

is also an environmental problem. Noyori pointed out that every reaction should proceed with a high atom-efficiency, and the overall synthesis must be accomplished with a low E-factor, thereby minimizing the cost of waste disposal. Without such approaches, chemical manufacturing is unsustainable. Researchers must influence public opinion, Noyori said, in order to change government policies in favor of creating sustainable societies. On the scientific side, he noted, molecular catalysis plays a key role in achieving this goal. Noyori presented some enlightening examples of hydrogenation reactions that are ideal processes for Green Chemistry.

The conference also included two poster sessions in which the students discussed their latest results and achievements. More than 280 posters were presented, making it very difficult for the judging committee to choose the poster prize winners. Finally, two students were selected for the genuine interest they showed in their research, Maiko Kaneko, from the Japan Advanced Institute of Sciences and Technology, and Falsig Hanne from the Technical University of Denmark, Centre for Sustainable and Green Chemistry.

On the final day of the conference Tundo and Hoelderich remarked that the event had exceeded the expectations of the organizing committee. They also stressed that this big event should be considered an important starting point for collaboration between IUPAC and the Green Chemistry community. They concluded by inviting everyone to the second International IUPAC Conference on Green Chemistry, which will be held in September 2008 on a boat traveling from Moscow to St. Petersburg.

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How to Apply for IUPAC Sponsorship

Conference organizers are invited to complete an Application for IUPAC Sponsorship (AIS) preferably 2 years and at least 12 months before the Conference. Further information on granting sponsorship is included in the AIS and is available upon request from the IUPAC Secretariat or online.



www.iupac.org/symposia/application.html

Occupational Health and Safety Management in East Africa



by Kelvin Khisa

A three-day regional conference on **Occupational Health and Safety Management in East Africa** was held in Nairobi, Kenya, from 27–29 September 2006. It attracted over 120 participants, drawn mainly from industry, the service sector (hotels and hospitals), business associations, consultancy, NGOs, and academia.

This conference was sponsored by IUPAC, which provided some financial support. The IUPAC Committee on Chemistry and Industry (COCI) endorsed the event and Mark Cesa, COCI chairman, participated in the conference.

The conference featured 30 presentations by health and safety practitioners drawn from the UK, USA, Uganda, and Kenya. The well-attended conference also had two exhibitions by SGS and Bureau Veritas Quality International, two companies that provide certification services in health and safety management.

In recent years there has been increased emphasis in East Africa on the need to improve occupational health and safety (OH&S) in response to a marked increase in the number of work-related accidents. Public awareness of these accidents has provided a driving force for industry and allied activities to improve on their safety records. Local and national governments and the insurance industry are taking a hard look at safety in industry as a whole and the chemical industry in particular, and there has been a great increase in the amount of government regulation in this area. It is against this background that the conference was organized.

The conference aimed to enable industrialists and other stakeholders to appreciate the purpose of an OH&S management system, explain its enabling legal and regulatory framework, and explore the purpose and intent of OH&S Assessment Series (OHSAS) 18001/2. It was concluded that measures to improve health and safety should first eliminate hazards where practicable, then reduce risks as a second choice, and then mandate the use of personal protective equipment (PPEs) as a last resort.

Whereas industry in developed countries often takes OH&S issues very seriously, their counterparts

Conference Call

in the developing world do not do so. This is largely due to lack of awareness, non-enforcement of relevant safety laws and regulations, and a lack of a systematic structure that guides the establishment of sound OH&S management systems. The end result has been an uncoordinated approach to safety issues, a development that exposes workers to high levels of risks and hazards.

Although hazard elimination is the goal, experience has taught us that guaranteed, failure-free designs and devices have so far eluded mankind, despite his astonishing advances in knowledge and technology. Certainly all of us in our personal experiences have had many opportunities to reconfirm the wisdom of the admonition, "Plan for the best, but prepare for the worst." There is therefore an urgent need for developing country industrialists and key stakeholders to be exposed to OHSAS specifications that give requirements for an OH&S management system and enables organizations to control their full range of risks and hazards.

The presented papers covered a wide range of topics such as IUPAC's role in helping chemical industry contribute to sustainable development, wealth creation and the improvement of quality of life; the OHSAS certification process; the legal and regulatory framework for OH&S; OHSAS as a tool for enhancing industrial competitiveness; health and safety policy statements; accidents and first aid; the role of cleaner production in occupational health and safety management; responsible care in chemical production; hazard identification in chemical production; risk assessments in chemical production; systematic safety, health, and environment reviews; noise management in the work environment; and classification and labeling of hazardous substances. Additional presentations included Home Grown Solutions to Health and Safety Management; Fire Emergency Preparedness and Response; Management of Asbestos Materials; Material Safety Data Sheets; Work Place Safety and Welfare; Benefits of Acquiring OHSAS Certification: The GlaxoSmithKline Experience; Electrical Safety; and the Role of PPEs in Occupational Health and Safety Management.

The participation of Kenya and Uganda enabled the participants to share experiences and lessons learnt within the framework of the provisions of their respec-



Participants in the Regional Conference on Occupational Health and Safety Management in East Africa that was held in Nairobi, Kenya, from 27-29 September 2006.

tive legal and regulatory regimes. Video presentations during the conference from the UK helped conference participants to visibly appreciate the importance of having a functional OH&S system.

The conference also allowed for group discussions on following OH&S issues: institutional and enforcement frameworks; legal, regulatory, and policy regimes; emergency preparedness and response; technological shortcomings; capacity building; and research and development. It was unanimously agreed that there is a need for follow up activities after the execution of health and safety audits in selected companies in Uganda and Kenya. Specifically, these companies need help developing performance indicators that will guide the long term monitoring and evaluation program. Logistical arrangements that will enable the realization of this goal are underway.

The main sponsors of this conference were IUPAC and the United Nations Educational, Scientific and Cultural Organization, which works as a laboratory of ideas and a standard setter for the purposes of forging universal agreements on emerging ethical issues. The success of the conference demonstrates the emerging importance of public-private sector partnerships in the promotion of occupational health and safety issues in the region.

The next step is to embark on actual health and safety audits in Uganda and Kenya, once the logistical arrangements are finalized. This will be completed as part of IUPAC project <www.iupac.org/projects/2005/2005-046-1-022.html>.

Kelvin Khisa <kkhisa@cpkenya.org> was the conference organizer for this meeting. He is currently a deputy director at the Kenya National Cleaner Production Center in Nairobi. In August 2002, Kelvin Khisa was a fellow of the COCI Safety Training Program. His training included a visit to Sankyo Co., Ltd. production and research facilities in Japan.

Asian Chemistry Education

30-31 July 2007, Taipei, Taiwan

The **2nd NICE Symposium (Network for Inter-Asian Chemistry Educators)** aims to promote communication among inter-Asian chemistry educators, encourage the exchange of chemistry teaching strategies and materials among different countries, and disseminate fruitful results.

The conference is intended to bridge the gap between chemistry researchers and chemistry teachers. Part of the conference will involve disseminating research results to the academic community. However, most of the conference is devoted to increasing opportunities for communication between theory and empirical teaching. The following discussion topics are based on the real needs of teachers:

- Representation of Textbooks

- Students' Conceptions and Conceptual Change
- Analysis of Classroom Discourse and Instructional Strategies
- Lab Activities
- Chemistry in Daily Life
- Use of Audio-Visual Aids in Classes
- Attitudes toward Chemistry

The conference welcomes teachers, professors, researchers, and graduate/undergraduate students who are interested in promoting chemistry education.

For more information, contact Dr. Jing-Wen Lin <jwlin@ntnu.edu.tw>, Graduate Institute of Science Education, National Taiwan Normal University.

 <http://science.gise.ntnu.edu.tw/nice2007>

Emerging Chemical Regulatory Environment

World Chemistry Leadership Meeting,
IUPAC 2007 General Assembly
10 August 2007, Torino, Italy

The **2007 World Chemistry Leadership Meeting** will be held 10 August 2007 as part of the IUPAC General Assembly and 41st World Chemistry Congress in Torino, Italy. This year's WCLM will focus on the **emerging chemical regulatory environment and its effect on the basic chemical sciences, the chemical industry, and society**. Increasingly, regulation is being driven by health concerns arising from long-term exposures to low levels of chemicals in the real environment (i.e., where many different factors may be acting simultaneously, and possibly causing effects that might span generations). The regulatory lead that Europe is taking is strongly influencing thinking about chemical use and production throughout the world. The objective of the WCLM is to discuss the contributions IUPAC could make in bringing objective chemical science to help rationalize this new world of regulation.

World Chemistry Leadership Meetings have been held at IUPAC General Assemblies since 2001. Each has been a forum for leaders of national chemical soci-

eties and regional chemical federations, senior government officials, and leaders of the chemical industries to discuss topics of importance and international or global impact.

IUPAC has an obvious interest in the development of the chemical sciences and the regulatory environment in which they are deployed by industry. The purpose of the 2007 WCLM will be to share views on the health and environment issues facing both science and industry in the context of the European Union's REACH (Registration, Evaluation, Authorization of CHemicals), UNEP's SAICM (Strategic Approach to International Chemicals Management), and industry responses through the

Global Product Strategy and Responsible Care. In particular, developing aligned or joint perspectives on the safety and use of chemicals, including both the intentional and unintentional exposures workers and consumers face, is seen of great importance. Along these lines, IUPAC has previously organized critical reviews of endocrine disrupting chemicals that helped move the science forward significantly and provided new perspectives. It is a goal of this year's WCLM to identify ideas for IUPAC-sponsored and -supported projects, related to the regulatory environment, that can benefit science and industry.

See
*"The Chemical
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on page 8.

