

The Nexus

Connecting & Expanding the Global Green Chemistry and Engineering Community

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Mark Your Calendars!

The 13th Annual Green Chemistry & Engineering Conference will be held June 21-26, 2009 at the Marriott Inn and Conference Center in College Park, MD.

The Call for Abstracts for the conference should be opening in mid November. Keep checking the [ACS GCI](#) website for more information.

Start planning now to be part of the premier conference on sustainable chemistry in the world!



Dear Green Chemistry Supporter,

Welcome to our 2nd volume of THE NEXUS, ACS GCI's online newsletter. I would like to thank you for sharing your valuable time to view the content and providing us feedback on *your* newsletter.

Times are turbulent around the globe these days. It is easy to lose sight of our mission when so many people are worried about personal issues. However, it is important that we stay focused on the bigger picture to implement green chemistry and engineering practices across the global chemical enterprise. We are in the process of collecting 2008 accomplishments in the area of green chemistry/engineering and clearly it has been a productive year. Our next edition will focus on the year in review and we need your help. Please take a minute and send us your accomplishments and add a picture or two for possible inclusion in our next issue of THE NEXUS.

It will take a global effort, working together as a large team, to help advance the cause of green chemistry and engineering. The mission is essential to our future, but our team members are spread across a wide area making sharing and coordination a challenge. This makes keeping the lines of communication open all the more important. We hope you will consider this document a crucial resource for staying abreast of relevant news and information on sustainability.

In this issue, you will find reports on recent conferences, where to find new articles on green chemistry and engineering, links to relevant sites where you can find in-depth information, and even an article from a new convert to our sustainable community.

I look forward to hearing from you and meeting you at a conference in the near future.

Sincerely,

Robert Peoples, PhD

Director, ACS Green Chemistry Institute®

Congratulations!

The ACS Green Chemistry Institute® would like to congratulate Dr. Jim Hutchison for being named the Lokey-Harrington Endowed Chair in the chemistry department at University of Oregon.

We also congratulate Dr. Paul T. Anastas for being named the Teresa and H. John Heinz III Chair of Chemistry for the Environment at Yale University.

Additionally, ACS GCI congratulates Professor Doug Raynie and his team from South Dakota State University for winning the grand prize in the "Plain Resolve" category at the [PlainGreen 2008 Conference](#) held Sept. 24-26 in Sioux Falls, SD. This category called for entries in environmental research that can build awareness about sustainability and address an environmental and/or socio-environmental problem. Congratulations to all involved with the project!

Quick Links

[ACS Green Chemistry Institute®](#)

[ACS Main Page](#)

[ACS GCI Pharmaceutical Roundtable](#)

[U.S. EPA Green Chemistry](#)

[Warner Babcock Institute for Green Chemistry](#)

[Center for Green Chemistry & Green Engineering at Yale](#)

[Green Chemistry at the](#)

Gordon Conference Brings Green Chemistry to a Green Site



Overlooking a scenic lake, with tree branches overhead, this was not a typical setting for a chemistry poster session. This was the Gordon Research Conference on Green Chemistry, held August 3-8, 2008 at Bates College in Lewiston, Maine. The Gordon Research Conferences are well known for bringing together the top researchers from academia and industry to freely discuss new, cutting-edge research at the frontiers of science. This year's Conference on Green Chemistry was no exception.

This year, the Conference organizers, James E. Hutchison (University of Oregon) and Janet L. Scott (Unilever) put together an excellent program, covering the diverse topics that are touched by green chemistry. After kicking off the conference with thought provoking talks by Paul Anastas (Yale University) and Robert Tanguay (Oregon State University), the high quality of research and discussion continued all week with Angela Belcher (Massachusetts Institute of Technology), Karen Goldberg (University of Washington), Paul Wender (Stanford University), Roger Sheldon (Delft University of Technology, Netherlands), and many others.

The presentations covered a full array of green chemistry topics, including Design of Greener Chemicals and Nanoparticles, Bio-Based and Bio-Inspired Products, Using Technology in Greener Routes to Complex Molecular Targets, Catalysis for Activation of Small Molecules and in Organic Synthesis, Additive Processing & SC-Fluids for High Performance Materials, Green Chemistry Advances in Organic Chemistry, Measuring Green Chemistry, Future Fuels - Some Possibilities, and Bio-Based Processing and Catalysis. (online program: <http://www.grc.org/programs.aspx?year=2008&program=green>)

As is typical for Gordon Research Conferences, the schedule provides ample opportunities for the participants to mingle, get to know each other, and discuss research. Sarah Miller, a graduate student at Yale University, articulated this exactly: "afternoons off allowed scientists to be people. It was a unique experience for me to be able to discuss research and career paths with folks over breakfast and soccer and bird watching...posters were displayed in the same space as socializing occurred which allowed for informal and formal conversations about research. This made the process of sharing and seeking advice comfortable and fun."

Since 1996, this conference has been alternating between the U.S. and the U.K., held each year 1996-2000 and then every two years since 2000. The location for 2008 at Bates College was a very "green" setting for the green chemistry meeting, with its very green, lush grass and trees, new "green" buildings, numerous recycling bins in every building, and even a vegan buffet line in the cafeteria.

Keep a look-out in a future issue of the Nexus Newsletter for an announcement about the 2010 Gordon Research Conference on Green Chemistry – you too can participate in the conference.

Green Chemistry Summer School Aims High in Colorado

[University of Oregon](#)

[Environmental Health News](#)

[Join Our Mailing List!](#)



The following article was contributed by Mary Kirchhoff, American Chemical Society.

The American Chemical Society held its sixth annual Summer School on Sustainability & Green Chemistry at the Colorado School of Mines, in Golden, Colorado on July 9-17. Hosted by ACS Board member Dr. Kent Voorhees, the program engaged 83 graduate students and postdoctoral scholars in lectures, discussions, and laboratory experiments designed to increase the participants' knowledge of green chemistry and its role in achieving sustainability.

Speakers included many of the leaders in green chemistry, such as Paul T. Anastas of Yale University, John C. Warner of the Warner Babcock Institute for Green Chemistry, Joan F. Brennecke of the University of Notre Dame, and Kenneth M. Doxsee of the University of Oregon.

Many of the participants presented their research during two poster sessions held in the atrium of the chemistry building, Coolbaugh Hall. Students also learned about sustainability at Coors through a behind-the-scenes tour of the Coors Brewery, in Golden, and they were rewarded for their long hours in the classroom and lab with a day spent hiking and rafting in the beautiful mountains of Colorado.

The program concluded with a presentation by ACS Green Chemistry Institute® Director Bob Peoples, who emphasized what a great time it is to be a green chemist. ACS Executive Director and Chief Executive Officer Madeleine Jacobs addressed the participants during the closing banquet, providing guidance on successful careers and lives to the graduate students and postdoctoral scholars.

The 2008 program was sponsored by the Argosy Foundation, Rohm and Haas, the ACS Green Chemistry Institute® - Petroleum Research Fund, Colorado School of Mines, and Sigma-Aldrich. For more information about the 2009 Summer School, please e-mail gceducation@acs.org.



New Hampshire Workshop Teaches Green Chemistry to Teachers

The following article was contributed by Michael Tinneland, consultant to the American Chemical Society.

Green chemistry is a natural ally for occupational and environmental safety. It is easy to see how finding safer solvents, reducing wastes, and limiting the generation of toxic waste all fit into the goals of the New Hampshire College and University Compliance Assistance Cooperative (NHC3UA).

So it was a logical fit for "the Cooperative" to sponsor a green chemistry workshop for college faculty and high school teachers from New Hampshire. Held at the University of New Hampshire on August 21-22, 2008, the workshop drew 23 participants, of which two-thirds were college faculty, and the remainder, high school chemistry teachers. Following the workshop, 92 percent of attendees felt prepared to share concepts of green chemistry with their colleagues and students.

Initial planning established the goals for the workshop. Michael B. Blayney, Ph.D. Director, Environmental Health & Safety (EHS) at

Dartmouth College and Director of the NHC3UA helped clarify the specific outcomes for the workshop. The goals were to:

- Renew/Establish contacts and communication with NHC3UA
- Learn how to begin to implement a green chemistry approach to instructional Chemistry labs
- Understand greener approaches for laboratory preparation and support
- Obtain and review resources (including ACS Education resources) on green chemistry for the undergraduate and high school curriculum

The workshop program included a welcome and introduction from Blayney and Brad Manning, Director of Environmental Health & Safety (EHS) University of New Hampshire. Other presenters included John Warner (Warner Babcock Institute for Green Chemistry), Amy Cannon (Executive Director, Beyond Benign), Michael Tinneland (consultant to the American Chemical Society), Tammy Hill (EHS Manager, Plymouth State), and Irv Levy (Professor, Chemistry and Department Chair at Gordon College).

Despite having an acronym that takes nearly as much time to pronounce as does the entire name, the NHC3UA is an amazing organization. Formed as a partnership between Dartmouth College and the University of New Hampshire in 2005, it was the first of its kind in the nation. It now includes 15 additional colleges and universities, as well as a number of corporate sponsors. Its mission is "to address the environmental health and safety responsibilities of higher education in New Hampshire, including the barriers to occupational and environmental compliance."

For more information on the NHC3UA contact:

Joyce Massicotte
<https://nhc3ua.sr.unh.edu/>
Office of Environmental Health & Safety
University of New Hampshire
Direct Line: (603) 862-4029
Office Phone: (603) 862-4041

Michigan Green Chemistry Action Plan Released



On September 15th, 2008, the Michigan Department of Environmental Quality (DEQ) announced the release of a strategy to promote research, development, and commercialization of innovative and practical technologies that prevent pollution through cleaner, cheaper, smarter chemistry. The strategy, released in the report "Advancing Green Chemistry: An Action Plan for Michigan Green Chemistry Research, Development and Education" identifies key steps for the success of green chemistry in Michigan.

In October 2006, Governor Jennifer M. Granholm issued Executive Directive No. 2007-6, "Promotion of Green Chemistry for Sustainable Economic Development and Protection of Public Health," that established state policy encouraging the use of safer, less toxic, or non-toxic chemical alternatives to hazardous substances and the research, development, and implementation of Green Chemistry in Michigan.

"Michigan is a nationally recognized leader in pollution prevention, so I'm proud to announce this significant advancement in our efforts to promote less toxic, safer products during National Pollution Prevention Week," said DEQ Director Steven E. Chester. "This Action Plan will guide us as we draw upon the talents of our business, environmental, and academic communities to further green chemistry advancements to protect our environment and grow our economy."

The DEQ has been given primary responsibility to implement the Green Chemistry Executive Directive, including establishing a Michigan Green Chemistry Program and convening a Michigan Green Chemistry Roundtable.

The Roundtable, which is comprised of experts representing business, academia, environmental interest groups, and the public, had significant input into the development of the Action Plan and will be participating in the implementation of the Michigan Green Chemistry Program.

Further information on the Michigan Green Chemistry Program, along with a copy of the action plan, is available on the DEQ Web site at www.michigan.gov/deqgreenchemistry, or by calling the DEQ, Environmental Assistance Center at 800-662-9278.

Pharma Roundtable Releases Articles of Interest

The ACS GCI Pharmaceutical Roundtable has released their bi-annual "Articles of Interest to the Pharmaceutical Industry" in the most recent issue of *Organic Process Research & Development* (Volume 12, Issue 5).

The [document](#) is the third time the Roundtable has produced this compilation of green chemistry articles, and can be found online through the OPRD website.

What is Green Chemistry? An Outsider's Perspective



The following article was contributed by ACS GCI summer intern, Stephany Lin (Harvard University, Class of 2011)

Sometimes, despite how well you think you know yourself, you can still surprise yourself. Such was the case for me when I was offered an internship at the ACS Green Chemistry Institute®. Science and chemistry were never my strongest subjects in school, but I have always been interested in the environment and take small steps in my daily life to be more "green". I was motivated by my environmental science & public policy class to apply for this internship - I was curious to find out what the concept of green chemistry really meant. With that in mind, I committed to spending my precious summer break learning something new, rather than experiencing the same old summers of roving the Harvard grounds with my friends, and hopped on the next Delta Shuttle back home to D.C.

On my first day, I was promptly given reading material to familiarize myself with green chemistry. What I found was a totally different approach to chemistry that was, dare I say it, interesting. It caused me to rethink everything from how energy, materials, and the end product are used, and suddenly chemistry directly applied to the real world and real problems in a way it never did in my high school class.

I quickly realized that this is a truly inspiring movement of innovation and promise. At the end of the June, I was able to participate in the 12th Annual Green Chemistry & Engineering Conference and witness the enthusiasm among participants from around the world and from so many disciplines. The confluence of different interests, ideas, and viewpoints, gathered together for one common goal, left a lasting impression on me.

As I finished out my summer at ACS GCI, I left with a greater appreciation of how much the environmental movement's success depends on interdisciplinary action. ACS GCI for instance acts between industry, government, and academic sectors. I learned an interdisciplinary emphasis should exist within academia itself, through studies of science, policy, economics, even sociology, psychology, and education. In the near and long-term future, global and cross-disciplinary understanding will become increasingly important, as green chemistry proved to me this summer.

Apply Now for Green Chemistry Awards

As part of our continuing mission to foster new research and technologies in green chemistry and honor those who are committed to those efforts, the ACS Green Chemistry Institute® is proud to promote the following two awards, whose application deadlines are soon approaching:

[ACS Award for Affordable Green Chemistry](#): Nomination Deadline - November 1, 2008

[Presidential Green Chemistry Challenge Awards](#): Nomination Deadline - December 31, 2008

Additionally, the Bill & Melinda Gates Foundation announced today that it is now accepting grant proposals for Round 2 of Grand Challenges Explorations, a five-year US\$100 million initiative to encourage bold and unconventional research on new global health solutions. Proposals for six topics will be accepted online at <http://www.gcqh.org/explorations/Pages/Introduction.aspx> through November 2, 2008.

Upcoming Events

- October 23, 2008 3PM Eastern
Fall Phone Seminar Series on Green Chemistry: Great Lakes Green Chemistry Network-
"Greening Chemical Inventories"
MARILYN JOHNSON and JOHN WARNER
Marilyn Johnson, Director of Chemical Management Initiatives for Dolphin Software, Inc,
and John Warner, President and Chief Technology Officer of the Warner Babcock Institute
- November 13, 2008 3:30PM Eastern
Fall Phone Seminar Series on Green Chemistry: Great Lakes Green Chemistry Network-
"The Pharmaceutical Green Chemistry Roundtable"
JULIE MANLEY and JOHN KINDERVATER
Julie Manley, President of Guiding Green, LLC,
and John Kindervater, Eli Lilly Co.

For more information on the Seminar Series, please visit the

Great Lakes Green Chemistry Network [website](#).

- November 10, 2008
Green Chemistry & Environmental Health: Problems Meet Solutions - A one-day conference exploring: Environmental Health Sciences, Green Chemistry and how these fields connect. - Beckman Center of the National Academies, Irvine, CA, Free and open to the public- Register today: <http://www.qcandehs.org>
- November 17-20, 2008
AIChE Annual Meeting - Featuring a Topical Conference on Green Engineering and Sustainability in the Pharmaceutical Industry - Philadelphia, PA
- June 21-26, 2009
13th Annual Green Chemistry & Engineering Conference - College Park, MD

For more events, [click here](#)

To our readers,

This is your newsletter. Please take the opportunity to submit your feedback and suggestion for ways to enhance and improve our new communication vehicle. Additionally, please feel free to submit content or ideas for future issues. We'll be sure to include them in upcoming newsletters.

Thanks!
Sincerely,

Jesse Gallun
ACS GCI Writer/Editor "The Nexus" Newsletter
j_gallun@acs.org

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