

# Analytical Chemistry Division (V)

## **Teamwork**

- Issue No. 14 - September 2008 -

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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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*The Analytical Chemistry Division at their annual meeting in Rome in February 2008. All the Officers, Titular and Associate Members were present in Rome, but Fajgelj and Lobinski are missing from the photo.*

## **1.- ACD People**

*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, Dana E. Knox, 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.

## 2.- New members

For the 2008-2009 biennium, the ACD has got nine new Titular and Associate members. Some of them are not completely new to the Division, because they have served as national representatives. All the new members are well recognized scientists with impressive lists of publication and much else to their merit. The new members are:

***Maria Filomena Camoes*** has a special interest in electroanalytical and environmental chemistry. She chairs an ACD project on pH measurements, a long-standing interest with her. She also has had a long commitment with EURACHEM. She is professor at the University of Lisbon.

***Zhifang Chai*** is the division specialist on nuclear method. His interests include multidisciplinary applications of nuclear methods in studies such as the chemical speciation of trace elements. He is professor at the Institute of High Energy Physics in Beijing.

***Attila Felinger***'s research interests are focused on separation methods and the fundamentals of chromatography. He is professor at University of Pécs in Hungary.

***Maciej Jarosz*** is the division's representative in ICTNS. His interests include high performance separation techniques with MS detection and speciation analysis. He is a member of the Working Party on Conservation of the Cultural Heritage of EUChemS. He is professor at Warsaw University of Technology in Poland.

***Dana E. Knox*** has a special interest in solubility data, and now chairs the very active Subcommittee on solubility and equilibrium data. Knox is a chemical engineer by profession, and is professor at New Jersey Institute of Technology, USA.

***Zoltan Mester*** is a specialist on advanced mass spectrometry. His interests also include metal-organic compounds and certified reference materials, and he chairs an ACD project on selenomethionine in yeast supplements. He works at the National Research Council of Canada in Ottawa.

***Shoji Motomizu***'s research interest is ultratrace chemical analysis, including novel organic reagents, solid phase separation and flow-based chemical analysis. He is professor at Okayama University in Japan.

***Jose M. Pingarron*** is a specialist in bioanalytical methods. He is professor at University Complutense of Madrid in Spain.

***Paolo de Zorzi*** has a special interest in sampling issues, and has contributed to the IUPAC recommendation on "Terminology in soil sampling", as well as other activities within this field. He works at

the Italian Environmental Protection Agency in Rome, and was the host of two recent ACD meetings at this institute.

> [see current membership](#)

### **3.- ACD contribution to IUPAC Congress in Torino**

During the 41st IUPAC World Chemistry Congress in Torino in August 5 to 11 2007, ACD was responsible for organizing a session on analytical chemistry. The session was chaired by Ryszard Lobinski, and the topics were metrology, new devices in health sciences, environmental chemistry, proteomics and cultural heritage protection.

> see *Division Roundups*, [CI Nov 2007](#)

### **4.- Division meeting in Rome**

The Division Committee had its annual meeting in Rome 29 February to 1 March 2008. Maria Belli and Paolo de Zorzi hosted the meeting at their institute, the Italian Environmental Protection Agency (APAT). The meeting was very well attended; all of the titular and associate members were present! The committee reviewed the progress reports for all the division projects (see below). Other topics were new project proposals and division key products such as the stability constants database and the Orange Book. New "Interest Groups" that would cover the main issues of the division were established. Some of these issues are dealt with below, under separate headings. The Minutes from the meeting is available from the IUPAC web page: [www.iupac.org/web/ins/500](http://www.iupac.org/web/ins/500).

#### **- Workshop**

Two half-day workshops were held in conjunction with the Division meeting in Rome. The Subcommittee on solubility and equilibrium data (SSED) arranged a workshop on "Metrological traceability of solubility data" with four lectures, and the Interdivisional Working party on harmonization of quality assurance (WPHQA) was responsible for a workshop with six lectures on "Trace elements analysis: Role of grain size distribution in solid reference materials". Many of the contributions were given by the division members, and the discussions formed a valuable basis for the division meeting that succeeded the workshops.

### **5.- Status of Division projects**

The division has about 50 running projects, including 14 that belongs to the SSED subcommittee and 4 that belongs to the WPHQA working party. At the division meeting in Rome, it was decided that only three of the projects needed a follow-up! One of these has recently been terminated. The division feels that the division projects are running well, but good new projects are always in demand!

### **6.- Recently completed projects**

The following eight projects have recently been completed:

[2002-003-2-500](#). Performance evaluation criteria for preparation and measurements of macro and micro-fabricated ion-selective electrodes, Y. Umezawa chair.

[2005-017-1-500](#). Glossary of terms related to solubility – updates and revisions to the Orange Book, D. Shaw chair.

[2002-025-1-500](#). Solubility data of compounds relevant to mobility of metals in the environment. Inorganic actinide compounds, J. Hala chair.

[2002-050-1-500](#). Solubility data related to industrial processes. Acetonitrile: ternary and other multi-component systems, V. Sazonov chair.

[2005-006-1-500](#). Mutual solubility of alcohols and water (update of SDS Vol 15), A. Maczynski chair.

[2005-033-1-500](#). Transition and 12 to 14 main group metals, lanthanide, actinide and ammonium halates, H. Miyamoto chair.

[2006-032-1-500](#). Solubility data related to industrial processes. Mutual solubility of ethers and ketones with water, M. Goral chair.

[2005-048-2-100](#). Solubility and thermodynamic properties related to environmental issues, T. Letcher chair.

## **7.- Subcommittee on Solubility and Equilibrium Data**

As illustrated by the large number of projects, the SSED contributes strongly to the productivity of the division, although some of their projects are not even funded by the division! For many years, the SSED has taken on the task of making reliable solubility data available as widely as possible by publishing their data in journals and presentations at conferences. A new glossary of terms related to solubility was published in *PAC* ([2008, Vol.80, No.2, pp. 233-276](#)). Dana Knox has taken over as chair of SSED. He superseded Heinz Gamsjäger, who chaired the subcommittee for many years.

## **8.- Interdivisional Working Party for Harmonization of Quality Assurance**

The working party has recently completed a huge task, by finalizing the extensive project “Metrological traceability of measurement results in chemistry: Concepts and implementations”. The project report with more than 100 pages has obtained the status of an IUPAC recommendation (2008). The working party has a new chairman, Paolo de Zorzi, because the previous chairman, Ales Fajgelj, is now the Division President.

> [project 2001-010-3-500](#)

## **9.- Stability Constants Database**

This is a long-lasting successful product of our division. It is the most comprehensive compilation of critically evaluated stability constants available, covering the years 1877 to 2004. A on-going division project will bring the database up-to-date to 2006. However, the management of the database gives reasons for strong concern about the future of this database. The database has for many years been managed by Academic Software, but IUPAC is required to take over the responsibility very soon. How this should be done is for the moment an open question. Furthermore, the question how the required continuous updating of the database shall be secured has not been solved.

## 10.- Orange Book

This is another key product of the division. Over the years, a lot of efforts have been invested in the present version of the Orange Book; Compendium of Analytical Nomenclature, Definitive Rules 1997. However, the last (3rd) edition is now ten years old and needs updating. This would be a major undertaking for the Division, and the question is if such a huge task is justified. Unfortunately, the Orange Book does not have a consistent structure. Some chapters are written like a textbook in instrumental analysis, others have a glossary format, whereas in some cases an alphabetical order of the terms is maintained only within each paragraph. The Division has just started a discussion concerning the future of the Orange Book. For IUPAC the Gold Book is no doubt more important than the Orange Book. Therefore, the Division is presently also discussing how the Orange Book, or parts of it, can be converted to glossary format and transferred to the Gold Book.

> see related [project 2006-022-1-500](#)

## 11.- Articles in *Chemistry International*

ACD members have written a number of articles in the IUPAC magazine *Chemistry International*:

- M. Bonardi and D. Moore, [Radionuclides and radiochemistry, Their role in society](#), CI 29 (2007), no.6, p. 10

- M. Bonardi and D. Moore, [Radionuclides and radiochemistry, Terminology in Nuclear Processes – Misconceptions and inaccuracies](#), CI vol.30 (2008), no.1, p. 8

- H. Gamsjäger, J.W. Lorimer, D.G. Shaw, [Solubility data, Compilations for the practicing chemist](#), CI vol.30 (2008), no.2, p.16

- R.M. Smith, [Analytical terminology and the Orange Book – The resources at the end of the rainbow](#), CI vol.30 (2008), no.3, p.13

In addition, descriptions of the various projects of the Division can be found in [The Project Place](#) and in [Making an impact](#); vol.29 (2007) no.4, p.24, 26 and 27, vol. 30 (2008) no.3, p.17 and 22.

## 12.- African Network of Analytical Chemists

The division president has written a letter of support for a project proposal from the African Network of Analytical Chemists ([SEANAC](#)) to the Mobilizing Regional Capacity Initiatives Program (MRCI) which was newly established by the Association of African Universities (AAU). The project proposal foresees the unification of analytical chemistry curricula and the development of training programs for students and technicians.

### **13.- Interest Groups**

At the last Division meeting it was decided to rename the "Task Groups" that appeared on the front page of the Division web site, and call them "Interest Groups", to avoid confusion with the project system. The following interest groups were agreed for the new biennium (leaders in parenthesis):

- Communication/Teamwork (Lund)
- Critical evaluation of data (Knox)
- Electronic resources for IUPAC terminology work (Hibbert)
- Emerging analytical issues (Lobinski)
- Metrology (De Bièvre)
- The analytical potential of nuclear techniques (Chai)

### **14.- ACD Discussion Board**

In March, a discussion board for analytical chemistry was implemented on the IUPAC web site. A user name and password is needed to access the site.

### **15.- ACD Memberships 2010-2011**

A Nomination Committee has recently been established, with Ryszard Lobinski (chair), Walter Lund (Division VP), Kermit K. Murray, Laurence M. Besley and Boris Spivakov as members.

### **16.- Officers meeting in Beijing**

The next officers meeting will be on 22 and 23 November 2008 in Beijing. Professor Chai has kindly offered to host the meeting.

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