

Japan, which is a National Adhering Organization of IUPAC, developed a program about 10 years ago through which financial support is given to chemists under 45 years old, to attend commission meetings of divisions at the GA. Financial support is also extended to Associate Members, National Representatives, and chemists who want to attend the GAs as observers.

The budget of the program has been supported by the Company Associates of IUPAC in Japan through the efforts of Japanese Committee on Chemistry and Industry (COCI) members. The selection of awardees is made by the Subcommittee of International Relationship of the National Committee for Chemistry. After careful consideration of applicant's scientific activities, four young chemists are chosen for each GA. Efforts are made to evenly distribute the awards through different areas of chemistry. The award amount is usually enough to cover their travel. The subcommittee requires awardees to submit their reports after coming back from GA meetings. Through this program we believe that the contribution of Japanese chemists to IUPAC will be improved and their participation in meetings will be much more active and significant. We expect that Japanese scientists will establish a new philosophy of the Three Ss: *spe*ak at meetings, be *sincere* in behavior, and *serve* the world.

Hitoshi Ohtaki is a professor at Ritsumeikan University, Bureau Member and the Chairman of the Committee for Conferences in Developing and Economically Disadvantaged Countries, Chairman of the Membership Development Committee, and Chairman of the Subcommittee on International Relationship of the National Committee for Chemistry of Japan.

Young Chemists Travel Far with Canadian National Committee Awards

by Vedene Smith

In 1982, the Canadian National Committee for the International Union of Pure and Applied Chemistry (CNC/IUPAC) established a program of Travel Awards whose purpose is to help young Canadian chemists and chemical engineers (within 10 years of gaining their PhDs) present papers at IUPAC-sponsored conferences outside continental North America.

The annual awards are financed by a trust fund and funding from CNC/IUPAC's Company Associates. The criteria used in making these awards include evidence of an independent research program, a high-quality publication record, and the ability to attract high-quality research funding.

Normally, five or six of these awards are given each year, but an individual can only receive an award once. Although the amount of an award covers only a portion of total travel costs, it can help to catalyze additional support. Within the chemistry community, the CNC/IUPAC Travel Awards are considered prestigious. Numerous past winners are now established and prominent researchers.

Vedene Smith is a professor at Queen's University in Kingston, Ontario, Canada, and is a member of CNC/IUPAC.



http://www.sao.nrc.ca/sims/upac_e.html

IUPAC News

Chemical Nomenclature and Structure Representation

by Alan McNaught

This year sees the birth of a new division of IUPAC. Its conception dates from a survey carried out in 1998 for the Organic Division, in which the chemistry community was asked for opinions on future nomenclature requirements. Comments received highlighted the increasing need for a body to oversee IUPAC nomenclature development across all disciplines, to ensure compatibility with previous work, and to coordinate related activities. The resulting report¹

drew attention in particular to the need to integrate nomenclature standards with computerized facilities, and to push ahead with efforts to define for each unique structure a single preferred IUPAC name, correlated with other names in common use.

This report stimulated further consultation. A strategy roundtable in March 2000, involving people from many professions with a need for standard chemical identifiers, reinforced the views from the original survey and added some important new items.² In particular, the need for a IUPAC standard for computerized representation of a chemical structure was recognized.

The roundtable recommendations led IUPAC's Executive Committee to establish a temporary Committee on Chemical Identity and Nomenclature

Systems,³ which developed plans for future management of IUPAC's nomenclature work and launched the IUPAC Chemical Identifier project.⁴ The work of this *ad hoc* Committee culminated in a proposal for a new IUPAC division. The IUPAC Council endorsed this proposal, stressing the continuing importance to IUPAC of nomenclature and related activities. And so, the Division of Chemical Nomenclature and Structure Representation⁵ was established on 1 January 2002.



Alan McNaught

So What Will the New Division Be Doing?

Most importantly, it will bring together work on nomenclature of chemical compounds with development of other methods of designating chemical structures. The Chemical Identifier project is a first step in this direction. It will also be tackling interdisciplinary issues that have been difficult to deal with hitherto. For example, we have a project group considering divergent recommendations arising from the development of preferred names for organic compounds in parallel with revision of the inorganic nomenclature rules. Also, we will study the applicability of naming systems developed for polymers with particular reference to macrocycles, rotaxanes, and catenanes. Additionally, we will be assessing to what extent recent developments in conventional organic nomenclature and phane nomenclature can allow us to deal conveniently with these and other structures.

Other areas of activity will include the following:

- Extension to all chemical compounds of procedures for identifying IUPAC-preferred names
- Organometallic nomenclature
- Computer-assisted cluster nomenclature
- Stereochemical nomenclature
- Fullerene nomenclature
- Dendritic and hyperbranched polymers
- Databases of synonyms for compounds in common use

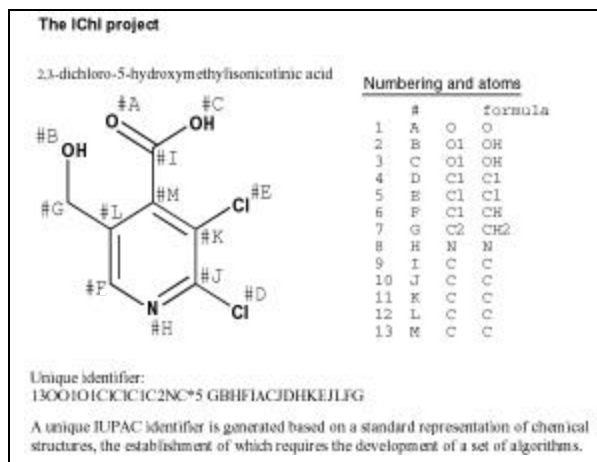
How Will the New Division Operate?

A division committee has been assembled consisting of 12 members plus National Representatives, including people with extensive experience in developing conventional nomenclature recommendations and others with expert knowledge of computerized systems for designating chemical structures. The division has an advisory subcommittee of about 40 people, charged with advising the division committee on the needs of the

community, and developing project proposals. This subcommittee contains many individuals with experience in nomenclature work, as well as chemical software developers, journal editors, and a range of other users of IUPAC recommendations. It is expected that these people will lead or otherwise participate in projects as well as provide advice to the division committee. Apart from meetings of task groups, most of the subcommittee's work will be carried out via electronic communication. A Web discussion board has been set up, to which drafts of new recommendations and comments on them are to be posted. Where possible, meetings of task groups will be organized to take place concurrently, to enable informal discussions between members of different groups. At suitable intervals (probably about every 5 years), we will convene a roundtable meeting with the user community to review results and define future requirements.

Of course, this way of working is quite new to IUPAC, and we shall need to adjust our procedures as we gain more experience. However, this scheme will allow better use of resources than previously, and will expedite the development of the standards that the community needs.

This new arrangement also accommodates the IUPAC/IUBMB Joint Commission on Biochemical Nomenclature, as a commission attached to the new division. This commission meets jointly with the Nomenclature Committee of IUBMB and the combined committee acts essentially as a single body. Its main responsibility is the upkeep and development of the Enzyme List, a very substantial and ongoing project.⁶ It is also increasingly involved with standards for bioinformatics, needed to accommodate the explosion of information on biopolymers. In addition, JCBN has traditionally dealt with specialist biochemical nomenclature systems (e.g., carbohydrates, lipids, and polypeptides), and this is where a close link with the new Division of Chemical Nomenclature and Structure Representation is important. For nomenclature work, this commission has always operated through project task groups, something we envisage for future work managed by the new division.



<<http://www.iupac.org/projects/2000/2000-025-1-800.html>>

We should not lose sight of the fact that IUPAC can retain a credible role in nomenclature development only by paying close attention to the needs of the community and responding to them. We need to give wide publicity to the fact that IUPAC's project system now allows ideas for future work to be developed by anyone. My colleagues and I welcome project proposals⁷ from any source, and are happy to discuss suggestions informally. Only if we have a clear view of what our "customers" want can we hope to make the best use of IUPAC's resources.

Division Committee

Alan D. McNaught, UK
Division President
Warren H. Powell, USA
Division Secretary
Michael Dennis, USA
Michael Hess, Germany
Herbert D. Kaesz, USA
G. Jeffery Leigh, UK
Gerard P. Moss, UK
William G. Town, UK
Antony Williams, USA
Stephen Heller, USA
Alexander J. Lawson, Germany
Bruce M. Novak, USA

National Representatives

Roberto de Barros Faria, Brazil
Jiasong He, China
Jean Marie François Toullec, France
Yohsuke Yamamoto, Japan
Osman Achmatowicz, Poland
Bernardo Jerosch Herold, Portugal

Alan McNaught is President of the IUPAC Division of Chemical Nomenclature and Structure Representation. He is General Manager of the Production Division of the Royal Society of Chemistry, Cambridge, UK.

References

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- [2http://www.iupac.org/news/archives/2000/NRT_Report.html](http://www.iupac.org/news/archives/2000/NRT_Report.html)
- [3http://www.iupac.org/organ/ad_hoc_cmt/ccins.html](http://www.iupac.org/organ/ad_hoc_cmt/ccins.html)
- [4http://www.iupac.org/projects/2000/2000-025-1-050.html](http://www.iupac.org/projects/2000/2000-025-1-050.html)
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- [6http://www.chem.qmw.ac.uk/iubmb/enzyme/](http://www.chem.qmw.ac.uk/iubmb/enzyme/)
- [7http://www.iupac.org/projects/form_guide.html](http://www.iupac.org/projects/form_guide.html)

Nomenclature of Inorganic Chemistry

by **Herbert D. Kaesz**

The Commission on Nomenclature of Inorganic Chemistry (CNIC) met for the last time in Brisbane, Australia on 30 June to 2 July, 2001. Among those attending were three National Representatives, Profs. Risto Laitinen, Dan Meyerstein, and Lars Elding (standing in for Ebbe Norlander), Prof. Wim Koppenol (a former Commission member involved in an individual project) and two observers from the U.S. Delegation, Profs. Vince Pecararo and Bernadette Donovan-Merkert. The observers were well received and participated fully in the discussions.

Naming of New Elements

Revisions in the document "The Naming of New Elements," prepared for publication by W. Koppenol, were discussed and approved for forwarding to the Interdivisional Committee on Terminology, Nomenclature, and Symbols for further review. This document is now posted online for public review.

The Red Book

The Commission has been working on a revision of *Red Book I, Nomenclature of Inorganic Chemistry*, under project leader Dr. N. Connelly. This revision is planned to consist of eleven chapters, the first four of which were thoroughly reviewed before the meeting in Brisbane. Revised versions of six of the remaining chapters were examined in detail with completion targeted for mid 2002. In its revised version, the *Red Book I* will include the following chapters:

1. General Aims, Functions, and Methods of Chemical Nomenclature
2. Grammar
3. Elements, Atoms, and Groups of Atoms
4. Formulae
5. Compositional Nomenclature
6. Substitutive Nomenclature and Parent Hydride Names
7. Additive Nomenclature
8. Inorganic Acids and Derivatives
9. Coordination Compounds
10. Organometallic Compounds
11. Solids

New Projects

Other projects being considered by the current Commission include computer generation of names (Prof. Dress), a joint organometallic document including metalla-