

Both subcommittees are currently hard at work formulating projects in their particular domains of activity, and I will write about them in a later article. Meanwhile, I hope you see that we have gotten off to a vigorous start and that the CCE will contribute to the worldwide propagation and appreciation of chemistry. 🍷

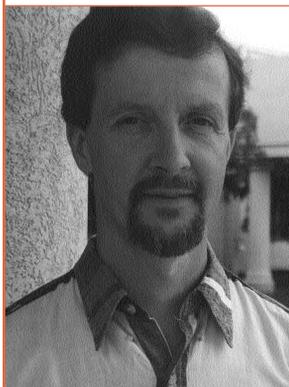
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 www.iupac.org/standing/cce.html

On the Public Understanding of Chemistry

Encouraging the Flow of Ideas

by **Peter Mahaffy**



An important objective of IUPAC's revised chemical education efforts was to give increased attention to the critical interfaces between chemistry and society. Chemistry as a science cannot flourish in isolation, but must develop within a context of public understanding and mutual trust. Thus, one of the Union's long-range goals is to "advance the

public understanding of chemistry."

I'm pleased to report that IUPAC's efforts to focus on the two-way flow of ideas between chemistry and society have had a fruitful beginning with the formation of the CCE Subcommittee on the Public Understanding of Chemistry (PUC). The subcommittee held its first informal meeting at the 17th International Conference on Chemical Education in Beijing in August 2002. The five out of eight members who were able to attend set the directions for the committee's work.

The contexts for chemistry and for its interactions with society are fundamentally different in the various parts of our global village. It is therefore a daunting task to map what projects in this area are being undertaken by chemical societies, industry, educational institutions, and nongovernmental organizations. The

subcommittee is aware of the impressive existing initiatives in this area and the limited resources within PUC. The biggest challenge will be to avoid duplicating existing efforts and to explore what activities will best fit with IUPAC's mission and focus.

The PUC subcommittee agreed to prepare a proposal for an IUPAC project to initiate this mapping and evaluation of existing public understanding of science efforts and to propose a focus for PUC activities. Consistent with IUPAC's focus, activities will likely be centered on facilitating communication among those responsible for on-going public understanding initiatives, and encouraging others to fill in the gaps that are identified. It is clear that much of our work will be done electronically, and the Internet will be an important tool in communicating what is being done. Bob Bucat <bucat@chem.uwa.edu.au> has agreed to coordinate the preparation of a project proposal. He welcomes your comments.

A public launch of the IUPAC CCE Public Understanding initiative will take place on 14 August 2003 at the 39th IUPAC Congress, held jointly this year with the 86th Conference of the Canadian Society for Chemistry (session CE03 of the Congress). On that date a series of three symposia featuring invited speakers will be held, focusing on various aspects of the public understanding of chemistry. Symposia titles and the committed invited speakers are as follows:

- *The Flow of Ideas Between Chemists and the Public Through the Media*, sponsored by DOW Canada, and featuring Madeleine Jacobs, editor in chief of *Chemical & Engineering News*, as one of the confirmed speakers. Other representatives from the media and chemists dedicated to promoting the public understanding of chemistry will also be featured.
- *The Flow of Ideas from the Research Lab to Industrial or Public Use*, sponsored by Imperial Oil, featuring Howard Alper, president of the Royal Society of Canada as one of the confirmed speakers. Other representatives from government and industry will also address this interface.
- *The Flow of Ideas Through Society*, sponsored by Shell Canada Chemicals, featuring Tim Faithfull, president of Shell Canada, and Stuart Smith, past chair of the National Round Table on the Economy and Environment, as confirmed speakers. Other speakers will also address the interactions among chemistry and other key disciplines concerned with the health of people and the environment, social justice, economic growth, and general public aspirations.

Finally, an international poster contest for 10–16 year old students on the importance of chemistry in daily life is being launched this spring. Selected entries will be displayed at the Congress and published in *Chemistry International*. PUC member Lida Schoen <amschoen@xs4all.nl> is the contest coordinator through the Science Across the World network.

Members of PUC include Dr. Anthony D. Ashmore (UK), Dr. D. Balasubramanian (India), Professor Robert B. Bucat (Australia), Professor Choon H. Do (Korea), Dr. Lida Schoen (Netherlands), Professor Joseph Schwarcz (Canada), and Professor Yoshito Takeuchi (Japan), and myself (Canada) as chairman.

The subcommittee welcomes your suggestions for priorities and would like to be made aware of activities and efforts in your country or region. Please contact me with your comments. 📧

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Professor Ellis Bell (IUBMB) (left) and Professor Rodolphe Toussaint (IUBS)

First Inter-Union Workshop on Science Education

by **Bob Bucat**

The First Inter-Union Workshop on Science Education, entitled “New Directions in the Teaching and Learning of Science,” took place during the 17th International Conference on Chemical Education held in Beijing, China, in August 2002. The workshop, which was funded by generous grants from UNESCO and the International Council for Science (ICSU), arose out of an inter-Union collaboration exploration meeting held at the IUPAC Secretariat in February 2002, involving representatives of IUPAC, the International Union of Biochemistry and Molecular Biology (IUBMB), the International Union of Biological Sciences (IUBS), the International Mathematical Union (IMU), and the International Union of Pure and Applied Physics (IUPAP). <www.iupac.org/projects/2001/2001-054-1-025.html>

At the workshop, various aspects of science education were discussed. Professor Ellis Bell (University of Richmond, Virginia) represented the IUBMB, and Professor Rodolphe Toussaint (University of Quebec) represented IUBS (co-author with Professor A.

Giordan). Unfortunately, representatives of the other scientific unions were unable to attend.

Professor Peter Atkins (IUPAC) opened the Workshop by describing its motivation: to find a forum at which representatives of different Unions could share their approaches to the problems of science education. According to Atkins, the meeting was intended to allow members of IUPAC to become aware of problems, practices, and solutions in other sciences—perhaps to recognize common ground and perhaps to appreciate new ideas.

Professor Bell addressed the role of education committees in academic societies, pointing out that IUBMB had been increasingly successful at having sessions integrated into its full meetings. As a consequence, the status of the education committee had been raised. In his view, the major problem facing education in biochemistry and molecular biology is how to prepare for a multitude of different interests in the light of the recent explosion of knowledge such as that emanating from the genome project.

According to Bell, the education committee of IUBMB has decided to focus on skills and information. Most of the important skills are not discipline specific. There is of course a core of knowledge, but the focus should be on a toolkit of key principles. As Bell explained, a common problem with too much information has been the tendency to compartmentalize, which is the opposite of multidisciplinary. Examination systems commonly encourage this compartmentalization.

Professor Bell remarked that a “research paradigm of teaching,” with programs built around research projects, is IUBMB’s current focus. The aim of this mode of education is to encourage thinking like a working scientist.