commitment Program Manager



**Dr. Amy Cannon**

Co-Founder and Executive Director



**Dr. Juliana Vidal**

Senior Program Manager, Higher Education



**Dr. Monica Hensley**

Instruction and Research Manager, Higher Education

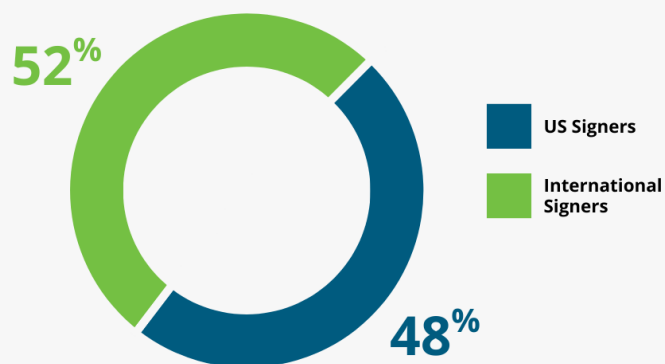


**Dr. Omar Villanueva**

Chief Program Officer

## Who answered the audit?

127 respondents



For the first time, responses from international signers accounted for the majority of audit responses. This highlights the growth of our international community as a result of our program's presence at international conferences and events, as well as outreach activities organized by the GCC signers and Community Ambassadors.

## What GCC Signers Said



*The integration of green chemistry practices and principles into our curriculum has greatly improved our students' critical thinking by teaching them to analyse the entire life cycle of a chemical process, not just the reaction itself, which has fostered a holistic mindset and creative problem-solving skills.*



*The GCC has influenced the way I design experiments, supervise student research, and evaluate chemical processes with an emphasis on minimizing environmental impact. It has also expanded my access to global green chemistry teaching resources and best practices, helping me mentor students more effectively in both classroom and research settings.*



*The GCC provides a valuable resource for the institution and department with resources for both the classroom and lab environments—aiding the department, school, and university to become more sustainable.*



*We are deeply inspired by Beyond Benign's vision to transform chemistry education for a sustainable future. The GCC provides an invaluable framework that not only guides us but also connects us to a global network of like-minded educators and institutions.*



*The GCC has increased attention and motivation to advance sustainability education at my institution. It has encouraged curriculum updates, inspired faculty collaboration, and created new opportunities for students to engage in green innovation. Personally, it has strengthened my role as a catalyst for change, connected me to a global network of educators, and provided valuable resources to more effectively integrate green chemistry into my teaching and research.*

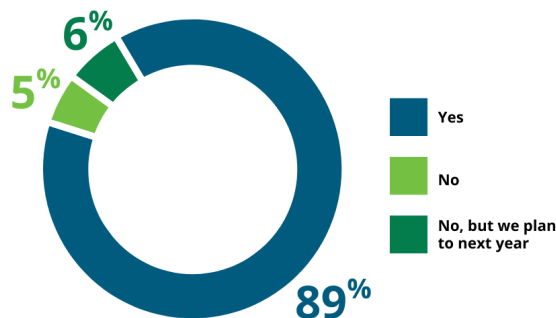


*Being part of an international network has already boosted student motivation. They feel that they are not alone in trying to 'change the world,' and that they are part of a global movement.*

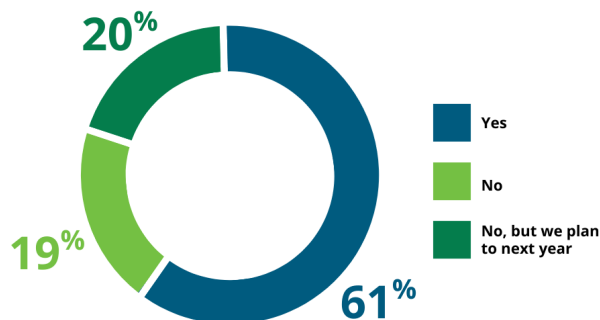
# 2025 GCC SURVEY DATA

## Green Chemistry in Departments, Courses & Programs

**Question:** Since your institution signed the GCC, has your department (or equivalent) increased its green chemistry teaching and practices?

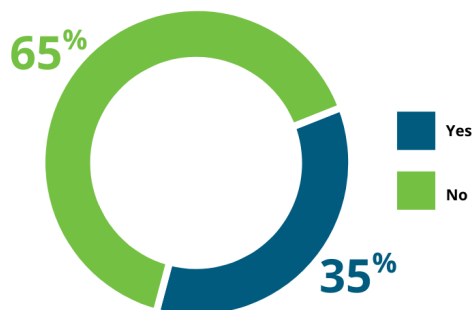


**Question:** Since your institution signed the GCC, has your institution as a whole incorporated green chemistry and/or sustainability at a broader level?

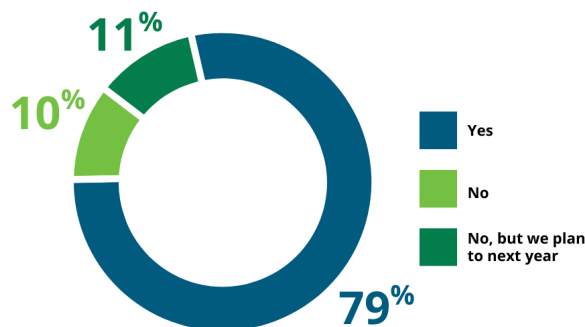


The increase in affirmative responses from 81% in 2024 to 89% in 2025 represents an expressive growth in departments reporting expanded green chemistry teaching and practices, showing the GCC's role in turning institutional commitment into action.

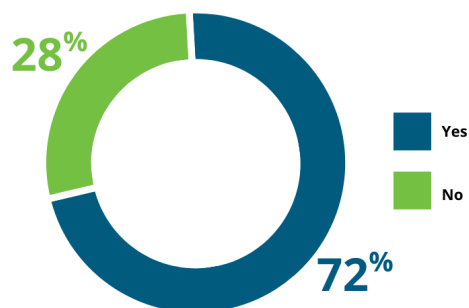
**Question:** Does your institution have a committee for your green and sustainable initiatives?



**Question:** Have courses at your institution connected green chemistry to societal issues (e.g. health equity, social justice, environmental justice, climate justice, the UN Sustainable Development Goals, etc.)?

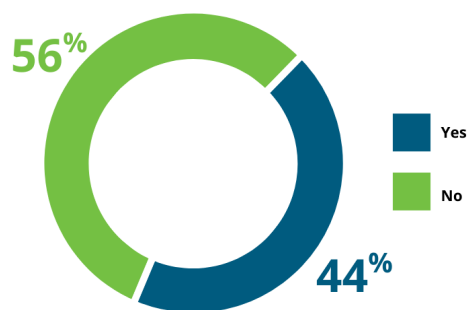


**Question:** Are there any active research groups performing green chemistry in the lab?

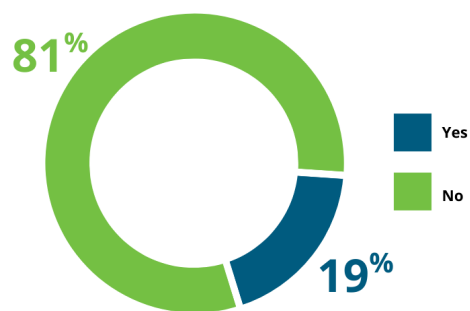


A consistent five-point annual increase (69% in 2023, 74% in 2024, and 79% in 2025) is observed in affirmative responses. This shows that linking green chemistry to societal issues has progressively become a common practice to integrate green chemistry among the GCC signers.

**Question:** Do you have a standalone green chemistry course at your institution?

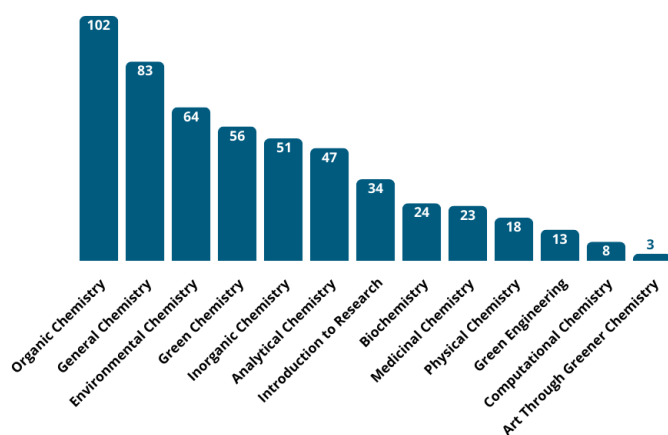


**Question:** Do you have a standalone green chemistry program (e.g. degree, certification, track, focus, major/minor, option, etc.) at your institution?



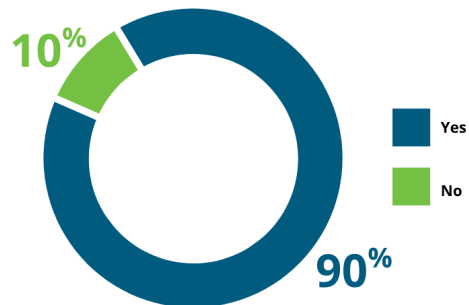
Integrating green chemistry into teaching laboratories and standalone courses remains the most accessible pathway for GCC signers.

**Question:** What courses introduce green chemistry as a discussion point at your institution?



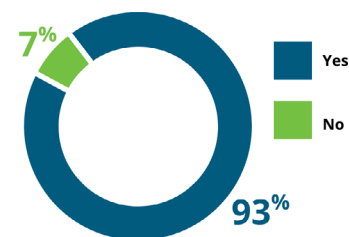
Organic chemistry remains the most common course for introducing green chemistry discussions. However, GCC signers are increasingly finding ways to introduce these concepts into different chemistry disciplines, and a rise in the integration of green chemistry in analytical chemistry courses is observed.

**Question:** Have you reduced waste by implementing green chemistry principles & practices into your teaching labs?



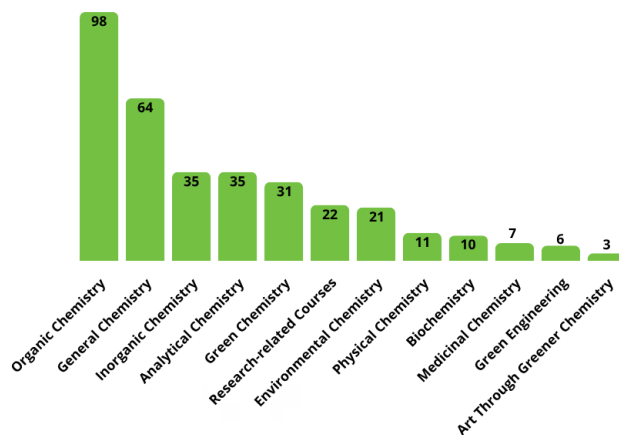
The implementation of green chemistry into the teaching labs continues to be associated with waste reduction.

**Question:** Have green chemistry principles & practices been implemented in the teaching laboratory?

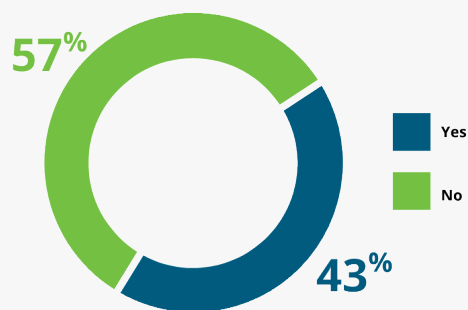


An approximate 6% increase in the number of GCC signers implementing green chemistry principles and practices in their teaching laboratories since 2024 demonstrates deeper integration of green chemistry principles into hands-on student experiences.

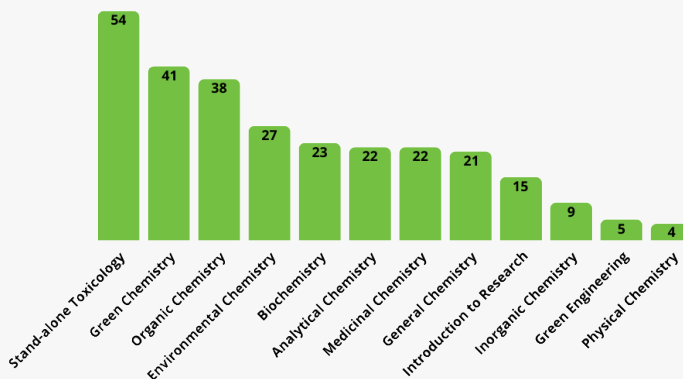
**Question:** Courses where green chemistry principles & practices have been implemented in the teaching laboratory.



**Question:** Do you have a standalone toxicology course at your institution?

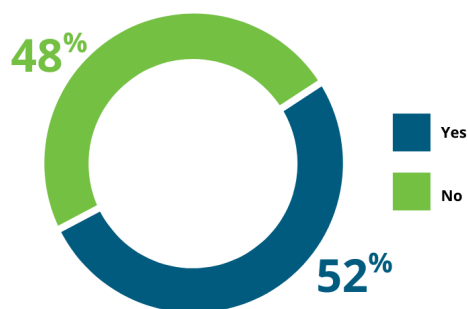


**Question:** Courses where toxicology is used as a discussion point at your institution.



Toxicology is increasingly integrated into the curriculum, with more than half of the respondents teaching it through lectures, followed by laboratories and seminars.

**Question:** Do you offer additional green chemistry courses, seminars, or content within other departments (e.g. Environmental Science, Sustainability, or other related offices/schools)?

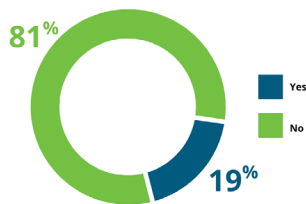


Over half of the GCC signers continue to collaborate with different departments to promote a culture of sustainability across campus. Examples include, but are not limited to, the departments of Sustainability, Environmental Sciences, Biology, and Engineering.

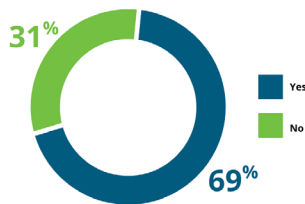
With affirmative responses increasing from 43% to 52% in only one year, this data reveals an increase in cross-departmental chemistry offerings, highlighting enhanced interdisciplinary integration of green chemistry across GCC signing institutions.

## Student Groups & Community Outreach

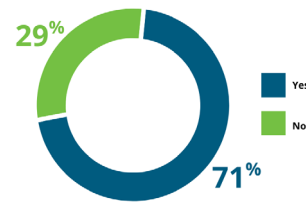
**Question:** Does your department have a green chemistry student club/group/chapter?



**Question:** Does your department have a chemistry student club/group/chapter?



**Question:** Does your department organize or participate in community and/or K-12 outreach?



We continue to observe that the majority of our signers have chemistry student groups in their departments, but they are not often green chemistry-specific. However, it is notable that the majority of our signers promote outreach, and this could be a way to promote green chemistry principles beyond their institutions.

# 2024–2025 GREEN CHEMISTRY EDUCATION AWARD WINNERS



In 2025, Beyond Benign [selected 8 award winners and distributed \\$50,000](#) to university partners around the world through the [Green Chemistry Education Awards program](#). These awards provide financial support for the integration of green chemistry education into courses and curricula. Winners receive funding to support work to:

- Increase the awareness of green chemistry and the GCC program across the chemistry department and institution.
- Increase awareness of the institution's dedication to green chemistry education through conference attendance, webinars, publications, social media campaigns, and other opportunities.
- Transform curriculum and lab procedures to achieve the GCC's Student Learning Objectives. The objectives aim to provide all chemistry graduates with proficiency in essential green chemistry competencies of Theory, Toxicology, Application, and Laboratory skills.



## DEPAUL UNIVERSITY

**Project Lead:** Dr. Kyle Grice

**Proposal:** A team of faculty and staff at DePaul University (United States), led by Dr. Kyle Grice, is pursuing a redesign of their undergraduate organic, inorganic, and biochemistry labs—eliminating dichloromethane and incorporating innovative and sustainable practices. The project will align lab experiments with green chemistry principles by reducing hazardous chemicals, solvent use, waste, and energy-intensive procedures. Undergraduate students will test redesigned labs to ensure they are practical and safer, with implementation planned for the 2025–2026 academic year. The initiative will impact over 270 students annually and engage faculty and staff in promoting a long-term shift toward greener, more environmentally responsible chemistry education.



## HOFSTRA UNIVERSITY

**Project Lead:** Dr. Yalan Xing

**Proposal:** Faculty and staff from Hofstra University (United States) will be supported in their plan to launch a one-week summer workshop introducing underrepresented high school students to green chemistry. Through the university's Science and Technology Entry Program (STEP), the workshop will feature hands-on experiments, lectures, and mentorship from faculty and undergraduate students. Students will enrich their understanding of sustainability topics like atom economy, pollution prevention, and energy efficiency. With support for transportation, meals, and materials, the program will directly engage 10 students and indirectly benefit over 200, aiming to inspire future STEM careers and foster environmental responsibility in the next generation of scientists.



## LEUPHANA UNIVERSITY

**Project Lead:** Dr. Vânia Zuin Zeidler

**Proposal:** Alongside a team of faculty and staff at Leuphana University (Germany), Dr. Vânia Zuin Zeidler has received a Green Chemistry Education Award to embed green chemistry into the core curriculum of the University's Sustainability and Environmental Science programs. The project will address current curriculum gaps by developing and implementing new teaching modules and laboratory experiments aligned with green chemistry principles, reaching approximately 200 students per semester. It will also incorporate digital tools for assessment and interactive learning, while engaging faculty and staff to build institutional support for sustainable chemistry education. The initiative aims to transform how chemistry is taught in environmental programs and share outcomes through publications, the GCTLC platform, and international networks, helping to establish green chemistry as a central pillar of sustainability education at Leuphana and beyond.



## UNIVERSITY OF VICTORIA

**Project Lead:** Dr. Michelle Mills

**Proposal:** Led by Dr. Michelle Mills, the University of Victoria (Canada) is a recipient of the Green Chemistry Education Award for its initiative to embed green chemistry principles throughout its laboratory curriculum. With a goal of creating a comprehensive, scaffolded lab experience aligned with the GCC's Student Learning Objectives, this project targets both first-year general and second-year organic chemistry courses—impacting over 1,700 students annually. The grant enables the development of new, focused experiments and the greening of existing labs through the dedicated work of a graduate RA/TA and undergraduate researchers. This collaborative effort will enhance student proficiency in sustainable lab practices while cultivating future green chemistry leaders.



## UNIVERSITY OF TORONTO

**Project Lead:** Dr. John De Backere

**Proposal:** Dr. John De Backere and colleagues at the University of Toronto (Canada) have received a Green Chemistry Education Award to host a two-day workshop in July 2026 for 30 Greater Toronto Area high school chemistry teachers. The workshop aims to equip educators with practical tools to incorporate green chemistry principles into their Grade 12 classrooms, aligning with Ontario curriculum standards and the UN Sustainable Development Goals. Participants will attend seminars and hands-on labs led by university faculty, experienced teachers, and a Beyond Benign representative, fostering curriculum renewal and long-term mentorship connections. The initiative emphasizes accessibility by offering the program at no cost and is supported by both the Department of Chemistry and external funding.



## WEST VIRGINIA STATE UNIVERSITY

**Project Lead:** Dr. Micheal Fultz

**Proposal:** Dr. Micheal Fultz and Robert Morris at West Virginia State University (United States) have been awarded the Green Chemistry Education Award to modernize their organic chemistry lab curriculum through the integration of greener, safer, and more sustainable laboratory experiments. With a focus on replacing traditional Diels-Alder and Fischer Esterification experiments with microwave-assisted versions, this project emphasizes key green chemistry principles such as energy efficiency, the use of safer solvents, and renewable feedstocks. The grant supports the purchase of a vented microwave reactor and necessary reagents, enabling the transition away from hazardous substances like dichloromethane and benzene. Serving approximately 60 students annually, this initiative will enhance learning outcomes while reducing

environmental impact. By embedding green chemistry into foundational lab experiences, the project not only advances sustainability in chemistry education but also empowers students with a modern, responsible approach to scientific practice.



## FEDERAL UNIVERSITY WUKARI

**Project Lead:** Dr. Chrysanthus Andrew

**Proposal:** Dr. Chrysanthus Andrew and his team at Federal University Wukari (Nigeria) have received the Green Chemistry Education Award to lead a transformative green chemistry initiative in Nigeria's Taraba State. Their project will establish a Green Chemistry Student Group, conduct a multi-day workshop for 120 participants, and lay the groundwork for integrating green chemistry principles into the university's science and engineering curricula. Through targeted training, environmental audits, and the development of sustainable lab guidelines, the project aims to empower faculty, students, and local educators with practical knowledge of waste reduction, safe chemical practices, and eco-conscious lab operations. The initiative also includes broad outreach to six academic departments and aligns with the UN Sustainable Development Goals for quality education and health. By fostering awareness, professional development, and institutional change, this project seeks to build a lasting culture of sustainability in chemical education at Federal University Wukari and beyond.

## UNIVERSITY COLLEGE CORK

**Project Lead:** Dr. Gillian Collins

**Proposal:** Dr. Gillian Collins and her team at University College Cork (Ireland) have received a Green Chemistry Education Award to elevate green chemistry education in their Physical Chemistry laboratories. This project addresses a key curricular gap by replacing a hazardous dichloromethane-based experiment with a safer, greener alternative, investigating liquid-vapor equilibrium in a water-acetic acid system. The grant supports the purchase of specialized lab equipment, including DrySyn heating kits, waterless condensers, and thermocouples, to enable individual hands-on student experiences—essential for quality learning. In addition to experimental updates, the project introduces impactful visual aids: professionally framed posters on the 12 Principles of Green Chemistry and the UN Sustainable Development Goals, fostering a systems-thinking approach among students. Targeting over 100 second-year undergraduates annually, with ripple effects across upper-level courses, this initiative is set to serve as a catalyst for wider departmental adoption of sustainable practices in chemistry education.



## GCC SPOTLIGHT

### The GCC was awarded a 2025 Horizon Prize for Education by the Royal Society of Chemistry!

A major achievement for the GCC program in 2025 was being a recipient of one of the prestigious [Royal Society of Chemistry \(RSC\) Horizon Prizes for Education](#). This award recognizes and celebrates ground-breaking innovations and initiatives that mark a step toward change in education. The GCC was awarded a prize “for fostering a green chemistry community of practice that empowers educators across the world to integrate green chemistry in the science curriculum.” The press release and interview with the GCC team can be found [here](#).



“

*The Green Chemistry Commitment shows what's possible when educators unite around a shared vision. It's not just about teaching sustainability—it's about transforming educational culture so that every chemistry student, everywhere, learns that they can be a designer of solutions for a better world.*

**Dr. Omar Villanueva**  
Chief Program Officer, Beyond Benign

# PUBLICATIONS AND PROMOTIONAL ACTIVITIES

In 2025, the GCC program achieved an important milestone with the release of the Portuguese translation of the book 'Green Chemistry: Theory and Practice' from Dr. John Warner and Dr. Paul Anastas, originally published in 1998. Through a collaboration with GCC signers, led by Prof. Cintia Milagre and Prof. Dulce Helena Silva from [São Paulo State University](#) (Araraquara), the book is now available in Portuguese, representing a milestone to promote and support the field of green chemistry in Portuguese-speaking countries. The book's preface was written by Dr. Amy Cannon, highlighting the importance and impact of the 12 Principles of Green Chemistry, even 28 years after their creation.

The program also worked alongside Chemical and Engineering News (C&EN) in the [Greening Chemistry](#) column series and with several journals to highlight the amazing work of our community and promote publishing opportunities for GCC signers. These include:

- [Chemical Education for Global Sustainability](#), RSC Sustainability
- [Molecular Approaches and Systemic Changes: Green Chemistry Education for a Sustainable Future](#), Sustainability & Circularity NOW
- [Celebrating Latin American Chemistry](#), RSC Cross-Journal Collection



## Publications

### Articles by the GCC team in the Greening Chemistry Column, from C&EN:

- Vidal, J. Greening Chemistry: Don't let resistance to change stop students from changing the world. *Chemical and Engineering News*. <https://cen.acs.org/environment/green-chemistry/Greening-Chemistry-Dont-let-resistance/103/web/2025/09>
- Speight, I.; Welton, T.; Licence, P.; Vidal, J. What's the greenest Nobel Prize? *Chemical and Engineering News*. <https://cen.acs.org/environment/green-chemistry/s-greenest-Nobel-Prize/103/web/2025/10>
- Speight, I.; Vidal, J. Why green chemistry makes science safer for everyone. *Chemical and Engineering News*. <https://cen.acs.org/environment/green-chemistry/green-chemistry-makes-science-safer/103/web/2025/12>

The GCC program also supported the visibility and dissemination of the work promoted by the community through our Community News page and engagement with several journals. Highlighted publications in 2025 include:

- Kerek, A. L.; Sens, L.; Sandry, M. C. M.; Fiorin, B. C. Green synthesis of Azalchalcones: An evaluation based on chemical greenness metrics. *Green Chemistry Letters and Reviews*, 2025, 18 (1), 2581930. DOI: [10.1080/17518253.2025.2581930](https://doi.org/10.1080/17518253.2025.2581930)
- Akinsipo, O. B.; Anselm, O. H. Challenges and Opportunities for Implementing Green Chemistry in Nigerian Universities: Educational and Policy Perspectives. *Sustainability & Circularity NOW*, 2025, 02, a25341903. DOI: [10.1055/a-2534-1903](https://doi.org/10.1055/a-2534-1903).
- Grice, P. 'Reflection: My First GCC Summit and ACS Green Chemistry and Engineering Conference', Beyond Benign Community News, 2025. <https://www.beyondbenign.org/news/12987/>
- Korchinsky, R. S.; Brito, J. G. L. 'From our Community: How Student Leadership Helped Bring the Green Chemistry Commitment to Queen's University', Beyond Benign Community News, 2025. <https://www.beyondbenign.org/news/from-our-community-how-student-leadership-helped-bring-the-green-chemistry-commitment-to-queens-university/>

## Resources Created

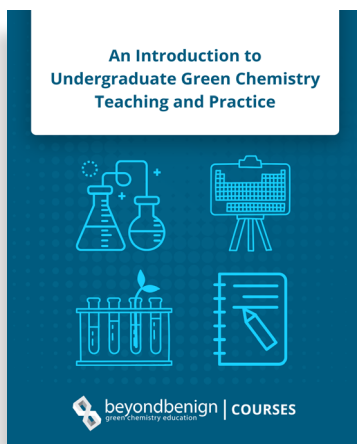
Throughout 2025, the Higher Education team at Beyond Benign worked with several GCC signers and partners to create resources promoting different pathways for educators to begin or continue integrating green chemistry in the curriculum. Please see below a list of resources created:



### SOY CHEMISTRY CURRICULUM: INNOVATING FOR SUSTAINABILITY

Curriculum modules designed by Beyond Benign with support from the United Soybean Board to help instructors teach core chemistry concepts, green chemistry principles, and sustainable development by using the history, cultivation, processing, and applications of soybeans as a contextual foundation.

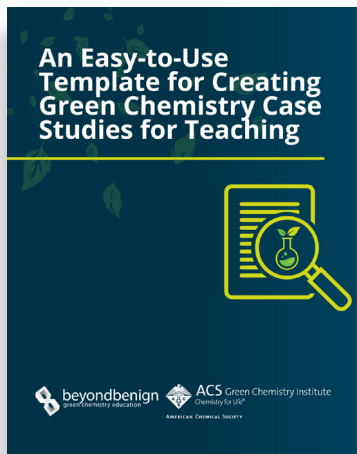
Content Creators: Dr. Jane Wissinger (University of Minnesota), Dr. Michael Wentzel (Augsburg University), Dr. Julian Silverman (Fashion Institute of Technology), and Dr. Monica Hensley (Beyond Benign).



### AN INTRODUCTION TO UNDERGRADUATE GREEN CHEMISTRY TEACHING & PRACTICE

An on-demand course created to support faculty members to introduce green chemistry concepts in their teaching, helping students contribute to a safer and more sustainable future.

Content Creators: Dr. Deborah Bromfield Lee (Florida Southern College) and Dr. Monica Hensley (Beyond Benign).



### AN EASY-TO-USE TEMPLATE FOR CREATING GREEN CHEMISTRY CASE STUDIES FOR TEACHING

A unit designed by Beyond Benign and the American Chemical Society Green Chemistry Institute to support educators to create case studies using examples of real-world chemistry to teach students about green chemistry and sustainability.

Content Creators: Dr. Tom Umile (Villanova University), Dr. Jennifer Tripp (University of San Francisco), Dr. David Laviska (ACS Green Chemistry Institute), Dr. Amy Cannon (Beyond Benign), and Dr. Monica Hensley (Beyond Benign).

## GCC Events & Global Engagement Summary

In 2025, the GCC expanded its visibility and influence through an extensive slate of over 40 presentations delivered across North America, Europe, Latin America, Asia, and Africa. These included departmental seminars, presentations at international conferences, faculty workshops, and participation in student-focused events. Examples of global webinars and collaborative symposia included events such as the CAS Insights, ACS Webinars, and the ZDHC Global Women's Breakfast. Virtual guest lectures and workshops reached diverse audiences at institutions in India, the Philippines, Ireland, and Germany. These engagements amplified the GCC's mission while directly supporting faculty, students, and administrators in integrating green chemistry across education, research, and service.



### IUPAC X BEYOND BENIGN WEBINAR SERIES

In 2025, together with the **Chemical Research Applied to World Needs (CHEMRAWN) Committee of the International Union of Pure and Applied Chemistry (IUPAC)**, the Higher Education team at Beyond Benign organized a series of webinars featuring experts who are leading the charge to solve world needs through chemistry and situating their work around the UN

Sustainable Development Goals and the IUPAC's Top 10 Emerging Technologies. Over the course of the series, the IUPAC x Beyond Benign webinars have reached over **400 participants**, with over **1.5K views on YouTube**, collectively. As a follow-up to this project, teaching materials related to the chemistry presented at the webinars will be developed and uploaded to the GCTL. You can watch the entire webinar list in our '[Designing Chemistry for Global Challenges: Expert Perspectives](#)' article.



## PROMOTING CHEMISTRY APPLIED TO WORLD NEEDS

**WATCH NOW!** TALKS WITH EXPERTS LEADING THE CHARGE TO SOLVE WORLD NEEDS THROUGH CHEMISTRY.



**FROM DETOXIFYING CHEMICAL WARFARE AGENTS TO TREATING NUCLEAR WASTEWATER: ADVENTURES IN THE SYNTHESIS OF METAL-ORGANIC FRAMEWORKS**

**PROF. ASHLEE HOWARTH**  
Associate Professor and Research Chair,  
Concordia University



**WHAT IS CARBON NEUTRALITY, AND HOW TO ACHIEVE IT?**

**PROF. JUNJI NAKAMURA**  
Research Professor, International Institute for  
Carbon-Neutral Energy Research, Kyushu University



**ATOMIC-SCALE INSIGHTS INTO ENERGY MATERIALS (BATTERIES INCLUDED!)**

**PROF. SAIFUL ISLAM**  
Professor of Materials Science,  
University of Oxford



**AFFORDABLE, EQUITABLE CLEAN-WATER AVAILABILITY:  
A MATERIALS-BASED APPROACH**

**PROF. CHANDRAMOULI SUBRAMANIAM**  
Professor, Indian Institute of Technology Bombay &  
Co-founder, NCF Green Energy Pvt Ltd.



**SUSTAINABLE PREPARATION OF WORLD HEALTH ORGANIZATION  
(WHO) ESSENTIAL MEDICINES BY MECHANOCHEMISTRY**

**PROF. EVELINA COLACINO**  
Associate Professor,  
University of Montpellier



For proprietary reasons, Prof. Colacino's presentation is not available for public viewing. For further information on Mechanochemistry, please visit <https://edu.mechanochemistry.eu>.

## CONFERENCES & IN-PERSON SYMPOSIA

- [2025 GCC Summit](#): Once again, the GCC Summit was held in two formats: virtually and in person. Both sessions brought together GCC signers and voices from industry, academia, and scientific societies to discuss the current status, importance, and meaningful ways to catalyze the integration of green chemistry in the education system.
- Beyond Benign and GCC Community Ambassadors participated in major conferences and symposia, including Pacifichem 2025 (Hawaii, United States), the IUPAC World Chemistry Congress (Kuala Lumpur, Malaysia), the International Symposium on Green Chemistry (La Rochelle, France), ACS Spring 2025 (San Diego, USA), the SERMACS Conference (Orlando, USA), and the 2nd Symposium on Green Chemistry and Sustainability (Santiago, Chile).
- In partnership with MilliporeSigma, the U.S. and Canada Life Science business of Merck KGaA, Darmstadt, Germany, Beyond Benign hosted “Catalyzing Change” Luncheon at the 29th Annual Green Chemistry & Engineering Conference (Pittsburgh, USA), aiming to increase awareness of the GCC program among faculty members and graduate students at the conference.

## STUDENT EMPOWERMENT & LEADERSHIP

- Green Chemistry Connections: Co-organized by nine graduate students across two different seasons, this webinar series featured 32 speakers (43% from GCC signing institutions) and fostered peer-to-peer learning.
- 2025 GCC Summit: For the first time, the 2025 GCC Summit featured graduate student-led working groups, creating a dedicated space for young scientists to discuss meaningful ways to catalyze change alongside faculty.
- The “Catalysts for Change” student event at the GC&E Conference was organized in partnership with MilliporeSigma to provide an opportunity for graduate students to network, discuss, and engage with faculty members and industry professionals.

## REGIONAL & AMBASSADOR-LED ENGAGEMENT

- GCC Ambassadors led regional engagement and utilized a geographical strategic approach to spread awareness of Beyond Benign’s initiatives.
- A cohort of 13 Ambassadors facilitated connections and supported institutional growth [across the world](#).
- Local efforts in France, Germany, Malaysia, Brazil, Chile, and Canada led to enhanced regional visibility and signer expansion.

# APPENDIX

## Meet the GCC Community\*

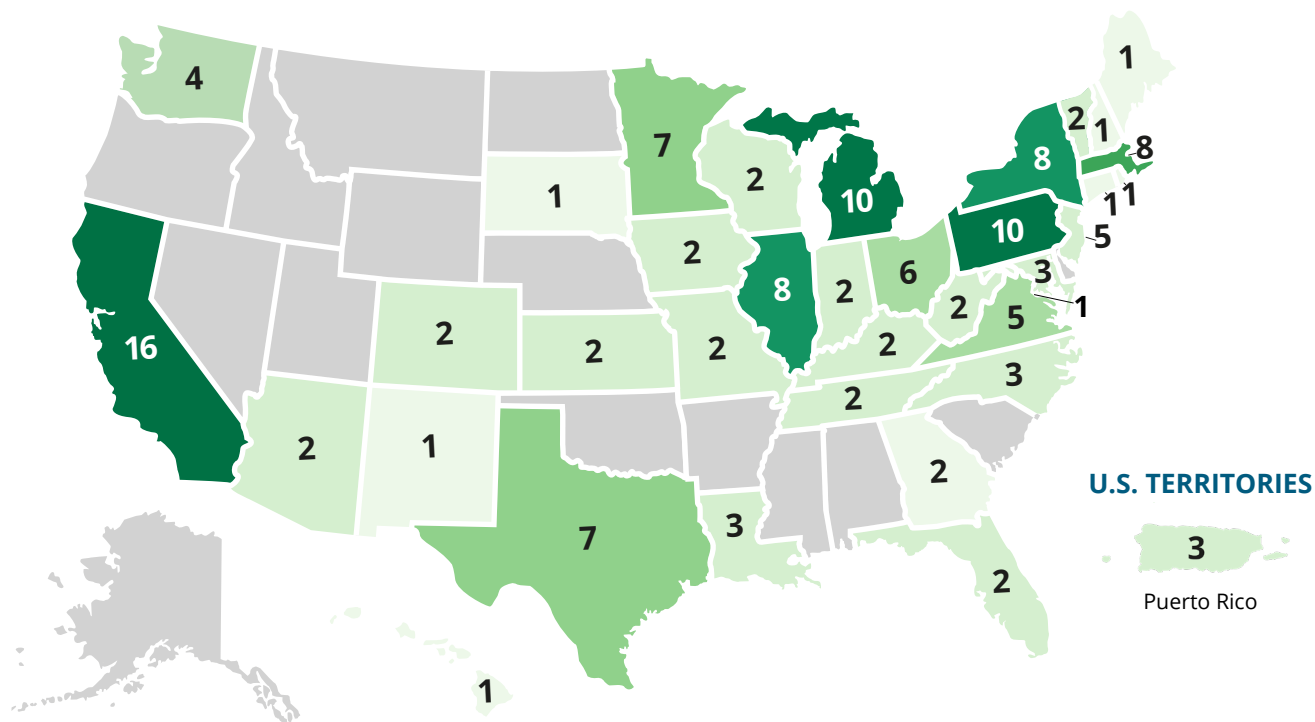


Over **6,700** faculty members  
Reaching **1.6 million** students annually

\*The data represented here is as of December 2025.

# GREEN CHEMISTRY COMMITMENT SIGNERS

## GCC USA Signers by State | December 2025



### Arizona

- Northern Arizona University
- Chandler-Gilbert Community College, Williams Campus

### California

- University of California, Berkeley
- College of the Canyons
- University of California, Davis
- Las Positas College
- Loyola Marymount University
- University of California, San Diego
- Harvey Mudd College
- University of California, Santa Barbara
- Claremont McKenna College
- Pitzer College
- Scripps College
- California State University San Marcos
- Biola University
- Saint Mary's College of California
- University of California, Santa Cruz
- University of San Francisco

### Colorado

- University of Colorado, Colorado Springs
- University of Colorado Boulder

### Connecticut

- University of Connecticut

### Florida

- Florida Gulf Coast University
- Florida Southern College

### Georgia

- Augusta University
- Georgia Gwinnett College

### Hawaii

- University of Hawai'i Maui College

### Indiana

- Rose-Hulman Institute of Technology
- Earlham College

# GREEN CHEMISTRY COMMITMENT SIGNERS

## Iowa

- Iowa Lakes Community College
- Buena Vista University

## Illinois

- Elmhurst University
- Millikin University
- North Park University
- Bradley University
- Monmouth College
- Dominican University
- Chicago State University
- DePaul University

## Kansas

- McPherson College
- Tabor College

## Kentucky

- Berea College
- University of the Cumberlands

## Louisiana

- Dillard University
- Southern University and Agricultural & Mechanical College
- Franciscan Missionaries of Our Lady University

## Massachusetts

- Bridgewater State University
- Gordon College
- Northeastern University
- Simmons University
- Northern Essex Community College
- Salem State University
- Stonehill College
- Worcester State University

## Maryland

- Loyola University Maryland
- Washington College
- Salisbury University

## Maine

- University of New England

## Michigan

- Grand Valley State University
- Michigan Technological University
- Lawrence Technological University
- Michigan State University
- Siena Heights University
- University of Detroit Mercy
- University of Michigan-Flint
- Wayne State University
- University of Michigan
- Saginaw Valley State University

## Minnesota

- Augsburg University
- St. Catherine University
- University of Minnesota
- University of Minnesota Morris
- Winona State University
- University of Minnesota, Duluth
- Century College

## Missouri

- Saint Louis University
- Washington University in St Louis

## New Hampshire

- University of New Hampshire

## New Jersey

- Ramapo College of New Jersey
- Montclair State University
- Seton Hall University
- Kean University
- The College of New Jersey

## New Mexico

- Central New Mexico Community College

## New York

- Kingsborough Community College
- State University of New York at Fredonia
- Siena College
- Utica University
- Rochester Institute of Technology

# GREEN CHEMISTRY COMMITMENT SIGNERS

- Union College
- Hofstra University
- Stella and Charles Guttman Community College, CUNY

## North Carolina

- University of North Carolina at Pembroke
- North Carolina State University
- University of North Carolina at Asheville

## Ohio

- Bluffton University
- University of Toledo
- Wittenberg University
- Wright State University
- Ohio Northern University
- Xavier University

## Pennsylvania

- Drexel University
- Saint Francis University
- Penn State Shenango
- Widener University
- Wilkes University
- York College of Pennsylvania
- University of Pittsburgh, Johnstown
- Villanova University
- Harrisburg University of Science and Technology
- Messiah University

## Rhode Island

- Brown University

## South Dakota

- South Dakota State University

## Tennessee

- Tennessee Tech University
- Milligan University

## Texas

- Prairie View A&M University
- Texas A&M University-San Antonio

- Texas Woman's University
- Odessa College
- Texas A&M University
- St. Edward's University
- University of Texas at El Paso

## Vermont

- Norwich University
- University of Vermont

## Virginia

- Eastern Mennonite University
- Randolph College
- Hampton University
- Virginia Polytechnic Institute & State University
- Virginia State University

## Washington

- Green River College
- Pacific Lutheran University
- Bellevue College
- University of Washington Bothell

## West Virginia

- West Virginia State University
- Bluefield State University

## Wisconsin

- Edgewood College
- University of Wisconsin-Whitewater

## U.S. TERRITORIES:

### Puerto Rico

- University of Puerto Rico, Rio Piedras
- Pontifical Catholic University of Puerto Rico
- Universidad Ana G. Mendez, Gurabo Campus

### District of Columbia

- George Washington University

# GREEN CHEMISTRY COMMITMENT SIGNERS

## GCC International Signers | December 2025



### Africa

- Bingham University (Nigeria)
- First Technical University (Nigeria)
- Kabete National Polytechnic (Kenya)
- Rhodes University (South Africa)
- Tai Solarin University of Education (Nigeria)
- Federal University Lafia, Nigeria (Nigeria)
- University of Calabar (Nigeria)
- Akwa Ibom State University (Nigeria)
- Faculty of Education, University of Lagos (Nigeria)
- Federal University Wukari (Nigeria)
- Harare Institute of Technology (Zimbabwe)
- Ahmadu Bello University, Zaria (Nigeria)
- Chinhoyi University of Technology (Zimbabwe)
- Federal University Oye-Ekiti (Nigeria)
- Akwa Ibom State Polytechnic (Nigeria)

### Asia

- Dnyanprassarak Mandal's College and Research Centre (India)
- Chulalongkorn University (Thailand)
- R.V. College of Engineering, RVCE (India)
- Kyoto University (Japan)
- University Of Rajshahi (Bangladesh)
- Amity University Punjab (India)
- University Of Hormozgan (Iran)
- Sanjay Ghodawat University, Kolhapur (India)
- JECRC University (India)
- Hindu College Delhi University (India)
- Somaiya Vidyavihar University (India)
- K J Somaiya College of Science and Commerce (India)
- City University of Hong Kong (CityU) (Hong Kong)
- Visayas State University Tolosa (Philippines)
- Indian Institute of Technology, Madras (India)
- Indian Institute of Science, Bangalore (India)
- St. Xavier's College (India)
- National Taiwan Normal University (Taiwan)

- Korea Advanced Institute of Science and Technology (Republic of Korea)
- Universiti Sains Malaysia, School of Educational Studies (Malaysia)
- Tarlac State University (Philippines)
- University of the Philippines Visayas (Philippines)
- University of Science and Technology of Southern Philippines (USTP) (Philippines)

### Australia

- Monash University

### Europe

- Queen's University Belfast (UK)
- Stockholm University (Sweden)
- Technische Universität Berlin, TU Berlin (Germany)
- University of Bath (UK)
- University of Birmingham (UK)
- University College Cork (Ireland)
- University College Dublin (Ireland)
- Universität Duisburg-Essen (Germany)
- University of Wuppertal (Germany)
- University of York (UK)
- Newcastle University (UK)
- Universidade De Coimbra (Portugal)
- Technische Universität Wien (TU Wien) (Austria)
- Università Ca'Foscari Venezia (Italy)
- Università di Bologna (Italy)
- University of Groningen (Netherlands)
- Leuphana University (Germany)
- Ghent University (Belgium)
- Freie Universität Berlin (Germany)
- Humboldt Universität Zu Berlin (Germany)
- Manchester Metropolitan University (UK)
- University of Lincoln (UK)
- University of Nottingham (UK)
- University of Milano-Bicocca (Italy)
- Complutense University of Madrid (Spain)

# GREEN CHEMISTRY COMMITMENT SIGNERS

- Nottingham Trent University (UK)
- Università di Padova (Italy)
- Hanze University of Applied Sciences (Netherlands)
- Université de Strasbourg (France)
- Université de Poitiers (France)
- Université de Toulouse (France)
- Université Savoie Mont Blanc (France)
- Université de Picardie Jules Verne (France)
- Universidade de Aveiro (Portugal)
- Technological University Dublin (Dublin)
- University of Leeds (UK)

## North America

- Ambrose University (Canada)
- University of Toronto (Canada)
- Vancouver Island University (Canada)
- McMaster University (Canada)
- McGill University (Canada)
- The University of British Columbia (Canada)
- Cape Breton University (Canada)
- University of Prince Edward Island (Canada)
- Queen's University, Ontario (Canada)
- British Columbia Institute of Technology (BCIT) (Canada)
- Mohawk College of Applied Arts and Technology (Canada)
- Concordia University Montréal, QC (Canada)
- Collégial International Sainte-Anne (Canada)
- The University of Winnipeg (Canada)
- University of Calgary (Canada)
- University of Victoria (Canada)
- Simon Fraser University (Canada)
- Universidad Iberoamericana, Ciudad de México (Mexico)
- Memorial University of Newfoundland (Canada)
- Université du Québec à Trois-Rivières (Canada)
- Université de Montréal (UdeM) (Canada)

## Central America and Caribbean

- Universidad de San Carlos de Guatemala (Guatemala)

- The University of The West Indies, St. Augustine Campus (Trinidad and Tobago)

## South America

- Instituto Federal do Rio de Janeiro (IFRJ), Duque de Caxias (Brazil)
- Universidade Estadual Paulista (Unesp), Araraquara (Brazil)
- Universidade de Brasília (Brazil)
- Universidad de la Costa (Colombia)
- Universidade Federal de Pelotas (Brazil)
- Universidad EAN (Colombia)
- Universidade Federal de Goiás (UFG) (Brazil)
- Universidade Federal do Mato Grosso do Sul (UFMS) (Brazil)
- Yachay Tech University (Ecuador)
- Instituto Federal da Paraíba (IFPB) (Brazil)
- Universidade Federal de Minas Gerais (UFMG) (Brazil)
- Instituto Federal Do Espírito Santo, Vila Velha (Brazil)
- Instituto de Química Universidade Estadual de Campinas (Brazil)
- Universidad Nacional de Villa María (Argentina)
- Universidade Federal Fluminense (UFF) (Brazil)
- Pontificia Universidad Católica de Chile (Chile)
- Universidade Federal do Piauí (UFPI) (Brazil)
- Universidade de São Paulo (Brazil)
- Universidad de La Salle (Colombia)
- Instituto Federal do Paraná (IFPR), Campus Palmas (Brazil)
- Universidade Estadual de Ponta Grossa (Brazil)
- Universidad de Santiago de Chile (Chile)
- Universidade Estadual Paulista (Unesp), São José do Rio Preto (Brazil)
- Universidade Federal do Paraná (Brazil)
- Universidade Federal de Juiz De Fora (UFJF) (Brazil)
- Universidade Federal da Bahia (UFBA) (Brazil)

# THANKS TO OUR SIGNERS



*We are inspired daily by the faculty in our network of GCC schools that are finding innovative ways for bringing green chemistry into their teaching, research and service. We envision a world where the molecular building blocks of products used every day are healthy and safe for humans and the environment. In order to realize this vision, green chemistry must be integrated into our global education systems. It's the progressional work of educators throughout the globe that inspires us to do the work that we do.*

**Dr. Amy Cannon**  
Co-Founder & Executive Director, Beyond Benign



*The GCC is so important because it is about working towards a systemic and long-lasting solution to achieve a sustainable future. The exciting part, for me, is the people in it. The GCC community is made up of passionate, dedicated, and energetic individuals who are continuously learning from one another, improving the adoption of green chemistry, and challenging the status quo to develop a generation of knowledgeable scientists who care about protecting human health and the environment, and more importantly, possess the required skills to do so.*

**Dr. Juliana Vidal**  
Senior Program Manager, Higher Education, Beyond Benign

# THANKS TO OUR PARTNERS

