

The Nexus

Connecting & Expanding the Global Green Chemistry and Engineering Community

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ACS GCI is proud to announce that the 13th Annual Green Chemistry & Engineering Conference will be held June 23-25, 2009 at the Marriott Inn and Conference Center in College Park, MD.

Abstract submission is now open. For a list of tracks and how to submit a presentation, please [click here](#).

Make this premier event your choice for 2009!

Congratulations!



ACS GCI would like to congratulate 2008 Green Chemistry & Engineering Conference keynote speaker,



Green Chemistry Supporter,

There is a quiet revolution of chemists waging a sustainability war to win back our planet; and they are making dramatic progress.

How does chemistry make it happen?

Green chemistry does this by switching from solvents that are a health concern to solvents which are environmentally benign, or better yet, by eliminating solvents altogether; by eliminating or dramatically reducing hazardous waste in manufacturing operations; and by saving billions of gallons of water and trillions of kilowatts of energy annually. That's what has already been accomplished by the quiet revolution - proven chemistry that has been reduced to practice. Think of what we can do with your support going forward.

Why chemistry? Chemistry brought us the polio vaccine, the compact fluorescent light and cholesterol-lowering drugs. Chemistry brought us synthetic fibers to clothe the world, antsnake venom to save lives, and the transistor that revolutionized electronics and enhanced communications.

Chemistry opens the doorway to a sustainable future. You hold the key to unlock that door for our generation and future generations.

Will you consider an investment in our future? Though it may not put money in your pocket today, it will accelerate the return on investment for planet earth. It will help insure clear air for all to breathe, safe water for all to drink, and safer food. It will make the world a better place for our children and our grandchildren.

Visit www.acs.org/greenchemistry today and make a small pledge. As little as \$10 can make a difference and 100% of these donations will go to advance programs in green chemistry.

Help us create a sustainable tomorrow through the transforming power of green chemistry and engineering.

All of us at ACS GCI wish you a happy and safe holiday.

Best regards,
Dr. Robert Peoples

Director, ACS Green Chemistry Institute®

b_peoples@acs.org

2008: A Year of Change and Advancement for ACS GCI

Like the rest of the world, 2008 has been a year of change for the ACS Green Chemistry Institute®. Dr. Bob Peoples, the new director of ACS GCI came on board in March 2008, bringing with him a wealth of knowledge and passion for green chemistry. Spurred on by his energy, ACS GCI has been a flurry of activity, advancing the Institute's four pillars of strategic direction - advocacy, industry, education and certification and continuing to build on the 4C's - catalyze, convene, collaborate and communicate - that are instrumental to the

Dr. Theodora Colborn, for being named one of three recipients of the 2008 Göteborg Award for Sustainable Development by the city of Göteborg, Sweden and its companies.

Dr. Colborn was lauded for her efforts to "stimulate and encourage strategic work for national and international sustainable development."

For more information about the award, visit <http://www.goteborgaward.com>

Quick Links

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advancement of green chemistry.

This past year found ACS GCI at the forefront of advocacy for the green chemistry movement. ACS GCI staff went on the road to communicate the importance of green chemistry and the mission of ACS GCI at a number of high-profile industry meetings and international conferences throughout the year. In March 2008, the ACS GCI staff collaborated and co-organized the first ever "Green Analytical Chemistry" technical session at the Pittcon conference, bringing together speakers from academia, industry, government and NGO's to discuss a broad range of green analytical topics. Other speaking engagements included the 1st Annual Specialty Chemicals conference in New York, where Dr. Peoples was a keynote speaker, reaching an audience of CEOs and executives and conveying the messages of sustainability. ACS also endorsed the Green Chemistry Research and Development Act of 2008 (S. 2669) and identified two more Senate supporters.

ACS GCI continued to work closely with the ACS GCI Pharmaceutical Roundtable, which to date has 10 major global pharmaceutical companies as members, and continues to grow. The success of the Pharmaceutical Roundtable, which has issued more than \$500,000 in research grants since 2005 and also publishes articles, collaborates globally, educates students and defines and develops tools for innovation, catalyzed ACS GCI to help develop a similar roundtable for formulated products, which you can read about below, further expanding the industrial impact of sustainability.

In June, the 12th annual Green Chemistry & Engineering Conference in Washington DC, brought together nearly 400 participants, with over 160 technical presentations. Keynote speakers included Dr. Steven Chu of the Lawrence Berkeley National Laboratory, who was recently named the nominee for the new United States Secretary of Energy, and Dr. Bill Banholzer of Dow. Additionally, a total of 38 undergraduate, graduate and post doctoral students received scholarships to facilitate their attendance at the 12th Annual Green Chemistry and Engineering Conference in June with the help of a grant received from the National Science Foundation. ACS GCI also awarded two Kenneth G. Hancock Memorial Student Awards and two Joseph Breen Student Fellowships during the conference.

ACS GCI catalyzed research and education around the world. The ACS GCI Developing and Emerging Nations grant program helped to support the 3rd Indo-US Workshop on Green Chemistry in Delhi, India in January, the 1st Latin American Workshop on Green Chemistry in Mexico City in July, and other exchanges and research that took place around the world in Asia, Africa, and South America. Also in 2008, five ACS GCI-Petroleum Research Fund research and education grants were awarded. ACS GCI was involved with the annual ACS Summer School on Sustainable and Green Chemistry as well as several training workshops around the US for teachers at the high school and college level.

ACS GCI's innovation also included advancements in communications. In order to communicate all of the various activities underway in the global green chemistry community, ACS GCI staff developed a bimonthly Green Chemistry Newsletter, The Nexus, which began distribution via email in August 2008 to over 3,000 recipients and continues to grow in distribution and content.

Overall, the reach and scope of ACS GCI projects and programs continues to grow. None of these efforts would be possible without the dedication and energy of both our internal employees, as well as the global scientific community. Together, we look forward to 2009, and seeing the movements of sustainability and green chemistry and engineering continue to advance and expand.

Introducing the launch of the ACS GCI Formulator's Roundtable in 2009

Companies in the formulated products industry have been working with the ACS Green Chemistry Institute® since April 2008 to develop a

partnership to be the driving force to use green chemistry in creating innovative products that are environmentally sustainable throughout the entire product life cycle and safer to make and use. The industry's focus on sustainability is evident when you walk through the aisles of a grocery or retail store and see the increasing number of options for products with less hazardous materials and packaging alternatives.

Sixteen companies have been working for the past year to develop the partnership, formally called the ACS GCI Formulator's Roundtable. Those participating include Access Business Group, Bissell Homecare, Inc., Clorox, Corporate Express A Staples Company, Church & Dwight Co., Inc., Johnson & Johnson, Johnson Diversey, L'Oreal, Method Products, Proctor & Gamble Company, Reckitt Benckiser, SC Johnson & Son, Inc., Seventh Generation, Sysco, Unilever, and Zep. The leadership of David Long, recently retired from SC Johnson and now on the Governing Board of the ACS Green Chemistry Institute®, has been instrumental in the development of this collaboration.

The formal launch of the ACS GCI Formulator's Roundtable will be in January 2009. During the past development year, prospective members have worked together to create the organizational structure to ensure the strength of the partnership moving forward. Strategic priorities for the Roundtable have been defined as:

- Promote transparency and consistency through a set of green chemistry principles for formulated products.
- Drive good science in development of environmentally preferred product standards and certification.
- Inform and influence suppliers and academia to develop greener alternatives.
- Be recognized leaders in Green Chemistry.
- Incorporate risk-based decision making into green chemistry.

Any company operating within Standard Industrial Classification Industry Group 284 including formulation of soap, detergents, cleaning preparations, perfumes, cosmetics, and similar preparations, is encouraged to consider joining the ACS GCI Formulator's Roundtable.

Inquiries should be addressed to Julie Manley at j_manley@acs.org.

Cleaning Industry Meets New Formulator's Roundtable



This article was prepared by ACS Green Chemistry Institute® Governing Board member, David Long.

The "What's New on the Clean Green Scene" Green Products 2008 conference was held at the Hilton, Old Town Alexandria on November 17, 18 & 19. Green cleaning products have seen a recent major expansion in the market. Retailers like Wal-Mart, Home Depot and Target are promoting green products heavily. Consumers are saying they want greener products that are affordable and work as well or better than previous products.

The conference included speakers from all sectors of the industry. Leading green products companies such as Seventh Generation, Caldrea, Staples and Method provided case studies of how green products can be successful. Clive Davies of the US EPA's Design for the Environment Program (DfE) presented how companies can become DfE Partners by designing safer and more environmentally preferred ingredients. Joyce Podoll-Frankle, of the Federal Trade Commission reviewed guidelines for "Green Product" claims. Dave Long of the American Chemical Society's Green Chemistry Institute® shared information on the newly formed ACS GCI Formulator's Roundtable. Additionally, many companies that supply the cleaning products industry spoke to their new technologies and chemistry that can be used to formulate greener products.

Presentations also focused on strategies for formulating and marketing Green Products, how packaging can be minimized and be more environmentally responsible, and the latest retailer and consumer trends. Preceding the conference were two workshops to educate participants on how to formulate with green surfactants and an introduction into sustainable packaging.

The conference was sponsored by the Soap and Detergent Association and many industry and media partners.

For more information about the conference, [click here](#).

EPA, DOE Recognize ACS Buildings for Energy Savings

This article was written by Linda Raber, Chemical & Engineering News and appeared in the December 1, 2008 issue of C&EN, Vol. 86, No. 48.



ACS office buildings in Washington, D.C., recently received Energy Star certification from the Environmental Protection Agency and the Department of Energy. The Energy Star, a symbol that is perhaps most familiar to consumers of household appliances that use less energy, now adorns ACS headquarters on 16th Street and the Donald & Mildred Topp Othmer Building on M Street. ACS joins more than 4,000 buildings that have earned the recognition and represent more than 740 million sq ft nationwide.

"ACS is pleased to accept EPA's Energy Star in recognition of our energy-efficiency efforts," says Madeleine Jacobs, executive director and CEO. "Through this achievement we have demonstrated our commitment to environmental stewardship while also lowering our energy costs."

The Energy Star indicates that ACS is using about 35% less energy than average buildings while still providing quality service and comfort to occupants. Organizations earn the Energy Star by using EPA's national energy-performance rating system to generate energy-efficiency ratings for their buildings.

According to EPA, 2007 was the most successful year to date for the Energy Star program. As a result of the program, 40 million metric tons of greenhouse gas emissions were prevented in 2007 alone—equivalent to the annual emissions from 27 million vehicles. In addition, Energy Star buildings saved more than \$16 billion on their utility bills. And ACS is realizing some of those savings. "Even though electricity rates keep going up, our building costs have remained pretty flat," says Joanna K. Brosnan, head of the ACS facilities department, which is leading energy-efficiency efforts.

ACS and Gii Meet in Shanghai to Discuss Water Sustainability

The American Chemical Society's Committee on Corporation Associates (CA) has partnered with the Society of Chemical Industry (SCI) on the Global Innovation Imperatives (Gii) program. The program aims to address global challenges through community building for knowledge transfer and innovations based on chemistry. The first platform selected by CA and SCI is the global challenge of water.

In October 2008, ACS and SCI staff attended a Gii-Water Symposium during the Third International Symposium on Industrial Water Conservation, Waste Water Reduction, and Sewage Recycling Technologies in Shanghai, China.

Over the course of a two-day meeting, senior level attendees from

industry, government and academia gathered in Shanghai to discuss the water conservation issues, waste water treatment issues, and technical research on water desalination in China.

Sessions included three Gii speakers Dr. Mark Shannon (UIUC), Dr. Gary Moses (Sud-Chemie), and Dr. Justin Pan (Arch Chemicals). The meeting was organized by Dr. YouQi Yang, Professor at Peking University Wei and Senior Consultant for the China National Chemical Information Center and was followed by the International Exhibition at the ShanghaiMart.

During the course of the meetings, sessions were conducted on the following topics:

- Water-saving practices
- Analysis and outlook for reduction of water discharge during oil refining
- Establishment of supervision, surveillance, and monitoring interaction platform for pollution of water and environment
- Water sustainability: nexus to the economy, energy and the environment
- Membrane separation techniques
- Seawater desalination and water reuse
- Development and application of ZLD technology
- Reverse osmosis applied in waste water reuse in petrochemical industry
- Technology development of industrial waste water treatment
- Treatment of high concentration pesticide waste water
- Drinking water safety
- Technology development of synthetic ammonia waste water and resource conservation
- Use of indices, calculations and analyses in improving water treatment
- Technology of high-yield water rate membranes

Key Themes from the Gii Symposium were a better understanding and communication of the issues, increased governmental involvement, education to treat water as a total system, and the pricing of water.

For more information about the Gii program, please visit [here](#).

ACS GCI Welcomes Back Kathryn Parent



The ACS Green Chemistry Institute® is happy to welcome Kathryn Parent back to ACS GCI as our new Green Chemistry Specialist. For several years now, Kathryn has been a leader in green chemistry education. In her current role, she will work jointly with the ACS Green Chemistry Institute® and the ACS Education Division on green chemistry educational initiatives.

"Kathryn has the background to connect between the chemical and education worlds and brings an impressive network of resources," said Dr. Bob Peoples, ACS GCI Director. "She is an experienced collaborator and facilitator of green chemistry conferences and events. We are excited about her expertise and historical knowledge to reinforce many of our long-standing programs." Mary Kirchhoff, Director of the ACS Education Division agrees, "I am thrilled to have Kathryn as a conduit between our two organizations. Her dedication can only enhance the relationship between us and move green chemistry education to the forefront of ACS outreach."

Kathryn's past efforts on behalf of ACS GCI include: editor for Going Green: Integrating Green Chemistry into the Curriculum (2004); conference administrator for the joint meeting of the Second International Conference on Green and Sustainable Chemistry and the

Ninth Annual Green Chemistry and Engineering Conference (2005); and program director for the ACS Summer School on Green Chemistry (2005-2007). Kathryn began working for the ACS in 2002. She has a B.S. in chemistry from George Fox University in Newberg, Oregon and a M.S. in chemistry from the University of Oregon in Eugene.

Submit Now for PGCCA and Student Awards

2009 Presidential Green Chemistry Challenge Awards

Nominations Due By December 31, 2008

EPA is now accepting nominations for the 2009 Presidential Green Chemistry Challenge Awards. These awards recognize innovative chemical technologies that incorporate green chemistry into chemical design, manufacture and use -- and that have broad applications in industry.

Nominated technologies should reduce or eliminate the use or generation of hazardous substances from a chemical product or process. Any individual, group or organization, both nonprofit and for-profit, including academia and industry, may nominate a green chemistry technology for these awards. Self-nominations are welcome and expected.

Each nominated technology must have reached a significant milestone within the past five years in the United States. Typically, awards are given each year in five categories: Greener Synthetic Pathways; Greener Reaction Conditions; Designing Greener Chemicals; Small Business; and Academic.

Nominations must be sent no later than Dec. 31 to be eligible for the 2009 awards, which will be presented on June 22, 2009. For more information on the nomination and awards process [click here](#). You can go directly to the 2009 nomination package [here](#).

For examples of last year's nominations and award winners, visit [here](#).

If you have questions about the nomination process or awards, please write to EPA at: greenchemistry@epa.gov.

2009 ACS Green Chemistry Institute® Student Awards

Applications Due By February 1, 2009

The [Joseph Breen Memorial Fellowship](#) sponsors a young international green chemistry scholar to participate in an international green chemistry technical meeting, conference, or training program of their choosing. "Young" international scholar is defined as undergraduate students, graduate students, post-docs, and above, but below the level of Assistant Professor and within the first seven years of a professional career. This award is sponsored by a fund that commemorates the commitment and accomplishments of Joe Breen for the advancement of green chemistry.

The [Kenneth G. Hancock Memorial Award](#) honors outstanding student contributions to furthering the goals of green chemistry through research or education. The award is a one-time cash award in the amount of \$1,000 (USD) and is open to all undergraduate and graduate students, without regard to citizenship or country of study. The award is sponsored by the ACS Division of Environmental Chemistry and the U.S. Department of Commerce, National Institute of Standards & Technology.

Please help us spread the word to students and young scholars. International students are encouraged to apply. There is no limit on the number of applications that can be submitted from any one academic institution or project advisor, and students may apply for both awards.

Upcoming Events

- Application Deadline for:
Presidential Green Chemistry Challenge Awards
Due date for applications: December 31, 2008
- Application Deadline for:
Fellowships in Sustainability Science
Center for International Development, Harvard University
Due date for applications: January 15, 2009
For more information on the application process, [click here](#).
- Application Deadline for:
Joseph Breen Memorial Fellowship
Due date for applications: February 1, 2009
- Application Deadline for:
Kenneth G. Hancock Award
Due date for applications: February 1, 2009
- Clean Technology Business Forum & Competition Orlando,
Florida February 25-27, 2009 www.sperecycling.org
- 13th Annual Green Chemistry & Engineering Conference -
College Park, MD, June 21-26, 2009

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. We would especially love to hear from our international members.

Thanks!
Sincerely,

Jesse Gallun
ACS GCI

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