Following is a list of the plenary speakers and their lecture subjects:

- E.M. Carreira (ETH) on asymmetric catalysis
- J.L. Wood (Yale) on synthesis of polycyclic target molecules
- P.B. Dervan (Caltech) on regulation of gene expression
- A. Fürstner (Max-Planck) on catalysis-based total synthesis
- Ryoji Noyori (RIKEN) on molecular catalysis
- L. E. Overman (UCI) on alkaloid total synthesis
- C.-C. Liao (Tsing Hua) on masked o-benzoquinone strategy
- S.V. Ley (Cambridge) on methods for azadirachtin total synthesis
- Y. Langlois (Paris Sud) on cytotoxic natural products synthesis
- E.N. Jacobsen (Harvard) on asymmetric metal catalysis

The Thieme/IUPAC prize was awarded to **John Hartwig** (Yale) who lectured on transition metal-catalyzed substitution reactions. The Nagoya Silver Medal was given to Keiji Maruoka (Kyoto) who gave a talk on practical asymmetric synthesis with chiral phase transfer catalysts. The Nagoya Gold Medal was presented to J.F. Stoddard (UCLA), who discussed the nature of the mechanical bond.

Topics of ICOS-15 focused on automated synthesis, bioorganic chemistry, combinatorial chemistry, green chemistry, Lewis acid catalysis, new catalysis, new material, oxidation catalysis, polymer synthesis, process chemistry, reduction catalysis, self-assembled molecule, synthesis of natural products, and medicinal drugs and agrochemicals. A selection of plenary and invited lectures will be published in *Pure and Applied Chemistry*, for which Tamejiro Hiyama is acting as conference editor.

The next conference, ICOS-16, will be held in Merida, Yucatan, México, from 11–15 June 2006. Dr. Eusebio Juaristi, Instituto Politecnico Nacional, México, is the chairman of the organizing committee.

Tamejiro Hiyama <thiyama@NPC05.kuic.kyoto-u.ac.jp > is a professor of organic materials in the Department of Material Chemistry at Kyoto University Katsura, Japan. Since 2004, he has been the editor in chief of *Chemistry Letters*.

Vanadium Chemistry

by Tamas Kiss

The **4th International Symposium on Chemistry and Biological Chemistry of Vanadium** was held 3–5 September 2004 in Szeged, Hungary. The symposium followed the 7th European Biological Inorganic Chemistry (EUROBIC) conference (Gearmich Partenkirchen, Germany) and provided a forum for the presentation and discussion of recent results in the following areas:

- biological aspects of vanadium chemistry
- inorganic chemistry of vanadium
- vanadium chemistry in catalysis and organic synthesis

The conference attracted over 110 participants from 25 countries and 4 continents. There were 5 plenary lectures (Hirao, Pecoraro, Yamamoto, Tracey, and Sakurai), 14 invited lectures, 9 lectures, and 57 posters presented during the program. The plenary and section lectures represented the wide scope of vanadium chemistry.

Fifteen lectures dealt with the biological importance of vanadium and its role in halogenoperoxidases and in forming insulin-mimetic compounds. Eleven lectures presented new results concerning the versatile inorganic chemistry of vanadium. Five papers discusssed vanadium compounds as catalysts. The distribution of the 57 posters presentations among the three main areas was very similar.

V. Pecoraro, R. Vewer, J. Littlechild, M. Sivak, and G. Santoni presented results of using synthetic, structural, biological, and computational methods to understand the mechanism of vanadium haloperoxidases. H. Sakurai, D.C. Crans, C. Orvig, D. Rehder, Y. Shechter, and M. Makinen reported new developments of insulin enhancing vanadium complexes as potential pharmaceuticals. Various aspects of the bioinorganic chemistry of vanadium were discussed in lectures by H. Michibata (vanadium accumulating Ascidians), T. Hubergtse (Amavadine), M. A. Alves (vanadium toxicity), and B. Vertessy (enzyme regulation).

Various aspects of the inorganic chemistry of vanadium were also discussed in the following lectures by A. Tracey, K. Hegetschweiler, J. Horzicek, L. Pettersson, J. Costa Pessoa, and K. Majlesi (equilibrium

Vanadis, Norse Goddess of Love and Beauty, the deity after whom vanadium was named, and after whom the new award is named.

and structure), J. Hartung, T. Kabanos, A. Salifoglou (synthesis), T. Hirao, V. Conte (redox chemistry), and A. Keramidas, J. Krzystek (spectroscopy).

Recent results in the catalytic behavior of various vanadium complexes were reported in a fascinating plenary lecture by H. Yamamoto and section lectures by C. Lorber and E. Rosenthal. Also of note was the awarding of the first-ever Vanadis Award to Debbie C. Crans (University of Colorado, USA).

The entire program and abstracts of the symposium, list of participants, and photographs of the event can be accessed at **<www.staff.u-szeged.hu/~vanadium>**. A selection of the plenary and invited lectures will be published in *Pure and Applied Chemistry*.

The V5 Symposium is planned for fall 2006 in San Francisco, California, USA.

Tamas Kiss <tkiss@chem.u-szeged.hu> is a professor in the Department of Inorganic and Analytical Chemistry at University of Szeged in Hungary. He served as the chairman of the 4th International Symposium on Chemistry and Biological Chemistry of Vanadium.

Chemical Thermodynamics

by John H. Dymond and Haike Yan

From 17–21 August 2004 in Beijing, China, the **18th IUPAC Conference on Chemical Thermodynamics** (ICCT) was held concurrently with the 12th National Conference on Chemical Thermodynamics and Thermal Analysis of China. Conference organizers included Haike Yan, conference chair; Zhiwu Yu, conference co-chair; and Xibai Qiu, conference secretary. The conference attracted 395 participants from 40 countries (144 from China, 84 from Europe, 49 from Japan, and 40 from North America). Eighty-two percent of the delegates were from academia (including 56 students), 15 percent from industry, and three percent from other sectors.

During the opening ceremony, there was a presentation of the first Doctorate Awards to be given by the International Association of Chemical Thermodynamics. The awards, sponsored by Elsevier, were given to Lin Chen, from Tsinghua University, Beijing; Dirk Wandschneider, from the University of Rostock, Germany; and Weiguo Xu, from Liaoning University, China. They each received a certificate and USD 500, and presented their papers at the conference.

The conference began with the Rossini Lecture, which was presented by Jean-Pierre E. Grolier on "Advanced Experimental Techniques in Polymer Thermodynamics." The conference program consisted of eight symposia, and three workshops. In symposium one, on Electrolyte and Non-electrolyte Solution Thermodynamics, Emmerich Wilhelm gave the plenary lecture on "The Fascinating World of Non-electrolytes, Pure and Mixed." The symposium also featured invited lectures by Eckhard Vogel, Fumio Hirata, and Takayoshi Kimura. Symposium two, on New Materials, featured a plenary lecture by C. Richard Catlow on "Computational Approaches to the Catalytic Activation of Carbon-Hydrogen Bonds," and invited lectures by Mary Anne White and Vladimir Durov. The plenary lecture in the third symposium, Phase Equilibrium, Supercritical Fluids, and Separation Technologies, was given by Pablo Debenedetti on "Thermodynamics of Supercooled and Glassy Water." Cornelis Peters and Ding-Yu Peng gave invited lectures. Symposium four on Biological, Medical, Pharmaceutical, Agricultural, and Food Thermodynamics featured a plenary lecture by Stephan Grzesiek on "Biomolecular Interactions in Solutions." Lee Hansen and Ichiro Hatta were the invited lecturers.

Symposium five was on Colloid and Interface Science. Bernard Cabane presented the plenary lecture on "Solid-Liquid Separation," and there were invited lectures from Gerd Olofsson, Watson Loh, and Xueqin An. The title of symposium six was Non-equilibrium Thermodynamics, Statistical Thermodynamics, and Molecular Simulation. The plenary lecture on "Non-equilibrium Pattern Formation" was presented by Qi Ouyang. An invited lecture was given by Zhen-Gang Wang. Symposium seven considered Thermochemistry and Molecular Energetics, with