



ACS GCI PHARMACEUTICAL ROUNDTABLE 2007 YEAR IN REVIEW

The ACS GCI Pharmaceutical Roundtable is a partnership between the ACS Green Chemistry Institute (GCI) 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. The Roundtable will be strongest when all global pharmaceutical research, development, and manufacturing companies are members.

From its launch in January 2005 through 2007, 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 2007 is summarized here.

- **Membership**
 - The Roundtable grew to 8 paid member companies in 2007 compared to three in 2005. Members include AstraZeneca, Eli Lilly & Company, GlaxoSmithKline, Johnson & Johnson, Merck & Co., Inc., Pfizer, Inc., Schering-Plough Corporation, and Wyeth. Several additional companies are evaluating membership.
 - Roundtable members represent 61% of revenues and 73% of profits generated from the *Fortune* Global 500 pharmaceutical sector (July 23 issue of *Fortune*).
- **Informing and Influencing the Research Agenda**
 - Co-authored "Key green chemistry research areas – a perspective from pharmaceutical manufacturers" published in *Green Chemistry* in May 2007. It was one of the most popular papers in the journal in 2007.
<http://www.rsc.org/Publishing/Journals/GC/article.asp?doi=b703488c>
 - Funded \$230,000 (with additional support from Pfizer) in research addressing the top green chemistry research areas. From over 30 proposals, Prof. Jianliang Xiao from the University of Liverpool and Prof. Robert E. Maleczka, Jr and Prof. Milton R Smith, III from Michigan State University were awarded grants.
<http://pubs.acs.org/isubscribe/journals/cen/85/i07/html/8507notw9.html>
<http://pubs.acs.org/isubscribe/journals/cen/85/i31/html/8531awards1.html>
 - Issued a request for proposals for the 2008 ACS GCI Pharmaceutical Roundtable Research Grant. Twenty-five proposals were received from 21 academic institutions representing seven countries.
- **Defining and Delivering Tools for Innovation**
 - Completed a benchmarking exercise on process mass intensity of active pharmaceutical ingredients across the development pipeline.
 - Presented results of the benchmarking exercise at the 11th Annual Green Chemistry & Engineering Conference in Washington, DC, USA and the 3rd

International Conference on Green & Sustainable Chemistry in Delft, The Netherlands. The presentation is publicly available at https://portal.acs.org/portal/fileFetch/C/CTP_005585/pdf/CTP_005585.pdf

- Initiated a collaboration with Chemical Abstracts Service to incorporate green search criteria into their products.
- **Educating Leaders**
 - Co-authored a Green Chemistry Highlights paper summarizing current literature on green and efficient chemistry relevant to industrial application. This paper is written for internal company use. A second Green Chemistry Highlights paper including recently published advances in technology such as separations and continuous processing will be considered for external publication.
 - Sponsored and organized the Health & Medicine track in the 11th Annual Green Chemistry & Engineering Conference in Washington, DC, USA.
 - Presented at numerous conferences on various topics in green chemistry in the pharmaceutical industry.
- **Collaborating Globally**
 - Held a meeting of the Roundtable's EU subgroup at the AstraZeneca facility in Brixham, UK to address topics of global and regional importance.
 - Developed and sponsored a UK green chemistry workshop for undergraduate students. Feedback indicates that the workshop was very successful, and the Roundtable is looking to repeat the workshop in the future.
 - Presented at numerous conferences including the 3rd International Conference on Green & Sustainable Chemistry in Delft, The Netherlands.
 - Authored a paper in *The Chemical Engineer* entitled "A Greener Prescription" (*The Chemical Engineer*, 2007, 795, 52-54).

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

Research Highlights, *Nature*

<http://www.nature.com/nature/journal/v448/n7155/index.html>

Pharma dreams of greener future, *LabTechnologist.com*

<http://www.labtechnologist.com/news-by-product/news.asp?id=76511&k=green-chemistry-Pfizer-Merck-Eli-Lilly-GSK-AstraZeneca>

Keeping it green, *Chemistry World*

<http://www.rsc.org/chemistryworld/Issues/2007/June/Keepingitgreen.asp>

Some items of interest to process R&D chemists and engineers, *Org. Process Res.*

Dev. <http://pubs.acs.org/cgi-bin/article.cgi/oprdfk/2007/11/i04/html/op700143p.html>

Everything to play for, *New Scientist Jobs*

<http://www.newscientistjobs.com/insider/article.action?article.id=insider224&focusId=usa>

Green Chemistry gains ground; lab design changes sure to follow, *R&D Magazine*

http://www.labdesignnews.com/LaboratoryDesign/LD0704FEAT_2.asp

The Roundtable looks forward to another productive year in 2008. We plan to support work on the key green chemistry research areas, define opportunities to minimize solvent use, identify less hazardous alternatives to commonly used solvents, collaborate with Chemical Abstracts Service and others to develop green chemistry tools, and cautiously expand into areas of discovery, biocatalysis, and biologics.

For references or membership information, email gcipr@acs.org or go to www.chemistry.org/greenchemistryinstitute/pharma_roundtable.html