



NEWSLETTER

INTERNATIONAL HUMIC SUBSTANCES SOCIETY

Number 42

Winter 2009/2010

Dear members of IHSS,

Currently we are finalizing the preparation for the election of new IHSS officers. The IHSS Board would like to sincerely thank the Nomination Committee consisting of Kaye Spark (Australia, Chair), Elzbieta Jamroz (Poland), Antonio Salvio Mangrich (Brazil) and Claire Richard (France) for the effective search for candidates. In this Newsletter you will find CVs and statements of all candidates. We gratefully acknowledge the effort of the Committee.

Active participation in election of as large as possible membership is one of the most important task of the IHSS Board for several years. Thanks to personal engagement of Paul Bloom and his cooperation with the Mineralogical Society of America, we can use their server to host a website for on-line payment and voting, which will accelerate the process and guarantee strictest confidence. Gudrun Abbt-Braun, IHSS secretary, did a great job to create a central membership list, including email addresses. On this basis it was possible to adopt the system. 2010 will be the first year that the election will be conducted via on-line system. We hope that this will lead to a high voter turnout. Detailed information on the procedure are given in this Newsletter. However, the final success needs the active participation of all members. Be aware that you are quite within your right to decide on the Society, and cast your vote.

We all are deeply convinced that the future of our Society is in the young generation. Since the financial situation of IHSS is going well, the Society supports young scientists and students each year. In 2009 the IHSS Board agreed to award 10 applicants for Training Awards, enabling them visits in renowned laboratories for 1 to 3 months around the world. This year we have received a record number of IHSS Travel Support Awards applications, generally of very high level. This is really promising for the Society. 47 students applied for support, enabling them to present their work and attend the upcoming IHSS 15 conference, to be held at the end of June and the beginning of July in Puerto de la Cruz, Tenerife, Canary Islands. The Selection Committee met a big challenge and prepared the

ranking list of the best applications. The Board is currently working on the final list of the IHSS Travel Support Awards recipients, which will be announced in the next Newsletter.

The success of our international meetings depends on the willingness of volunteers to host future meetings. Groups from China, Greece and Italy declared an interest in hosting the IHSS conference in 2012. We are looking for others to host future meetings. If you are interested in hosting IHSS meeting please contact me at jerzyweber@gmail.com.

We are looking forward to seeing all of you at IHSS15 on Tenerife in June/July 2010,

yours sincerely,

Prof. Jerzy Weber

President of IHSS

ELECTIONS

As announced in the last Newsletter, this winter and spring we will be conducting elections for Vice President and Board Member for the term 2010 to 2012.

The President appointed the nominating committee as listed below:

- Kaye Spark of the University of Queensland (Australia) (Chair),
- Elzbieta Jamroz of the Wroclaw University of Environmental and Life Sciences, Institute of Soil Science and Environmental Protection (Poland),
- Antonio Salvio Mangrich of the Universidade Federal do Paraná, Departamento de Quimica (Brazil),
- Claire Richard of the Université Blaise Pascal, Laboratoire de Photochimie (France).

The list of candidates are:

Vice-President

- **Teodoro Miano, Italy**
- **Mike Perdue, USA**

Board Member

- **Irina Perminova, Russia**
- **Etelka Tombácz, Hungary**
- **Jianming Xu, China**

The candidates' statements and CV's are in this Newsletter.

You will be asked to cast one vote for "Vice-President", and one vote for "Board Member".

**We will be conducting on-line balloting. Please cast your ballot by the deadline of
April 15, 2010**

How to vote on-line

- You will receive a message by email from: elections@humicsubstances.org
- The email will contain your username (your email address) and your password, and the web address for the electronic ballot.

<https://ihss.humicsubstances.org/electionstart2010.html>

It is also possible to enter via the IHSS homepage:

(<http://www.ihss.gatech.edu/ihss2/>), selecting "Election 2010"

- Instructions on how to vote are given on the first page after you enter with your password. You can either vote immediately, or you can download or print the instructions, election information, and ballot for study and consideration before voting on-line.
- Balloting is open from now until April 15, 2010.
- We will send four emails in all, the first and up to three reminders before the deadline. Reminders only go to those that have not voted.
- If by February 28, 2010 you will not receive a message by email requesting that you cast a ballot, please inform the secretary of IHSS (guadrn.abbt-braun@kit.edu)

Who may vote

- Members, student members, retired members, and distinguished members that have paid their dues through December 31, 2008, or later may vote.
- The election server will check the records for eligibility.

Members, who will not have the possibility to vote on-line

- Please inform your chapter coordinator and the secretary of IHSS (guadrn.abbt-braun@kit.edu) in case, you cannot vote on-line.
- If you vote on-line please do not request a letter ballot.
- Before letter ballots are counted, the name on the outer envelope will be checked against the list of on-line voters and if you have already voted on-line your letter ballot will be destroyed.
- You will receive the documents via mail, and you will have to proceed according to the instructions given.

- **The letter ballots will be sent to head of the nomination committee chair, Dr. Kay Spark.**
- **The ballots must be postmarked by April 15, 2010:**

Dr. Kaye Spark
 University of Queensland
 Gatton Campus
 Gatton, Qld 4343, Australia
 Tel: +07.5460.1336, Fax: +07.5460.1109, kaye.spark@uqg.uq.edu.au

*Gu*drun Abbt-Braun
 Secretary of IHSS

ANNOUNCEMENT

The secretary announces the following changes in the positions of the National Coordinators:

Prof. Teodoro Miano will follow Prof. Nicola Senesi, Italian Chapter

Dr. Dag Olav Andersen will follow Prof. Ulla Lundström, Nordic Baltic Chapter

<p>Italy Prof. Teodoro Miano Università di Bari Dipartimento di Biologia e Chimica Agro-Forestale e Ambientale Via G. Amendola, 165/A 70126 Bari, Italy Tel: +39. 80.544.2857 / 544.3099 Fax: +39. 80.544.2850 E-mail: miano@agr.uniba.it</p>	<p>Nordic / Baltic (Denmark, Estonia, Finland, Latvia, Lithuania, Norway, Sweden) Dr. Dag Olav Andersen Faculty of Mathematics & Sciences Agder University College Servicebox 422 4604 Kristiansand, Norway Tel: +47.381.410.00 Fax: +47.381.410.01 E-mail: dag.o.andersen@hia.no</p>
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New address and email of the secretary:

Dr. Gu

drun Abbt-Braun

Institut für Technologie (KIT),

Engler-Bunte-Institut, Bereich Wasserchemie

Engler-Bunte-Ring 1

76131 Karlsruhe, Germany

☎ (+) 49 721 6084309 📠 (+) 49 721 6087051 [INTERNATIONAL HUMIC SUBSTANCES SOCIETY](mailto:gudrun.abbt-braun@kit.edu</p>
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Pan Ming Huang (1934 - 2009)

On September 13, 2009, our colleague Prof. Pan Ming Huang, Professor Emeritus of Soil Science at the University of Saskatchewan, Saskatoon, Canada passed away. His death is a great loss for the humic substances community. We will always treasure his memory.



Prof. Pan Ming Huang was born in Taiwan on September 2, 1934, and after growing up there and graduating in Agricultural Chemistry from the National Chung Hsing University, he moved to the University of Manitoba, Winnipeg in 1961. It was there that he met Lin, the lovely young woman who was to become his wife. He moved on to the University of Wisconsin at Madison upon completing his masters in 1962, studying for his Ph.D with Prof. M. L. Jackson, one of the world's most highly regarded soil scientists. Prof. Huang and Prof. Jackson worked well together, developing a warm friendship that continued for decades. Prof. Huang received his Ph.D. degree in Soil Science

In 1965 he travelled to Saskatoon having accepted a position in the Department of Soil Science at the University of Saskatchewan. In 1966 he and Lin were married. Lin has been a wonderful companion and support for him. They have two children: Daniel and Crystal.

Prof. Huang was a leading international authority on environmental soil chemistry, with emphasis on mineral colloids and organo-mineral complexes, their reactions with nutrients and pollutants in soils and waters and the impact on ecosystem health. He has pioneered extensive chemical, spectroscopic, and ultramicroscopic research on the formation mechanisms of short-range ordered (poorly crystalline) mineral colloids which are extremely reactive in governing the accumulation, transport, and bioavailability of nutrients and pollutants in the environment. He has done groundbreaking work in establishing mineral catalysis mechanisms of transformations of biomolecules such as sugars, phenolic compounds and amino acids, and the resulting formation of humic substances

which are essential for maintaining and for enhancing the productivity of the land and are also vital in influencing the dynamics and fate of environmental pollutants. Further, his cutting-edge research has advanced the world's knowledge on the chemistry and behavior of vital and toxic inorganic ions and organic compounds in soils and freshwaters and their impact on agricultural sustainability and ecosystem protection.

In Professor Huang's research on the impact of toxic materials in the environment, he emphasized the harmful effects of ions such as cadmium, arsenic, and mercury in terrestrial and aquatic ecosystems. Because these ions can be taken up by freshwater biota and crop plants, the significance of his work has extended to human and animal health. For example, his laboratory was the first in the world to show the ability of manganese oxides to convert toxic arsenite to much less toxic arsenate through abiotic catalysis. Further, because of substantial uptake of cadmium by cereal crops, his research has contributed to the development of land resource management strategies to enhance the quality of Canadian grains and their competitiveness in international markets. His research accomplishments, embodied in over 300 refereed publications, of which nine were published in *Nature* (London). Furthermore, he has written 2 books, edited 17 books, and successfully trained and inspired Ph.D. and M.Sc. students (more than 60) and postdoctoral fellows (45), and hosted numerous international visiting scientists. Besides his significant contributions to the training of highly qualified personnel and outstanding research accomplishments in fundamental soil and environmental sciences, as founding Chair of both the Working Group "*Interactions of Soil Minerals with Organic Components and Microorganisms*" and Commission 2.5 "*Soil Physical/Chemical/Biological Interfacial Reactions*" of the International Union of Soil Sciences, Prof. Huang was instrumental in promoting worldwide research leading to integration of knowledge on mineral colloids, organic matter, and microorganisms, and its impact on agricultural production, environmental sustainability, and ecosystem health.

In 2000 Prof. Huang served as Editor of Soil Chemistry section of the *Handbook of Soil Science*, but since 2008 he was serving as Editor-in-Chief of the second edition of this handbook, which assembles the core of knowledge from all fields encompassed within the discipline of Soil Science and is, thus, a comprehensive reference work on the discipline of Soil Science as practiced today. Further, Prof. Huang has served as Titular Member of the International Union of Pure and Applied Chemistry (IUPAC) and has been Series Editor of the IUPAC Book Series "*Biophysico-Chemical Processes in Environmental Systems*" to promote research and education on physical, chemical, and biological interfacial interactions in the environment on a global scale.

He has developed and taught courses in soil physical chemistry and mineralogy, soil analytical chemistry, and ecological toxicology. He has served on numerous national and international scientific and academic committees. He also has served as a member of many editorial boards such as the Soil Science Society of America Journal, Geoderma, Chemosphere, Water, Air and Soil Pollution, Soil Science and Plant Nutrition, and Pedosphere. He received the *Distinguished Researcher Award from the University of Saskatchewan* (1997) and the *Soil Science Research Award from the Soil Science Society of America* (2000). He was a Fellow of the *Canadian Society of Soil Science* (1985), the *Soil Science Society of America* (1985), the *American Society of Agronomy* (1985), the *American Association for the Advancement of Science* (1998), and the *World Innovation Foundation* (2001). He was Honorary Professor of six Chinese Universities. Prof. Huang was an eminent scholar, a great educator, a man of vision and extraordinary leadership. He was a teacher appreciated for his organization and thoroughness, his passion for science, and for his high expectations. Most of his students and colleagues mention the decisive influence he had on their careers.

*Antonio Violante
Università di Napoli Federico II, ITALY*

STANDARD AND REFERENCE COLLECTION

2009 was a Record Breaking Year for Sales from the IHSS Collection

Sales for 2009 were \$151000, an almost 16 % increase over 2008. This increase was on top of a 12 % increase in 2008 compared to 2007. The number of individual sales was 435 compared to 348 in 2008. Our humic products were sent to 34 different countries with 66 % shipped to North America, 15 % to the European Union and 11 % to the Asia Pacific region (including Australia). Customers are mostly buying our materials from the Suwannee River, which accounted for 75 % of sales and nearly all the increase in sales over 2008. Another 12 % of sales was from the Nordic and Pony Lake aquatic sources. The remainder was from our soils and leonardite products.

Credit card purchases through our online store accounted for 71 % the purchases. Credit card sales were up from 61 % in 2008. We began using our online store June of 2008 and after a few adjustments we have been able to decrease the effort expended in processing orders and collecting payments.

*Paul Bloom
Chairman, Samples Collection*

Soil Biochemistry

Konrad Haider, Augustinum, Diessen, Ammersee, Germany

Andreas Schäffer, Institute for Environmental Research (Biology V), RWTH Aachen University, Germany

ISBN 978-1-57808-579-8; July 2009; 132 pages

About the Book

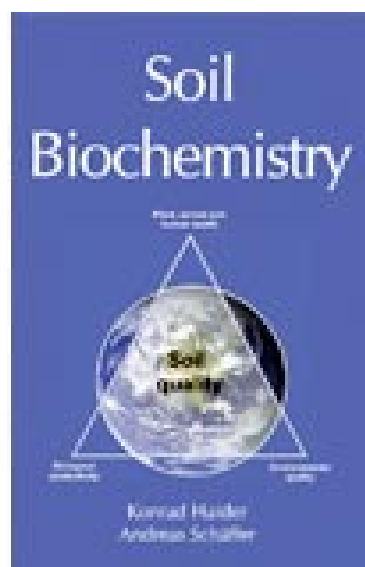
Soils play a central role in the conversion of organic matter and element fluxes because of the large number of microorganisms present in the soil. In this book the more important processes that are driven by microbiological activity are discussed.

It will be of interest to students of chemistry, biology, ecology, soil science and related areas. Researchers from these fields will profit from extended literature surveys in each chapter comprising important findings from early as well as the most recent investigations.

(Science Publishers)

Contents

1. Soil and Soil Life
2. Aerobic and Anaerobic Degradation of Monomer and Polymer Plant Constituents by Soil Microorganisms
3. Humus and Humification
4. Turnover of Nitrogen, Phosphorus and Sulfur in Soils and Sediments
5. Composting and Fermentation of Organic Materials
6. Trace Gases in Soil
7. Heavy Metals as Pollutants: Toxicity, Environmental Aspects, Resistance and Biotechnological Aspects



Biophysico-Chemical Processes Involving Natural Nonliving Organic Matter in Environmental Systems

Nicola Senesi, Baoshan Xing, and Pan Ming Huang

Wiley-IUPAC Series Biophysico-Chemical Processes in Environmental Systems

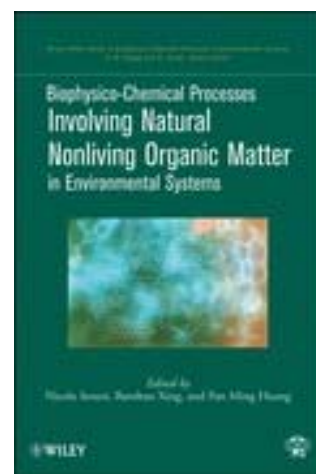
ISBN-10: 0-470-41300-X, ISBN-13: 978-0-470-41300-5, John Wiley & Sons, 2009,

876 pages

Bringing together world-renowned researchers to explore natural nonliving organic matter (NOM) and its chemical, biological, and ecological importance, *Biophysico-Chemical Processes Involving Natural Nonliving Organic Matter in Environmental Systems* offers an integrated view of the dynamics and processes of NOM. This multidisciplinary approach allows for a comprehensive treatment encompassing all the formation processes, properties, reactions, environments, and analytical techniques associated with the latest research on NOM.

After briefly outlining the historical background, current ideas, and future prospects of the study of NOM, the coverage examines:

- The formation mechanisms of humic substances
- Organo-clay complexes
- The effects of organic matter amendment
- Black carbon in the environment
- Carbon sequestration and dynamics in soil
- Biological activities of humic substances
- Dissolved organic matter
- Humic substances in the rhizosphere
- Marine organic matter
- Organic matter in atmospheric particles



In addition to the above topics, the coverage includes such relevant analytical techniques as separation technology; analytical pyrolysis and soft-ionization mass spectrometry; nuclear magnetic resonance; EPR, FTIR, Raman, UV-visible adsorption, fluorescence, and X-ray spectroscopies; and thermal analysis. Hundreds of illustrations and photographs further illuminate the various chapters.

An essential resource for both students and professionals in environmental science, environmental engineering, water science, soil science, geology, and environmental chemistry, *Biophysico-Chemical Processes Involving Natural Nonliving Organic Matter in*

Environmental Systems provides a unique combination of the latest discoveries, developments, and future prospects in this field. (*Wiley-VCH*)

Contributors:

Chapter 1: Evolution of Concepts of Environmental Natural Non-Living Organic Matter (M. H. B. Hayes).

Chapter 2: Formation Mechanisms of Humic Substances in the Environment (P. M. Huang and A. G. Hardie).

Chapter 3: Organo-Clay Complexes in Soils and Sediments (G. Chilom and J. A. Rice).

Chapter 4: The effect of organic matter amendment on native soil humic substances (C. Plaza and N. Senesi).

Chapter 5: Carbon Sequestration in Soil (M. De Nobili, M. Contin, and Y. Chen).

Chapter 6: Storage and Turnover of Organic Matter in Soil (M. S. Torn, C. W. Swanston, C. Castanha, and S. E. Trumbore).

Chapter 7: Black Carbon and Thermally Altered (Pyrogenic) Organic Matter: Chemical Characteristics and the Role in the Environment (H. Knicker).

Chapter 8: Biological Activities of Humic Substances (S. Nardi, P. Carletti, D. Pizzeghello, and A. Muscolo).

Chapter 9: Role of Humic Substances in the Rhizosphere (R. Pinton, S. Cesco, and Z. Varanini).

Chapter 10: Dissolved Organic Matter (DOM) in Natural Environments (F. H. Frimmel and G. Abbt-Braun).

Chapter 11: Marine Organic Matter (E. M. Perdue and R. Benner).

Chapter 12: Natural Organic Matter in Atmospheric Particles (A. da Costa Duarte and R. M. B. O. Duarte).

Chapter 13: Separation Technology as a Powerful Tool for Unfolding Molecular Complexity of Natural Organic Matter and Humic Substances (I. V. Perminova, A. Gaspar, Ph. Schmitt-Kopplin, N. A. Kulikova, A. I. Konstantinov, N. Hertkorn, K. Hatfield, and E. V. Kunenkov).

Chapter 14: Analytical Pyrolysis and Soft-Ionization Mass Spectrometry (P. Leinweber, G. Jandl, K.-U. Eckhardt, A. Schlichting, D. Hofmann, and H.-R. Schulten).

Chapter 15: Nuclear Magnetic Resonance Analysis of Natural Organic Matter (A. J. Simpson and M. J. Simpson).

Chapter 16: EPR, FTIR, Raman, UV-visible Absorption and Fluorescence Spectroscopies in Studies of NOM (L. Martin-Neto, D. M. B. P. Milori, W. T. L. Da Silva and M.L. Simões).

Chapter 17: Synchrotron-Based Near-Edge X-ray Spectroscopy of NOM in Soils and Sediments (J. Lehmann, J. Brandes, H. Fleckenstein, C. Jacobson, D. Solomon, and J. Thieme).

Chapter 18: Thermal Analysis for Advanced Characterization of Natural Nonliving Organic Materials (E. J. Leboeuf and L. Zhang).

PAST CONFERENCES

8th Meeting of the Italian Chapter of IHSS 14th -16th December 2009, University of Padova

The 8th Meeting of the Italian Chapter of IHSS was hosted by the University of Padova, 14th -16th December 2009 and organised by the research group in Soil Chemistry led by Prof.ssa Serenella Nardi of the Department of Agricultural Biotechnology.

The event was attended by 65 participants, mainly researchers and students from different Universities and Scientific Italian Institutions, as well as from representatives of private enterprises. 14 oral and 12 poster presentations were given on the topics: chemical and biochemical aspects, methodological and technical approaches, environmental and application aspects of humic substances. In spite of the worldwide economic crisis deeply affecting funding in Italian Research Institutes the meeting attendants remained constant as two years ago.

The invited speakers were: Prof. Luciano Pasqualoto Canellas, from Universidade Estadual do Norte Fluminense, Rio de Janeiro, Brazil; Prof. Giovanni Gigliotti from University of Perugia, Italy, who kindly substituted Dr. César Plaza de Carlos from CSIC, Spain; and Prof. Fabrizio Adani from University of Milan, Italy.

The oral presentations, the invited speakers' lectures and the poster session have been attended with high interest by the audience and were followed by active and wide scientific discussions.

A particularly positive feature of the meeting was the large participation of students and young researchers, which had been successfully encouraged to attend by Prof. Nicola Senesi, national coordinator of the Italian Chapter of IHSS. The attendance of three young researchers was supported by scholarships from the Italian IHSS Chapter and a fourth scholarship was provided by IHSS.

The general assembly of the Italian IHSS Chapter was also held during the Meeting, and Prof. Teodoro Miano, University of Bari, was unanimously elected by secret ballot election as the Italian IHSS Chapter Coordinator for the next four years (2010-2013). During the assembly it was decided that the next meeting will take place in 2011 in Naples.

*Nicola Senesi
Università degli Studi di Bari*

IHSS CONFERENCE 2010



15th Meeting of the International Humic Substances Society

June 27th to July 2nd , 2010

Puerto de la Cruz, Tenerife, Canary Islands, Spain

Humic Substances and the Maintenance of Ecosystem Services

NEW DEADLINE FOR SUBMISSION OF ABSTRACTS

February, 15th , 2010

Abstracts received after January, 31st will be considered for poster presentations

NEW DEADLINE FOR REDUCED REGISTRATION FEES

January, 31st , 2010

For detailed information see

<http://www.ihss2010.org>

and see the flyer attached.

Contact:

José A. GONZÁLEZ-PÉREZ (chairman), jaq@irnase.csic.es

Francisco J. GONZÁLEZ-VILA (co-chairman), fjgon@irnase.csic.es

Instituto de Recursos Naturales y Agrobiología de Sevilla,

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Fax: + 34 95 462 40 0

FUTURE CONFERENCES

Humic Science & Technology XIII Conference

Northeastern University, Boston, MA, USA

March 17 - 19, 2010

Further information:

Dr. Elham A. Ghabbour

Department of Chemistry and Chemical Biology

Northeastern University

e.ghabbour@neu.edu

<http://www.hagroup.neu.edu/news.htm>

ACS 239th National Meeting Division of Geochemistry

San Francisco, CO

March 21 - 25, 2010

Further information:

<http://portal.acs.org/portal/acs/corg/content>

Part of the programme:

Aquatic Redox Chemistry: *in Honor of Donald L. Macalady* - Co-Sponsored with Environmental Chemistry Division, for more information contact: *Paul G. Tratnyek*, tratnyek@ebs.ogi.edu, *Timothy J. Grundl*, grundl@uwm.edu or *Stefan Haderlein*, haderlein@unituebingen.de

The Influence of Natural Organic Matter on the Fate and Transport of Metals, Colloids and Nanoparticles in the Aquatic Systems - Co-Sponsored with Environmental Chemistry Division, for more information contact: *George Aiken*: graiken@usgs.gov, *Helen Hsu-Kim*, hsukim@duke.edu or *Joseph Ryan*, joseph.ryan@colorado.edu

Environmental and Geochemical Aspects of Carbon Sequestration - Co-sponsored with Environmental Chemistry Division, for More Information Contact: Daniel E. Giammar, Washington University in St. Louis, 314-935-6849, giammar@wustl.edu. Young-Shin Jun, Energy, 314-935-4539, ysjun@seas.wustl.edu. Charles J. Werth, University of Illinois at Urbana-Champaign, 217-333-3822, werth@illinois.edu

Frontiers in Analytical Chemistry as Applied to Natural Organic Matter - For more information contact Rose Cory, University of North Carolina, 612-626-7981, rmcory@email.unc.edu

European Geosciences Union (EGU) General Assembly 2010

Vienna, Austria,

May 2 - 7, 2010

Further information:

<http://www.egu.eu>

<http://meetings.copernicus.org/egu2010>

Part of the programme:

SSS15: Sustainable approaches for an accelerated in-situ degradation of organic soil contaminants: Is there a realistic chance ?

Convener: Reiner Schroll, Co-Convener: Peter Burauel

SSS16: Can climate change influence the fate and behaviour of organic chemicals in soil?

Convener: Peter Burauel, Co-Convener: Kirk Semple

SSS17: Dehydrated and rewetted peatlands: hydrological, physical and chemical changes

Convener: Lech Szajdak, Co-Conveners: Teodoro Miano, Claudio Zaccone

SSS21: Magnetic resonance: new understandings and applications in soil and environmental science

Convener: Anne E Berns, Co-Conveners: Andreas Pohlmeier, Pellegrino Conte, Giuseppe Alonzo

SSS23: Soil organic matter: structures, functions, management strategies, and C cycle

Convener: Claudio Ciavatta, Co-Conveners: Alvin Smucker, Claudio Zaccone, César Plaza

SSS33: Deep soil organic matter – a relevant component in biogeochemical cycles?

Convener: Cornelia Rumpel, Co-Conveners: Abad Chabbi, Ingrid Koegel-Knabner

SSS34: Phosphorus biogeochemistry in soils and waters: implications and constrains for sustainable development

Convener: Antonio Delgado, Co-Convener: Luisella Celi

20 th Annual Meeting of SETAC Europe
“Science and Technology for Environmental Protection”
Session E2-Environmental impact of amendments on soil ecology and soil organic
matter quality
Sevilla, Spain
May 23 - 27, 2010

Further information:

Heike Knicker

Departamento: Geoecología, Biogeoquímica y Microbiología Ambiental

Instituto de Recursos Naturales y Agrobiología de Sevilla (IRNAS-CSIC)

email: knicker@irnase.csic.es

http://seville.setac.eu/seville/scientific_programme/submit_an_abstract/?contentid=200 .

CALL TO HOST FUTURE IHSS CONFERENCES



IHSS Board invites all scientists interested in hosting one of the future IHSS meetings

Any group of scientists working in a humic substances research is welcome to apply. Organizers are encouraged to contact and cooperate with their IHSS Chapter. Support by local IHSS Chapter is appreciated very much, however it is not a requisite condition. Application to host the IHSS meeting should be sent (preferably by e-mail) to the IHSS President and IHSS Secretary. For further details see:

<http://ihss.gatech.edu/ihss2/documents/Apply%20to%20Host%20an%20IHSS%20Meeting.pdf>

Gudrun Abbt-Braun

BOARD OF DIRECTORS 2009/2010

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Dr. Konrad Haider
Dr. Michael H.B. Hayes

Distinguished Service Members

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Dr. Morris Schnitzer
Dr. Frank J. Stevenson
Dr. Roger S. Swift

Dr. C. Edward Clapp

International Humic Substances Society on the World Wide Web

Visit our home page at:

<http://www.ihss.gatech.edu>

Dr. E. M. Perdue coordinates the updating of the IHSS WEB page which is located on the server of the Georgia Institute of Technology, Atlanta, GA, USA.

Contributions, suggestions and comments regarding the content and organization of the WEB pages are welcome from all IHSS members.

E-mail: Dr. E. M. Perdue at michael.perdue@eas.gatech.edu.

IMPRESSUM

Editor: INTERNATIONAL HUMIC SUBSTANCES SOCIETY

NEWSLETTER 42

President

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Secretary

Dr. Gudrun Abbt-Braun

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ATTACHMENTS

CV and statement of the candidates

Flyer of the IHSS15 meeting

NEW DEADLINE FOR SUBMISSION OF ABSTRACTS

February, 15th, 2010

Abstracts received after January, 31st will be considered for poster presentations



**XV Meeting of the
International Humic Substances Society**

**Tenerife, Canary Islands
27 June - 2 July 2010**

The 15th Meeting of the International Humic Substances Society

“Humic Substances and the Maintenance of Ecosystem Services”

Will be held in
**“The Island of Eternal Spring”
Tenerife, Canary Islands, Spain
27 June - 2 July 2010**

More information is available at:

 <http://www.ihss2010.org>

 info@ihss2010.org

IHSS15 Topics:

*Role of humic substances & NOM in ecosystems
Physical, chemical and biological properties
Carbon stabilization processes: humification & highly refractory forms
NOM as driver and tracer of terrestrial C fluxes
Production, recycling and innovative applications
New analytical approaches
Humic substances & NOM in aquatic systems
Water treatment*

The Organising Committee is looking forward to see you in The Canary Islands

Chairman: **José A. González-Pérez**  jag@irnase.csic.es

Co-Chairman: **Francisco J. González-Vila**  fjgon@irnase.csic.es

Photos by JAG: Top: Mountain Teide, 3717m; Left: *Canarina canariensis* campanulaceae; Bottom: Playa de San Marcos, Icod

Don't miss this great  event in Tenerife !

CURRICULUM VITAE ET STUDIORUM

Teodoro Miano
Full Professor, Soil Chemistry
Università di Bari
Dip. Biologia e Chimica
Agro-Forestale e Ambientale (DIBCA)
Via Amendola, 165/A, 70126 Bari
Birth (place and date): Brindisi, 24 luglio 1959
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Education and professional accomplishments:

Laurea in Agricultural Science, Univ. of Bari (**1984**); Professional Agronomist (**1984**); *Assistant Professor*, Univ. Basilicata (**1988**); *Associate Professor*, University of Bari (**1992**); *Full Professor*, Università di Bari (**2001**).

Research experience:

Lehrstuhl für Bodenkunde und Bodengeographie, Univ of Bayreuth, Germany (**1986**); Department of Soil and Environmental Sciences, Univ. California, Riverside, U.S.A. (**1987**); Geologisches Institut, Universität Bern, Switzerland (**1992, 1994**); Norwegian Institute for Water Research (NIVA), Oslo (**1993**); Marine Institute, University of Georgia, Sapelo Island, Georgia, USA (**1995, 1999**).

Appointments and assignments:

Secretary-Treasurer, Italian Society of Agricultural Chemistry (**1990-1993**); "Luigi Perdisa" **Award**, University of Bologna (**1991**); Secretary, Newsletter Editor, International Humic Substances Society (**1995-2003**); Component, International Committee, International Symposia of Environmental Biogeochemistry (ISEB) (**1997-present**); Component, Steering Board, Italian Society of Agricultural Chemistry (**1997-1999; 2005-2007**); Senior Advisor, Mediterranean Agronomic Institute/CIHEAM, POP Project, Call 4.3.5 "*Organic Farming*" (**1997-2000**); Expert, Evaluation of European Research Project, V Framework Program (**1998-2001**); Expert, Evaluation of research projects Ministry of University and Research – University of Padova (**2002-present**); Coordinator, Educational Activities of DSPU and Master Courses in Mediterranean Organic Farming, IAMB/CIHEAM, Valenzano, Bari (**2006-present**); President, Commission II "Soil Chemistry", Italian Society of Soil Science (**2003-2007**); President, *Scientific Advisory Committee*, CIHEAM, Paris (**2004-present**); President, Soil System Sciences Division, European Geosciences Union (**2007-2011**); Vice Chair, Comm. 2.2 "Soil Chemistry", Int. Union of Soil Sciences (IUSS) (**2007-2010**); Member, Research Project Evaluation Panel, Ministry for Agriculture, Food and Forests (**2007- 2010**); Coordinator, PhD Programme in Agricultural Chemistry, Univ. Of Bari (**2008 - present**); Vice President, European Confederation of Soil Science Societies (**2008 - 2012**); Coordinator, IHSS-Italian Chapter (**2009 – 2013**).

Scientific Societies:

International Union of Soil Sciences (I.U.S.S.); International Humic Substances Society (I.H.S.S.); Association International Pour l'Etude des Argiles (A.I.P.E.A.) – AISA Onlus ; Soil Science Society of America (S.S.S.A.); Società Italiana della Scienza del Suolo (S.I.S.S.); Società Italiana di Chimica Agraria (S.I.C.A.); European Geosciences Union (EGU); National Geographic Society.

Scientific referee for:

Institutions:

NATO Collaborative Research Grants; US-Israel Binational Science Foundation; Research Council of Norway; Università di Padova (Fondi di Ateneo); Ministry of Agriculture, Food, and Forest Policies; Georgia National Science Foundation.

Journals:

Agricoltura Mediterranea, Agricoltura e Ricerca, Agrochimica, Agronomie, Environment International, Environmental Science & Technology, Chemosphere, Geochimica Cosmochimica Acta, Geoderma, Journal of Environmental Quality, Organic Geochemistry, Proceedings: Biological Sciences, Thermochimica Acta, Water Research, Bollettino Società Italiana della Scienza del Suolo. Editor, Applied and Environmental Soil Science.

Research topics:

Organic matter and humic fractions of soil; Humic-like materials of fungal origin; Waste materials and biomasses recycled as soil amendments in agriculture; Pesticides interaction and sorption in soil: degradation products, metabolites and soil organic matter fractions. Metal ions, soil organic matter and its fractions. Forest soil. Soluble sugar components of forest humic profiles; Rock removal and fragmentations of natural soils in mediterranean areas. Peat and organic soil characterizations. Dissolved organic matter in natural waters and main environmental functions. Biopesticides and plant extracts biomolecules: reactions, persistence and soil interactions.

Main scientific activities:

Editorial Activity (Volumes and journal <i>special issues</i>)		12
Publications	>	100
Summaries and Abstracts in meetings and congresses (<i>international</i>)	>	85
Summaries and Abstracts in meetings and congresses (<i>national</i>)	>	50
Invited seminars and lectures		25
Meeting activities (scientific and/or organizing committees)	>	40

Selected papers:

2009

Cocozza, C., Parente, A., Zaccone, C., Mininni, C., Santamaria, P., **Miano, T.** - Chemical, physical and spectroscopic characterization of *Posidonia oceanica* (L.) Del. residues and their possible recycle. *Biomass & Bioenergy* (Submitted).

Cavoski, I., D'Orazio, V., **Miano, T.** - Interactions between rotenone and humic acids by means of FT-IR and fluorescence spectroscopies. *Anal. Bioanal. Chem.*, 395: 1145–1158, 2009.

Zaccone, C., D'Orazio, V., Shotyk, W., **Miano, T.M.** - Chemical and spectroscopic investigation of porewater and aqueous extracts of corresponding peat samples throughout a bog core (Jura Mountains, Switzerland). *Journal of Soils and Sediments*, 9: 443-456, 2009.

Zaccone, C., Soler-Rovira, P., Plaza, C., Coccozza, C., **Miano, T.M.** - Variability in As, Ca, Cr, K, Mn, Sr, and Ti concentrations among humic acids isolated from peat using NaOH, Na₄P₂O₇ and NaOH+Na₄P₂O₇ solutions. *Journal of Hazardous Materials*, 167: 987-994, 2009.

Senesi, G.S., Dell'Aglio, M., Gaudiuso, R., De Giacomo, A., Zaccone, C., De Pascale, O., **Miano, T.M.**, Capitelli, M. - Heavy metal concentrations in soils as determined by laser induced breakdown spectroscopy (LIBS), with special emphasis on chromium. *Environmental Research*, 109: 413-420, 2009.

Szajdak, L., **Miano, T.** - Processes, mechanisms and utilization of organic soils (PREFACE). *Plant and Soil*, 315: 1-2, 2009.

Zaccone, C., Gallipoli, A., Coccozza, C., Trevisan, M., **Miano, T.M.** - Distribution patterns of selected PAHs in bulk peat and corresponding humic acids from a Swiss ombrotrophic bog profile. *Plant and Soil*, 315: 35-45, 2009.

Zaccone, C., Santoro, A., Coccozza, C., Terzano, R., Shotyk, W., **Miano, T.M.** - Comparison of Hg concentrations in ombrotrophic peat and corresponding humic acids, and implications for the use of bogs as archives of atmospheric Hg deposition. *Geoderma*, 148: 399-404, 2009.

2008

Cavoski, I., Caboni, P., Sarais, G., **Miano, T.** - Degradation and Persistence of Rotenone in Soils and Influence of Temperature Variations. *J. Agric. Food Chem.*, 56: 8066-8073, 2008.

Zaccone, C., Coccozza, C., Shotyk, W., **Miano, T.M.** - Humic acids role in Br accumulation along two ombrotrophic peat bog profiles. *Geoderma*, 146: 26-31, 2008.

Zaccone, C., Said-Pullicino, D., Gigliotti, G., **Miano, T.M.** - Diagenetic trends in the phenolic constituents of Sphagnum-dominated peat and its corresponding humic acid fraction. *Organic Geochemistry*, 39: 830-838, 2008.

Terzano, R., Al Chami, Z., Vekemans, B., Janssens, K., **Miano, T.M.**, Ruggiero P. - Zinc distribution and speciation within rocket plants (*Eruca vesicaria* L. Cavallieri) grown on a polluted soil amended with compost as determined by XRF microtomography and micro-XANES. *J. Agric. Food Chem.*, 56: 3222-3231, 2008.

Zaccone, C., Coccozza, C., Cheburkin, A.K., Shotyk, W., **Miano, T.M.** - Distribution of As, Cr, Ni, Rb, Ti and Zr between peat and its humic fraction along an undisturbed ombrotrophic bog profile (NW Switzerland). *Applied Geochemistry*, 23: 25-33, 2008.

2007

Zaccone, C., D'Orazio, V., Coccozza, C., Mondelli, D., **Miano, T.M.** - Il contenuto di alcuni elementi traccia negli AU da torba: influenza dei diversi estraenti. In: Atti del XXIV Convegno Nazionale della Società Italiana di Chimica Agraria (2006), Alghero, 148-156.

Parente A., Coccozza, C., Spinelli, M., Zaccone, C., **Miano, T.M.**, Santamaria, P. - I residui di *Posidonia oceanica* (L.) Del.: un rifiuto o una risorsa da valorizzare? In: La cultura e le tecnologie ambientali in Italia ed in Europa. Maggioli Editore. Atti dei seminari Ecomondo 2007, Rimini, vol. 317-I, pp. 79-83 (ISBN: 88-387-3979-X).

Zaccone, C., Coccozza, C., Cheburkin, A.K., Shotyk, W., **Miano, T.** - Il bromo nella torba e negli acidi umici – Possibili implicazioni nella ricostruzione del suo ciclo biogeochimico? In: Suolo Ambiente Paesaggio. Atti del Convegno Nazionale della Società Italiana della Scienza del Suolo (2006), Imola, 147-153.

Cavoski, I., Caboni, P., Sarais, G., Cabras, P., **Miano, T.** - Photodegradation of Rotenone in Soils under Environmental Conditions. *J. Agric. Food Chem.*, 55: 7069-7074, 2007.

Cavoski, I., D’Orazio, V., **Miano T.M.** - Interaction between biopesticide-Rotenone and soil humic acid. In: Atti del VII Convegno Nazionale International Humic Substances Society - Sez. Italiana, Catania, 38-41.

Zaccone, C., Coccozza, C., Shotyk, W., **Miano, T.M.** - Input antropogenici di Pb, Cu e ¹³⁷Cs registrati in un istosuolo. In: Atti del VII Convegno Nazionale International Humic Substances Society - Sez. Italiana, Catania, 88-91.

Zaccone, C., Coccozza, C., Cheburkin, A.K., Shotyk, W., **Miano, T.M.** - Highly Organic Soils as “Witnesses” of Anthropogenic Pb, Cu, Zn, and ¹³⁷Cs Inputs During Centuries. *Water, Air, & Soil Pollution*, 186: 263-271, 2007.

Zaccone, C., Coccozza, C., D’Orazio, V., Plaza, C., Cheburkin, A.K., **Miano, T.M.** - Influence of extractant on quality and trace elements content of peat humic acids. *Talanta*, 73: 820-830, 2007.

Zaccone, C., Coccozza, C., Cheburkin, A.K., Shotyk, W., **Miano, T.M.** - Enrichment and depletion of major and trace elements, and radionuclides in ombrotrophic raw peat and corresponding humic acids. *Geoderma*, 141: 235-246, 2007.

Zaccone C., **Miano T.M.**, Shotyk W. - Qualitative comparison between raw peat and related humic acids in an ombrotrophic bog profile. *Organic Geochemistry*, 38, 151-160, 2007.

Lopez R., **Miano T.** - Dissodamenti e spietramenti di suoli ricadenti nel Parco Nazionale dell’Alta Murgia: elaborazioni geostatistiche ed indicatori di stato. In: Il suolo: sistema centrale nell’ambiente e nell’agricoltura. Congresso Nazionale SISS. Giugno 2005. (N. Senesi e T. Miano, Eds.), Società Italiana Scienza del Suolo, Bari. pp. 419-425. ISBN/ISSN: 978-88-902831-0-9.

Al Chami Z., Mondelli D., **Miano T.** - Applicazione di compost ed effetti sulla disponibilità di metalli pesanti in un suolo artificialmente contaminato. In: Il suolo: sistema centrale nell’ambiente e nell’agricoltura. Congresso Nazionale SISS. Giugno 2005. (N. Senesi e T. Miano, Eds.), Società Italiana Scienza del Suolo, Bari. pp. 367-374. ISBN/ISSN: 978-88-902831-0-9.

Zaccone C., **Miano T.** - Evoluzione delle componenti organiche ed interazioni con gli elementi traccia in una torbiera ombrotrofica. In: Il suolo: sistema centrale nell’ambiente e nell’agricoltura. Congresso Nazionale SISS. Giugno 2005. (N. Senesi e T. Miano, Eds.), Società Italiana Scienza del Suolo, Bari. pp. 211-218. ISBN/ISSN: 978-88-902831-0-9.

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IHSS activities

1986. Joined the IHSS in 1986 and member ever since. Attended all meetings from then (Oslo) except the last Russian one, unfortunately missed.

1995 – 2003. Secretary of the International Humic Substances Society and Editor of the IHSS Newsletter. Served under five (5) different Presidents, Mike Hayes, Nicola Senesi, Jim Alberts, Fritz Frimmel, Yona Chen. During that period the Society almost tripled his numbers reaching up to almost 900 members distributed in more than 40 countries. The work as Secretary, in conjunctions with Vice Presidents and Presidents, has been oriented to continuously promote a simpler structure of the membership, to widen the connections of the IHSS also in more remote disciplines and field of sciences, to closely relate with national and regional Coordinators throughout the world, to implement and improve the structure and the activities of IHSS Newsletter.

1995 – 2003. Coordinator of the Rest of the World (RoW) chapter, building and managing contacts with small groups and/or individuals joining the IHSS at various extent. Participated also to the foundation and the organization of newly forming regional chapters.

1986 – present. Participated to the organization of a IHSS International Meeting (Bari, 1992) and various IHSS Italian Chapter meetings including the last one to be held in Padova, Italy (December 2009).

2009 – present. Italian Coordinator, IHSS.

Statement for IHSS Vice President Candidacy

I am willing to stand as candidate for the position of Vice President of the International Humic Substances Society (IHSS). I will continue, as done in the last couple of decades to work in the field of humic substances research, to promote individual and cooperative research, to stimulate the growth of IHSS through the activities of the national and regional chapters, to stimulate the enrichment of the IHSS standard and reference collection, to reach out for connections with several other disciplines in which humic substances research may have a fundamental role, to encourage younger scientists to join our Society and to creatively participate to our future.

If elected as IHSS Vice President, I will also devote a particular attention in promoting IHSS activities in developing countries where a large number of scientists are located but do not have enough tools and occasions to present the work and to share their scientific experiences. I plan to be very active for the next years and to commit myself also towards financial, educational and promotional processes and activities for the benefit of IHSS.

Teodoro Miano

E. Michael Perdue

Personal Data

Birthdate: May 21, 1947
Birthplace: Atlanta, Georgia, U.S.A.
Marital Status: Married
Address: School of Earth and Atmospheric Sciences
Georgia Institute of Technology
Atlanta, Georgia, 30332-0340, U.S.A.
Phone: 404- 894-3942 (office)
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E-Mail: mperdue@eas.gatech.edu
Website: <http://shadow.eas.gatech.edu/~mperdue/>



Education

B.S. Georgia Institute of Technology, Chemistry, 1969
Ph.D. Georgia Institute of Technology, Chemistry, 1973
Ph.D. Thesis: Thermodynamics of Ionization of Organic Acids in Aqueous Solution

Employment

1990-present Professor, Earth and Atmospheric Sciences, Georgia Institute of Technology
1983-1990 Associate Professor, Geophysical Sciences, Georgia Institute of Technology
1978-1983 Associate Professor of Chemistry, Portland State University
1973-1978 Assistant Professor of Chemistry, Portland State University

Visiting Appointments

1997-present Guest Scientist, GSF Forschungszentrum für Umwelt und Gesundheit, Munich, Germany (04/1997 – 09/1997, 07/1998 - 09/1998, 06/2007 - 08/2007, and several shorter visits)
1991-1993 Research Hydrologist, Faculty Member Appointment, United States Geological Survey, Doraville, Georgia, U.S.A.
1982-1983 Visiting Associate Professor of Chemistry, Emory University, Atlanta, Georgia, U.S.A.
1979-1980 Visiting Research Chemist, United States Environmental Protection Agency, Environmental Research Laboratory, Athens, Georgia, U.S.A.

Professional Activities

Publications: I have co-authored one textbook (with computer software) on global biogeochemical cycles, co-edited two books based on the proceedings of meetings that I co-organized, and authored or co-authored approximately 80 papers.

Presentations: I have presented (or co-authored) approximately 150 lectures and posters at regional, national, and international meetings, including seven meetings that I have co-organized and/or co-chaired.

Meetings: I have co-organized and/or co-chaired seven meetings, mostly dealing with humic substances and their role in the environment. Most prominent among these meetings are the 1989 Dahlem

Workshop on "Organic Acids in Aquatic Ecosystems" (with Egil Gjessing), the 1995 International Meeting on "Humic Substances in the Environment - New Challenges and Approaches" (with James Alberts), and the 2009 Humic Science and Technology XII Meeting (organized by Geoff Davies and Elham Ghabbour and dedicated to Patrick Hatcher).

Mentoring: I have advised 2 post-doctoral fellows, 12 Ph.D. graduates, 5 M.S. graduates, and I am currently advising 3 Ph.D. students and one M.S. student. In addition, approximately 30 undergraduate and graduate students have worked under my supervision on short projects.

Reviewing: I have reviewed approximately 180 manuscripts for 30 or more publications, and I have reviewed more than 90 proposals for 12 funding agencies.

Research Interests

In the late 1960's and early 1970's, my dissertation research in chemistry focused on the mechanism(s) by which polar functional groups affect the acidities of organic acids. I measured the pK_a 's, enthalpies, and entropies of ionization of a number of highly purified organic acids. At the same time, I also worked in organic geochemistry on a project to measure the concentrations of acidic functional groups in dissolved organic matter from a blackwater river in south Georgia. The contrast between the two projects was striking, even to a naive young graduate student. I realized, for the first time, that all the chemistry I had studied had not fully prepared me to deal with complex mixtures, for which the identities and concentrations of individual constituents were unknown. The thought of trying to conduct quantitative studies of acid-base chemistry on such mixtures was at the same time intimidating and challenging. My initial efforts were quite conventional – carefully measuring bulk average properties of my samples. Then, in 1978, my perspective was forever changed when I heard a presentation by Patrick MacCarthy on metal complexation by humic substances. From that time until the present, I have treated humic substances as very complex mixtures for which not only bulk average properties but also actual distributions of those properties are both of interest and potentially accessible to experimentation and modeling.

Many years later, I remain fascinated by the challenge of doing "rigorous" work with complex mixtures. Gradually, the conceptual paradigm that grew from my studies of the acid-base chemistry of humic substances found further application in the study of metal complexation by humic substances and in efforts to develop probabilistic models of the structural aspects of natural organic matter. As my research interests continue to evolve, the first question I always ask about a new problem is "Do the relevant concepts, equations, models, and relationships that apply to pure substances also apply to complex mixtures?" My current areas of focus in research include the isolation of humic substances from fresh and saline waters using reverse osmosis and electrodialysis, Fourier transform ion cyclotron resonance mass spectrometry of humic substances, measuring and modeling the acid-base chemistry of humic substances, modeling the ^1H and ^{13}C NMR spectra of humic substances (one- and two-dimensional), and probabilistic estimates of structural features of humic substances.

Service to IHSS

I joined IHSS prior to the 1st IHSS Meeting in Estes Park, Colorado in 1983, and I have been a member since that time. I have attended and participated actively in all but three of the biennial IHSS meetings, and I co-organized (with James Alberts) an international meeting on "Humic Substances in the Environment - New Challenges and Approaches" under the auspices of IHSS. I served as Chair of the IHSS Nominating Committee in 1990 and 1992, and I served on the IHSS Board from 1995-99. I have

been a member of the IHSS Standard and Reference Collection Committee since it was formed in 1997. I created the IHSS website (<http://www.ihss.gatech.edu>) in 1995, and I have served as IHSS Webmaster since that time.

I consider my greatest service to IHSS to be my contributions to the IHSS collection of standard and reference samples. In 1999, I led the team of scientists (Alberts, Takács, Ding, and Perdue) who used the reverse osmosis method to collect the Suwannee River NOM reference sample (1R101N). After ten days of field work and another two weeks of laboratory work, our team delivered more than 1000 grams of Suwannee River NOM to IHSS. In 2003, I led the team of scientists (Hertkorn, Bloom, Alberts, Takács, Ritchie, Koprivnjak, and Perdue) who used the XAD-8 method to replenish the Suwannee River fulvic and humic acid standard samples (2S101F, 2S101H). After six months of preparatory laboratory work, one month of field work, and another six months of laboratory work, our team delivered 875 grams of Suwannee River fulvic acid and 356 grams of Suwannee River humic acid to IHSS. These standard and reference samples are now being distributed by IHSS to scientists throughout the world, primarily for the purposes of interlaboratory comparison and development of experimental methodologies. These three samples have proven to be very popular and have accounted collectively for more than 50% of the funds that are raised by IHSS through the distribution of standard and reference samples. Those funds not only insure that IHSS has the resources to maintain the collection of standard samples indefinitely but also make possible the travel awards and training awards by which IHSS supports the professional development of young scientists throughout the world.

If I have the opportunity to further serve IHSS at its Vice-President, I will bring to this position my enthusiasm for scientific inquiry, my admiration and respect for the contributions of those scientists upon whose shoulders I and my peers now stand, and my faith in the new generation of young scientists who, like myself, were bitten by the “humic bug” at a very early stage in their professional development. The most important task assigned to the Vice President is to serve as liaison between the Board and the local organizing committee for the International Meeting and as liaison between the Board and the Chapter Coordinators. Having co-organized an international meeting under the auspices of IHSS and having served on the Board when International Meetings were being proposed and organized, I am familiar with the challenges faced by both the Board and by local organizing committees. For more than a decade, I have interacted with the Board in my capacity as the IHSS Webmaster and as a member of the Standard and Reference Collection Committee, so I believe I am well prepared for this task.

The National Chapters vary widely in the level of organization and professional activity. Young scientists who are drawn to the topic of humic substances represent a diversity of academic disciplines, having in common their focus on humic substances. They are at a critical point in their professional development where frequent and intensive networking with a broader community of like-minded scientists is highly beneficial. National Chapters can facilitate such networking, but only if a National Chapter is active. As Vice-President, I would encourage the exchange of ideas between the most successful Chapter Coordinators and other Chapter Coordinators who want to move their National Chapters to a higher level. I don't really believe that strong National Chapters will emerge because the Board or the Vice-President thinks it is a good idea. Such growth must be from the roots – from the youngest scientists, who are the most likely beneficiaries of strong National Chapters. Nonetheless, IHSS has a professional responsibility to facilitate the growth of active National Chapters, and I would enthusiastically accept that responsibility.



Irina V. PERMINOVA

Personal Data

Birth: February 9, 1960

Place: Zhambyl, Kazakh Soviet Socialistic Republic, USSR

Citizenship: Russian Federation (former USSR)

Marital Status: Married, no children

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Education

2006 Title of Professor in Environmental Chemistry

2001 Degree of Doctor of Sciences (Dr. Habil.) in Analytical Chemistry,
Lomonosov Moscow State University, Moscow, Russia

1987 Ph. D. in Analytical Chemistry, Lomonosov Moscow State University, Moscow, USSR

1982 B.S./M.S. in Chemistry; Lomonosov Moscow State University, Moscow, USSR

b. Appointments

2006 – present Deputy Head of the Scientific-Educational Center of the Lomonosov MSU for Green and Sustainable Chemistry

2002 - present: Leading Research Scientist, Division of Organic Chemistry, Department of Chemistry, Lomonosov Moscow State University

1991 - 2002: Senior Scientist, Division of Organic Chemistry, Department of Chemistry, Lomonosov Moscow State University

1986 - 1991: Research Scientist at the Laboratory of Monitoring of Marine Environment of the State Hydrometeorology Committee and Academy of Sciences of the USSR (since 1991 – the Institute for Global Climate and Ecology of Russian Academy of Sciences and Goskomhydromet)

Research Interests:

Molecular design of functional and hybrid humic materials with the controllable properties including chemical modification of functional groups and sol-gel technologies. Synthesis of humic materials with enhanced surface activity, mineral-adhesive affinity, redox capacity. Synthesis of metal complexes of HS aimed for a use as microfertilizers. Development of immobilization approaches of HS onto mineral surfaces via covalent bonding. Studies on biological activity of humic substances, their complexing and redox properties, detoxifying ability, Development of new applications of HS for organic agriculture, remediation and biomedical technologies. Molecular-level analysis of chemical space of HS. Separation technologies of HS. Development of the basics of heteromolecular chemistry of natural compounds.

Teaching:

Advisor of 11 completed Ph.D. Projects and 30 M.S. studies.

Professional Society Membership

- Regional Coordinator of the Commonwealth of Independent States Chapter of International Humic Substances Society (CIS IHSS) since 2002, member of IHSS since 1994.
- Associate Member of the IUPAC Division VI: Chemistry and the Environment (DCE) 2007-2009
- Member of All-Russian Mendeleev Chemical Society since 1982.

Organization of International and National Events

- All-Russian Conference “Macromolecular nanoobjects and nanocomposites” – Financial Director, November 12-16, 2009, Istra, Russia
- The 14th International Meeting of the International Humic Substances Society “From molecular understanding - to innovative applications of humic materials” – Head of the Organizing Committee, September 14-19, 2008, Moscow-Saint Petersburg, Russia
- NATO-Advanced Research Workshop “Use of humates to remediate polluted environments: from theory to practice”: Co-Director of the ARW, September 23-29, 2002, Zvenigorod, Russia.

Examples of Research Projects:

In situ humic permeable reactive barriers to prevent actinide migration (NATO- Cooperative Linkage Programme, Grant # 983197), 2008-2010.

Investigation and modeling of the fundamental interactions of actinides with customized humic substances at both the molecular and colloidal levels (DOE-awarded project in the framework of the RAS-DOE co-operation) 2004 – 2008.

Development of detoxicants of combined action on the basis of humic substances and their derivatives (ISTC project KR-964, 2004 – 2008).

Interaction of humic substances with biological membranes: quantitative investigation and mechanism. Russian Foundation for Basic Research. Grant # 06-04-49017. 2006 - 2008.

Publications:

Books – 2, Book Chapters – 6, Papers in peer-reviewed journals – 70

Total number of publications (including conference proceedings) – more than 200.

A full list of publications can be found on the webpage: www.humus.ru

Candidacy statement

A major obstacle in developing value-added products and practical applications based on humic materials is a lack of strategically prioritized research in the field of understanding and overcoming extreme molecular heterogeneity of humic substances aimed at making them amenable for manufacturing industry. Refinery became a key approach for similarly heterogeneous natural product – crude oil, and its industrial implementation revolutionized the 20th century economy. However, this robust approach will not work for oxygen-rich, polar humics. New biorefinery approach developed for the treatment of another heterogeneous natural product - plant biomass - relies heavily on enzymatic cleavage of plant polymers to monomers. In case of successful industrial implementation, it should boost bioeconomy of the 21st century. Evidently, it will also not work with the recalcitrant humics. Hence, fundamentally new knowledge and technology should be generated to overcome heterogeneity of humic substances. This knowledge might become a cornerstone for alternative humic economy.

If elected to the IHSS Board, I will focus on both the fundamental and applied humic research evolving eventually into the new branch of science – heteromolecular chemistry and technology. For reaching this goal, I will work on making known the IHSS to the scientists and engineers from other disciplines dealing with lignin, chitosane, and other heteromolecular systems. I will also use IHSS platform for intense dialogues between science and industry to guide a research. I will try to strengthen the role and leadership of IHSS in formulating strategic research agenda for humic-based sector: To make it happen, I will work on pushing the idea of preparing the IHSS conference resolutions on biannual basis which should be adopted by the General IHSS Assembly or by the conference. This will help to target research and prepare breakthroughs in humic science and technology. I believe this will promote IHSS and increase public awareness on the unique role that humic substances play in our planet's life.

Etelka Tombácz

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Education

Habilitation, Chemistry (2005), University of Szeged, Hungary;
DSc (Title: Soil relevant interfacial and colloid interactions), Physical Chemistry (2004), Hungarian Academy of Sciences, Budapest;
PhD (CSc, Title: Interaction of anionic organic compounds with montmorillonite), Colloid Chemistry (1986), Hungarian Academy of Sciences, Budapest;
Doctorate (Title: Colloidal behavior of humic acids and alkali metal humates) (1977), Attila József University, Szeged;
Graduated Chemist (1975), Attila József University, Szeged;
Chemical Technician (1970), Technical High School, Debrecen.

Positions

Leader of Aqueous Colloids Group (2009-), Full professor (2006-), Associate Professor (1988-2006), Assistant Professor (1983-1988) Postdoctoral Fellow (Candidature; 1979-1983) and Research Assistant (1975-1979) at the Department of Colloid Chemistry, Attila József University (1975-2000), University of Szeged (from 2000), Szeged, Hungary.
Invited professor (4 weeks in 2007, 6 weeks in 2006) at DIOM, Université Jean Monnet, Saint Etienne, France; Invited Researcher (1994/95) at the Department of Chemistry and Biochemistry, South Dakota State University, SD, USA; Postdoctoral Fellow (1989/1990) at the Department of Chemistry, Baylor University, Texas, USA.

Research Activities

pH and electrolyte dependent colloidal aggregation and dispersing in natural aqueous systems and composite model dispersions containing humic acids (dissociation, association, surface activity, conformation, colloidal stability), clay mineral (montmorillonite, kaolinite) and metal (iron, aluminum, titanium and zinc) oxide particles and organic acids (adsorption, surface charge characterization and modification); surface modification of nanoparticles with natural or biocompatible complexing agent to manipulate the particle-particle interactions and to enhance colloidal stability in composite systems, especially in water based magnetic fluids.

Publications: book chapters –**12**, reviewed papers –**75**, proceedings and CD publications –**33**, patents –**2**. No. ISI citations – **above 800**. Presentations at International and National Meetings –**128** (**13 invited lectures** and 42 lectures) **National and EU research grants:** principal investigator on 10 grants and co-principal investigator on 3 grants. Preparation and investigation of biocompatible magnetic fluids (NKTH-OTKA K-69109) 2007-2010. Several **R&D grants** from industry on aqueous suspension formulation (ceramic, paint, phosphor) and cosmetics.

Teaching activities

Undergraduate: Colloid Chemistry, Environmental Colloids, Soil Pollution and Purification
Graduate: Aqueous Colloidal Dispersions and Solutions, Interfacial Equilibria and Dispersion Stability in Aqueous Medium. Soil Colloids, Soil Chemistry, Rheology

Reviewing for international journals:

Colloids and Surfaces A. (Elsevier), Colloid and Polymer Science (Springer), Applied Clay Science (Elsevier), J. Colloid Interface Sci. (Elsevier), European Journal of Soil Science (Blackwell), Geoderma (Elsevier), Geochimica et Cosmochimica Acta (Elsevier), Organic Geochemistry (Elsevier), Langmuir (ACS), J. Chemical Information and Computer Sciences (ACS), ACH Models in Chemistry (Budapest), Croatica Chemica Acta (Zagreb), Soil Sci. Soc. Am. J. (ASA, SSSA), Water Research (Elsevier), Environ. Sci. Technol. (ACS); Chemosphere (Elsevier), Clay Minerals (Mineralogical Society), Clays and Clay Minerals (Clay Min. Soc.), Materials Research Bulletin (Elsevier), Physical Chemistry Chemical Physics (RSC)

Awards, Honors, Membership and Other Activities

Member of the editorial board of Colloids and Surfaces A: Physicochem. Eng. Aspects. (Elsevier) from 2010;

Associate Member of the IUPAC body Chemistry and Environment (VI) for the term 2010-2011;

Member of the editorial board of Applied Clay Sciences (Elsevier) from 2009;

Master Teacher Medal (2007)

Board member of the International Humic Substances Society from 2006;

President of Colloid and Material Science Working Committee of Hungarian Academy of Sciences from 2005.

Hungarian representative of International Board of ELKIN (electrokinetics) from 2005;

Member of the editorial board of Colloid and Polymer Science (Springer) from 2004;

Member of the international advisory board of IAP (Interfaces Against Pollution) from 2004;

Recipient of a Széchenyi Professor Fellowship 1998-2001;

Recipient of István Széchenyi Fellowship 2001/02-2003/04;

Member of IHSS and Hungarian Coordinator for International Humic Substances Society from 1992;

Aladár Buzágh Prize, Hungarian Academy of Sciences (1982);

Winner of the National Chemical Competition for High School Students (1970)

Statement of Candidacy

I would like to continue the work in the Board of IHSS. Regarding my roots in both personal and professional points of view, I believe that my possible participation in the Board, would be a great opportunity to represent the smaller nations in the future besides the activities planned in the field of the physico-chemical and colloidal characterization of humic substances. i) To select the inherent properties of humic substances keeping mind on their operational definition. ii) To attempt the standardization of sample preparation and methods. iii) To test the suggested procedures in different laboratories. iv) To summarize the experiences, and to elaborate recommendation, if it is possible at all. I am convinced that the society has to make great effort to provide the recommendation for HS characterization to help identification and legitimating of HS first of all in the new fields of application.



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Personal Data :

Date and place of birth: 1965, Zhejiang, China

Nationality: Chinese

Marital status: married, 1 child.

Current Position: Professor in Soil Chemistry and Environmental Science; Director, Institute of Soil and Water Resources and Environmental Science, Zhejiang University, China

Research interest: Soil chemical processes of contaminants in soil, Characterization of soil humic substances, Remediation of polluted soils

Educational qualification:

1987.12-1990.12: Ph.D in Soil Science, Zhejiang Agricultural University

1985.08-1987.11: M.Sc in Soil Science, Zhejiang Agricultural University

1981.10-1985.07: B.Sc in Soil Science and Agricultural Chemistry, Zhejiang Agricultural University

Professional Affiliations:

2008.01-2008.03: Visiting Professor, University of California, Davis, USA

1998.09-present: Professor of Soil Science, Zhejiang University, Hangzhou, China

2003.01-2003.04: Visiting Professor, Rothamsted Research, Harpenden, UK

2001.04-2001.10: Visiting Scientist of Soil Science, University of California, Riverside, USA

1996.12-1998.08: Professor of Soil Science. Zhejiang Agricultural University. Hangzhou, China

1998.10-1999.03: Visiting Scientist of Soil Science, The University of Western Australia, Perth, Western Australia

1994.01-1995.07: Postdoctoral Fellow of Soil Science, University of Minnesota, St. Paul, USA.

1993.09-1993.12: Visiting Scientist, Murdoch University, Perth, Western Australia

1991.11-1996.11: Associate Professor of Soil Science, Zhejiang Agricultural University, Hangzhou, China; Nanjing Institute of Soil Science, Chinese Academy of Sciences, Nanjing, China

1991.01-1991.10: Lecturer of Soil Science and Plant Nutrition. Zhejiang Agricultural University. Hangzhou, China

Current research projects:

1. Interaction of herbicides with soil organic components and its impact on environmental quality (2006-2009)
2. Transformation and accumulation of pollutants in agricultural eco-systems (2005-2010)
3. Development and demonstration of key technology for tea safety (2008-2010)
4. Biodegradation mechanisms of polychlorinated biphenyls and evolution of microbial community in the rhizosphere (2007-2009)
5. The relationship and mechanism between organic matter management in Agro-ecosystem and

soil acidification and greenhouse gas emission (2008-2011)

Editorial Posts:

Associate Editors-in-Chief, *Pedosphere*, 2004- present

Members of Editorial Board

Environmental Pollution, 2008-present

Journal of Soils and Sediments, 2008-present

Acta Pedologica Sinica, 2000- present

Plant Nutrition and Fertilizer Science, 2003- present

Chinese Journal of Soil Science, 1996- present

Soils, 2003- present

Acta Agriculturae Nucleatae Sinica , 2005- present

Journal of Zhejiang University (Agriculture and Life Sciences)-, 2001- present

Environmental Pollution and Prevention, 2006- present

Honors & Awards:

China Changjiang (Yangtz River) Special Appointed Professor in 2008

Excellent Chinese Doctoral Dissertation Supervisor in 2008

Award of Soil Science Society of China in 2008

Qiushi Special Appointed Professor of Zhejiang University in 2006

Award for the National Nature Science Foundation for Distinguish Young Scholars of China in 2004

Award for National Hundred-Thousand-Ten Thousand Talent Program in New Century of China in 2004

Teaching and Research Award for Outstanding Young Teachers in Higher Education Institutions of China in 2000

Award for Government Special Subsidy of China in 1998

Professional Activities

China Chapter Coordinator, International Humic Substance Society (1996-)

Vice-Chairman, Asian Network of Organic Recycle (2002-)

Coordinator, Soil Chemistry Division, Soil Science Society of China (2000-)

Main publications:

More than 230 scientific research papers have been published in refereed journals. The following refereed papers were published in international journals in 2009 (* means the corresponding author).

He Yan, Chen Chengrong, Xu Zhihong, Williams David, Xu Jianming*. 2009. Assessing management impacts on soil organic matter quality in subtropical Australian forests using physical and chemical fractionation as well as ¹³C NMR spectroscopy. *Soil Biology & Biochemistry*, 41:640– 650.

He Yan, Xu Jianming*, Lv Xiaofei, Ma Zhaohui, Wu Jianjun, Shi Jiachun. 2009. Does the depletion of pentachlorophenol in root–soil interface follow a simple linear dependence on the distance to root surfaces? *Soil Biology & Biochemistry*, 41(9):1807-1813.

Na Ding, Guo Haichao, Hayat Tahir, Wu Yuping, Jianming Xu*. 2009. Microbial community structure changes during Aroclor 1242 degradation in the rhizosphere of ryegrass (*Lolium multiflorum* L.). *FEMS Microbiology Ecology*, 70:305–314.

Wu Yuping, Ding Na, Wang Gang, Xu Jianming*, Wu Jianjun, Brookes Philip. 2009. Effects of different soil weights, storage times and extraction methods on soil phospholipid fatty acid analyses. *Geoderma*, 150:171– 178.

Wu Yuping, Ma Bin, Zhou Ling, Wang Haizhen, Xu Jianming*, Sarah Kemmitt, Philip C. Brookes. 2009. Changes in the soil microbial community structure with latitude in eastern China, based on phospholipid fatty acid analysis. *Applied Soil Ecology*, 43:234– 240.

Wang HZ, Gan J, Zhang JB, Xu JM*, Yates SR, Wu JJ, Ye QF. 2009. Kinetic Distribution of C-14-Metsulfuron-methyl Residues in Paddy Soils under Different Moisture Conditions, *Journal of Environmental Quality*, 38(1):164-170.

Chen Tao, Liu Xingmei, Li Xia, Zhao Keli, Zhang Jiabao, Xu Jianming*, Shi Jiachun, Dahlgren Randy A. 2009. Heavy metal sources identification and sampling uncertainty analysis in a

field-scale vegetable soil of Hangzhou, China. *Environmental Pollution*, 157 (3) : 1003-1010.

Zhao Keli, Zhang Weiwen, Zhou Ling, Liu Xingmei, Xu Jianming, Huang Panming. 2009. Modeling transfer of heavy metals in soil–rice system and their risk assessment in paddy fields. *Environmental Earth Science*, 59:519–527.

Wu Weihong, Xu Jianming*, Feng Zisong, Xie Zhengmiao. 2009. Adsorption of bensulfuron-methyl on kaolinite as influenced by Pb contamination. *Journal of Soils Sediments*. 9:476–481.

Xu Defu, Xu Jianming*, He Yan, Huang P. M.. 2009. Effect of iron plaque formation on phosphorus accumulation and availability in the rhizosphere of wetland plants. *Water Air Soil Pollution*. 200:79–87.

Zhong Shunqing, Wu Yuping, Xu Jianming*. 2009. Phosphorus utilization and microbial community in response to lead/iron addition to a waterlogged soil. *Journal of Environmental Sciences*, 21:1415–1423.

Hou Xianwen, Wu Jianjun, Xu Jianming* and Tang Caixian. 2009. Interactive effects of lead and bensulfuron-methyl decomposition of ¹⁴C-glucose in paddy soils. *Pedosphere*,19(5): 577-587.

Candidacy Statement

I am the pioneer of the China Chapter of IHSS, and have been the coordinator of China Chapter since 1996. If I'll be elected to the position of Board Member of IHSS, I will be actively involved in international scientific activities related to IHSS and research area in soil humic substances. I will look for funds from various sectors to organize international conferences and training courses and to publish scientific books in humic substances. I will take great effort to let more people know the true importance of humic substances in various fields and to encourage more scientists to be more active in the IHSS.