IUPAC
Division on Chemistry and the Environment
COMMISSION ON SOIL AND WATER CHEMISTRY (VI.3)

MINUTES OF COMMISSION MEETING
Brisbane, Australia, June 29 – July 01, 2001

Attendance:

- Dr. Y. Shevah	Chairman	Israel
- Dr. W. Peijnenburg	Secretary	Netherlands
- Dr. A. Sabljic	Titular Member	Croatia
- Dr. H. Egli	Associate Member	Switzerland
- Dr. H. Garelick	Titular Member	United Kingdom
- Dr. W. Kördel	Associate Member	Germany
- Dr. A. Dekker	Project leader	Australia
- Dr. C. Larive	Young Observer	USA

1. General

The main items discussed during this meeting were the implementation of the new IUPAC structure, progress of projects, initiation of new projects and cooperation with IUPAC commissions both within and outside Division VI. Current Commission activities emphasize task-oriented projects of relevance to the industry and international co-operation. Ongoing activities include the preparation of review and statement papers on: endocrine disrupting chemicals, genetically engineered micro-organisms for in-situ treatment of polluted ecosystems, degradation and accumulation of chemicals, airborne and remote monitoring of water quality, solute movement in soils, and code of practice in reporting analytical data. Other topics are dealt with in cooperation with other IUPAC commissions, including: atmospheric deposition and impact on ecosystems, water quality standards, pesticide soil sorption, and bioavailability. In total there are six ongoing projects. In line with the "Project Driven System" adopted by IUPAC, two of which are conducted by Task Groups. Two new projects were identified for submission for approval and four publications are in press or in preparation.

2. Membership 2000 - 2001

A new composition closely related to performance is adopted and the terms of non-active members were terminated. The participation of active members from developing countries is encouraged, while representation of the pharmaceutical and chemical industries was initiated.

Chairman:	Dr. Y. Shevah (Israel)
Secretary:	Dr. W. Peijnenburg (Netherlands)
Titular Member:	Dr. A. Sabljic (Croatia)
	Dr. H. Garelick (United Kingdom**)**
Associate Members:	Dr. W. Kördel (Germany)
	Dr. H. Egli (Switzerland)
	Dr. J. Lintelmann (Germany)

	Dr. R. Wright (USA)
National Representatives:	Dr. A. da Costa Duarte (Portugal)
	Prof. Dr. M. Dassenakis (Greece)
	Dr. B.M. Misra (India)
	Dr. A. Rodrigues de Aquino (Brazil)
	Dr. P. Schejbal (Czech Republic)
	Dr. G. Becher (Norway)
	Dr. Y. Zheng (China)
	Dr. E. Doboloyi (Hungary)
	Dr. R.J. Wilcock (New Zealand)
	Prof. A. Mustafa (Turkey)
Young Observer:	Prof. C. Larive (USA)

As a result of the Restructuring of the IUPAC Organization, Commission VI.3 will seize to exist as of 01-01-2002. Instead, a sub-committee "Chemistry of Environmental Compartments" will be formed, the composition of which is yet unknown. Areas of interest to the sub-committee "Chemistry of Environmental Compartments" include the air, water and soil compartments. The sub-committee is to run a suite of projects, focussing on progress made and discussion and adaptation of the recommendations proposed within the projects. In addition, the sub-committee is to develop new ideas and to solicit proposals for new projects from both within and outside IUPAC. Thereupon, the sub-committee is to organize working meetings for groups of projects, focussing on cross fertilization, extension of activities (organization of workshops, symposia, congresses) and to achieve economics, especially regarding personnel time management of participants within projects.

3. Terms of Reference (TOR)

- Evaluation of scientific data and criteria related to physical, chemical and biological processes in soils, water and sediments
- Critical evaluation and review of policies, processes and findings of international importance
- Assessment of potential chemical pollutants and risks to the soil and water environment
- Communicating with the chemical industry on environmental risk assessment
- Coordination with other commissions and international agencies
- Contribution to capacity building in developing countries
- Production and publication of independent statements

4. Overall Performance

In line with the restructuring of the Division into the Division on Chemistry and the Environment, and the need to conform to the requirement for quality, relevance, service and international co-operation, the Commission emphasizes environmental topics, as related to soil and water chemistry. Altogether there are six on-going projects, in addition to other activities. Task groups were composed for each new project, in line with the "Project Driven System" adopted by IUPAC EC, April 1998. A summary table and a detailed account of the activity are given in the following.

Project No.	Sort Title	Coordinator	Team Leader	Action	Budget US $	
					2001	2002
660/18/93	Code of Practice for reporting sampling data (with VI.2)	Dr. Peijnenburg	Dr. H. Egli	Completion of the first draft and general discussion meeting, April 2002		8000
660/24/95	Solute movement in soil (with VI.4)	Dr. Peijnenburg	Dr. Kördel	Completion of the first draft and general discussion meeting, April 2002		Nil
660/26/97	Oestrogenic Substances in the Environment (with VI.4)	Dr. Shevah	Dr. Lintelmann	Completion of the final draft and sub-mission for public-ation, December 2001.		Nil
990132/ 660/00	In situ Treatment of Polluted soils	Dr. Shevah	Dr. R. Mandelbaum	Revision of the Outline and completion of the first draft, July 2002	5000	3000
990142/ 660/00	Air Borne & Remote Sensing of water Quality	Dr. Shevah	Dr. A. Dekker	Revision of the Outline and preparation for a IUPAC Session in Nova Scotia, Nov. 2001	5000	5000
	Reference Soils	Dr. Kördel	Dr. Kördel	Prepare project proposal		8000
	Bioavailablity of Xenobiotic Sub-stances (with VI.4)	Dr. Peijnenburg	Dr. Katayama	Commission VI.3 contribution will be completed by Dec. 2001		

5. On-Going Activity

5.1 Projects Completed in 2001

660/25/95. E. <u>Modelling lifetime and degradability of organic compounds in soil and water systems</u>. Coordinator(s): Dr. A. Sabljic and Dr. Peijnenburg. Joint project with Commissions VI.1, VI.2 and VI.4. The final report has been submitted for publication in PAC, concluding that: the extensive evaluation procedure has shown that the most accurate method for estimating tropospheric degradation is Atkinson's group contribution method. A viable alternative to Atkinson's method is a direct calculation, performed today almost routinely, of the reaction rate constants with hydroxyl radicals.

5.2 Ongoing Projects

<u>Number: 660/26/97 - Oestrogenic Chemicals in the Environment</u>
Task Group: Dr. Jutta Lintelmann, GSF, Munich – Team Leader; Dr. Laurence Shore, KVI, Israel; Dr. Andrea Wenzel, Fraunhofer Institute, Schmallenberg, Germany; Dr. Frank Dorobek, Syngenta, Basel, Switzerland; Dr. A. Sabljic, Institute Rudjer Boskovic, Croatia; Dr. A. Katayama and Dr. N. Kurihara (VI.4), Project Coordinator -

Dr. Yehuda Shevah; Project Correspondent - Prof. Werner Klein, Fraunhofer Institute, Schmallenberg, Germany.

Background: Many compounds present in the environment, natural and man-made, have been shown to have the potential to disrupt the endocrine system of human and wildlife species, especially from point sources. The likely effects of non-point sources (1) Animal manure (testosterone, estradiol, estrone); (2) Plant estrogens – phytoestrogens, and (3) Fungal estrogens, are being evaluated.

Objectives:

- Provide an updated critical overview of existing information on EDCs.
- Document the occurrence of endocrine disruptors in soil and water.
- Evaluate the ecological effects of endocrine disrupting chemicals.
- Evaluate tests and strategies for assessing potency and environmental risks.
- Identify research gaps and priority research needs.

Progress: A second draft report was circulated and discussed during the Commission meeting in Brisbane July 2001. Also Dr. Arata Katayama (Japan) presented a paper on the distribution and degradation of endocrine active substances in soil and water in the IUPAC Symposium on Pesticide Regulation for Consumer and Environmental Safety and Fair Practices in Brisbane.

Within the framework of a SCOPE/IUPAC project, a workshop is being planned in Yokohama, Japan, on 17-21 Nov. 2002. The first circular is available.

Based on the discussions it was concluded that:

- The paper in its present state is not a critical review paper
- Given the fast developments in the field, the draft needs to be updated
- Paper needs to be more homogeneous
- Information provided on certain compounds (like Bisphenol A) is not in agreement with the outcome of recent discussion between industry and regulating agencies on this topic.
- Recommendations, research and priority gaps need to be identified and added to the paper.

It was agreed that the manuscript will be finalized before the start of the SCOPE/IUPAC project (i.e. before the end of 2001).

The following actions were agreed upon:

1. Dr. Shevah will ask Dr. Shore to take over as the project leader, making sure that the project is terminated in 2001.
2. Dr. Shevah will inform the project team participants on the outcome of the discussions.

660/18/93. E. Code of Practice for Reporting Analytical Data for Environmental Samples. Project Coordinator: H. Egli, in collaboration with VI.2

Background. The project aims to define guidelines for reporting analytical data of concentrations in the environment of anthropogenic chemicals, i.e. mainly contaminants or pollutants, as resulting from analyses of field samples.

Objectives:

- Formalize a protocol for reporting analytical and computational procedures, including treatment of samples, since collection, substantiating the validity of the sampling procedure of anthropogenic chemicals, i.e. mainly contaminants or pollutants, as resulting from outdoor studies.

- List the required information to be recorded and reported about the samples and sampling procedures, in order to unequivocally document the origin and degree of the representative samples.

Progress: The first draft of the project was circulated and many comments were made regarding the sample history and the analytical procedures, including: treatments since sampling from the field; information to be added about the samples and parameters to be recorded and reported. Specific recommendations were made for: soil, groundwater, surface water, seawater, sediment, rain and air and recommendations by ISO, Eurochem, OECD and SETAC were suggested, as a starting point. The existing draft was discussed in Brisbane with the following conclusions:

An extension period of 1 year is required, while the project team (comprising members of Commissions VI.2 and VI.3) made a firm commitment to submit their parts by the end of 2001 and then prepare a revised version for publication as a reference monograph by IUPAC, mid 2002. A meeting for final discussion is planned for 2002 with an estimated budget of US$ 8000.

The following actions were agreed upon:

1. H. Egli to send out the draft to all project participants (L. Klasinec, T. Tavares, S. Schwarz, C. Larive, W. Kördel, H. Garelick, C. Larive, W. Peijnenburg), asking for input before the end of September.
2. All project participants to provide input before the end of September.
3. W. Kördel to prepare an overview of requirements in OECD guidelines.
4. H. Egli to revise the draft and to organize a meeting for final discussion.

Number: 660/24/95. <u>Solute movement in soils with potential rapid by-pass movement (Preferential Macro-pore Flow)</u>. Coordinator(s): Dr. Kördel and Dr. Egli, in collaboration with the Agrochemicals Commission (VI.4).

Background: Preferential flow in silt sand clay containing soils can significantly contribute to groundwater contamination and pollution of surface waters by the effluent of draining systems. Although the importance of rapid by-pass movement has been indicated, the process is still not fully understood.

<u>Objective:</u>

- Assess the importance of rapid by-pass movement
- Assess available prediction and modelling systems
- Assess the dependence of rapid by-pass movement on soil type and climatic conditions
- Assess monitoring and sampling requirements to determine contamination movement in the soil profile

Progress: The first draft report was circulated and discussed in Brisbane, concluding: the discussion section has to be revised, taking into consideration the additional inputs that were identified. The final report will be completed by mid 2002.

<u>Number: 990132/660/00</u> In-situ treatment of polluted soil and water with emphasis on the use of genetically engineered microorganisms. Coordinator: Dr. R. Mandelbaum, Israel.

Background. Newly synthesized organic structures pose new challenges to microbial metabolism and microbial manipulation, including genetic engineering to enhance biodegradation of pollutants is being considered.

Objectives:

- Assess catabolic pathways and evolution of new bio-degradative functions.
- Analysis of the microbial evolution for biodegradation, focusing on one of the commercially important herbicide – Atrazine, having similar structure to the antibiotic substance - fervenulin.

The project will review innovative issues of soil chemistry and genetically engineered microorganisms, in addition to the 'ethical' issue of release of genetically engineered organisms in the environment.

Progress: The project was highlighted in Chemistry International as one of the innovative projects. The Task group has been identified to include experts in biotechnology, agro-chemicals and risk assessment. The individual outlines are being synthesized by the Team Leader to produce a revised outline for the project. The contribution on risk assessment of Dr. M. Herrschen was discussed during the meeting. A budget of US $ 5000 was approved. An additional budget of US $ 3000 will be required for 2002.

The following actions were agreed upon:

1. Dr. Shevah to inform the project leader that Dr. H. Garelick is willing to contribute to the project.
2. Dr. Shevah to inform the project leader that Dr. M. Herrschen needs feedback on her contribution to the project.

Number: 990142/660/00. Evaluation of airborne and satellite remote sensing science and applications for detecting and monitoring water quality. Coordinator: Dr. A. G. Dekker, The Netherlands, Australia. Co-project leaders: Dr E. Ben Dor and Prof. Dr. A. Gitelson.

Background. Remote sensing may provide valuable information for the monitoring of water resources in the near future. The significance of such information will be critically reviewed.

Objectives:

- Address an important global issue of monitoring water quality in open water bodies
- Critical review and the state-of-the-art of remote sensing technology
- Improve water resources management and reduced costs of water quality monitoring

Progress: The initial activity was presented in Brisbane by Dr. A. G. Dekker of The Netherlands, now in Australia, the Task Group Leader, together with a poster titled "Airborne and Remote Monitoring of Water Quality: Evaluation of remote sensing techniques for real time control of water quality in surface water bodies".

The following conclusions were made:

1. The Title is to be revised to:" "Evaluation of airborne and satellite remote sensing applications for detecting and monitoring water quality aspects in surface waters" and the project outline revised accordingly.
2. Task Group size to have an appropriate worldwide and topic coverage, including limnologists and end users (Theo Klaassen).
3. Scope of the work: to include chemical contamination bathymetry, Macro-algae and Macrophytes. Focusing on primary production, eutrophication; dispersion of effluent plumes etc.

4. As part of the Alliance for Marine Remote Sensing Workshop on Freshwater and Near-Shore Remote Sensing, Nova Scotia October 2001. A satellite IUPAC remote sensing session is to be organized.
5. A budget of US & 5000 was approved. An additional budget of US $ 5000 will be required for 2002.

The following actions were agreed upon:

1. Dr. Garelick to propose a UK-scientist to contribute to the project.
2. Dr. Larive to propose a US-scientist to contribute to the project.
3. Dr. Shevah to propose an IUPAC-contributor to the project.
4. Dr. Dekker to rewrite the project proposal, and to provide a justification of costs.

5.3 Proposed Projects

Soil and Water Chemistry: Environmental Issues and Research Needs – Position Paper. Dr. Shevah, Dr. Kördel and Dr. Peijnenburg have drafted a position Paper. The paper was circulated to the Commission members for additions and comments. Upon approval, the paper will be submitted to the Division for policy decision and action, by September 2001. Items to be included: antibiotics and endocrine disrupting chemicals.

Biosensors for monitoring Environmental Pollutants: Evaluation of newly developed biosensors for monitoring the soil and water environment.
Divisional and inter-divisional discussions were held in Brisbane and the possibility of a recent publication by IUPAC, on the same topic (1999 – 2000?) was raised. This information will be verified before seeking IUPAC approval for the proposed project. The project has been reviewed, reviewers were positive. A core team is needed to start the work (Dr. Shevah to initiate the project).

Criteria for the Selection of reference Soil fore soil testing and Effect Assessment. Coordinator: Werner Kördel. A draft project proposal was discussed and it was agreed to prepare a final project proposal for submission to IUPAC by July 2001. The project will concentrate on agricultural land and will be limited to soils used for lab testing. A core team will be established, consisting of soil scientists, industry representatives and regulating authorities (end-users).

Valuation of Arsenic Contamination in water and Remediation Options. Coordinator: Dr. H. Garelick. A preliminary outline was prepared and discussed, covering a critical review of occurrence, processes and remediation options for reducing arsenic levels in drinking water supply. It was agreed to submit the project for IUPAC approval, using the new format, assuming no similar project of this nature was taken by IUPAC.

5.4 New Areas

Based on a discussion of Commissions VI.2 and VI.3, several areas of interest were identified, of which new projects can be identified by the new Sub-Committee on the Chemistry of Environmental Compartments, including:

- Waste Incineration and the use of the atmospheric sink for ultimate waste disposal as compared to land and water

- Atmospheric deposition and impact on soil/water ecosystems
- Antibiotics discharge in water, soil and air media
- Regional and localized environmental problems
- Pesticides deposition on non target areas
- Tropical forest and animal emissions
- Environmental quality in the Antarctica

6. Cooperation with other Commissions

Close cooperation and interaction has been achieved with the Commissions on Atmospheric Chemistry and Agro-chemicals (VI.2 and VI.4):

Atmospheric Chemistry Commission (VI2).

- International Symposium on Atmospheric Deposition and Impact on Ecosystems, with particular reference to the Mid-east. June 2000. The proceedings will be published as a special issue in PAC in 2001.
- Code of Practice for Reporting Analytical Data for Environmental Samples. The project team, comprising members of Commissions VI. 2 and VI.3, made a firm commitment to submit their parts by end of 2001 and then prepare a revised version for publication as a reference monograph by IUPAC, mid 2002.

Agrochemicals Commission (VI4).

- Pesticide Soil Sorption. Dr. Kördel, Dr. Sabljic, Dr. Egli, Prof. Mingelgreen and Dr. Gerstl contribute on behalf of the Commission. A draft was circulated for review and comments.
- Bioavailability of pesticides. Dr. Sabljic, Dr. Kördel, Dr. Peijnenburg, Dr. Larive, Dr. Garelick and Dr. Egli are to contribute on behalf of the Soil and Water Chemistry Commission. An outline was discussed and contributions were assigned to the Commission members.
- Drinking Water Quality standards. Dr. Shevah represents the Soil and Water Chemistry Commission. A draft report was circulated and discussed, before the final version will be published.

Interdivisional Committee on Nomenclature and Symbols IDCNS

A discussion of the issue was held with Steve Schwartz, representative of Division VI to IDCNS, regarding activities within Commission VI.3 that should be brought to the attention of IDCNS and may require consideration or action by the Committee.

7. Workshops and Conferences

Int. Symposium on Atmospheric Deposition and impacts on ecosystems, with particular reference to the Mid-East" Tel Aviv, June 4-5, 2000. The Symposium was organized by the Commissions VI.2 and VI.3. The proceedings are to be published in a special issue of PAC. An article on the Symposium was published in the October issue of Chemistry International, 2000.

IUPAC Symposium on Pesticide Regulation for Consumer and Environmental Safety and Fair Practices in the Food Trade, July 4th, 2001.

Arata Katayama (Japan): Distribution and degradation of endocrine active substances in soil and water.

10th International Symposium On Solubility Phenomena and Workshop 22nd – 24th July 2002. Varna, St. Constantine and Helen, Bulgaria

Session I: Quantitative Structure - Solubility Relationships
Session II: Crystallization from Solutions
Session III: Solubility Diagrams, Phase Relationships and their Application
Session IV: Application of Solubility Data in the Fields of Environment, Agriculture and Health
Session V: Application of Solubility Data in the Treatment of Marine – Type Solutions and Industrial Wastes

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8. Reports and Publications 1999 - 2001

M. Dassenakis, M. (1999). National environmental issues. Chemistry International.
Misra, B.M. (1999). National environmental issues. Chemistry International.
Sabljic, A. & Peijnenburg WJGM (Eds.) (1999). Proceedings of the workshop on Environmental Degradation Processes. Chemosphere, Special Edition, January 1999.
Shevah, Y, & M. Waldman (1999). Research and Development for Wastewater reuse. In: Juanico & Dor (Eds). Reservoirs for Wastewater Storage and Reuse. Springer - Verlag, Berlin, Heidelberg.
Waldman, M. & Shevah, Y (2000). Biological Diversity, An Overview. Kluwer academic publishers.
Shevah, Y, & R. Van Grieken (2000). International Symposium on Atmospheric Deposition and impacts on ecosystems, with particular reference to the Mid-East" Tel Aviv, June 4-5, 2000. Chemistry International.
Shevah, Y, & R. Van Grieken (Eds.) (2000). Proceedings of the "International Symposium on Atmospheric Deposition and impacts on ecosystems, with particular reference to the Mid-East", Tel Aviv, June 4-5, 2000 (in preparation).
A. Sabljic & W. Peijnenburg (2001). Recommendations On Modelling Lifetime And Degradability Of Organic Compounds In Air, Soil And Water Systems (submitted for publication in PAC).
J. Lintelmann, L. Shore, A. Wenzel, F. Dorobek, A. Katayama & N. Kurihara (2001) Oestrogenic Chemicals in the Environment (In Preparation).

Dr. Ir. W.J.G.M. Peijnenburg
Secretary IUPAC Commission on Soil and Water Chemistry (VI.3)

OVERVIEW OF ACTIONS AGREED UPON

Dr. Y. Shevah

- **Initiate the project "Biosensors for Monitoring Environmental Pollutants: Evaluation of newly developed biosensors for monitoring the soil and water environment".**
- **Inform the project leader that Dr. H. Garelick is willing to contribute to the project "In-situ treatment of polluted soil and water with emphasis on the use of genetically engineered microorganisms".**
- **Dr. Shevah to inform the project leader that Dr. M. Herrschen needs feedback on her contribution to the project "In-situ treatment of polluted soil and water with emphasis on the use of genetically engineered microorganisms".**
- **Propose an IUPAC-contributor to the project "Evaluation of airborne and satellite remote sensing science and applications for detecting and monitoring water quality".**
- **Ask Dr. Shore to take over as the project leader of the project "Oestrogenic Chemicals in the Environment", making sure that the project is terminated in 2001.**
- **Inform the project team participants of the project "Oestrogenic Chemicals in the Environment" on the outcome of the discussions.**
- **Finalize the position paper on research needs in the areas of Water and Soil Chemistry, following input from other Commission Members.**
- **Initiate a proposal for a project on "Waste Incineration and the use of the atmospheric sink for ultimate waste disposal as compared to land and water".**

Dr. W. Peijnenburg

- **Send project proposal on biosensors to all Commission members.**
- **Provide input regarding the project "Code of Practice for Reporting Analytical Data for Environmental Samples" to H. Egli before the end of September.**
- **Prepare a project proposal for the project "Criteria for the Selection of reference Soil fore soil testing and Effect Assessment".**
- **Contribute to the project "Bioavailability of pesticides".**
- **Send comment on the position paper on research needs in the areas of Water and Soil Chemistry to Dr. Shevah before the end of August.**

Dr. A. Sabljic

- **Contribute to the project "Bioavailability of pesticides".**
- **Send comment on the position paper on research needs in the areas of Water and Soil Chemistry to Dr. Shevah before the end of August.**

Dr. H. Egli

- **Send out the draft report regarding the project "Code of Practice for Reporting Analytical Data for Environmental Samples" to all project participants (L. Klasinec, T. Tavares, S. Schwarz, C. Larive, W. Kördel, H. Garelick, W. Peijnenburg), asking for input before the end of September.**

- **Revise the draft report regarding the project "Code of Practice for Reporting Analytical Data for Environmental Samples" and organize a meeting for final discussion.**
- **Propose a representative of Syngenta to contribute to the project "Criteria for the Selection of reference Soil fore soil testing and Effect Assessment".**
- **Contribute to the project "Bioavailability of pesticides".**
- **Send comment on the position paper on research needs in the areas of Water and Soil Chemistry to Dr. Shevah before the end of August.**

Dr. H. Garelick

- **Provide input regarding the project "Code of Practice for Reporting Analytical Data for Environmental Samples" to H. Egli before the end of September.**
- **Propose a UK-scientist to contribute to the project "Evaluation of airborne and satellite remote sensing science and applications for detecting and monitoring water quality".**
- **Contribute to the project "Bioavailability of pesticides".**
- **Investigate whether is to useful to initiate a project on the "Valuation of Arsenic Contamination in water and Remediation Options". If so, prepare an outline fro circulation within Commission VI.3, and then prepare a project proposal and subsequently assign contributors to the project.**
- **Send comment on the position paper on research needs in the areas of Water and Soil Chemistry to Dr. Shevah before the end of August.**

Dr. W. Kördel

- **Provide input regarding the project "Code of Practice for Reporting Analytical Data for Environmental Samples" to H. Egli before the end of September, including an overview of requirements in OECD guidelines.**
- **Initiate the project "Criteria for the Selection of reference Soil fore soil testing and Effect Assessment".**
- **Contribute to the project "Bioavailability of pesticides".**
- **Send comment on the position paper on research needs in the areas of Water and Soil Chemistry to Dr. Shevah before the end of August.**

Prof. C. Larive

- **Provide input regarding the project "Code of Practice for Reporting Analytical Data for Environmental Samples" to H. Egli before the end of September.**
- **Propose an American Scientist to contribute to the project "Criteria for the Selection of reference Soil fore soil testing and Effect Assessment".**
- **Propose a US-scientist to contribute to the project "Evaluation of airborne and satellite remote sensing science and applications for detecting and monitoring water quality".**
- **Contribute to the project "Bioavailability of pesticides".**
- **Send comment on the position paper on research needs in the areas of Water and Soil Chemistry to Dr. Shevah before the end of August.**

- **Prepare a draft outline for a project on antibiotics discharge in water, soil and air media, and distribute among Commission Members.**

Dr. A. Dekker

- **Rewrite the project proposal on the project "Evaluation of airborne and satellite remote sensing science and applications for detecting and monitoring water quality", and provide a justification of costs.**

All Members

- **Indicate your interest in the current projects and provide input on the projects.**