

The World Chemistry Congress 2001 and the Young Scientist Awards

The IUPAC World Chemistry Congress 2001 (the 38th IUPAC Congress) held in Brisbane, Australia, 1–6 July 2001, brought together well over 1000 delegates from around the world and a host of international and domestic scientists from a variety of disciplines. The traditional subdivisions were waived in favor of a new cross-disciplinary approach featuring the themes of materials chemistry for the future, chemistry by computer, challenges for drug discovery and development in the 21st century, environmental chemistry and the greening of industry, and modern synthetic chemistry.

The emphasis on the future interdisciplinary nature of chemistry, said Dr. Geoffrey Will, had a particular benefit to the numerous young chemists present at the Congress because it promoted the “big picture view” of the evolving discipline of chemistry. Dr. Will is the Congress editor for the series of lectures published in the July 2001 issue of IUPAC’s *Journal Pure and Applied Chemistry*.

Due to the success of the Congress, the *Australian Journal of Chemistry—an International Journal for Chemical Science*, assembled a special double issue (Vol 54, issue 9 and 10, 2001) with highlights from the Materials Chemistry for the Future session. In her editorial reproduced below (by permission of CSIRO PUBLISHING), Dr. Alison Green reviews briefly the issues’ contents:

Zeolites, molecular magnets, biomineralization, bone implants, synthetic opals, and molecular capsules are some of the areas where chemical science is giving rise to materials for the future. Diverse areas of cross-disciplinary research such as these are flourishing, and about a quarter of the papers presented at the recent IUPAC World Chemistry Congress in Brisbane (the largest chemistry conference ever held in Australia) made up the Materials Chemistry for the Future session. Highlights from this session make up this special issue of *Australian Journal of Chemistry—an International Journal for Chemical Science*. Matt Trau, who was a theme coordinator of the Materials Chemistry session, acted as guest editor for this issue, and has contributed the introductory Essay.

Nobel Laureate Yuan Tseh Lee discussed the photo-excitation of molecules in a molecular beam in the first plenary lecture, and he has subsequently presented the work in one of four reviews in this issue. Professor Lee also includes new results that shed light on the isomerization of xylenes. Sir John Meurig Thomas described some novel catalyst architecture where transition metal clusters are adsorbed within

the mesopores of zeolites to achieve selective, heterogeneous, environmentally friendly processes. The biomineralization of chiton and limpet teeth was discussed by John Webb, who reports in his *Current Chemistry* article how vibrational spectroscopy can give insight into detailed mineral structure, which in turn provides important information on the complex processes of biomineralization. Matt Trau described his group’s approach to combinatorial chemistry, in which colloidal silica beads are marked with up to six fluorescent dyes as labels, the markers thus functioning as “fluorescent bar codes,” allowing the encoding of large libraries.

We enjoyed the privilege of awarding student prizes at the Congress. The awards, whose purpose is to encourage and reward young scientists, were co-sponsored by the RACI and the *Journal*. Judging was carried out by Professor Len Lindoy, Professor John White, Dr John Lambert and myself, with a great deal of very helpful input from other delegates.

While deciding second and third place was less straightforward, the clear winner was Teri Odom, who presented work carried out with Charles Lieber at Harvard, on the electronic properties of carbon nanotubes. Impressive images achieved using scanning tunnelling microscopy, and lucid explanations of the relationship between atomic structure, electronic properties, and structural defects, characterized her presentation. Teri Odom received AUD 750 and a 12-month subscription (print and electronic) to *Australian Journal of Chemistry—an International Journal for Chemical Science*. Teri was also the recipient of an IUPAC Prize for Young Chemists for her Ph.D. thesis. This award was presented at the Congress. She has contributed a *Current Chemistry* article on her work entitled “Electronic properties of single-walled carbon nanotubes” (*Aust. J. Chem.* 2001, **54**, 601-604). Cameron Lutton and

Jonathan Read were awarded joint second prize for their research on nanostructured biomaterials. They produced



IUPAC President Alan Hayes presents Teri Odom with the IUPAC Prize for Young Chemists Award.

Photo courtesy of Dr. Greg Cash of the University of Queensland.

a bone implant material in a scaffold-like architecture that incorporated hydroxyapatite nanoparticles. The pair shared AUD 250 and a 12-month subscription (print and electronic) to the *Journal*. Third prize was awarded to Yi-Anh Sha for research presented on the effects of substituent groups on ferroelectric liquid crystalline poly-

mers. Sha received a 12-month subscription (print and electronic) to the *Journal*.

www.iupac.org/publications/pac/2001/7307
www.publish.csiro.au/journals/ajc/contents.cfm
www.iupac.org/news/prize.html

IUPAC News

Relocating to Cyberspace

by *Fabienne Meyers*

In May 1997, IUPAC officially celebrated the relocation of the Secretariat from Oxford, UK to the Research Triangle Park (RTP) in North Carolina, USA. The decision to relocate, which was considered in detail by the officers, was based on more than just the appeal of RTP. The move gave IUPAC an opportunity to underline its identity as a global organization and to modernize the administrative functions of the Secretariat, including further development and usage of electronic communication.

The Secretariat is now housed in a small one-story building in the midst of the Park, a 7000-acre wooded area centered between three major universities—Duke University in Durham, North Carolina State in Raleigh, and the University of North Carolina (UNC) at Chapel Hill. RTP is owned and developed by the private, not-for-profit Research Triangle Foundation. It is home to more than 140 organizations—including research laboratories for international chemical, pharmaceutical, and electronics firms—that employ more than 50 000 people, with a total payroll estimated at USD 2 700 million and a capital investment exceeding USD 2 000 million. So, even though IUPAC's office is quite small and discrete (there are four of us working at the office), the Secretariat has a number of interesting neighbors that might be worth visiting!

In my view, one of IUPAC's most fortuitous collaborations since relocating to the RTP has been with UNC Chapel Hill, and in particular with the computer center supported by the School of Information and Library Science, the School of Journalism and Mass Communication, and Information Technology Services. Known today as **ibiblio.org**, the center is the home of one of the largest "collections of collections" on the Internet. It was created and is maintained by the public for the public.

This unique online library project has developed under the leadership of Paul Jones, a computer scientist and associate professor of information and library science. It is in many ways the embodiment of the Internet as a clearinghouse of information. The project, named Sunsite when started 10 years ago at UNC Chapel Hill,

was founded as an archives and information sharing environment designed to be contributor driven and content managed. The collections grew diverse, and covered subjects from music, literature, and history, to software. Continuing its outreach effort and expansion, Sunsite became Metalab. The project continued to stress excellence and active contributor involvement.

In fall 2000, the project made another significant step forward when it began a collaboration with the Center for Public Domain. The new arrangement resulted in an even more advanced collection of freely available information. This online library, which was renamed **ibiblio**, now stands above others because it maintains:

- a close relation to the open source models for development and management of collections
- a strong history of contributor participation and autonomy
- a flexibility of forms and management styles
- a diversity of collections that maintains depth and excellence and creates synergy
- a large community of contributors sharing their knowledge across disciplines

