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, Goshi 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.csixxxiv.ua.ac.be>. The Website of the next conference in China in 2007 is already in place at <www.csixxxv.org>.

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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.

Bryan Henry (left), IUPAC president, announces ThermoML as a new IUPAC standard for thermodynamic data communications during the "ThermoML" reception. He is joined by Michael Frenkel.

in the number of custom-designed software tools for engineering applications has created an interoperability problem between the formats and structures of thermodynamic data files and required input/output structures for the software applications. Establishment of efficient means for thermodynamic data communications is absolutely critical for provision of solutions to such technological challenges as elimination of data processing redundancies and data collection process duplication, creation of comprehensive data storage facilities, and rapid data propagation from measurement to data-management system and from data-management system to engineering application. Taking into account the diversity of thermodynamic data and numerous methods of their reporting and presentation, standardization of thermodynamic data communications is very complex.

In 2002, IUPAC approved project 2002-055-3-024, "XML-Based IUPAC Standard for Experimental and Critically Evaluated Thermodynamic Property Data Storage and Capture," and established a task group to carry out the project. Michael Frenkel, USA, was the chair of this group, whose members included John Dymond, UK; Erich Königsberger, Australia; Kenneth Marsh, New Zealand; Stephen Stein, USA; and William Wakeham, UK. This project was completed with the establishment of the new IUPAC standard for ThermoML. The full description of ThermoML was published in the March 2006 issue of *Pure and Applied Chemistry*, and the ThermoML namespace has been established on the IUPAC Website.

Michael Frenkel <frenkel@boulder.nist.gov> acted as symposium organizer; for details on the session program see <www.iupac.org/symposia/2006/ThermoML-symposium.html>. For more information on this project see <www.iupac.org/namespaces/ThermoML>.

Advanced Materials and Polymer Characterization

by Michael Hess

The **14th POLYCHAR Conference—Annual World Forum on Advanced Materials** was held in Nara, Japan, from 17–21 April 2006 during the Japanese cherry blossom season. One day prior to the main conference, a Short Course on Polymer Characterization was held, which was an educational project of the IUPAC Polymer Division (IV). The organization committee was led by Masaru Matsuo, Nara Women University, chair, and co-chairs Kohji Tashiro, Toyota Technical Institute, Tokyo, and Yoshiyuki Einaga, Nara Women's University.

The annual POLYCHAR conferences have been IUPAC-sponsored for several years and are well-known among scientists interested in the properties and characterization of polymers and the synthesis, processing, and manufacturing of novel polymers. The conference was subdivided into 10 sections:

- Predictive Methods
- Synthesis
- Nanomaterials and Smart Materials
- Mechanical Properties and Performance
- Dielectric and Electrical Properties
- Surfaces, Interfaces, and Tribology
- Rheology, Solutions, and Processing
- Biomaterials and Tissue Engineering
- Natural and Biodegradable Materials and Recycling
- Characterization and Structure—Property Relationships

Due to the high number of participants, two parallel sessions had to be organized for the conference. This is usually not the case with POLYCHAR conferences.

Paul J. Flory Laureate Koichi Hatada (right) receiving his award from Moshe Narkis.