



ACS GCI PHARMACEUTICAL ROUNDTABLE 2008 YEAR IN REVIEW

The ACS GCI Pharmaceutical Roundtable is a partnership between the ACS Green Chemistry Institute® and pharmaceutical corporations united by a shared commitment to integrate the principles of green chemistry and engineering into the business of drug discovery and production.

From its launch in January 2005 through 2008, the ACS GCI Pharmaceutical Roundtable has made significant contributions to green chemistry in the industry by focusing on four strategic priorities: Informing and Influencing the Research Agenda, Defining and Delivering Tools for Innovation, Educating Leaders, and Collaborating Globally. The collaborative work of the Roundtable in 2008 is summarized here.

- Membership
 - The Roundtable grew to 9 paid member companies in 2008 compared to three in 2005. Members include AstraZeneca, Boehringer-Ingelheim, Eli Lilly & Company, GlaxoSmithKline, Johnson & Johnson, Merck & Co., Inc., Pfizer, Inc., Schering-Plough Corporation, and Wyeth. Several additional companies are evaluating membership.
 - The Roundtable boasts a 100% member retention rate since 2005.
- Informing and Influencing the Research Agenda
 - Funded \$260,000 in research addressing the top green chemistry research areas. Prof. Michael J. Krische from the University of Texas at Austin and Prof. Chao-Jun Li from McGill University were awarded grants. Through 2008, the Roundtable has funded four research grants for a total of \$490,000. <http://pubs.acs.org/isubscribe/journals/cen/86/i13/html/8613acsnews2.html>
 - Issued a request for proposals for the 2009 ACS GCI Pharmaceutical Roundtable Research Grant. Forty-eight pre-proposals were received from principal investigators representing 42 universities from 10 countries including Canada, China, India, Ireland, Mexico, Portugal, Spain, Tanzania, UK, and USA.
 - Over the course of three years since the inception of the ACS GCI Pharmaceutical Roundtable Research Grant Program, 105 research proposals have been received from 71 universities around the world.
- Defining and Delivering Tools for Innovation
 - Developed a reagent selection guide to help scientists in the member companies determine which reagents for a given reaction are less hazardous while also achieving the intended scalability and wide utility desired.
 - Collaborated with Chemical Abstracts Service to incorporate green search criteria into their product line.
 - Presented progress of the solvent selection guide at the topical conference on Green Engineering and Sustainability in the Pharmaceutical Industry in Philadelphia, PA, USA. The presentation is publicly available at http://portal.acs.org/portal/fileFetch/C/WPCP_011424/pdf/WPCP_011424.pdf
- Educating Leaders

- Co-authored a new feature, Green Chemistry Highlights, in *Organic Process Research & Development* entitled “Green Chemistry Articles of Interest to the Pharmaceutical Industry”. The new Highlights summarize cutting-edge green chemistry research selected by process chemists in industry.
<http://pubs.acs.org/doi/abs/10.1021/op800175p>
- Organized the UK green chemistry workshop for undergraduate students held at Churchill College, University of Cambridge, in September 2008. Twenty-seven students from a total of 15 universities from the UK and Belgium were provided an overview of green chemistry in the pharmaceutical industry with a particular focus on solvents, synthesis, and metrics.



- Sponsored and helped organize the Topical Conference on Green Engineering and Sustainability in the Pharmaceutical in association with the AIChE National Meeting in Philadelphia, PA.
- Collaborating Globally
 - Held a meeting of the Roundtable’s EU subgroup in the UK to address topics of global and regional importance.
 - Presented at numerous international conferences.

In addition to the papers authored by the Roundtable, the work of the Roundtable has also recently been recognized in the following publications among others:

- Toward Greener Therapeutics, *Chemical & Engineering News*
<http://pubs.acs.org/isubscribe/journals/cen/86/i04/html/8604sci2.html>
- Pharma Goes Green to Cut Costs, *Chemistry World*
<http://www.rsc.org/chemistryworld/News/2008/July/09070801.asp>
- The Greening of Chemistry, *Chemical Heritage Newsmagazine*
http://www.chemheritage.org/pubs/magazine/feature_greening_p3.html
- The Greening of Pharma, *Pharmaceutical Manufacturing*
<http://www.pharmamanufacturing.com/articles/2008/054.html>
- Pharma going for a greener New Year, *Pharmaceutical Technology Europe*
<http://www.ptemag.com/pharmtecheurope/Manufacturing+and+Processing/Pharma-going-for-a-greener-New-Year/ArticleStandard/Article/detail/483080>
- Challenges in Catalysis for Pharmaceuticals and Fine Chemicals, *Platinum Metals Review*
<http://www.platinummetalsreview.com/pdf/110-113-pmr-apr08.pdf>
- As of December 15, 2008, “Key Green Chemistry Research Areas – A Perspective from Pharmaceutical Manufacturers” coauthored by the Roundtable and published in *Green Chemistry* in 2007 has been cited in at least 11 subsequent publications.

The Roundtable looks forward to another productive year in 2009. We plan to continue to enhance green chemistry tools, identify less hazardous alternatives to commonly used solvents, collaborate with Chemical Abstracts Service and others to incorporate green chemistry into existing scientific tools, and explore green chemistry in biocatalysis and biopharmaceuticals.

For references or membership information, email gcipr@acs.org or go to www.acs.org/gcipharmaroumdtable.