

### Green/Sustainable Chemistry

by M. Kidwai

The IUPAC-sponsored **Second International Symposium on Green/Sustainable Chemistry**, held in Delhi, India, from 10–13 January 2006, was a showcase for green chemistry innovations from all over the world. Green chemistry can be challenging, but it is fundamental to the future of chemical production, especially in the pharmaceutical and agricultural fields. The conference's 550 attendees from 22 countries took stock of recent advances in environmentally friendlier chemistry.

The organizing committee made a strong effort to help participants from economically less developed countries attend the event. The Third World Academy of Sciences gave USD 2000 to fellows from countries such as Ghana and Bangladesh so they could attend the conference.

The conference, which offered 8 plenary lectures, 31 main lectures, and 44 invited lectures featuring eminent scientists, focused on the vital role played by chemists in designing green methods of chemistry and how to widen the use of green technology.

A number of prominent speakers shared the results of their cutting-edge research. In his plenary lecture, E.J. Thomas from the University of Manchester, UK, discussed alternatives to allyl stannanes for remote stereo chemical control and encouraged the use of fictionalized ionic liquids. Pietro Tundo, from Ca' Foscari University, Italy, lectured about the tunable reactivity and selectivity towards C and N methylation in dimethyl carbonate chemistry using basic and acidic catalysts. Arthur C. Watterson from the University of Massachusetts, USA, discussed the chemo-enzymatic green synthesis of polymeric materials, which is an environmentally benign technique for medical, imaging, and other applications. John C. Warner, from the same university, discussed using entropic control in materials design.

In addition, there were 33 oral presentations by upcoming postdoctoral and Ph.D. fellows who shared their experiences with green chemistry. The poster presentations showcased the most up-to-date research in the areas of synthesis of bioactive compounds, green, use of biomaterials, nanotechnology, biomimetic processes, microwave technology, ionic liquids, and the edges of physical chemistry, including computational methods. Five awards were presented for best poster presentations.

Among the attendees were representatives of 28 chemical and pharmaceutical industries, a number of whom were inspired by green industrial methods described in lectures. Industries represented included Matrix Laboratories Ltd., Pfizer Global Research & Development, Emcure Pharma Ltd., Merck Research Laboratories, and Bristol-Myers Squibb Company.

M. Kidwai <kidwai\_chemistry@yahoo.co.uk> is a professor at the University of Delhi and was chairman of the organizing committee for the symposium.

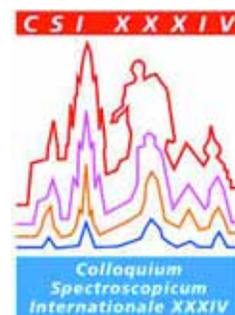
### Analytical Spectroscopy

by René Van Grieken

The **34th Colloquium Spectroscopicum Internationale (CSI-XXXIV)**, held in Antwerp, Belgium, from 4–9 September 2005, was hosted by the University of Antwerp. Since the first CSI conference, organized in Paris, France, in 1949, this prestigious series of biannual conferences has established itself as the premier forum for presentation and discussion of new developments in all branches of analytical spectroscopy. While many conference series decline after 20–30 years, the CSI series is still vigorous, probably because it is a truly international series of conferences. In Antwerp, as in previous conferences, there were participants from about 40 countries and from all continents.

The most recent CSI conferences took place in Granada, Spain (2003), Pretoria, South Africa (2001) and Ankara, Turkey (1999). The next one will be organized in Xiamen, China, from 24–28 September 2007, while in 2009, the event will take place in Budapest, Hungary. The conference alternates, in principle, between Europe and other parts of the world.

Following the tradition of the preceding CSI conferences, emphasis was placed on new developments and applications of spectroscopy in all branches of analytical chemistry. At this conference there were almost 300 participants, and more than 300 abstracts were received for oral and poster contributions. The topics included new research of various spectroscopic techniques and methodologies (such as atomic plasma spectrometry, molecular spectroscopy, organic and inorganic mass spectrometry, X-ray spec-



## Conference Call

trometry, hybrid techniques, laser spectroscopy, imaging techniques, quality control, and chemometrics), as well as applications of spectroscopy in, among others, micro-, surface and interface analysis, speciation, proteomics, environmental and geochemical analysis, and archaeometry and cultural heritage.

The program included 5 invited plenary lectures (by Y. Baba, M. Blades, D. Günther, G.M. Hieftje, and R. Niessner), 8 invited keynote lectures (by A. de Juan Capdevilla, M. Höhn, J. Kolar, A. Laskin, N. Omenetto, C. Gruening, K. Shimizu, and F. Vanhaecke), 120 oral contributions in 20 parallel sessions introduced by the invited speakers, and 3 poster sessions. Two vendor sessions were arranged as well.

During the opening ceremony, the CSI-XXXIV Award was given to Yoichi Gohshi, whose professional career has been of impressive relevance both to X-ray spectrometry and to analytical science in Japan. Gohshi retired recently from the National Institute for Environmental Studies in Tsukuba, Japan, and earlier from the University of Tokyo. This award was sponsored by Wiley, publisher of scientific books and of the journal *X-Ray Spectrometry*, for which Gohshi served for many years as editor for Japan. The laudation for the award was given by Jun Kawai from Kyoto University, one of Gohshi's famous students. After receiving his award, Gohshi highlighted some of his research over the decades.

Furthermore, at the conference dinner, three poster prizes, sponsored by Elsevier, were awarded to Kouichi Tsuji (Osaka City University, Japan), David De Muynck (Ghent University, Belgium) and Gerardo Gamez (Indiana University, USA), and their coworkers.

Besides the interesting scientific contributions, the participants of the CSI-XXXIV conference did find opportunities to sample some of Antwerp's cultural and historical treasures and some of its gastronomy and lifestyle. The city of Antwerp, in addition of hosting one of the most important harbors, the second largest petrochemical complex, and the most important diamond center in the world, also has a unique late medieval historical center, the home of Rubens, and numerous fine museums. The conference itself was held in the medieval "Elzenveld" conference center, which was originally a hospital when built in 1238. It was given to the city of Antwerp by Napoleon was turned into a conference center in 1989. The CSI participants enjoyed the quiet environment and beautiful gardens of the complex, which were especially attractive in the nice summer weather.

The homepage of CSI-XXXIV, including its detailed scientific program, can still be viewed at <[www.csixxiv.ua.ac.be](http://www.csixxiv.ua.ac.be)>. The Website of the next conference in China in 2007 is already in place at <[www.csixxv.org](http://www.csixxv.org)>.

René Van Grieken <[rene.vangrieken@ua.ac.be](mailto:rene.vangrieken@ua.ac.be)> is a professor in the Department of Chemistry, University of Antwerp, Belgium. He served as chairman of CSI-XXXIV.

## ThermoML: New IUPAC Standard for Thermodynamic Data Communications

by Michael Frenkel

A one-day symposium on **ThermoML: Purpose, Structure, and Applications** was held on 27 March 2006 in Atlanta, Georgia, USA, as part of the 231st National Meeting of the American Chemical Society. Speakers from the USA, Canada, UK, Germany, Netherlands, and New Zealand represented all components of the global data delivery process based on ThermoML (Markup Language for Thermodynamics).

Introductory remarks for the symposium were given by Bryan R. Henry, IUPAC president (University of Guelph, Canada); Daniel Friend, acting chief of the Physical and Chemical Properties Division, U.S. National Institute of Standards and Technology; and Catherine T. Hunt, president elect of ACS (Rohm and Haas Company). The announcement of ThermoML as a new IUPAC standard was made on 27 March 2006 by IUPAC President Bryan R. Henry during a special "ThermoML" reception co-sponsored by IUPAC, NIST, FizChemie Berlin (Germany), and Elsevier (Netherlands).

Thermodynamic property data represent a key resource for development and improvement of all chemical process technologies. However, rapid growth



*Michael Frenkel, conference organizer, opens the ThermoML symposium. Seated at the table (from left) are Catherine Hunt, Bryan Henry, and Daniel Friend.*