

A SHORT HISTORY OF THE WORKING PARTY/DIVISION ON CHEMISTRY AND THE ENVIRONMENT

A NARROW BIRTH

The idea of forming a Working Party (WP) dealing with environmental chemistry was adopted by the Federation of European Chemical Societies (FECS) at its General Assembly in Helsinki on 11 June 1976. The initiative came from professor dr. Clément Troyanowsky, then secrétaire général of Société de Chimie Physique in Paris. He convened the first meeting which was held on 8 December 1976 in Paris. Present at this meeting was:

Billon (Groupement pour l'Avancement des Méthodes Spectroscopiques)
Rusow (Gesellschaft Deutscher Chemiker)
de Pelet (Société Chimique de France)
Seip (Norwegian Chemical Society)
Troyanowsky (Société de Chimie Physique)

From the thorough and informative minutes it is interesting to recall the possible aims and actions which were discussed for the WP:

In the opinion of all the participants, such a group could perform a useful task in helping bring all European countries to a common view of the place of chemistry in environmental problems:

- *Pollution by the chemical industries.*
- *The role of chemists in the knowledge and understanding of pollutants and their reactions, their further and privileged role in developing pollutant-removal techniques, wasteless production and waste recycling.*

A Working Party on Chemistry and the Environment (WPCE) could concern itself with the following tasks:

- *Inventory of environmental problems relating to chemistry, evaluation of their respective importance in different European countries.*
- *Gathering and disseminating information on these problems as well as on national laws, regulations and environment-oriented actions.*
- *Gathering and disseminating information on environmental research done in European countries and its newer results.*

- *Promotion or sponsoring of international meetings, at the European level, on chemical aspects of environmental problems.*
- *Stressing the international character of specific problems of pollution, and taking part whenever possible in their study. As an example, the pollution of the Rhine is a well-known international problem, studied at government-level and the subject of recent international agreement. But things are in a definitely less advanced stage with regard to the pollution of the Mediterranean or Baltic seas, or the transfer of air-pollution across state-boundaries.*
- *Stressing the importance of anti-pollution research.*

A WP of FECS could help in coordinating a number of activities undertaken in different countries, by the supply of relevant information and the help it could provide in organizing meetings. It could also be instrumental in establishing –first– common feelings and –later– possibly common actions on problems which are of common interest.

This aim could only be reached through the active participation of many European chemical societies. A WP that would be restricted to a few of them would, in our feeling, achieve little. If any problem were of concern to, say, ten countries, a group involving the chemical societies of only three or four countries would perhaps lack the competence, and certainly the authority to speak in the name of all.

This is why we recommend that a Working Party on Chemistry and the Environment be formally established within the Federation of European Chemical Societies, with the understanding that all environmental groups or competence, within national chemical societies, be called upon to take part in its work. The economic, social and political importance of environmental problems is such that a small group, representing only a minority of the countries involved, could have no weight.

When, however, the Advisory Board of FECS in its meeting on 4 February 1977 discussed the report from this first meeting, they were by no means convinced that a WP should be established. The main objection being that only a few delegates were present at the first meeting. On behalf of the Advisory Board dr. Fritsche therefore asked the steering committee for the future WP to list a series of European problems with arguments for discussion by the Advisory Board. A copy of the letter was sent to all nominated delegates of the WP.

In his reply to FECS, Troyanowsky listed the following environmental problem areas:

- **Sulfur dioxide.** Extent of pollution by SO₂, detail of its action and cost to the economy, present state of knowledge of the conversion-mechanisms of SO₂ to H₂SO₄ and finally CaSO₄ in the atmosphere and soil, pH-lowering effect on sweet waters, cost of sulfur-removal from fuels, transport of air-pollution across state-boundaries (e. g. pollution in Norway originating in coal-burning in England, Germany or Poland), etc...

- **Harmful effects of compounds** of great chemical stability and removal problems.
- **Survey of the chemical pollution** from chemical industry and from other industries (pulp and paper, foods, etc...) present trends toward waste recovery or destruction.
- **Approach to the different means of fighting pollution:** waste recovery and disposal, wasteless production, recycling, etc...

As this covers all practical and research aspects of a worldwide problem, some aspects could be selected depending on the available knowledge and information. But an important point is that this question deals with a positive aspect of the role played by chemistry in our societies.

The WPCE was then formally established by the General Assembly of FECS in June 1977 with Troyanowsky elected as its first chairman.

THE FIRST YEARS

The following societies became the first members of the working party:

Austrian Chemical Society
 Chemical Society, later to become Royal Society of Chemistry (RSC)
 Czechoslovak Chemical Society
 Groupement pour l'Avancement des Méthodes Spectroscopiques (G.A.M.S.)
 Gesellschaft Deutscher Chemiker
 Israel Chemical Society
 Norwegian Chemical Society
 Polish Chemical Society
 Real Sociedad Espanola de Quimica
 Schweizerische Komitee für Chemie
 Società Chimica Italiana
 Société Chimique de France
 Société de Chimie Physique
 Swedish Chemical Society

Later the working party was joined by:

Bulgarian Chemical Society
 Danish Chemical Society
 Federation of Finish Chemical Societies

Several other societies, without formally belonging, took initially part in the activities of the WP:

Société Chimique de Belgique
Vlaamse Chemische Vereiging

The WP initially examined several possible activities, among which was a Directory of European Laboratories of Environmental Chemistry. This project had to be given up, as it turned out that available information varied much from one country to another, and that at the same time EEC was starting the publication of such a directory, covering only Western Europe, but in a very exhaustive fashion

HIGHLIGHTS

The activity in the WPCE/DCE has varied through the years. This has to a large extent been related to of the enthusiasm (or lack of?) from the members and especially the chairmen.

Without reducing the effort of others, it is appropriate here to acknowledge the work of the founder chairman, C. Troyanowsky and his successor, G. Dicks.

The substantial increased activity in recent years is mainly due to the great effort of the present chairman, Allan A. Jensen who has served from 1997 and the present Secretary John Holder. It was in Jensen's period the WP achieved the status of a FECS Division.

A most fruitful collaboration between the WPCE/DCE and the journal Environmental Science and Pollution Research (ESPR) was established in 1997. When the WP was promoted to a FECS Division at the General Assembly of FECS in Istanbul in September 1998, ESPR became the Official organ for the Division.

Subcommittees of the Division have been formed on:

Soil chemistry and pollution, headed by Toomas Tenno, University of Tartu, Estonia

Water chemistry and pollution headed by Fritz Frimmel

Education in Environmental Chemistry headed by Uri Zoller, University of Haifa, Israel

Green and Sustainable Chemistry headed by Allan Astrup Jensen, dk-TEKNIK, ENERGY & ENVIRONMENT, Copenhagen, Denmark

Atmospheric Chemistry and Pollution headed by Hartmut Frank, University of Bayreuth, Germany

The main activity in the WP/DCE over the years has been the arrangement of scientific conferences. In addition to the 8 conferences highlighted below, a number of other

activities related to various aspects of environmental chemistry have been initiated. Especially

CONFERENCES

One of the most important achievements of the WP/DCE has been the arrangements and sponsoring of conferences dealing with environmental chemistry. Depending on circumstances the choice has been of a specialized topic, or of a "broad spectrum" conference.

Date	Place	Title
22-26.09.80	Paris/Palaiseau, France	Chemical Pathways in the Environment
21-24.05.84	Lindau/Lake Constance, Germany	Air Pollutants Affecting Plants
11-14.07.88	Guildford, UK	Risk Assessment of Chemicals in the Environment
23-25.08.93	Vienna, Austria	The Challenge of Waste
15-18.05.95	Budapest, Hungary	Pesticide Chemistry for Sustainable Agriculture
26-28.08.98	Copenhagen, Denmark	Atmospheric Chemistry and Air Pollution
27-30.08.00	Porto, Portugal	Metal Speciation in the Aquatic Environment
01-04.09.02	Athens, Greece	Chemistry for a Sustaining World

Conference No. 1

Chemical Pathways in the Environment

22-26.09.80 in Paris/Palaiseau, France

The first choice was that of a European conference, which was hosted by the Société de Chimie Physique and held in September 1980 at the Ecole polytechnique (Palaiseau near Paris) on the subject of **Chemical Pathways in the Environment**, stressing the chemical mechanisms environmental chemistry has to deal with. The conference brought together a little over 180 participants - a slightly disappointing figure, probably due to the competition at the time between several environmental meetings held over a few months. But the scientific programme was quite satisfactory, and it was therefore decided to hold such a conference approximately every three years.

The program consisted of both lectures and poster presentations, totally about 80 contributions spanning a wide area from emissions from cars, power plants and other industries, to the ozone problem, photochemical decomposition reactions in the atmosphere and distribution and effect of heavy metals and polycyclic aromatic compounds in the environment. The preliminary program including the oral presentations is given in Appendix 1.

Conference No. 2

Air Pollutants Affecting Plants

21-24.05.84 in Lindau/Lake Constance, Germany

The second conference was to be held in Poland in 1983, but this was unfortunately prevented by the untimely death (August 1981) of Professor J. Kepinski, the Polish delegate, who was to take charge of the conference. Instead the next conference was hosted by the Gesellschaft Deutscher Chemiker with its Secretary General Dr. W. Fritsche as chairman of organizing international committee. The conference was held at Lake Constance, Lindau, Germany, and attracted nearly 150 participants from 18 countries. The program including lectures, discussion papers and posters is included as Appendix 2. Below follow a summary prepared by Dr. Fritsche, Gesellschaft Deutscher Chemiker:

At the beginning of the conference, the participants were welcomed by Staatsminister Dick and the Mayor of Lindau. Mr Dick spoke about the problems in Germany with forest degradation. He pointed out that there is still a great deal of work to be done if a profound insight is to be obtained into the network of causes of forest degradation. The link between the opening addresses and the first lecture was established by Prof. Weise who pointed out the high levels of natural emissions, which must be borne in mind when man-made pollution is considered.

The first lecture given by Prof. Stratmann was devoted mainly to forest problems, taking into account the chemistry of the atmosphere. He pointed out the important role of ozone and its effect on plants, especially pine trees. After this lecture, in which new findings were presented as well as facts that was already known, the following lectures gave more specific details of the chemistry of the atmosphere. The theme taken up by Staatsminister Dick and Prof. Stratmann was discussed in depth and also modified by Dr. Eliassen and Prof. Thrush.

In the afternoon, a broad spectrum of chemical reactions, working methods and results obtained were explained to the conference by representatives of a number of teams working in this field.

The second day began with lectures on the direct effects of air pollution on plants.

In the first main lecture it was pointed out that the results of many scientific investigations contradict each other; this is because of the failure to take account of synergistic or antagonistic effects determined by nature.

The following lecture and the discussion papers dealt with this subject and illustrated it from a number of standpoints. The afternoon of the second day began with a lecture by Prof. Ulrich, Göttingen, on the same topic as the lecture by Prof. Stratmann at the beginning of the conference, covering interactions between the direct and indirect effects of air pollutants on forest trees.

Most of the discussion papers that followed gave a detailed insight into the problems caused by the effects of sulphur dioxide, ozone, metal or pesticide pollution on timber, leaves and soil.

The compounds most frequently mentioned in the lectures given on these two days were sulphur dioxide, nitrogen oxides and ozone.

The topic on the third day was the problems of Northern European forests. The main lecture dealt with the acidification of surface water its relationship to the acidification of the soil.

The complex relationship between fertilizers, pollution, soil properties and the lowering of the pH of lakes was discussed. Research on this, carried out by various teams, was based on the knowledge obtained from the study of ion exchangers.

One discussion paper again dealt with the interaction between sulphur dioxide and nitrogen oxides. It was stated that a small proportion of these gases in the air stimulates crop growth. When, however, a critical sulphur dioxide and nitrogen oxide concentration is reached, crop growth is reduced. This led to the conclusion that a certain degree of "stress" is good for the plants, whereas excessive "stress" is bad for them.

In the afternoon the delegates were taken on a cruise on Lake Constance followed by dinner at the Gebhardsberg restaurant in Bergenz. The cruise provided an opportunity for discussion of the lectures and papers.

On the last day a number of posters underlined the topics referred to in the lectures and papers. The final lectures dealt with analysis of air pollutants by laser techniques and with the effects of pollutants on monuments. This last lecture gave a clear explanation of the many factors that have synergistic or antagonistic effects on monuments, beginning with carbon dioxide and water, and the resistance of the monuments to sulphur dioxide. This speaker came to the conclusion that "The best corrosion inhibitor for stone is the quality of the stone itself".

The conclusion reached by the conference may be summarized as follows:

- 1) The experimental techniques for obtaining data on the effects of pollution need to be thoroughly checked, since failure to take interactions into account may falsify the results in either a positive or negative direction. This explains why so many papers dealing with the same topics reach different conclusions.
- 2) The complex ecological interactions become clearer as research proceeds. The ecological network is not so complicated as is generally believed. It is, however, too complex to be determined simply by short-term research projects.
- 3) It is essential that pollution should be reduced in the future. But the action to be taken must be thoroughly discussed on the basis of past experience, regional factors and scientific findings. There must therefore be cooperation throughout Europe between pure science, technology, applied biology and applied chemistry without ideological prejudice. Only under these conditions can politicians take the correct

decisions that will lead to a step-by-step reduction in the effects of pollutants on plants, animals, minerals and mankind.

Acidification of the soil resulting from air pollution causes considerable damage to vegetation. At present it is combated by eliminating, or lowering the concentration of known pollutants. The cost of these measures is very high, both to industry and to the consumer.

The research discussed here is aimed at identifying those compounds responsible for synergistic effects that greatly increase the environmental damage. When these are known, the prospects of combating pollution at much lower cost will be greatly improved.

Conference No. 3

Risk Assessment of Chemicals in the Environment

11-14.07.88 in Guildford, UK

The title of the third conference was decided at the meeting of the Working Party in Oslo in May 1985 on the initiative of Dr. H. M. Seip. It was further decided that the conference would take place in London in July 1988.

The conference attracted more than 200 participants from 28 different countries and was considered a great success. The scientific program is given as Appendix 3. A book (579 pages!) with proceedings from the conference is published in by The Royal Society with M.L. Richardson as editor.

Conference No. 4

The Challenge of Waste

23-25.08.93 in Vienna, Austria

At the Working Party meeting in Wrocklaw, Karpacz in Poland in 1987 it was decided to arrange the fourth conference in Poland in the autumn of 1990 with the title "Agrochemicals in the Environment" with Prof. Winnicki as chairman assisted by Prof. Pawloski. Unfortunately at the WP meeting in London in 1989 this conference had to be cancelled, among other reasons due to lack of funding from sponsors and lack of interest from lecturers. Instead the decision was taken to hold the fourth conference (originally proposed as the fifth conference at the WP meeting in Milan in 1988) in Vienna in 1992 with Prof. Hackl as chairman. However, due to collision with Euroenvironment '92 to be held in Budapest in 1992 the fourth conference was later (at the WP meeting in Prague in 1991) postponed to 1993.

200 Participants from 15 countries joined the conference. The scientific program had been prepared by members of the WP in collaboration with the working group "Waste" of CEFIC (Conseil Europeen des Federations de l'Industrie Chimique). Prof. Hackl expressed thanks to the members of the scientific committee, especially Dr. Troyanowsky and Dr. Jensen. It was the first time that FECS and CEFIC had collaborated according to the intentions of FECS-president Dr. Darms, who was very pleased with the result.

Proceedings from the conference have been published.

Conference No. 5
Pesticide Chemistry for Sustainable Agriculture
15-18.05.95 in Budapest, Hungary

At the WP meeting in Vienna in 1993 Dr. Mihailly declared that The Hungarian Chemical Society was willing to host the fifth conference in Budapest in May 1995. The preliminary title of the conference was decided to be "Chemistry and Agriculture", later the title was changed to "Pesticide Chemistry for Sustainable Agriculture – Outlook for the 21th Century". The conference had 3 topics and 6 sessions:

Topic 1: New products and technologies. Research and development.

Session 1A: Pesticide active ingredients, safeners and synergics.

Session 1B: Natural compounds as pesticides. New formulations and applications.

Session 1C: Mode of action.

Topic 2: Pesticides and the environment.

Session 2A: IUPAC Symposium: "Assessment of Environmental Risk".

Session 2B: Fate of pesticides in the Environment.

Topic 3: Analytical Chemistry of Pesticides.

There were 27 oral and 45 poster presentations. The list of authors contained 180 names from 17 countries, among them 5 from outside Europe. FAO and UNIDO were also represented by plenary lecturers. The presentations represented a high scientific level and were planned to be published in a special volume of "Journal of Environmental Science and Health" (Marcel Dekker Inc.).

Conference No. 6
Atmospheric Chemistry and Air Pollution
26-28.08.98 in Copenhagen, Denmark

Originally the 6th conference was planned to be hosted in 1997 by professor Brunner in Urbino, Italy with the title: "The Fate of Organic Pollutants in the Environment". Unfortunately professor Brunner died in 1996 and at the business meeting in Copenhagen in October 1996 the Working Party decided to move the 6th conference to Copenhagen in August 1998 where the hosts would be Dr. Allan Astrup Jensen, dk-TEKNIK and the Danish Chemical Society. The adopted title of the conference was: "Atmospheric Chemistry and Air Pollution".

The conference attracted an audience of about 250 participants. The three main themes were VOCs, oxidants/NOx and particulates. There were 30 talks and 160 posters. The keynote speaker of the conference was F. Sherwood Rowland, one of the three 1995 Nobel laureates in chemistry. His subject was the rising concentration of ozone in the troposphere. The conference concluded with a panel discussion about the future directions of atmospheric chemistry. Abstracts has been published in a special issue of ESPR Vol. 5 (3) 1998.

Conference No. 7**Metal Speciation in the Aquatic Environment****27-30.08.00 in Porto, Portugal**

The arrangement of this conference was decided at the Working Party meeting in Vienna in September 1997 with professor Maria Teresa Vasconcelos as the hostess. The conference was highly successful attracting some 170 delegates from 37 countries worldwide. The conference programme and full abstracts are published as Special Issue 1, 2000 of ESPR.

Conference No. 8**Chemistry for a Sustaining World****31.08-04.09.02 in Athens, Greece****Conference No. 9****Chemical Stresses in the Urban Environment****June/July 2003 in Moscow, Russia****Conference No. 10****2004 in Florence, Italy****Working Party Meetings**

Date	Where	Chairman
08.12.76	Paris, France	
29.06.78	London, UK	C. Troyanowsky 77-84
11.05.79	Paris, France	
26.09.80	Paris, France	
20.01.84	Frankfurt, Germany	G. J. Dickes 84-90
24.05.84	Lindau, Germany	
05.21.85	Oslo, Norway	
14.03.86	Gent, Belgia	
31.10.86	London, UK	
09.05.87	Wrocklaw, Poland	
24.03.88	Milan, Italy	
28.10.88	Vienna, Austria	
20.05.89	Szkarska Poreba, Poland (cancelled)	
20.11.89	London, UK	
11.05.90	Urbino, Italy	A. Hackl 90-93
03.05.91	Frankfurt, Germany	
05-06.12.91	Prague, Czechoslovakia	
15.05.92	Budapest, Hungary	

26.10.92	Istanbul, Turkey	
26.08.93	Vienna, Austria	G. Mihályi 93-96
10.12.93	Munich, Germany	
25.11.94	Budapest, Hungary (cancelled)	
19.05.95	Budapest, Hungary	
17.10.95	Vienna, Austria	
04.10.96	Copenhagen, Denmark	
06.06.97	London, UK	Allan A. Jensen 97-02
12.09.97	Vienna, Austria	
18.04.98	Bordeaux, France	
17.10.98	Cagliari, Italy	
17.04.99	Bayreuth, Germany	
30.10.99	Bordeaux, France	
04.03.00	London, UK	
26.08.00	Porto, Portugal	
06.10.01	Nicosia, Cyprus	

Delegates present at WP/DCE meetings

Paris 1979: Troyanowsky (chair, France), Baudin (France), Hester (UK), Huré (France), Kempinski (Poland), Mouvier (France), Rocherolles (France).

Paris 1980: Troyanowsky (chair), Baluja-Marcos (Spain), Freyschuss (Sweden), Hester (UK), Moreau (France), Mouvier, Seip (Norway).

Lindau 1984: Troyanowsky (chair), Baluja-Marcos, Dickes, Pawlowski (Poland), Seip, Zirngiebel.

Oslo 1985: Dickes (chair), Freyschuss, Pawlowski, Seip, Troyanowsky.

Gent 1986: Dickes (chair), Freyschuss, Hackl (Austria), List (Switzerland), Schamp (Belgium), Troyanowsky.

London 1986: Dickes (chair), Freyschuss, Kuhn (Germany), List, Pawlowski, Winnicki (Poland).

Wrocklaw 1987: Dickes (chair), Lippert (Czechoslovakia), List, Pawlowski, Troyanowsky, Winnicki.

Milano 1988: Dickes (chair), Bruner (Italy), Freyschuss, Hackl, Mihalyi (Hungary), Troyanowsky.

Vienna 1988: Dickes (chair), Bruner, Freyschuss, Hackl, Mihalyi, Lippert, List, Troyanowsky, Winnicki.

London 1989: Dickes (chair), Bruner, Hackl, Mihalyi, Lenoir (Germany), Troyanowsky.

Urbino 1990: Dickes (chair), Bruner, Hackl, Jensen (Denmark), Lippert, Mihalyi, Troyanowsky.



Frankfurt 1991: Hackl (chair), Bruner, Dickes, Hutzinger (Germany), Jensen, Lippert, Mihalyi, Schamp (Belgium), Troyanowsky.

Prag 1991: Hackl (chair), Battig (Austria, guest), Jensen, Lippert, Troyanowsky.

Budapest 1992: Hackl (chair), Asenov (Bulgaria), Bruner, Cesario (France), Dickes, Freyschuss, Gromiec (Poland), Jensen, Kuhn (Germany), Kummel (Germany), Lippert, Lindfors (Sweden), Mihalyi, Rabinowitz-Ravid (Israel), Rodriques-Jimenez (Spain), Schamp, Skramstad (Norway), Valavanidis (Greece).

Istanbul 1992: Hackl (chair), Inel (Turkey), Mihayli, Skramstad, Troyanowsky.

Vienna 1993: Mihalyi (chair), Bruner, Dickes, Gromiec, Hackl, Jensen, Juchelkova (Czechia), Skramstad, Troyanowsky.



Munich 1993: Mihalyi (chair), Bruner, Dickes, Hackl.

Budapest 1994: Mihalyi (chair), Skramstad.

Budapest 1995: Mihalyi (chair), Bruner, Mária Teresa Vasconcelos (Portugal), Jana Zagorc-Koncan (Slovenia).

Vienna 1995: Mihalyi (chair), Bruner, Höflinger (Austria).

Copenhagen 1996: Mihalyi (chair), Holder (UK), Jensen.



London 1997: Jensen (chair), Facchetti (Italy), Holder, Mihalyi, Tenno (Estonia), Vasconcelos.

Vienna 1997: Jensen (chair), Facchetti, Frank (Germany), Sirpa Herve (Finland), Holder, Höflinger, Mestres (Spain), Mihalyi, Skramstad, Vasconcelos.

Bordeaux 1998: Jensen (chair), Frimmel (Germany), Garrigues (France), Herve, Holder, Holoubek (Czech Republic, guest), Mestres, Mihalyi, Skramstad, Tenno, Tincel (Turkey), Vasconcelos.





Cagliari 1998: Jensen (chair), Facchetti, Frimmel, Garrigues, Herve, Holder, Mestres, Michael (Cyprus), Mihalyi, Vasconcelos, Zagorc-Koncan, Zoller (Israel).



Bayreuth 1999: Jensen (chair), Facchetti, Frank, Garrigues, Almut Heinrich (Germany, observer), Herve, Holder, Höflinger, Mestres, Petrosyan (Russia, observer), Salkauskas (Lithuania), Siskos (Greece), Tenno.



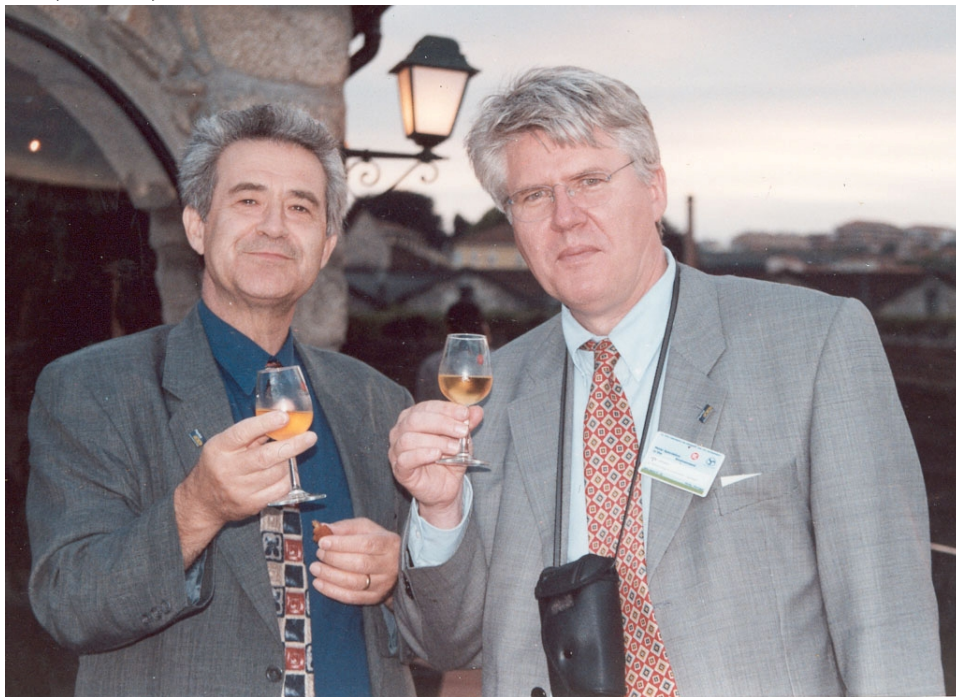
Bordeaux 1999: Jensen (chair), Cerda (Spain), Facchetti, Garrigues, Heinrich (guest), Herve, Holder, Holoubek, Höflinger, Lancaster (UK, guest), Mestres, Petrosjan, Rédey (Hungary), Siskos, Skramstad, Tundo (Italy, guest), Vasconcelos.



London 2000: Jensen (chair), Brito (Germany, guest), Ebrill (Ireland), Frank, Gagan (UK, guest), Heinrich (guest), Herve, Holder, Höflinger, Karayannic (Greece, guest), Salkauskas, Siskos, Tenno, Vasconcelos, Zoller.



Porto 2000: Jensen (chair), Facchetti, Holder, Morselli (Italy), Petrosyan, Siskos, Skramstad, Tenno, Vasconcelos.





Nicosia 2001: Jensen (chair), Buszewski (Poland), Facchetti, Frimmel, Herve, Holder, Michael, Siskos, Skramstad, Zoller.





Steering committee meeting in Madrid May 2001:





Medals to Allan and Sergio in June 2001:



