The island of Mauritius (Île Maurice, en français), a tiny dot in the Indian Ocean at 20° S latitude and 57° E longitude, is located about 1 000 km east of Madagascar off the southeastern coast of Africa. Home to about 1.2 million people and the University of Mauritius, it was the site of the 20th International Conference on Chemical Education (ICCE), which was held on 3–8 August 2008 at Le Méridien Hotel in Pointe aux Piments. With about 200 attendees from 40 countries, the conference, which had “Chemistry in the Information and Communications Technology (ICT) Age” as its theme, featured 140 oral presentations and 50 posters.

Welcoming remarks were made by Peter Mahaffy (Canada), chair of the IUPAC Committee on Chemistry Education (CCE); Dharambeer Gokhool, minister of Education and Human Resources in Mauritius; I. Fagoonee, vice chancellor of the University of Mauritius; Ambassador Kalimi Mugambi Mworia (Kenya), director of the International Cooperation and Assistance Division of the Organization for the Prohibition of Chemical Weapons, which was a financial sponsor of the conference. The ICCE was organized by a local committee headed by Conference President Henri Li Kam Wah and Conference Chair Ponnadurai Ramasami of the Department of Chemistry of the University.

Plenary lectures were given by nine distinguished chemists and educators:

- Roald Hoffmann (USA), “Chemistry’s Essential Tensions: Different Ways of Looking at a Science”
- Peter Mahaffy (Canada), “Communicating the Chemistry of Climate Change with ICT and Paraffin”
- Loretta Jones (USA), “How Technology Can Help Students to Visualize the Molecular World without Inducing Misconceptions about Chemistry”
- Arthur Olson (USA), “Back to the Future: Grasping Molecular Biology with Tangible Interfaces”
- Peter Atkins (UK), “The Future of the Book”
- Vandana Hunma (Mauritius), “Chemistry Education for Socially Responsible and Sustainable Development: What Are the Challenges for a Developing Country?”
- John Bradley (South Africa), “Substances, Molecules, and Symbols in the ICT Age”
- Shalini Baxi (India), “Community-Based Collaborative ICT Strategies for Science Education”

The parallel oral sessions centered around the following themes: teaching chemistry at the secondary and tertiary levels, chemistry education research, the use of modern technologies, green chemistry, involvement of the arts, public understanding of chemistry, and chemistry teacher education. In addition, symposia were held on best practices in professional development, process-oriented guided inquiry learning (POGIL), increasing the popularity and relevance of school chemistry, structural models and chemical understanding, and the systemic approach to teaching and learning chemistry (SATL). Workshops were offered on the teaching of advanced chemistry courses, electrochemical model experiments, air and water environment, and strategies to assist students with learning chemistry.

The organization of the program gave participants time to interact and develop connections. In addition to morning and afternoon coffee/tea breaks and daily group lunches, evening events included a welcoming reception, an entertainment evening with local singers and dancers, the conference banquet at a Chinese restaurant in Port Louis, the Mauritian capital city, and participants night with national songs and performances. The day-long conference tour in the middle of the week to sites of interest on the island provided a delightful break.
The 20th ICCE also featured a virtual conference, held 1–25 July 2008, at which 45 papers were presented and 371 participants from 44 countries participated in the discussion. Loretta Jones and her group presented the keynote address entitled “Designing Effective Visualizations of Molecular Structure and Dynamics.” The presentation entitled “Chemistry in Daily Life: Good Reasons to Opt for Chemistry” by second-year B.Sc. (Hons) chemistry students from the University of Mauritius was well appreciated. Participants expressed their satisfaction about the virtual conference and many of them acknowledged that this was their first participation in an online conference.

A post-conference satellite meeting held at the University of Nairobi, Kenya, drew 20 registrants. See box below for a summary of this event.

Mei-Hung Chiu, Lida Schoen, and Erica Steenberg conducted a successful Young Ambassadors for Chemistry (YAC) course from 31 July to 2 August 2008 at the University of Mauritius. Thirty local chemistry teachers attended the workshop. On 2 August they showed hundreds of students how to conduct demonstrations for the public. (A report about this YAC will appear in the March 2009 issue.)

The ICCE was the occasion of the annual meeting of the IUPAC Committee on Chemistry Education (CCE), which consists of titular members, divisional representatives, and national representatives. The CCE approved the minutes of its last meeting at the IUPAC

The Relevance of Chemistry in a Globalized Society: A Satellite Meeting of the 20th ICCE

by John Bradley

The satellite meeting, organized by Shem Wandiga on behalf of the Kenya Chemical Society, was held at the University of Nairobi. The approximately 60 delegates who registered were university staff and students and secondary school teachers of chemistry. While the majority were from Kenya, there was a significant number of attendees from Uganda and Tanzania.

Most of the meeting’s first day was devoted to three plenary lectures and general discussions:

- “ICT as a Tool for Collaborating in Chemistry,” Joseph M. Mwaniki
- “Low-Cost Experiments in Chemistry,” John D. Bradley
- “Public Image of Chemistry,” Shem O. Wandiga

After the presentations, the participants split into three groups to discuss further one of the topics presented. Each group was chaired by a plenary speaker and a rapporteur was elected. I chaired the Low-Cost Experiments group, for which Jl Jondiko (Maseno University) was rapporteur. A lively discussion ensued that extended well beyond the expected closing time.

There was enthusiasm among group members for the microscale chemistry concept and awareness of the activities to introduce it in Kenya during the past few years. Although some teachers were conservative and reluctant to change, this attitude was also justified by the Kenya National Exams Council (KNEC) policy regarding practical exams. They specified only traditional equipment and no alternatives. The Kenya Institute of Education had approved microscale equipment, but in spite of this the KNEC policy remained. The consensus was that the situation was unsatisfactory and that concerted representations should be made by all stakeholders. It was also suggested that a pilot implementation project should be advocated.

On the second day, the Low-Cost Experiments group spent 1.5 hours in practical activities with microscale equipment. The activities, which were the same as those presented at the main conference in Mauritius, exemplified how microscale equipment can be used to understand the air and water environment. Participants were able to complete two or three of the five activities available in the session, and there was general success and satisfaction.

In the second and final session of the day, rapporteurs from each group presented a review of the discussions and experiences, and there was an opportunity for further questions. Shem Wandiga closed the meeting at lunchtime.

The satellite meeting proved to be successful and provided a worthwhile stimulus for chemistry education in the region.
Conference Call

General Assembly in Torino in August 2007, received the minutes of its strategy meeting held at the Chemical Heritage Foundation in Philadelphia earlier in 2008, and heard reports from subcommittees.

The Subcommittee on Chemistry for Development reported on the two-day conference on “Improving Chemical Education in the Philippines” that was held at the University of Santo Tomas in Manila, 17-18 April 2008. This was a project of the Flying Chemists Program in which education experts collaborate with academic institutions and governmental officials in particular countries to help them improve the teaching of chemistry (see Jul-Aug 2008 CI, page 29). The activities of the Network for Inter-Asian Chemistry Educators (NICE) were also described (see page 30 of this issue for details on the coming 2009 symposium to be held 29-30 July 2009 at Tokyo Gakugei University).

The current effort of the Subcommittee on the Public Understanding of Chemistry is to work with IUPAC and its National Adhering Organizations toward the proclamation of 2011 as the International Year of Chemistry by UNESCO and the UN. Through very hard work by Ethiopia and the support of Algeria, Benin, China, Côte d’Ivoire, Cuba, Democratic Republic of the Congo, Egypt, France, India, Japan, Kuwait, Madagascar, Malaysia, Morocco, Niger, Nigeria, Republic of Korea, Russian Federation, Senegal, South Africa, Togo, Uganda, and the United Republic of Tanzania, and Zambia, the Executive Board of UNESCO approved the resolution.

CCE recognized the devoted efforts of Lida Schoen (Netherlands) to implement the successful Young Ambassadors for Chemistry (YAC) program. The committee discussed ways in which this outstanding project could be sustained.

The next meeting of CCE will take place at the 42nd IUPAC General Assembly and Congress (“Chemistry Solutions”) to be held 2-7 August 2009 in Glasgow, Scotland. The 21st ICCE, “Chemistry Education and Sustainability in the Global Age,” will be held 8-13 August 2010 in Taipei, Taiwan; details are available at <icce2010.gise.ntnu.edu.tw>.

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Physical Organic Chemistry

by Charles L. Perrin

The 19th International Conference on Physical Organic Chemistry (ICPOC2008), which was sponsored by IUPAC, was held 13-18 July 2008 at The Royal University of Santiago de Compostela in Galicia, Spain. This follows ICPOC18, held in August 2006 in Warsaw, Poland. The 2008 conference attracted 344 registrants, including 53 students. It was truly international, with participants from 43 countries.

Santiago de Compostela is in the northwest of Spain, a region of green forests, ocean bays, and cooling summer breezes. The imposing cathedral (below) is the destination of an important pilgrimage route, dating from medieval times. The University of Santiago de Compostela, founded in 1495 by Lope Gómez de Marzoa, is one of the oldest universities in the world. It now enrolls 45 000 students across several campuses. It was an excellent venue for a conference, close to the city center, well equipped for lectures and computer access, and with dining facilities and cafes serving abundant and tasty local food.

The scientific program featured 11 plenary speakers, 22 invited speakers, 89 oral communications, and 180 posters. The plenary lecturers showcased the diversity of physical organic chemistry, including instrumental methods, biochemical applications, and studies of the relationship between molecular structure and reactivity. A key topic was nanotechnology and surface science, which included lectures on the following topics:

- nanoscale switches and motors (B.L. Feringa, Univ. of Groningen, Netherlands)
- metal nanoparticles (J.C. Scaiano, Univ. of Ottawa, Canada)
- selective heterogeneous catalysis for green chemistry (Avelino Corma, Univ. of Valencia, Spain)