

**Teamwork**  
- Issue No. 15 - March 2009 -

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The Analytical Chemistry Division (V) 2008-2009 is happy to present some of its activities since the last issue of Teamwork. ***This issue of 'Teamwork' includes:***

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## 1.- ACD People 2008-2009

*Officers:* President Ales Fajgelj, Vice President Walter Lund, Past President Ryszard Lobinski, Secretary Brynn Hibbert.

*Titular Members:* Maria Filomena Camoes, Zhifang Chai, Paul De Bievre, Jan Labuda, Zoltan Mester, Shiji Motomizu.

*Associate Members:* Paolo De Zorzi, Attila Felinger, Maciej Jarosz, Pentti Minkkinen, Jose M. Pingarron.

*National Representatives:* Natasha Trendafilova, Suresh K. Aggarwal, Hasuck Kim, Mohammad Saeed Iqbal, Tatyana A. Maryutina, Resat Apak, Roger M. Smith, Nelson Torto.

> [see current membership](#)

We are very sad that our Associate Member Dana E. Knox, who had just started on his term as the chairman of the Subcommittee on Solubility and Equilibrium Data, suddenly died on September 2008. There is an obituary in the last issue of *Chemistry International* (2009 no.1), honoring his many achievements: [http://www.iupac.org/publications/ci/2009/3101/iw3\\_knox.html](http://www.iupac.org/publications/ci/2009/3101/iw3_knox.html)

## 2.- Election of Titular Members 2010-2011

The Nomination Committee consisted of Lobinski (chair), Lund, Murray, Besley and Spivakov. The committee proposed two or three names for each of the fields in analytical chemistry that should be

covered, in order to secure a broad competence in analytical chemistry within the division. The new Titular Members were elected in the fall 2008.

Prof. Walter Lund, the Division Vice President has decided not to continue for the next bi-annum as Division President. Fortunately, Dr. Fajgelj has kindly accepted to take a second term as Division President. However, the division will then be without a Past President for the next bi-annum.

The Officers and Titular Members for the bi-annum 2010-2011, and their fields of research, are given below:

Dr. Ales Fajgelj, President, Slovenia; quality assurance  
Prof. Maria F. Camoes, Vice-President, Portugal; electroanalytical methods  
Prof. D.Brynn Hibbert, Secretary, Australia; quality assurance  
Prof. David M. Bunk, United States; mass spectrometry  
Prof. Zhifang Chai, China/Beijing; nuclear methods  
Dr. Tatyana Maryutina, Russia; separation methods  
Dr. Zoltan Mester, Canada; spectrochemical methods  
Prof. Shoji Motomizu, Japan; general aspects  
Prof. Jose M. Pingarron, Spain; bioanalytical methods and sensors  
Prof. Heli M.M. Siren, Finland; environmental chemistry and process analysis .

### **3.- Officers Meeting In Beijing in November 2008**

The Officers had their annual meeting in Beijing 22-23. November 2008. Prof. Chai Zhifang kindly hosted the meeting at his institute, the Institute of High Energy Physics, Chinese Academy of Sciences. The officers are very grateful for the excellent hospitality of Prof. Zhifang and his co-workers.

The agenda of the meeting included reviewing the progress reports for all the division projects, and recently approved projects, new project proposals and division expenses were also addressed. The activities of the division "interest groups" were assessed, and key products of the division such as the Stability Constants Database and the Orange Book were discussed. Also a revision of the division web page was worked out in some detail during the meeting. More information about the different projects are given below (see PROJECTS below). The Minutes from the meeting is available from the IUPAC web page: <http://www.iupac.org/web/ins/500>.



*The four officers, our host Prof. Chai Zhifang and Chinese colleagues outside our hotel in Beijing*

#### **4.- Workshop in Beijing and visit to research laboratories**

A workshop on metrology was arranged at the National Institute of Metrology (NIM), Beijing, in conjunction with the officers meeting, on Friday 21st November. Lectures were given by Ales Fajgelj, Brynn Hibbert, Walter Lund and the director of the Institute of Chemistry, NIM, Hongmei Li. The workshop focused on metrological traceability of measurement results in chemistry and the role of referenced materials. It was well attended by people from the National Institute of Metrology and the Institute of High Energy Physics.

During their stay in Beijing, the ACD officers also visited the impressive Laboratories for Biomedical Effects of Nanomaterials and Nanosafety and other facilities of the Institute of High Energy Physics, Chinese Academy of Science.

#### **5.- Officers and Division meeting in Glasgow July/August 2009**

The next officers meeting will be held during the General Assembly in Glasgow, in the morning of Friday 31st July.

The whole division will meet in the afternoon of Friday 31st July and on Saturday 1st August. In addition, a workshop will be arranged on Sunday 2nd August, dedicated to the revision of the Orange Book, as described below.

#### **6.- IUPAC Congress 2009 in Glasgow**

Roger Smith is the ACD representative to the Congress. ACD will prepare a poster for the meeting with key information on its activities.

## 7.- Running projects

The division has more than 40 running projects, including those that belong to the Subcommittee on Solubility and Equilibrium Data, the Interdivisional Working Party for Harmonization of Quality Assurance and interdivisional projects. Six projects have recently been completed, and five new projects have been approved (see below). At the division meeting in Beijing, 16 of the running projects had not provided progress reports. The chairmen of these have since then been contacted by the ACD President. The division feels that the division projects are running reasonably well. However, there will be a significant change in the project portfolio in the future, as the division will focus more of its human and financial resources on the updating of the Orange Book, as described below.

## 8.- Metals in biological systems: Guidelines for metallomics and related terms

A technical report ([project 2006-037-1-500](#)) concerning terminology and critical evaluation of analytical chemistry approaches in the new fields of metallomics, metallogenomics, metalloproteomics and metallometabolomics has recently been completed by the task group, that consists of Ryszard Lobinski, J. Sabine Becker, Hiroki Haraguchi and Bibundhendra Sarkar. The report is now going through the final stages before being sent to external referees. The division expects this to be a very timely document for this rapidly emerging field of analytical chemistry.

## 9.- Interdivisional Working Party for Harmonization of Quality Assurance

The working party has nearly completed the extensive project "[Metrological traceability of measurement results in chemistry: Concepts and implementations](#)" (more than 100 pages), which will have the status of an IUPAC recommendations. Another extensive project, "[Selection and use of proficiency testing schemes for a limited number of participants – chemical analytical laboratories](#)", with Ilya Kuselman and Ales Fajgelj as chairpersons, was recently sent out for external reviews.

## 10.- Subcommittee on Solubility and Equilibrium Data

The SSED contributes strongly to the productivity of the division, as illustrated by its many projects, some of which are not even funded by the division! Thanks to SSED, reliable solubility data have become widely available to the scientific community. SSED is for the time being without chairman, due to the untimely death of Dana Knox

## 11.- Orange Book

This is a key product of the division. Over the years, much efforts have been invested in the Orange Book; Compendium of Analytical Nomenclature, Definitive Rules 1997. However, the last (3rd) edition is now ten years old and needs updating. Unfortunately, the Orange Book does not have a consistent

structure. Some chapters are written like a textbook while others have a glossary format. In some cases, an alphabetical order of the terms is maintained within each paragraph.

The officers discussed this issue at their meeting in Beijing, based on a report from the secretary, and came to the conclusion that ACD should go for a complete updating of the Orange Book. This demanding task will involve all the division members. In particular, all the Titular Members will be involved in the revision of the Orange Book, each taking the responsibility for a sub-project.

The decision to take on the task of updating the Orange Book will have consequences for the future work of the division, as much of its human and financial resources will be directed to this activity.

As a start, a proposal will be written for an umbrella project, "The revision of the Orange Book". Also, the division will arrange a one-day workshop during the General Assembly in Glasgow, on Sunday August 2nd, to discuss the structure of the book; chapters to be deleted or added, sequence of revision and harmonization of format of chapters.

There is a discussion group (forum) on the Orange Book on the web site <http://iupac-services.fiz-chemie.de/iupacforum/showthread.php?t=45>

## 12.- Stability Constants Database

The present version of this comprehensive compilation of critically evaluated stability constants covers the years 1877 to 2004. An on-going division project will bring the database up-to-date to 2006. After much discussion within IUPAC and with other interested parties, it has finally been decided that the work will not be continued when the present project is finalized. After that, the database will be available through IUPAC as a frozen compilation of data. Exactly how this will be done is not quite clear at the moment.

## 13.- Recently completed projects

The following projects have recently been completed:

1. [Recommendations on the use of countercurrent chromatography in analytical chemistry](#), Boris Spivakov chair (2001-041-2-500).
2. [Standardization of analytical approaches and analytical capacity-building in Africa](#), Walter R. Benson chair (2004-017-1-500).
3. [Developments and applications in solubility](#), Trevor Letcher chair (2005-016-1-100).
4. [Chemistry for Biology - an inventory for international and interdisciplinary activities within IUPAC in the field of biological chemistry](#), Torbjörn Norin chair (2005-042-1-300).
5. [Adjustment, estimation and use of equilibrium reaction constants in aqueous solution](#), Igor V. Sukhno chair (2006-010-1-500).

## 14.- New projects

The following projects have recently been approved:

1. [A glossary of concepts and terms in chemometrics](#), Brynn Hibbert chair (2008-002-1-500).
2. [An introduction to the IUPAC-NIST solubility data series; preparation and use of compilations and evaluations](#), David Shaw chair (2008-008-1-500).
3. [Humic-metal binding constants database](#), Montserrat Filella chair (2008-025-1-500).
4. [Investigation of out-of-specification test results of chemical composition based on metrological concepts](#), Ilya Kuselman chair (2008-030-1-500).
5. [Methods of measurement and evaluation of natural antioxidant capacity/activity](#), Resat Apak chair (2008-031-1-500).

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