

IUPAC Division of Chemistry & the Environment (DCE) Report to Council, August 1999

The following illustrate DCE activity during the past two years, including the summarized report of its Tokyo meeting.

1. Committee Meeting, Sumitomo Chemical Co, Tokyo, 5-7 October 1998

This meeting was attended by:

J. Miyamoto (President)
W. Klein (Vice-president)
P. Holland (Secretary)
A. Dieffenbacher (Division Committee TM) Y. Shevah (Chairman, VI.3)
H. Behret (Division Committee AM) K. Racke (Chairman, VI.4)
L. Klasinc (Secretary, VI.2) P. Dysseleer (Chairman, VI.6)

In addition to reviews of the activities and projects of the six commissions, the following key topics were covered:

A. The amalgamation of Commissions VI.5 and VI.6 to form a new commission on Food Chemistry is to be completed by the Berlin GA.

B. Interactions with international organisations.

- International Forum for Chemical Safety (IFCS), and ISG-3;
- International Council of Chemical Associations (ICCA)
- International Programme for Chemical Safety(WHO-IPCS); CICAD
- White Book on Endocrine Disrupters (IUTOX/IUPAC/IUPHAR)
- OECD/BIAC (Sustainable Chemistry)
- ICSU/SCOPE - Veronique Plocq-Fichelet, Executive Director, SCOPE attended the meeting and introduced the environmental programme of ICSU.

Additionally the six DCE Commissions maintain significant collaborations with a wide range of international bodies. This information has been provided to Dr Alan Hayes.

C. Dr Behret was nominated DCE representative to IDCNS.

D. Restructuring of IUPAC – SDIC report.

- While commissions were concerned about many of the SDIC recommendations, it was resolved that efforts would be made to develop the positive aspects of the restructuring and overcome shortcomings in a constructive manner.
- Adequate transition measures must be followed to minimise the negative aspects i.e. an evolutionary rather than revolutionary approach.
- Commission chairmen will join the DCE committee to assist with the tasks of project management and coordination.
- IUPAC needs to put more effort into defining its goals and niche with respect to other international bodies.

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- DCE has already carried out many aspects of the reformation e.g. an increased emphasis on multi-disciplinary projects and the merger of VI.5 & 6.
- DCE has also been active in diversifying communication of IUPAC activities, including through WWWeb, workshops, monographs, and other publications.
- Complete abolition of commissions in 2001 was originally envisioned. However fixed term commissions will be able to be formed (maximum 10 years) where really justified, and are seen by DCE as the only realistic means of maintaining commitment and continuity to the largely voluntary activities of IUPAC.
- The decoupling of funding from membership category is positive.

E. New project evaluation system. There are positive aspects but the system is potentially unwieldy and should be assessed after a trial period.

F. Publication policies of IUPAC. Encouragement was given for publishing reports and monographs in media other than, or in addition to P.A.C. The development of the IUPAC web site was seen as positive.

G. Budget. DCE did not spend all its allocation in 1998 and improved procedures for project funding and budget control were recommended.

H. 40th General Assembly, Berlin, August 1999.

It was agreed that Commission Chairmen would be nominated to the new DCE committee and appropriate timetabling was made, including for an inter-divisional meeting to coordinate environmental projects (Chair: Dr Miyamoto).

2. Commission Activities and Publications

VI.1 Fundamental Environmental Chemistry

This commission is continuing its tradition of aligning their projects to publication of authoritative monographs. They have the services of two Pool TMs. Project meetings were held in Amsterdam, Nov. 1998 (Marine biogeochemistry of iron) and *****.
Publications :

1. "Structure and Surface Reactions of Soil Particles" Vol.4 IUPAC Series on Analytical and Physical Chemistry of Environmental Systems. Buffle, Van Leewen (Eds), John Wiley, New York, 1998, 490pp.
2. "Atmospheric Particles" Vol.5 IUPAC Series on Analytical and Physical Chemistry of Environmental Systems. Buffle, Van Leewen (Eds), John Wiley, New York, 1999, 597pp.

VI.2 Atmospheric Chemistry

A joint meeting was held with commission VI.3 in Dubrovnik 25-28 May 1998 in association with an international symposium "Degradation Processes in the Environment". Plenary papers from the symposium are being published in *PAC*, others in *Chemosphere* and as a book.

Outreach articles on local environmental problems and chemical education are being published in *Chemistry International*, national chemistry journals and on the WWWeb. The web site also contains links to other sites concerned with air pollution. Temporary address: <http://terra.irb.hr>. The commission will be putting more emphasis

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on projects with developing countries, where air pollution problems are often severe.
Publications:

1. **** and Klasinc, L. 1998 Air pollution problems in The Netherlands, Japan, Germany and Croatia. *Chemistry International* **20**: 149-150.
2. Nenad Kezele, Leo Klasinc, Air quality in Croatia, *Chemistry International* **20** (1998), 5; 149-150.
3. Ulviye Özer, Rahmiye Aydin, Hasan Akçay, Air Pollution Profile of Turkey, *Chemistry International* **19** (1997), 6, 190-191.
4. Leo Klasinc, W.J.G.M. Peijnenburg, Aleksandar Sabljic, J. Slanina (Editors), *Chemosphere: Degradation Processes in the Environment*, Hutzinger, O. (Ed.), Oxford, Pergamon, 1998 and papers therein.
5. Aleksandar Sabljic, Leo Klasinc, Tomislav Cvitaš (Editors), *Pure and Applied Chemistry: IUPAC Symposium on Degradation Processes in the Environment*, Wolman, Y. (Ed.), Oxford, Engleska, Blackwell Science, 1998 and papers therein.

VI.3 Soil and Water Chemistry

A status report was submitted, including a summary of the joint meeting with VI.2 above. In 1998 there were 4 projects completed, 3 projects terminated and 8 new topics under consideration. There are also a number of projects collaborative with other commissions (VI.1, VI.2, VI.4).

Publications were :

1. Kordel, W., Dassenakis, M., Lintlemaun, J. & S. Padberg. 1997. The importance of natural organic material for environmental processes in waters and soils. *PAC*, vol. 69, pp. 1571-1600.
2. Kordel, W. 1997. (ed.). Proceedings of the Conference on the importance of natural organic material for environmental processes in waters and soils. *Chemosphere*, vol. 35, issues I & 2, pp411.
3. Shevah, Y. and Waldman, M. 1998. Bioremediation research in Israel. In Sikdar, S. K. & Irvine, R. L. (eds.) *Bioremediation Technologies*. Technomic Pub. Co., Basel
4. Shevah, Y. and Waldman, M. 1998. Wastewater storage and reuse. In Dor, I. & Huaniko, M. (eds.) *Hypertrophic reservoirs for wastewater*. (submitted).
5. Sabljic, A. and WJM. Peijnenburg 1998. Environmental Degradation Processes - Some Reflections. Presentation at the SETAC Pellston Conference on Environmental Persistence, July 1998, Fairmont Hot Springs, Canada.
6. Sabljic, A. and WJM. Peijnenburg 1998. (eds.). Proceedings of the Environmental Degradation Conference, May 1998, Dubrovenik, Croatia. *Pure & Applied Chemistry*, September 1998, and *Chemosphere*, December 1998.

VI.4 Agrochemicals and the Environment

The 1998 commission meeting was held in Cambridge, UK 8-10 August, following the very successful 9th International Congress of Pesticide Chemistry held in London. This congress was sponsored by IUPAC and organised by the RSC. IUPAC was well represented on the organising committee and scientific programme. The 10th congress will be held in Basle, 2002.

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The commission contributed speakers to the international conference: "Pesticide Residue Variability and Acute Dietary Risk Assessment" held in York, UK, 1-3 December 1998 which was hosted by the MAFF Pesticides Safety Directorate.

A joint IUPAC/TACTRI workshop is planned for Taiwan in October, 2000 with the theme: "Harmonization of Pesticide Management – regulation, monitoring and evaluation". This continues a series of extension workshops, which began in Tianjin, PRC (1988). An application for ICSU funding has been made.

In 1997/99 there were 5 projects published in *PAC*, 4 projects continuing and 6 projects at a preliminary stage. The Summary, Conclusions and Recommendations for projects are also being published in *Pesticide Science*.

Publications:

1. Skidmore, M.W. (1998) Bound Xenobiotic Residues in Food of Plant and Animal Origin. *Pure & Applied Chemistry* ****
2. Ambrus, A. (1999) Relevance of Impurities in Technical Grade Pesticides. *Pure & Applied Chemistry* ****
3. Unsworth, J. (1999) Significance of Long-range Transport of Pesticides in Air. *Pure & Applied Chemistry* ****

VI.5 / VI.6 Food Chemistry / Oils, Fats & Derivatives

Minutes were tabled for the 1997 meeting in Geneva of VI.6 and the Working Report was supplied for the joint meeting of VI.5 and VI.6 held in Seville, Spain 23-25 September 1998. Proposals were made for the merger of the commissions.

The 10th International IUPAC Symposium on Mycotoxins and Phycotoxins will be held in Sao Paulo, Brazil in July 2000 with VI.5 well represented on the organising committee.

A lexicon (glossary of terms) for lipid nutrition is in-press (American Oil Chemists Society because Blackwell would not publish separately). The 7th edition of IUPAC Standard Methods for Analysis of Oils Fats & Derivatives is out of print. The urgently needed new edition is being prepared for publication and will also contain the outcomes of 6 recent projects.

Publications :

N. B. To date the full publication list is supplied by VI.3 and VI.4

3. Other Divisional Activities and Publications

A one-day symposium "Chemistry and Environmental Issues" held in Tokyo, 8 October 1998, was organised by DCE (Dr Miyamoto), the Science Council of Japan and the Chemical Society of Japan. It was a forum for DCE to present its activities and related research to a Japanese audience.

The White Book on Endocrine Disrupters (IUTOX/IUPAC/IUPHAR) has been published: *Pure & Applied Chemistry* (1998), vol.70 No.9.