

**World Chemistry Leadership Meeting**  
**15 August 2003**  
**Ottawa, Canada**

The World Chemistry Leadership Meeting will be held in the Ottawa Congress Centre, Room E/F at 14:00 on 15 August. The meeting will be followed by a reception for delegates and their guests at 17:30. The Agenda for the meeting lists both scheduled presentations and speakers. The numbers after each Agenda Item refer to the Selected Findings from WCLM 2001 in Brisbane (see below). Each presentation is planned for no more than 10-15 minutes to allow for discussion. Please be prepared to participate in what is planned to be an exchange of ideas on the topics on the Agenda. The material in this file will be available in printed form at the meeting. Please note that the file has been bookmarked for ease of navigation. To see the bookmarks select the Windows item on the menu bar in Adobe Acrobat Reader and then select Show Bookmarks.

The previous WCLM was held on 9 July 2001 in Brisbane, Australia. The final report from that meeting is available on the IUPAC web site, [http://www.iupac.org/news/archives/2001/WCLM\\_report.html](http://www.iupac.org/news/archives/2001/WCLM_report.html).

The morning session of the meeting in Brisbane was devoted to the single topic of "*Sharing Responsibility for Our Science - Chemistry Across National Boundaries*". IUPAC was requested to address this subject by a resolution of the meeting of chemical society presidents held in Berlin during the IUPAC General Assembly and Congress in 1999. This session addressed how the chemical societies of the developed countries plan, using the resources available to them, to work with chemists and chemical societies in developing and economically disadvantaged countries, to strengthen chemistry in those countries, and to assist in their development. One outcome of the meeting was a set of points, described as observations and points of agreement in the Executive Summary for the Final Report from the WCLM 2001. On the page that follows are 13 of the 19 points from that report, labeled "Selected Findings".

The invitation letter for the WCLM 2003 included the following: "A major part of Item 1 of the Agenda will be oral presentations by participants to review progress on activities related to one or more of the Selected Findings from WCLM 2001 (see list enclosed). You are invited to supply written materials that are narrative descriptions of what your organization is doing to address any one of these Findings." The remaining material and many of the oral presentations scheduled for the Ottawa meeting were prepared in response to this request.

**World Chemistry Leadership Meeting**  
**14:00 – 17:30, 15 August 2003**  
**Ottawa, Canada**  
**Agenda**

*The meeting will take place at the Ottawa Congress Centre, Room E/F, and will start at 14:00 and end at 17:30. There will be no coffee/tea break, but coffee/tea will be available at the back of the room.*

1. Review of 13 Points from Brisbane WCLM: **Chair: P. S. Steyn**
  - 1.1. Syngenta: Cooperation in natural products research – China, Gabon, Malaysia; E. Schmidt (point 10)
  - 1.2. Cooperation in Green Chemistry - M. Misono (point 10)
  - 1.3. Book Collection - T. T. Tidwell (point 5)
  - 1.4. Free low cost access to journals - P. W. Atkins (point 2)
  - 1.5. European Chemist/ Bologna Process - L. K. Sydnes) (point 13)
  - 1.6. Chemistry Student Numbers in Europe: A Swiss Perspective - R. Neier (points 11 & 12)
  - 1.7. EURASIA Meeting - H. Ohtaki (point 9)
2. Public Image of Chemistry: **Chair: P W. Atkins**
  - 2.1. Report on Public Understanding Seminar at Congress - P. Mahaffey
  - 2.2. Chemical Producers Association of Canada: Responsible Care – R. Dickinson and R. Paton
  - 2.3. The Year of Chemistry 2003 W. Koch
  - 2.4. Database on the achievements of chemistry E. P. Przybylowicz
3. Interaction with national chemical societies: **Chair: L. K. Sydnes**
  - 3.1. What do you as a chemical society expect from IUPAC – O. M. Nefedov, C. Bai,
  - 3.2. Cooperation among chemical societies E. Reichmanis, I. Tkatchenko

There will be a reception after the WCLM, 17:30 – 18:30



## World Chemistry Leadership Meeting

9 July 2001

Brisbane, Australia

### Selected Findings

1. The tendency of students from developing countries to remain in developed countries after finishing an advanced degree program is a significant problem (Brain Drain). The fundamental solution to this problem is an improvement of working conditions for young researchers in developing countries. Steps that can be taken to ameliorate this problem are programs to keep students in touch with their home countries; short postdoctoral fellowships; more emphasis on training in countries outside North America, Japan, and Europe; and more specialized training opportunities in developing countries provided by institutions in developed countries.
2. Free or low cost access to online resources—especially to major journals and databases—is vital to scientists in developing countries.
3. Information technology—especially access to computers and the internet—is vital to the participation of scientists in developing countries in the global scientific community.
4. Government regulations in some developing countries need to be changed to facilitate donations of equipment.
5. Donations should be made to institutions that can utilize the donated material. Chemical societies and industry trade associations in developing countries should help guide donors to locate suitable institutions to receive donations.
6. IUPAC should provide a central, online resource to collect information about programs operated by chemical societies and the industry in developed countries and about the capabilities of institutions in developing countries.
7. Exchange programs for young scientists are important as are twinning programs, especially between departments, rather than between institutions.
8. Industry should participate in exchange and training of scientists from developing countries. This relationship can be facilitated by the chemical societies in the developed countries.
9. Major scientific conferences and training events should be held in developing countries to help scientists from those countries to participate in the global chemistry enterprise.
10. Areas of fruitful cooperation were identified, such as Green Chemistry and drug discovery based on local bioresources.
11. The public image of science is a problem shared by developed and developing countries, industry and academe. Information about programs to address this problem should be shared so that chemical societies and trade associations can learn from each other.
12. Education of primary and secondary students should emphasize the enjoyable aspects of science rather than rote learning.
13. Mutual recognition of degree programs and the certification of chemists are necessary to permit the free flow of scientists.

## **The History and the Aim of Eurasia Conference on Chemical Sciences**

**Hitoshi Ohtaki**

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### **Establishment of Eurasia Conference on Chemical Sciences**

Eurasia Conference on Chemical Sciences (EuAs C<sub>2</sub>S) was founded in 1988 with collaboration of three founders, Prof. B. M. Rode (Innsbruck Univ., Austria) Prof. Ivano Bertini (Univ. Florence, Italy) and Prof. Hitoshi Ohtaki (IMS, later, Ritsumeikan Univ., Japan), who are permanent members of International Organizing Committee (IOC).

### **The Aim of EuAs C<sub>2</sub>S**

The aim of the international conference is to support the development of chemistry in developing countries in the Eurasia Continent with cooperation of chemists in countries of the Eurasia Continent, with supports of those in USA, Canada, Australia, New Zealand and other countries in the world. In order to organize world-top class international conferences in developing countries, who are usually economically disadvantaged compared with most developed countries in Europe, America and some part of Asia, IOC intends to invite eminent scientists to the conferences held in developing countries through their friendship networks over the world. Chemists, especially young chemists in developing countries in the Eurasia Continent, particularly Asian countries, have relatively less opportunities to discuss with world-leading chemists at various international conferences which are usually held in developed countries far distant from developing countries. Opportunities for exchanging scientific knowledge between young chemists in developing countries and scientists in the world should be brought by the effort of IOC members. The Organizing Committee at the conference country is called National Organizing Committee (NOC), which is closely cooperated with IOC at organization.

### **International and National Organizing Committees**

Members of IOC basically shuffled at every conference except the three founders. In 2003 the 8<sup>th</sup> EuAs C<sub>2</sub>S will be held in Hanoi, Vietnam from October 21 to 24, and IOC consists of the following five members: I. Bertini (Italy) (IOC Chairman), H. Ohtaki (Japan) (General Organizer), B. M. Rode (Austria), Atta -ur-Rahman (Pakistan) (President of the 7<sup>th</sup> conference in Karachi), and Y. K. Do (Korea) (Secretary). EuAs C<sub>2</sub>S has several fellows, who are past IOC members. They are G. Balavoine (France), M.-S. Jhon (Korea), J. Reedjik (The Netherlands), A. G. Sykes (UK), and J. Webb (Australia). Besides the organizing committee members, eminent and active chemists from various countries are appointed to be members of International Advisory Board (IAB). They are E. V. Babaev (Russia), J. Barthel (Germany), F. Dayrit (Philippines), L.-I. Elding (Sweden), H. B. Gray (USA), N. Hadjiliadis (Greece), L-N. Ji (China), S. H. Kang (Korea), T. Kiss (Hungary), H. K. Lee (Singapore), J.-M. Lehn (France), Y. Marcus (Israel), M. Mosihuzzaman (Bangladesh), M. Perizzini (Italy), I. H. A. Rahman (Brunei Darussalam), S. Sabri (Jordan), Y. Sasaki (Japan), B. Satiadji (Indonesia), B. Sener (Turkey), B. S. Siddiqui (Pakistan), H. Sigel (Switzerland), R. Tauler (Spain), Y. Thebtaranonth (Thailand), H. S. Thoang (Vietnam), W. Voelter (Germany), K. Wang (China), and H. Yokoyama (Japan) in 2003. They are requested to participate in conferences to play some roles, which may be delivering lectures, organizing minisymposia, and inviting their friends and acquaintances to the conference to present their papers. If they do not participate in successive two conferences without reasons, they will be asked to retire from IAB.

### **The Naming of the Conference**

The name of the conference is closely related to its history. The conference was first intended to cover the field of solution chemistry, because scientific fields of the three founders are originally solution chemistry. Now, Prof. Bertini is a well-known bioinorganic chemist, Prof. Rode is an excellent computer and theoretical chemist in solution, and Ohtaki is an experimental coordination and solution chemist. Therefore, the conference was entitled Eurasia Conference on Chemistry of Solution when it started in 1988 in Bangkok, Thailand. The logo, EuAs C<sub>2</sub>S, was prepared by a Thai chemist, Dr. Sunt Tekachunput, a professor of Chulalongkorn University of Thailand. At the second conference in 1990 held in Seoul, Korea, the areas covered by the

conference became wider than that in the first one, and then, the name was changed to Eurasia Conference on Chemistry in Seoul in order to keep the logo at the change of the name. In 1992 the conference was held again in Bangkok including much wider fields, and the conference became to be an international conference of chemistry in general. Thus the name was again changed, with keeping the logo, to be Eurasia Conference on Chemical Sciences.

### **Venues of EuAs C<sub>2</sub>S**

During these 16 years since establishment in 1988, EuAs C<sub>2</sub>S has been held in various countries in Asia. In fact, EuAs C<sub>2</sub>S received an invitation from a European country, but IOC thought that young chemists in Europe may have better chances to meet eminent scientists in their own countries and more chances to participate in international conferences in Europe with less difficulties compared with those in Asia.

The role of the IOC chairman is very important, because he/she should invite good chemists to far distant developing countries and sometimes he/she should financially support the conference in some ways. The list of the venue and IOC chairmen, together with NOC chairpersons and plenary speakers are given in Table 1 in order to show how EuAs C<sub>2</sub>S has been going on in these years.

The conferences had usually 300–400 participants except for the 6<sup>th</sup> conference in Brunei, which had about 120 people attended.

### **Problems in Chemistry of Developing Countries**

There are many difficulties in the development of chemistry in developing countries.

- 1) As mentioned earlier, scientists, especially young ones, are economically difficult to attend international conferences, which are usually held in developed countries at distant places (and thus, expensive travel cost) with high registration fees.
- 2) Therefore, they have scarce opportunities to contact with eminent scientists in the world. Introduction of most recent scientific knowledge to them may be made through internet, but face-to-face contacts are especially important (influential and impressive) to young chemists.
- 3) Scientists in developing countries have less experience in organizing high-standard international conferences.

Table 1  
Venue, Year, Chairpersons of IOC and NOC and Plenary Lecturers of  
EuAs C<sub>2</sub>S Since 1988

Venue/ <i>Year</i>	IOC Chairman	NOC Chairperson	Plenary Lecturer
Thailand, Bangkok <i>1988</i>	B. M. Rode	S. Dhabanandana	J.-M. Lehn (France) E. Clementi (Italy) B. Valley (USA) M. Tanaka (Japan)
Korea, Seoul <i>1990</i>	H. Ohtaki	M. S. Jhon	K. Fukui (Japan) P.-O. Loe wdin (Sweden) J. Ravinowitz (Switzerland) R. Weiss (France) A. Yamamoto (Japan)
Thailand, Bangkok <i>1992</i>	I. Bertini	S. Dhabanandana	R. Noyori (Japan) S. Lippard (USA) HG. Gray (USA)
Malaysia, Kuala Lumpur <i>1994</i>	H. Ohtaki	M. Singh	A. Nakamura (Japan) A. M. Sargeson (Australia) Y. T. Lee (Taiwan, China) H. O. Hill (UK)
China, Guanzhou <i>1996</i>	J. Reedjik	K. Wang L.-N. Ji	J.-M. Lehn (France) K. Wieghard (Germany) H. Sakurai (Japan) R. Xu (China)
Brunei Dalussalam, Brunei Dalussalam <i>2000</i>	J. Webb	I. H. A. Rahman	P. Towse (UK) C. Y. May (Malaysia) Atta-ur-Rahman (Pakistan) P. Brimblecobbe (UK)
Pakistan, Karachi <i>2002</i>	H. Ohtaki	Atta-ur-Rahman	H. Ohtaki (Japan) Atta-ur-Rahman (Pakistan) T. H. Chan (Hong Kong, China) I. Bertini (Italy)
Vietnam, Hanoi <i>2003</i>	I. Bertini	H. S. Thoang	R. Noyori (Japan) J.-M. Lehn (France)p Y. T. Lee (China, Taiwan) Atta-ur-Rahman (Pakistan) Y. Thebtaranonth (Thailand) M. Fujita (Japan) And some others
Indonesia, Jogyakarta <i>2005</i>	B. M. Rode	H. Sastrohamidjojo	To be announced

- 4) Economical situations are usually not easy for having a large international conference in developing countries. Financial supports from their Government are usually not sufficient.

### **The Role of IUPAC to Support Chemistry in the World**

The above mentioned situations prevent the development of science in developing countries. IUPAC, the largest international organization in chemistry, should pay more attention to support the development of chemistry in developing countries, as well as in developed countries. IUPAC includes 44 countries in the world as NAO and 22 countries as ANAO in 2003. There are many countries in the world having chemical societies in their countries who are not members of IUPAC. It is sometimes said that IUPAC covers about 85 % chemists in the world, but we should know that about 73 % people in the world are living in developing countries, some of whom will perhaps play an essential role in chemistry in the future.

IUPAC is supporting chemistry in developing countries in various ways at present.

- 1) IUPAC supports international conferences organized in developing and economically disadvantaged NAO countries. (ANAO's are not eligible to be supported by this program). Applications are accepted every year by the end of January. Maximum 10,000 USD are provided to each conference. The total 20,000 USD are being prepared at IUPAC.
- 2) IUPAC can send eminent scientists to international conferences in developing countries as IUPAC Lecturers.
- 3) IUPAC is now considering how ANAO can step up to NAO by solving problems of national subscriptions of developing countries.
- 4) Since supports by the government of developing countries (not only for developing countries but also developed countries) are indispensable for paying national subscriptions, IUPAC members can visit these ANAO's and non-member countries to negotiate with Government and organizations of their countries by explaining the importance of their joining IUPAC. Malaysia and Bangladesh are the cases.

**There are many countries in Asia, Africa, and Latin America who are ANAO's or non-members. IUPAC should extend member countries in the world.**





## Symposia on Chemistry at the Interfaces: Public Understanding of Chemistry

14 August 2003 | Ottawa, Canada

JOINT 39TH IUPAC CONGRESS AND 86TH CONFERENCE OF THE CANADIAN SOCIETY FOR CHEMISTRY

Chemistry cannot flourish in isolation, but must develop within a context of public understanding and mutual trust. To give focus to IUPAC's long-range goal of addressing the critical interfaces between chemistry and society, a new CCE sub-committee focusing on the public understanding of chemistry (PUC) has begun its work. One outcome is a major initiative to bring the chemical profession, chemical industry, and the general public into dialogue at the upcoming joint IUPAC/CSC Congress. Major stakeholders, each focusing on one of chemistry's interfaces with the public, will catalyze this dialogue in three linked symposia on 14 August 2003.

### Symposium 1—Morning (Sponsored by Dow Canada Ltd.)

#### The Flow of Ideas Between Chemistry and the Public Through the Media

How do ideas flow between Chemistry and the Public through the media? What role could the media play in facilitating a credible two-way dialogue between those involved in chemistry and the general public? How can this dialogue help build trust and increased understanding of the role that chemistry plays in people's lives?

- **Madeleine Jacobs**, *editor-in-chief, Chemical & Engineering News, USA*
- **Claire McLoughlin**, *Press & Public Relations, Royal Society of Chemistry, UK*
- **Vince Smith**, *President, Dow Chemical Canada Inc.*
- **Ian Shugart**, *ADM, Health Policy and Communications Branch, Health Canada*

### Symposium 2—Lunchtime (Sponsored by Imperial Oil Products and Chemicals, Ltd.)

#### The Flow of Ideas Between the Research Lab and Industry or Public Use

How do ideas flow between the research lab and industry or public use? How are ideas originating in the research laboratory translated into eventual refinement of technologies for industrial and public use? How are needs perceived by industry and the public translated back into the research laboratory? What are the various interactions among academia, government, and industry within this product cycle, and how can a convergence of interests be optimized?

- **Howard Alper**, *Vice-rector, University of Ottawa and President of the Royal Society of Canada*
- **Jean-Claude Gavrel**, *Director, Networks of Centres of Excellence, NSERC, Canada*
- **Ole Kihle**, *PE Products Technology Manager, Polymers Technology Centre, Imperial Oil Limited, Canada*

### Symposium 3—Afternoon (Sponsored by Shell Canada Chemicals)

#### The Flow of Ideas Through Society

How do ideas flow through society? How can chemistry, the central science, continue to make significant contributions to the well being of society and provide benefits for future generations? How does chemistry position itself and interact with other key disciplines concerned with the health of people and the environment, social justice, economic growth, and the general aspirations of society? How can a convergence of societal interests be optimized?

- **Nell Camarta**, *Senior Vice President, Shell Canada Ltd.*
- **Peter Calamai**, *Science Writer, The Toronto Star*
- **Stuart Smith**, *Chair, Ensyn Technologies, Past Chair of the National Round Table on the Environment and the Economy and Past Chair, Science Council of Canada*
- **David Harpp**, *McGill University Office for Chemistry and Society, Canada*
- **Elizabeth Dowdeswell**, *former ADM, Environment Canada and former Executive Director of the United Nations Environmental Program*

Our younger stakeholders will also participate. The winning entries from an international poster competition for 10–16 year old students on the theme of "It's a Chemical World" will be prominently displayed at the conference.

All sessions will be open to the public.

#### More information?

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or Jean Belanger:  
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[www.iupac.org/standing/cce/puc-ottawa03.html](http://www.iupac.org/standing/cce/puc-ottawa03.html)

## **Database on the Achievements of Chemistry**

**Edwin P. Przybylowicz**

The worldwide chemical enterprise suffers from a tarnished public image. Chemicals are associated in the public press, radio and television with bad things happening to the environment, to communities and to people. Often the word that is used to convey the notion that whatever it is that is creating a problem “has a chemical in it.” To those in the field of chemistry these notions are as ridiculous as they are frustrating. They are not logical; nevertheless, they are widely used and repeatedly used by the uninformed.

Public perception undoubtedly has influence on other activities ranging from legislation governing the use of chemicals to the perception by young people of the field of chemistry as a career option. Much effort by industry and chemical organizations is directed toward a better public understanding and to dispel some of the misconceptions associated with chemistry.

Much work has been done in the past and continues today to educate the public about chemistry and its value to society and to bring balanced understanding about the benefits and risks of chemicals. We believe that an international effort led by IUPAC could provide an authoritative source of information on the ways in which chemistry and the industries based on the chemical sciences contribute to a better life.

We envision a website based on major innovations in chemical science over the past century and a half that occurred in many countries. The format would be attractive and provide easy access for students in science, for science teachers, for members of the chemical enterprise, for policymakers, and for reference by the general public.

The website might contain an encyclopedia of major chemical accomplishments that have contributed to the betterment of the human condition. It could include a detailed information base of chemical innovations and developments. Through the design of “access templates”, it would permit viewing this information through a variety of types of queries. The access templates would be user-friendly and facilitate inquiries, for example, on the evolution of innovations in engineering plastics, or antibiotics, in which the user would be led through a series of connected developments in applied chemistry. Another example of an access template might lead the user through a series of innovations that had major impact on portable energy, or plant protection chemistry.

In short, the website would provide a flexible, “living” macro- and micropedia that could grow and develop in sophistication as needs developed and changed. It would provide an interactive, multimedia presentation illustrating innovations over the past 150 years that have provided life-improving breakthroughs in: energy, transportation, environment, food and agriculture, health and medicine, information and communications, manufacturing processes, as well as the tools to study the world around us at the molecular level. A structured website would allow the viewer to delve into a given subject in sufficient depth to learn about the chemistry involved, or to look at an overview of the many life-improving products resulting from chemical research. It would offer an attractive enhancement to general science studies and courses in chemistry, as well as an interesting and informative source for the general public. The website resulting from this project would help to strengthen the essential bridge between the chemical enterprise and the public, a linkage that is important for both communities for continued growth and development.

This is a very ambitious project – one that will take years to complete and require substantial resources. IUPAC has recently approved a feasibility study of this long-term proposed project. Among the factors that must be considered are the following:

*Identification and contacts with potential partners.* National chemical societies, the Chemical Heritage Foundation, trade associations representing the chemical and pharmaceutical industries, and other groups interested in the public understanding of science have already made substantial contributions in this area in many countries. Many of them may be interested in a joint effort to provide a central database that all could exploit for specific purposes.

*Identification and contacts with potential sources of funds.* Foundations interested in science education, relevant government agencies, and some of the groups listed above may be receptive to proposals for funding.

*Creation of an inventory of websites, books and other documents that address the value of chemistry.* An enormous amount of work has been done in this area. For example, the American Chemical Society produced a set of “technological milestones” in chemistry and has a vast amount of unpublished information on this subject. The Royal Society of Chemistry’s book on “Chemistry, Society and the Environment: A New History of the British Chemical Industry” and similar efforts by other chemical societies are relevant. The Chemical Heritage Foundation and other groups interested in the history of chemistry have published books, brochures and articles that focus on specific areas and individuals. AllChemE in Europe and the National Academies in the USA have recently published reports that highlight current advances in chemistry. A major effort will be directed at attempts to learn what is available, along with the scope and limitations, in as many countries as feasible. Organizing, cataloging and summarizing this information in an accessible way on the IUPAC web site will constitute a tangible output from this study even if it should turn out not to be feasible to pursue the overall project as envisioned.

*Determination of the value of the overall project.* Two key questions must be answered:

1. What “added value” will the IUPAC effort bring to what has already been done by others?
2. How do we design the proposed website so that it is attractive to and will be visited by target audiences?

These questions will be addressed in discussions with potential partners and funding sources, as well as other knowledgeable individuals. Unless there is a consensus that this effort has a reasonable chance to achieve its objectives, it clearly should not be undertaken.

*Assessment of resources needed.* Like all IUPAC activities, the project will rely heavily on volunteer efforts, but there will be significant expenses in obtaining professional writing and especially in creating a web site that is attractive to the target audiences. We have developed one possible scenario for the form of a web site, for a pilot project to address one major area of application of chemistry, and for the ultimate comprehensive treatment. This scenario is based on the ACS technological milestone project, for which a great deal of information on international contributions to chemistry has already been accumulated and evaluated. However, the approach could be modified substantially during the feasibility study.

The task group carrying out the feasibility study welcomes comments from participants at the World Chemistry Leadership meeting. Over the coming months we will seek advice and assistance from the broad international chemistry community.

## **WCLM 2003 – Ottawa, Canada**

### **SFC (Société Française de Chimie/French Chemical Society) contributions to items:**

- 1:** Improvement of working conditions for young researchers in developing countries
- 8:** Industry should participate in exchange and training of scientists from developing countries. This relationship can be facilitated by the chemical societies in the developed countries.
- 9:** Major scientific conferences and training events should be held in developing countries to help scientists from those countries to participate in the global chemistry enterprise.
- 11:** The public image of science... Information about programmes to address this problem should be shared so that chemical societies and trade associations can learn from each other.
- 12:** Education of primary and secondary students should emphasize the enjoyable aspects of science rather than rote learning.

Abstract Title: **Assistance to Developing/Economically Disadvantaged Countries, especially in the French speaking world**

Representing organisation: **Société Française de Chimie (French Chemical Society)**

Point number: 1



**Société Française de Chimie (French Chem. Soc.)**

The scientific work of SFC is carried out through its 8 Divisions and 13 Groups embracing most of the fundamental aspects of chemical sciences. Among the priorities of SFC are:

- the promotion of chemical sciences in France with a special attention to young people and younger chemists,

- the promotion of an European identity in chemical sciences with *i.e.*, important contributions to the launch of the integrated set of European journals in Chemistry, the organisation of the first European meeting in Chemistry (SFC Eurochem 2002, with the support of The Royal Society of Chemistry, the Gesellschaft Deutscher Chemiker and the Swiss Chemical Society),

- the set up of a dedicated web page addressed to the French-speaking community in Africa and Asia ([http://www.sfc-chem.org](#)), which provides information about training in France, relevant French-speaking meetings, introductory courses to chemical sciences and space for .

In the frame of the French speaking world activities, SFC develops co-operative actions with several Chemical Societies of Developing Countries in Africa (West African Chemical Society, Tunisian Chemical Society) and Asia (Chemical Society of Vietnam). SFC provides them with free copies of the magazine, *l'Actualité Chimique*, invites some younger chemists to the major SFC meetings, and participates to the congresses of the West African Chemical Society.

Abstract Title: **With UIC, SFC contributes to the improvement of Industry – Academe interactions**

Representing organisation: **Société Française de Chimie (French Chemical Society)**

Point number: **8**



**Société Française de Chimie (French Chem. Soc.)**

In co-operation with UIC, SFC plays a key role in France for the improvement of interactions between Academe and Industry.

During the last SFC Congress (SFC – Eurochem 2002, July 2002), a public one-day session dedicated to the role of chemical industries in societal needs was organised by UIC.

Moreover, local agreements between regional SFC and UIC sections provide the basis for strong interactions, involving especially the younger chemists.

(UIC, *Union des Industries Chimiques*, is the professional body federating all the chemical companies operating in France (<http://www.uic.fr>). One of the UIC's main jobs is to communicate with people outside the chemical industry. The aims of communication include: (i) improving the image of the chemical industry, (ii) talking young people into choosing careers in the chemical industry, (iii) being in constant contact with various authorities and associations. Communication targets are the general public, officials, the media, young people and teachers).

Abstract Title: **SFC sponsors conferences and training events**

Representing organisation: **Société Française de Chimie (French Chemical Society)**

Point number: **9**



**Société Française de Chimie (French Chem. Soc.)**

As already stated (point 1), SFC sponsors and organises meetings and training events in chemical sciences.

Major meetings are mixing French and English and are especially opened to younger European chemists with fees at lower rates.

Annual series and most of the training events are in French with a high participation of younger scientists who benefit from reduced rates. These same rates apply also to members of societies in the French speaking world.

SFC therefore provides a useful opportunity for the smaller societies and their members to be involved in networking, enabling them to benefit from the advancement of the chemical sciences and the dissemination of scientific knowledge.

Abstract Title: **SFC is actively involved in the Public Image of Chemistry**

Representing organisation: **Société Française de Chimie (French Chemical Society)**

Point number: **11**



**Société Française de Chimie (French Chem. Soc.)**

SFC has supported on its web site ([www.sfc.fr](http://www.sfc.fr)) the development of a number of electronic sources of information including: scientific events, documentation on special topics (*i.e.* Ammonium Nitrate, following the AZF disaster), directories for catalysis and formulation in France, doctoral Schools ("Ecoles doctorales"), links to dedicated sites in chemistry, etc.

With the Chemical sciences Department of CNRS, a special issue of l'Actualité Chimique was produced on "Chemistry and daily life" and got a large success among the students of French higher schools. Special issues of this magazine are published on specific problems of current interest (*i.e.* hydrogen production, catalysis, green chemistry, etc.) with a great number of contributions in English. They are sent to the Chemistry professors of secondary schools.

In connection with the AZF disaster, SFC has participated in several events on chemical industries, its importance (SFC Eurochem 2002) and its risk assessments (Forums organised at the French Parliament). An itinerary meeting/exhibition on "Chemistry and Societal needs" is planned for 2004. It is expected to get governmental support for its presentation in French speaking countries of Africa.



Abstract Title: **SFC takes part in the education of primary and secondary students**

Representing organisation: **Société Française de Chimie (French Chemical Society)**

Point number: **12**



**Société Française de Chimie (French Chem. Soc.)**

In co-operation with the French Society of Physics (*Société Française de Physique*) and the French Association of Teachers in Physics and Chemistry (*Union des Physiciens*), SFC is working on different educational aspects of science programmes. The objective is to de-emphasise boundaries between traditional disciplines and to provide the Government with attractive proposals taking into account modern developments and recent research.

SFC has dedicated web pages on University programmes at the undergraduate and post-graduate levels. She also provides information about careers in chemistry either on a general level or *via* interviews.

Together with UIC (the French Syndicate of Chemical Industries, see point **8**), SFC is also working on playful aspects of chemistry and hosts the web page of "Graine de Chimiste", an Association aimed to teach primary students the scientific approach. SFC hosts also the web page of Chemistry Olympiads for France.

Abstract Title: **SFC responsibility for educational and professional matters**

Representing organisation: **Société Française de Chimie (French Chemical Society)**

Point number: **13**



**Société Française de Chimie (French Chem. Soc.)**

Standards in education and professional qualifications, administrative procedures, government legislation, ethical and professional behaviour, and national educational organisation are important in a European context.

The working group consisting of SFC, SFP (*French Society of Physics*) and UdP (*Association of Teachers in Physics and Chemistry*) participates in the preparation of curricula proposals for the Government. Co-operation with the European Chemistry Training Network (ECTN) will provide the European dimension to these proposals.

Abstract Title: **FECS assistance to Developing/Economically Disadvantaged Countries**

Author(s): **Professor Igor Tkatchenko**

Representing organization: **FECS (Federation of European Chemical Societies and Professional Institutions)**

point number **1**



**Federation of European Chemical Societies and Professional Institutions**

***The Federation of European Chemical Societies and Professional Institutions (FECS) is a voluntary association, promoting cooperation in Europe between non-profit-making scientific and technical chemical societies***

A powerful voice for chemists and chemistry, FECS ([www.fecs-chemistry.org](http://www.fecs-chemistry.org)) involves about 50 member societies representing individual chemists in academia, industry and government in nearly 40 countries. Many of these societies are smaller organisations in the countries of Central and Eastern Europe.

The scientific work of FECS is carried out through its Divisions (Analytical Chemistry, Food Chemistry, Chemical Education, Chemistry and the Environment, Electrochemistry and Organometallic Chemistry) and Working Parties (Computational Chemistry, Nuclear and Radiochemistry, History of Chemistry). One of the priorities of FECS is to promote European identity among chemists through mounting high level European conferences in targeted fields, like Analysis (Euroanalysis), Food Chemistry (Eurofoodchem), Organometallic Chemistry (FECHEM), Chemical Education (ECRICE), etc. Members of all FECS societies participate at advantageous rates, and many opportunities are provided for young people to receive bursaries. Series of small informal conferences (EUCHEM, etc.) promote discussions in emerging areas of Chemistry and are encouraged to be organised in the countries of Central and Eastern Europe.

The launch of a broad-based chemistry conference bringing together chemists from the breadth of the chemical sciences is underway: The 1<sup>st</sup> FECS European Chemistry Congress will be held in Budapest, Hungary in August 2006. Moreover, enhancement of FECS web-based activity, compilation of information on curricula and the comparability of qualifications, and promotion of AllChemE activities are tackled on a permanent basis.

All these activities provide benefits for chemists in economically disadvantaged countries either directly or *via* transfer of expertise.

## WCLM 2003 – Ottawa, Canada

Abstract Title: **Within AllChemE, FECS contributes to the improvement of industry – academe interactions**

Author(s): **Professor Igor Tkatchenko**

Representing organization: **FECS (Federation of European Chemical Societies and Professional Institutions)**

point number 8



**Federation of European Chemical Societies and Professional Institutions**

The active involvement of FECS in AllChemE (Alliance for Chemical Sciences and Technologies in Europe) will sensitize European organisations and European Union institutions to support the exchange and training of scientists from developing countries. FECS will also participate *via* its web activity in the identification, implementation, harmonisation and co-ordination of these activities.

(AllChemE is the representative body for chemistry and chemical engineering in Europe ([www.allcheme.org](http://www.allcheme.org)). It plays a vital role in providing a focal point for promoting the strengths of chemical sciences and technologies. In bringing together five major European organisations (CEFIC: European Chemical Industry Council, CERC3:Chairmen of the European Research Councils Chemistry Committees, European Cooperation in the field of Scientific and Technical Research: Chemistry, FECS, EFCE: European Federation of Chemical Engineering), AllChemE is able to provide Europe with a single voice on matters of mutual importance to industry, academia and government ([www.cefic.be/allcheme](http://www.cefic.be/allcheme))).

## WCLM 2003 – Ottawa, Canada

Abstract Title: **FECS sponsors conferences and training events**

Author(s): **Professor Igor Tkatchenko**

Representing organization: **FECS (Federation of European Chemical Societies and Professional Institutions)**

point number 9



**Federation of European Chemical Societies and Professional Institutions**

As already stated (point 1), FECS organises and supports a wide range of conference/training activity, from high level European conferences in targeted hot topics, series of small informal conferences (EUCHEM, etc.) and workshop sessions which promote discussions in emerging areas of Chemistry of interest to chemical scientists from a wide range of employment backgrounds. Such events are encouraged to be organised in the countries of Central and Eastern Europe. The launch of a broad-based chemistry conference bringing together chemists from the breadth of the chemical sciences is underway: The 1<sup>st</sup> FECS European Chemistry Congress will be held in Budapest, Hungary in August 2006. FECS therefore provides a useful opportunity for the smaller societies and their members to be involved in networking, enabling them to benefit from the advancement of the chemical sciences and the dissemination of scientific knowledge.

Abstract Title: **FECS struggles against chemophobia: The Public Image of Chemistry**

Author(s): **Professor Igor Tkatchenko**

Representing organization: **FECS (Federation of European Chemical Societies and Professional Institutions)**

point number **11**



### **Federation of European Chemical Societies and Professional Institutions**

Large chemical societies have well established international networks. One key-feature of FECS is to provide support for small national societies and networking with larger European chemical societies.

Although it is difficult to ascertain the origin(s) of the bad image of chemistry, information for the public, especially the younger is important. Free information from internet and attractiveness of chemistry-related web sites will contribute to a sincere image of chemistry, demonstrating its importance in everyday life.

FECS, through the umbrella group AllChemE, addresses science and society issues. In response to the EU Science and Society Action Plan, FECS organised a workshop 'Challenges and opportunities from a Chemical Sciences perspective'. The resulting Memorandum, primarily aimed at the European Commission and Members of the European Parliament, proposes future actions ([www.allcheme.org](http://www.allcheme.org)). FECS ([www.chemsoc.org/networks/ENC/fecs.htm](http://www.chemsoc.org/networks/ENC/fecs.htm)) has supported the development of a number of electronic sources of information including:

- -European Network for Chemistry ([www.chemsoc.org/networks/ENC](http://www.chemsoc.org/networks/ENC)) giving information about European chemical societies and organisations, initiatives and projects, industrial and research development, conferences and events, funding and awards, younger chemists activities throughout Europe, careers advice, access to specialists networks. Numerous links allow rapid browsing and efficient solutions to personal concerns,
- -Directories for organometallic chemists (<http://wwwtw.vub.ac.be/ond/aosc/default.htm>) and computational chemists (<http://newton.phy.bme.hu/chem/wpcc/chemists.html>),
- -Database of European chemists; such a database would allow chemists to be contacted according to their scientific profile and would serve as a forum for discussions on issues of importance for chemists.

Abstract Title: **FECS responsibility for educational and professional matters**

Author(s): **Professor Igor Tkatchenko**

Representing organization: **FECS (Federation of European Chemical Societies and Professional Institutions)**

point number 13



**Federation of European Chemical Societies and Professional Institutions**

Standards in education and professional qualifications, administrative procedures, government legislation, ethical and professional behaviour, and national educational organisation are important in a European context. The improvements of the quality of the educational standards and the level of the professional qualifications become important also in the context of the enlargement of the European Union.

FECS has a standing committee ProChemE which *inter alia* will:

- be responsible for developing policy on educational, professional and ethical matters
- undertake activities to promote the development of education in chemical sciences
- promote high professional standards of competence of chemical scientists
- maintain and promote the schedules of qualifications.

As Europe increasingly develops common standards, it is important that the professional competence of those who oversee the maintenance of standards is recognised. FECS, through its standing committee ProChemE, maintains schedules of academic qualifications at the levels of the full professional <http://www.chemsoc.org/networks/enc/fecs/fecsqualifa.htm> , senior technician and junior technician. However, academic qualifications alone have limited value. In providing an acceptable common professional standard, the European Chemist designation requires experience in the application of knowledge, level of skill, safety and environmental consciousness, sense of responsibility, ability to communicate and level of supervision received.

### WCLM 2003 –Ottawa, Canada

<b>Abstract Title: Activities of the Indian Chemical Society</b>
Referring to the enclosed WCLM 2001 Selected Findings, what specific point is addressed by this report: (point number) (1-11)
<p>Indian Chemical Society, a, premier learned body of the country, was established in 1924 with the main objective of promoting chemical education and research in this subcontinent. As part of this programme, it has been publishing, almost since its inception, a monthly journal, "The Journal of the Indian Chemical Society" which publishes reviews and original research papers in various disciplines of Chemistry. It caters the needs of most of the Chemists of the country. In addition, it organizes International Conferences on appropriate occasions and national symposia every year on frontier areas of Chemistry, which are well attended by the Chemists of the Country and from abroad and thus provides opportunities to the Scientists to participate in the global Chemistry enterprise as envisaged in the SCLM findings, 2001.</p> <p>After reviewing the progress of research In the country in the context of global developments in an appropriate session of each conference, the relevant recommendations are forwarded to the national policy making bodies for necessary action. Some of these recommendations are essentially the same as proposed in the WCLM findings, 2001, especially its items 1-11. In the recommendations, the society specifics the action for (i) improving the working conditions for young researchers to reduce brain-drain (ii) providing low cost access to online resources to the scientist and making available the benefits of information technology to them (iii) modifying the Government regulations to facilitate donation of equipments (iv) organizing more international conferences (v) initiating short exchange programme for young scientists (vi) identifying areas of fruitful cooperation, such as Green Chemistry and Drug discovery, genomics and proteomics, based on the Country's bioresources and (vii) organizing industry-academia interactions.</p> <p>Some of these activities will be discussed in detail.</p>
Author(s): Professor D. C. Mukherjee Honorary Secretary
Representing organization: Indian Chemical Society 92, Acharya Prafulla Chandra Road Kolkata-700 009, India.



## WCLM 2003 – Ottawa, Canada

Abstract Title: Donation of Equipment to Institutions in Developing Countries

Author(s): KIRPAL SINGH

Representing organization: University of Papua New Guinea, Papua New Guinea

Referring to the enclosed WCLM 2001 Selected Findings, what specific point is addressed by this report: (point number): 5

There is shortage of equipment for teaching and research in most universities and institutions of higher learning in developing countries such as Papua New Guinea. Depreciation in the value of local currencies and subsequent budget cuts by the governments makes it very hard for chemical laboratories to maintain adequate facilities to sustain offering of quality programs.

Institutions in developed world are always going for latest equipment thus making the old ones surplus. Such equipments and or instruments could be arranged to be shipped to needy institutions. So there is need to identify donors as well as acceptors. IUPAC could take lead in this venture, which will certainly bring a lot of benefits to developing countries in properly training their human resources. Cost of shipment could be paid by acceptor or some aid agencies be contacted to meet the shipment cost.