



NEWSLETTER

INTERNATIONAL HUMIC SUBSTANCES SOCIETY

Number 16
1996

July,

EDITORIAL

Dear Member,

it is with great pleasure and honour that I take over the important task of Editor of the Newsletter, in the office of Secretary of the IHSS. In the last few years, our Past President, Dr. Michael H.B. Hayes, together with his collaborators, devoted time and energies in successfully producing six issues of the Newsletter, as unanimously requested by the Board of Directors. In first place, I strongly wish to acknowledge the important, tireless, and excellent work made by Dr. Hayes and his collaborators in this task, and I am sure that all members of the International Humic Substances Society will join me in a sincere sign of appreciation.

In the IHSS Conference held in Atlanta in September 1995 the Board of Directors, as one of the main points of the agenda, clearly stated that the rate of publication of the Newsletter (three issues per year) should be maintained, and urged all members of the Board to contribute and supply items to be included in the Newsletter. I will try to continue on this track, and am planning to mail you the third issue of the Newsletter, N° 17, by next Fall 1996.

I strongly encourage all Members to cooperate with me in this important task by promoting and supporting a rich and informative Newsletter, with a continuous flux of contributions, ideas and news from individuals and chapters to be enclosed into the Newsletter.

I thank all of you in advance for your contributions and I look forward to hearing from you as soon as possible. Please, write and let me try to make our Newsletter a useful tool for improving communications and exchanges among IHSS members.

*Teodoro M. (Ted) Miano
Secretary*

INTERNATIONAL HUMIC SUBSTANCES SOCIETY BOARD OF DIRECTORS

1996

Past President

Dr. Michael H.B. Hayes
School of Chemistry
University of Birmingham
Edgbaston, Birmingham
B15 2TT, United Kingdom
Tel. (+) 44 121 414 4405
Fax. (+) 44 121 414 4426
M.H.B.Hayes@bham.ac.uk

Secretary

Dr. Teodoro M. (Ted) Miano
Istituto di Chimica Agraria
Università di Bari
Via Amendola, 165/A
70126 Bari, Italy
Tel. (+) 39 80 544 2857
Fax. (+) 39 80 544 2813
tmiano@mail2.clio.it

Board Position

Dr. Michael E. Perdue
School of Earth and
Atmospheric Sciences
Georgia Inst. of Technology
Atlanta, GA 30332, USA
Tel. (+) 1 404 894 3942
Fax. (+) 1 404 894 5638
michael.perdue@eas.gatech.edu

President

Dr. Nicola Senesi
Istituto di Chimica Agraria
Università di Bari
Via Amendola, 165/A
70126 Bari, Italy
Tel. (+) 39 80 544 2853
Fax. (+) 39 80 544 2813
nsenesi@mail2.clio.it

Treasurer

Dr. C.E. Clapp
Dept. Soil, Water, Climate
University of Minnesota
1991 Upper Buford Circle
St. Paul, MN 55108, USA
Tel. (+) 1 612 625 1244
Fax. (+) 1 612 625 2208
eclapp@soils.umn.edu

Board Position

Dr. Egil Gjessing
Agder College
4604 Kristiansand
Norway
Tel. (+) 47 38 14 10 00
Fax. (+) 47 38 14 10 01
Egil.T.Gjessing@hia.no

Vice President

Dr. James J. Alberts
Marine Institute
University of Georgia
Sapelo Island
GA 31327, USA
Tel. (+) 1 912 485 2221
Fax. (+) 1 912 485 2133
jalberts@uga.cc.uga.edu

Reference Collection, Chairman

Dr. Patrick MacCarthy
Dept. of Chemistry
and Geochemistry
Colorado School of Mines
Golden, CO 80401, USA
Tel. (+) 1 303 273 3626
Fax. (+) 1 303 273 3629

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ELECTION TO THE BOARD OF DIRECTORS OF THE IHSS

The election to the position of Vice-President/President-Elect of the IHSS has been completed, after a delay, on May 31, 1996.

The results of the ballot gave a narrow majority to Dr. James J. (Jim) Alberts (University of Georgia, Marine Institute, Sapelo Island, Georgia 31327, USA) in the contest for the Board position. Warmest congratulations, Jim. All of us are looking for your appreciated contribution to the activities of the Board and the Society.

The Board and the Society sincerely thanks Dr. Fritz H. Frimmel (Institute for Water Chemistry, University of Karlsruhe, Karlsruhe, Germany) for participating in the election. We look forward to his continuing appreciated support of the Society.

*The President
Nicola Senesi*

A distinguished Society Member and an old dear friend has passed away

Professor Dr. Laszlo Hargitai, Department of Soil Science and Agrochemistry, University of Horticulture and Food Industry, Budapest, Hungary, an active member of IHSS since its foundation and coordinator of the Hungarian National Chapter of IHSS, has passed away on July 12, 1996.

All of us are deeply impressed and touched by the loss of Professor Hargitai, an internationally renowned scientist and leader in the study and research in Humic Substances in Hungary.

I first met Laszlo about 20 years ago, in 1977, during my first visit in the Budapest of the hard times, and I was, as a young scientist, so impressed by his dedication and love for Humic Substances. The Society has lost not only a great Scientist, but also a lovely person and a sincere Friend.

Nicola Senesi

MEMBERSHIP DUES (1996)

20 US \$ / year (10 US \$ for students):

- **European Union** (including Norway)
- **Switzerland**
- **Israel**
- **United States**
- **Mexico**
- **Canada**
- **Australia-New Zealand**
- **Japan**
- **Malaysia**
- **Philippines**
- **Argentina**
- **Venezuela**
- **Brazil**
- **South Africa**

- **former URSS countries**, including Baltic Republics
- **Bulgaria**
- **Romania**
- **Albania**
- **P.R. China**

National Coordinators should collect the fees from members of their chapters in local currencies, deduct 20-25 % out of the fees for local expenses (Newsletter, copying and mailing, etc.), and then send the balance in US \$ to the Treasurer, Dr. C.E. Clapp, Univ. Minnesota, St. Paul, MN, USA..

5 US \$ / year (2 US \$ for students):

- **Poland**
- **Czech R.**
- **Slovak R.**
- **Hungary**
- **Slovenia**
- **Croatia**
- **Caribbean Countries**
- **Developing countries in Africa, Asia and Central and South America**

Coordinators from 5 \$-group chapters are invited to collect dues for two years (\$10, to save by converting to US \$ not so often) and are allowed to keep up to 50% of the fee for local expenses. Coordinators from 1 \$-group chapters can keep the entire fee for local expenses.

IHSS Members are reminded that membership dues are payable at the beginning of each year directly to their National Coordinators.

1 US \$ / year:

LIST OF NATIONAL CHAPTERS COORDINATORS

Prof. Ramon A. **Rosell**
Univ. Nacional del Sur
Dpto Agronomia - LAHBIS
8000 Bahia Blanca
Argentina

Dr. Kaye M. **Spark**
Univ. of South Australia
Ian Wark Research Institute
SA 5095 The Levels
Australia

Prof. Andre **Maes**
K.U. Leuven
Lab. voor Colloidchemie
Kardinal Mercierlaan, 92
B-3001 Heverlee - **Belgium**

Dr. Todor **Boyardgiev**
N. Pouskarov Institute
Soil Sci. & Yield Programming
5, Shosse Bankya POB 1369
1080 Sofia - **Bulgaria**

Dr. P.M. **Huang**
Univ. of Saskatchewan
Dept. of Soil Science
51 Campus Drive
S7N 5A8 Saskatoon, SK - **Canada**

Dr. Jianming **Xu**
Zhejiang Agricultural University
Dept. of Soil Science
Hangzhou, Zhejiang
China

Prof. Braj K. **Singh**
EARTH University
Apdo Postal 4442-1000
San José
Costa Rica

Dr. Peter **Dolejs**
W&ET Team
Box 27, Pisecka 2
37011 Ceske Budejovice
Czech Republic

Dr. M.H.B. **Hayes**
University of Birmingham
School of Chemistry
Edgbaston
B15 2TT Birmingham - **England**

Dr. J.-P. **Croue**
Ecole Sup. d'Ingenieurs de
Poitiers
Lab. Chimie de l'Eau et Nuisances
40, Av. du Recteur Pineau
86022 Poitiers Cedex - **France**

Dr. Gudrun **Abbt-Braun**
University of Karlsruhe
Dept. of Water Chemistry
Richard Willstätter Allee 5

76131 Karlsruhe - **Germany**
TO BE DESIGNATED

Hungary

Prof. Yona **Chen**
Hebrew Univ. of Jerusalem
Dept. Soil & Water - Agriculture
P.O. Box 12
76100 Rehovot - **Israel**

Prof. Nicola **Senesi**
Università di Bari
Ist. di Chimica Agraria
Via Amendola, 165/A
70126 Bari - **Italy**

Prof. Ryoshi **Ishiwatari**
Tokyo Metropolitan Univ.
Dept. Chemistry - Fac. Science
Minami-Oshawa, Hachioji
192-03 Tokyo - **Japan**

Dr. Maris **Klavins**
University of Latvia
Raina Blvd. 19
LV-1568 Riga
Latvia

Dr. M.H.A. **Husni**
Department of Soil Science
U.P.M. Serdang
43400 Selangor
Malaysia

Prof. Lenom J. **Cajuste**
Colegio de Postgraduados
Centro de Edafologia
Km. 34 Carr. Mexico-Texcoco
56230 Montecillo - **Mexico**

Prof. W.H. **van Riemsdijk**
Agricultural University
Soil Science & Plant Nutrition
P.O. Box 8005
6700EC Wageningen **Netherlands**

Dr. Egil T. **Gjessing**
Agder College [HiA]
Inst. naturvitenskapelige fag
Tordenskjolds gate 65, Post.
4604 Kristiansand - **Norway**

Dr. Kenneth G. **Cassman**
Int. Rice Research Institute
Agronomy, Plant Physiology, AE
P.O. Box 933
1099 Manila - **Philippines**

Prof. Jerzy **Drozd**
Agricultural Univ. Wroclaw
Inst. Soil Sci. Agric. Env. Prot.
Grunwaldzka 53

50-357 Wroclaw - **Poland**
Prof. Armando C. **Duarte**
Universidade de Aveiro
Dept. of Chemistry
Campus Univ. Santiago
3800 Aveiro - **Portugal**

Dr. Alexandra **Vasu**
Res. Institute. Soil Science
and Agrochemistry
Bd. Marasti nr. 61
71331 Bucuresti - **Romania**

Dr. Yana M. **Ammosova**
Moscow State University
Dept. of Soil Science
119899 Moscow
Russia

Dr. Gabriela **Barancikova**
Soil Fertility Res. Institute
Research Station - Presov
Reimannova 1
08001 Presov - **Slovakia**

M.Sc. Marjeta **Krajnc**
"Jozef Stefan" Institute
Dept. Phys. & Environ. Chem.
Jamova 39 - PO Box 100
61111 Ljubljana - **Slovenia**

Dr. Karl **Ramseyer**
University of Bern
Geologisches Institute
Baltzerstrasse, 1
CH 3012 Bern - **Switzerland**

Dr. Selwyn M. **Griffith**
The Univ. of West Indies
Dept. of Soil Science
Sr. Augustine
Trinidad

Dr. James A. **Rice**
South Dakota State University
Chemistry Department
Shepard Hall 121, Box 220
57007-089 Brookings, SD - **U.S.A.**

Dr. Carmen **Rivero**
Univ. Central de Venezuela
Inst. Edafologia - Fac. Agronomia
Estado Aragua
A.P. 4579 Maracay - **Venezuela**

Dr. Liu **Ruilong**
University of Minnesota
Dept. Soil, Water & Climate
439 Borlaug Hall
55108 St. Paul, MN - **U.S.A.**
(China Repres. in the U.S.)

IHSS STUDENT TRAVEL BURSARIES - 1996

The “*ad hoc*” Committee for Student Travel Bursaries - 1996 for Attendance to the 8th IHSS Conference in Wroclaw, Poland, September 9-14, 1996, appointed by the President, and including the two Past Presidents and himself, has completed in June the evaluation of applications submitted.

The President received nine regular applications. The candidates were evaluated mainly on the basis of scientific merit and geographical distribution. The amount of money assigned for each travel bursary also took into consideration the distance of the residence of the candidate from Wroclaw.

The successful applicants are, in alphabetical order: Miss Elga Apsite, Univ. of Latvia, Riga; Ms. Jian Li, Georgia Inst. of Technology, Atlanta, GA-USA; Miss Laure Metzger, EPFL, Lausanne, Switzerland; Mr. Michael J. Quane, Univ. of Birmingham, UK; Miss Federica R. Rizzi, Univ. of Bari, Italy; and Mr. Laurent Thuries, INP-ENSAT, Toulouse, France.

All the applicants have been personally informed of the results directly by the President.

The Bursaries will be officially assigned in a ceremony during the IHSS Assembly in Wroclaw.

The Society congratulates with all the applicants wishing them a proficuous and exciting attendance at the Conference and a successful work in Humic Substances Studies.

Nicola Senesi

IHSS PROCEEDINGS VOLUMES

Proceedings of the VIIth Int. Meeting of the IHSS, St. Augustine, Trinidad, July, 1994

HUMIC SUBSTANCES AND ORGANIC MATTER IN SOIL AND WATER ENVIRONMENTS: CHARACTERIZATION, TRANSFORMATIONS AND INTERACTIONS

C.E. Clapp, M.H.B. Hayes, N. Senesi, and S. Griffith (Eds.)

The Proceedings of the VIIth International Conference of IHSS will be printed about July 15, 1996, and may be purchased (after about August 1) in local currency from the Coordinators of the National Chapters of IHSS. Chapter Coordinators have to take orders in their own countries and send a composite order to Dr. C.E. Clapp (payments have to be made in US \$). Dr. C.E. Clapp, Dept. of Soil, Water & Climate, University of Minnesota, S527 Soil Science Bldg., 1991 Upper Buford Circle, St. Paul, MN, USA. Tel. +1.612.625.1244, fax: +1.612.625.2208, e-mail: eclapp@soils.umn.edu. The costs are the equivalent (in the currency of the national chapter) of \$30 (US) for members and \$50 (US) for persons who are not members of

IHSS. Free copies will be sent to persons who paid full registration at the Trinidad meeting.

The Proceedings consist of 57 papers and 505 pages in seven sections:

Section 1 addresses the theme '**Isolation, Fractionation, and Characterization of the Humic Substances of Soils and Waters**' and consists of 11 papers and 90 pages. Five of the papers, and 46 pages are devoted to the isolation and fractionation of humic substances from soils and waters, and six papers address the characterization of the humic substances from soil and water sources. The isolation processes address the classical methods which use sodium hydroxide and salts (especially sodium pyrophosphate), and some more modern methods which use organic solvents (especially combinations of dimethyl sulfoxide, or DMSO and HCl), and sequential methods which exhaustively extract with salt solutions at different pH values, with combinations of salts and base, and culminating in DMSO/HCl. The fractionation procedures address the uses of XAD-8 [poly(methylmethacrylate)] and XAD-4 (styrenedivinyl benzene) resins in tandem, and elution from the resins using solutions of different pH values. The uses of polyacrylamide gel electrophoresis, isoelectric focusing, viscosity determinations, high performance gel permeation chromatography, analytical pyrolysis, and sugar and amino acid analyses are described for the characterization of humic fractions.

Section 2 focuses on '**Transformations of Organic Matter in Soils**'. This section consists of six papers and 45 pages which deal with the transformations to humic substances of a variety of organic substrates, including materials from forest and cereal straw, a variety of microbial processes, and the influences of soil management on the transformations.

Section 3 is involved with the '**Influence of Management Practices on the Composition and Properties of Organic Matter in Soils and Waters**', and is composed of 9 papers and 75 pages. The papers range from considerations of land use practices to the composition and distribution of organic matter under cultivation and under forest, to the influences of fertilizers on the organic matter of soils, to the characteristics of acid rain on the organic carbon characteristics and humic substances in the soil solution.

Section 4 deals with '**Spectroscopy, Photochemical and Chemical Degradations of Humic Substances**', and consists of 9 papers and 85 pages. The spectroscopy topics include ¹⁵N- and ¹³C-NMR cross polarization magic angle spinning, ³¹P-NMR, FTIR, and fluorescence spectroscopy, and the degradation aspects deal with reductive degradation of humic substances or humic-type substances isolated from the Bayer process, using sodium amalgam.

Nine topics covering 82 pages are contained in *Section 5* which deals with '**Interactions of Xenobiotic Chemicals, Metals, and Minerals with Humic Substances**'. Especial emphasis is given to the interactions of xenobiotic and of organic chemicals in general with humic substances and attention is focused also on the influences of cultivation practices on the interaction processes. Attention is also focused on the influence of humification transformation processes on the mobilities and distributions of heavy metals. The last two papers in the section examine the uses of a calcined paleozoic schist and of a pillared clay preparation for the sorption of humic substances from water.

Section 6 is composed of 5 papers and 35 pages which deal with '**Biological Influences of Humic and Humic-Like Substances and their Degradation**

Products'. These topics include the post chlorination mutagenicity of humic substances, humic substances as natural detoxicants, profibrinolytic effects of humic acid-like substances, and the influences of sugarcane filter press mud on plant growth.

Section 7, with 8 papers and 65 pages, is involved with the '**Characterization of Organic Matter Transformation Products from Composts, Sludges, and Wastewaters**'. The topics in this section are highly topical in view of the legislation which is being introduced with regard to the disposal of sludges, and the utilization of organic wastes. Appropriate emphasis is given to composting processes and products, to the interactions of these with heavy metals, and to the influences of composts and sludges on soil structure.

This book of Proceedings is essential reading for all who are involved with studies of humic substances. Readers will find it great value for the money. The Editors have asked us to remind members that it is very important to get this book into their libraries. In these it will be available for generations of students, and it will be important too for the Society which incurred substantial expense to make the excellent contents of the Proceedings available for the membership.

T.M. Hayes and Barbara E. Watt

Proceedings VIIIth Int. Meeting of the IHSS, Wroclaw, Poland, September, 1996

The IHSS 8 Proceedings Volume will be printed after the Meeting and will be available in 1997. The price of the Volume, which consists of about 1000 pages, will approximately be around 100 US \$. All interested subscribers can contact IHSS 8 Secretariat: ihss@ozi.ar.wroc.pl. Detailed information will be sent to them by early spring 1997.

NATIONAL CHAPTERS NEWS

⇒ On December 4, 1995, the French Chapter of the (**Groupe Francais de l'International Humic Substances Society**) has been officially formed, with the following address: Laboratoire de Chimie de l'Eau et des Nuisances, 40 Aveue du Recteur Pineau, 86022 Poitiers Cedex, France. **Dr. Jean-Philippe CROUE**, Maitre de Conferences à l'Université de Poitiers, has been elected President (*Président entrant*) of the new starting Chapter of the IHSS. Members of the Board of the Directors are: Dr. F. Gadel, Vice-President; Dr. S. Staunton, Vice President; Dr. N. Merlet, Secretary; Dr. D. Rybacki, Secretary; Dr. M. Kaemmerer, Treasurer. The Bylaws, organized in 3 Sections and 13 Articles, indicate as main objectives of the French Chapter "*to encourage and stimulate collaboration among their members in order to increase the knowledge on humic substances*" and "*to encourage its members to participate and to take advantage of the activities of the IHSS*". Among its activities, the French Chapter will organize seminars, scientific meetings, and other initiatives. The first National Meeting is announced to take place next 28-29 November, 1996, in Toulouse. Further detailed information will be provided in the next number of this Newsletter.

⇒ In December, 1996, the **Italian Chapter** of the IHSS will hold its annual meeting in Udine, a nice city in the north-eastern part of the country. **Dr. Maria DE NOBILI**, Associate Professor at the Dept. of Crop Production of the University of Udine, has been appointed as Chairperson of the event. Further detailed information will be provided in the next number of this Newsletter

MISCELLANEOUS

Scientist discover new element

The heaviest element known to science was recently discovered by university physicists. The element, tentatively named "Administrium", has no protons or electrons and thus has an atomic number of 0. However, it does have one neutron, 15 assistant neutrons, 70 vice-neutrons and 116 assistant vice-neutrons. This gives it an atomic mass of 247. These 247 particles are held together in the nucleus by a force that involves the continuous exchange of meson-like particles called "morons". Since it has no electrons, Administrium is inert. It can be detected chemically as it impedes every reaction with which it comes in contact. According to discoverers, a minute amount of Administrium added to one reaction caused it to take over four days to complete; without Administrium, the reaction occurs in less than one second. Administrium has a life time of approximately three years, at which time it does not actually decay, but instead undergoes a reorganization in which assistant neutrons, vice-neutrons and assistant vice-neutrons exchange places. Studies seem to show that the atomic mass actually increases after each reorganization. Research indicates that Administrium occurs naturally in the atmosphere, but it tends to concentrate in certain locations such as governments, large corporations and, especially, universities. It can usually be found polluting the best appointed and best maintained buildings. Scientists warn that Administrium is known to be toxic and recommend plenty of alcoholic fluids followed by rest after even low levels of exposure.

Copied (by small changes) from P.A. Thompson
 (thompson@medlib.georgetown.edu)
 Sent by F.J. Rey Losada (frey@uvigo.es) to the mail list soil-chem (SSSA - Div. II)

SCIENCES of SOILS - A new World Wide Web journal

The World_Wide_Web (WWW) is an excellent platform for scientific publishing, which offers a lot of advantages, for example: (i) Nonlimited worldwide access; (ii) Fast publication of articles; (iii) Graphical features (i.e. coloured figures and photos); (iv) Direct and easy communication among author(s) and reader(s); (v) Fast and topic related document search. Since nearly all universities, research laboratories and institutions are connected to the Internet almost everyone has access to the informations the WWW offers. SCIENCES of SOILS was established to benefit from these advantages and to make them available to soil scientists.

Dr. Thomas Hintze, Kurfuerstenstr. 13, D-54295 Trier, Germany
 phone/fax:+49 (0)651 47163 - email: sos@pgsun01.uni-trier.de or **hintzet@uni-trier.de**

Soil Chemistry on the Internet

More than 300 individuals subscribe to Soil-Chem, an e-mail discussion group for soil chemistry research and policy issues. In recent months there have been lively exchanges on computational chemistry, the use of pH buffers in studies of soil suspensions, the *pros* and *cons* of multiple symposia at national meetings, etc. This list is open to all. Once subscribed, **you will receive any messages sent to soil-**

chem@soils.unm.edu, and you can post messages by sending them to the same address. Remember, all messages sent to Soil-Chem are forwarded to all subscribers (i.e. messages intended for individuals should be sent to their individual e-mail addresses, not to Soil-Chem). Questions can be sent directly to Paul Bloom at **pbloom@soils.unm.edu** via e-mail.

Division S-2 of the SSSA on the World Wide Web

<http://www.soil.ncsu.edu/S2/home.html>

Paul Bloom and Wayne Robarge are coordinating the development of a set of WEB pages for Division S-2. Progress toward this goal may be followed at the above WEB site which resides on a Windows NT server located in the Department of Soil Science at North Carolina State University. (Access to the WEB pages requires an Internet connection and a WEB browser, such as Netscape or Mosaic). Suggestions and comments regarding the content and organization of the WEB pages are actively requested from all division members. E-mail Wayne Robarge at **wayne_robarge@ncsu.edu** for more information.

Bioremediation Discussion Group

Nearly 600 individuals subscribe to the Bioremediation Discussion Group, an e-mail discussion group (BioGroup) established by GZA GeoEnvironmental, Inc. (GZA) to provide a forum for the engineering and scientific community to discuss intrinsic and enhanced bioremediation. The BioGroup hopes this forum will offer a means to transfer technology, provide a medium for the standardization of biotreatability protocols, and will advance the science and engineering of bioremediation technologies. Due to the complexities of biochemical processes, GZA welcome input from environmental engineers, hydrogeologists, microbiologists, soil scientists, environmental chemists, and all who wish to contribute to this important topic. [This list is open to all.](#) Please direct any questions about the list to I. Richard Schaffner, Jr. at **rschaffner@gzea.com**.

Humus in the Space

Dr. B.K. Singh, researcher at the Escuela de la Region Tropical Humeda (EARTH), the School of the Tropical and Humid Region, Costa Rica, and fresh member of our Society, is patenting a 100 % natural process to produce humic substances by a correct mixture of organic residues and plant fibers. In the near future, structural studies of these humus molecules will be carried out on molecules crystallized in no gravity atmosphere, as part of the scientific program of a next space expedition (Dr. Franklin Chang).

MEETINGS

- ◆ **Co-sponsored by IHSS**
- ◆ 2nd International Symposium Working Group M.O. 'Interactions of Soil Minerals with Organic Components and Microorganisms' (ISMOM) of the ISSS "**Effect of Mineral-Organic-Microorganism Interactions on Soil and Freshwater Environments**", Nancy, France, 3-6 September **1996**. Conference information: Dr. J. Berthelin, c/o Secretariat of ISMOM 96, Centre de Pedologie Biologique, BP 5, 54501 Vandoeuvre-les-Nancy Cedex, France. e-mail: ismom96@cpb.cnrs-nancy.fr
- ◆ 6th Nordic Symposium on Humic Substances "**Humic Substances as an Environmental Factor**", Hameenvinna, Finland, 10-12 June **1997**. Conference information: Dr. Egil Gjessing, Agder College [HiA], 4604 Kristiansand. Tel. +47.38.14.1561; fax: +47.38.14.1001; e-mail: Egil.T.Gjessing@hia.no
- ◆ XIII International Symposium on Environmental Biogeochemistry "**Matter and Energy Fluxes in the Anthropocentric Environment**", Monopoli (Bari), Italy, 21-27 September **1997**. The International Symposia on Environmental Biogeochemistry (ISEB) are a long-established and renowned forum for communication, discussion, and exchange of information and new ideas on interdisciplinary aspects of the biogeochemistry of the global environment. The objectives of the ISEB include the promotion of scientific knowledge, stimulation of scientific investigations, and improvement of education in environmental biogeochemistry and related subjects. Conference information: **Prof. Nicola Senesi**, Istituto di Chimica Agraria, Università di Bari, Via Amendola, 165/A, 70126 Bari - Italy. Tel. +39.80.5442853; fax: +31.80.5442813; e-mail: nsenesi@mail2.clio.it.
- ◇ **Others relevant to IHSS activities**
- ◇ IWSA Natural Organic Matter Workshop "**Influence of natural organic matter characteristics on drinking water treatment and quality**", Poitiers, France, 18-19 September **1996**. The IWSA seeks to achieve a better understanding between all water distribution players, and encourages concerted and universal measures aimed at resolving the growing worldwide problems of water distribution. Contact person: **Dr. Jean-Philippe Croue**, Laboratoire de Chimie de l'Eau et des Nuisances, 40 Avenue du Recteur Pineau, 86022 Poitiers Cedex, France. Tel. +33.49.45.3915; fax: +33.49.45.3768; e-mail: croue@hermes.univ-poitiers.fr
- ◇ 1996 International Ecological Congress, Voronezh, Russia, 22-28 September **1996**. This conference will focus on implementing recommendations of the 1992 United Nations Conference on Environment and Development (Rio de Janeiro). Details on the WEB: <http://www.dce.ksu.edu/dce/conferences/ecology.html>. Questions to: **Dr. Bettie Minshall**, e-mail: minshal@dce.ksu.edu.
- ◇ IWSA/IAWQ Joint Specialist Conference "**Reservoir Management and Water Supply - an Integrated System (Theory, practice, new developments and complex solutions)**", Prague, Czech Republic, 19 - 22 May **1997**. The IAWQ (International Association on Water Quality) - IWSA (International Water Supply Association) Joint Specialist Group on "Reservoir Protection, Management and Water Treatment" was formed as a result of the need for a better understanding

of the interactions between reservoirs and drinking water treatment. The conference in 1997 will be the first international event organised by the group. The Conference aims to bring together engineers, scientists, practitioners, consultants and professional managerial and technical staff from the whole spectrum of interested disciplines to exchange knowledge and experience of these important interactions. Conference information: **Dr. Petr Dolejs**, IWSA/IAWQ Conference - W&ET Team, Box 27, Pisecka 2 - 370 11 Ceske Budejovice - CZECH REPUBLIC. Tel/fax: +42-38-41624; e-mail: **petrdol@marvin.jcu.cz**.