NEWSLETTER

INTERNATIONAL HUMIC SUBSTANCES SOCIETY

Number 29 Winter, 2003/2004

ELECTIONS OF IHSS BOARD MEMBERS

Dear Members of IHSS,

Firstly, I would like to wish you everything of the best for the Holiday Season and for the New Year. Our Society is flourishing: in order to better reflect the scope of our members' research interests, our motto has been changed to "To Advance the Knowledge and Research of Natural Organic Matter in Soil and Water"; the IHSS membership is growing; national chapters have been restructured to encompass larger regions and membership; demand for our standard and reference collection is increasing and new samples are being incorporated; our internet site has been updated; excellent national chapter meetings have been organized; and we are looking forward to an excellent IHSS-12 conference in Brazil in July 2004.

Time has come for elections for several board positions. The following are the board positions and the candidates:

Position	Candidates	
Vice-President	Paul Bloom	Michael Spiteller
Secretary	Gudrun Abbt-Braun	Raymond M. Hozalski
Board member	Claudio Ciavatta	Ladislau Martin-Neto

Enclosed please find the candidates' statements and CV's. Envelopes with the ballots will be sent to each of you by airmail in January 2004. Please return the ballots to me, in the pre-prepared envelopes, by the deadline of February 29, 2004.

The IHSS Board would like to thank the nomination committee, Gregory Korshin (U.S.A., Chairman), Koyo Yonebayashi (Japan) and Gerd Gleixner (Germany) for their effective search for candidates. We gratefully acknowledge their effort.

With best wishes.

Yours sincerely,

Prof. Yona Chen
President IHSS

INTERNATIONAL HUMIC SUBSTANCES SOCIETY
BOARD OF DIRECTORS 2003

Past President

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Secretary

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Chairman, Samples Collection

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Board Position

Dr. Gudrun Abbt-Braun
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Board Position

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Honorary Members

Dr. Wolfgang FLAIG
Dr. Morris SCHNITZER
Dr. Frank J. STEVENSON
Dr. Ronald L. MALCOLM †
Dr. Michael H.B. HAYES
Dr. Egil T. GJESSING
Dr. Russel CHRISTMAN
Dr. Konrad HAIDER

International Humic Substances Society on the World Wide Web

Visit our home page at:

http://www.ihss.gatech.edu

NEW UPDATE!!! The website now contains a lot of analytical data on the standard and reference samples of the IHSS Collection

and also new guidelines for travel and research bursaries

Dr. E. M. Perdue is coordinating the development of the IHSS WEB page. You can follow the progress on the above WEB site which is located on the server of the Georgia Institute of Technology, Atlanta, USA.

Suggestions and comments regarding the content and organization of the WEB pages are actively requested from all IHSS members.

E-mail Dr. E. M. Perdue at **michael.perdue@eas.gatech.edu** for more information.

Candidate for Vice President of the IHSS

Dr. Paul R. Bloom

University of Minnesota, Department of Soil, Water and Climate, St Paul, MN, USA

Rank Professor, July 1988

Education

B.S.	1970, University of Montana - Secondary Education
M.A.T.	1972, University of Montana - Chemistry Thesis Title: Barium Chloride Dihydrate: A Single Crystal Study of the First Dehydration Step
Ph.D.	1978, Cornell University - Soil Chemistry Thesis Title: Exchange of Hydrogen, Aluminum and Other Metal Ions in Soil Organic Matter and Acid Soils

Employment History

1970–1972	Teaching Assistant, Department of Chemistry, University of Montana
1973–1977	Research Assistant, Department of Agronomy, Cornell University
1978–1983	Assistant Professor, Department of Soil Science, University of Minnesota
1983–1987	Associate Professor, Department of Soil Science, University of Minnesota
1986–1987	Visiting Scientist, International Rice Research, Institute, Philippines
1988–Present	Professor, Department of Soil Science, University of Minnesota

Awards

Elected Fellow of the Soil Science Society of America, 1991

Professional Organizations and Honorary Societies

- American Society of Agronomy
- Soil Science Society of America
- International Humic Substances Society
- Sigma Xi

Professional Activities

- Member of Soil Science Society Division S–9 & S–2 ad hoc Committee on S.I. units. 1979–1980.
- Member of the executive committee of NCR–59. 1980–1982.
- Chairman of NCR–59. 1982–1983.
- Associate Editor, Journal of Environmental Quality, 1986–
- Chair of Soil Chemistry, Division (S–2) Soil Science Society of America, 1988.
- Member, Soil Science Society of America Committee on Opportunities in Soil Science (1989–1990).
- Member Soil Science Society of America Fellows Committee 1996 and 97
- Coordinator of the Soils Science Society of America *Soil-Chem* e-mail list 1996- present
- Member of the Board of Directors of the International Humic Substances Society. 1999 – present (In charge of sales of humic substances collection)

FIVE RECENT NOM PUBLICATIONS

Meyer, M and P.R.Bloom. 1997. Boric acid and silicic Acid adsorption by a humic acid. Soil Sci.Soc.of Amer. J. 60: 63-69.

Xia, K., W. F. Bleam, U. Skyllberg, P. R. Bloom, and E. A. Nater. 1998. XAS study of the binding of mercury (II) to reduced sulfur in soil organic matter. 1999. Enviro. Sci. Tech. (99:1).

P.R. Bloom 1999. Soil pH and pH buffering. pp. B.333-B.350 M.E. Sumner (ed.) Handbook of Soil Science. CRC Press, Boca Raton.

U.L. Skyllberg*, K Xia, P.R. Bloom, E.A. Nater, and W. F. Bleam 2000. Binding of mercury (II) to reduced sulfur in soil organic matter along upland-peat soil transects. J..Environ. Qual. 29:855-865.

P.R. Bloom, W.F. Bleam and K. Xia, 2001. X-ray Spectroscopy Applications for the Study of Humic Substances *In* C.E. Clapp, M.H.B. Hayes, N. Senesi, P.R. Bloom and P.M. Jardine (eds.). Humic substances and chemical contaminants. Soil Sci. Soc. Amer. Madison WI.

Statement of Candidacy

After completing a masters degree in chemistry at the University of Montana I studied soil chemistry at Cornell University and was granted a Ph.D. in 1978. In the same year I joined the faculty of the University of Minnesota where I am currently a professor of Soil Chemistry in the Department of Soil, Water, and Climate. My interest in SOM and humic substances began with my graduate work at Cornell and I have continued to be involved in research on the role humic substances in soils. My SOM and humic research has focused on the binding of metal ions, utilization of spectroscopic techniques and the study N mineralization in wet soils. Currently I am director of the NOM Center at the University of Minnesota. In 1997 I was appointed to the IHSS Board as Director of the Collection and I assumed the responsibility for sales of the humic collection. I am presently serving in that position. During the time since my appointment to the Board we have initiated many improvements in the sales of our collection. This includes the use of the web site to promote sales and to provide information on the chemical properties of our materials, offering credit card payment, improved inventory tracking and tracking of sales, and collection and processing of new reference materials including the Suwannee River NOM.

During my tenure on the board I have seen many improvements in operation of IHSS. However, there is still much that can be done to make IHSS function better. My view is that IHSS is too large to function well using only volunteers to accomplish all of its functions, but it is too small to have full-time a professional staff. However, our funds keep growing annually and we have enough money to hire a part-time staff person or a vendor of membership services (Vendor supplied services are used by some scientific societies in the US.). I would like to see central collection of annual membership dues, with the possibility of on-line payment using credit cards. Where there are active regional or national chapters, their share of the dues would be remitted to the chair of the chapter. Regional and national chapters are important to IHSS but they should not necessarily be burdened with the collection of dues, nor should communication with members suffer were chapters do not function well. We need to improve communication with members and centralization of member services would help immensely. We need to use e-mail more to communicate with our members and to do this we need a good membership list with e-mail addresses.

Candidate for Vice President of the IHSS

Dr. Michael Spiteller

University of Dortmund, Institute for Environmental Research, Germany
Born, 24 April 1954

Education

1972 – 1976 Chemistry studies at Georg-August-Universität in Göttingen, after 7 semesters diploma examination with "very good" in Göttingen on 09.04.1976

1976 – 1979 Doctorate completed with "very good" in Göttingen on 12.07.1976, subsidiary subjects: Physical Chemistry, Physiological Chemistry

Employment Activities

1976 – 1979 Scientific assistant at the Chair of Organic Chemistry, Bayreuth

1979 – 1982 Scientific assistant, responsible for practical training, seminars, and student advise, Chair of Soil Science, Bayreuth

1983 – 1985 DFG-scholarship holder, preparation of the postdoctoral qualification at the Institute for Soil Science and Forest Hygiene, Göttingen

24.05.1985 Postdoctoral qualification at the Forestry Department, venia legendi for Soil Science

01.10.1985 Head of the laboratory working pool Soil – Water- Air at the Plant Protection Centre of the Bayer AG, Monheim

18.12.1990 Appointment as Associated Professor for Soil Science at the Forestry Department of the University Göttingen

01.07.1993 Appointment as full-professor for Environmental Chemistry and Environmental Toxicology at the University Kassel

01.11.1999 Appointment as full-professor for Environmental Chemistry and Environmental Analytic Chemistry at the University Dortmund, managing director of the Institute for Environmental Research

Publications

240 publications, lectures, posters and book contributions

Recent representative publications

1) Klaus, F.; Pfeifer, Th.; Spiteller, M. (2000). APCI-MS/MS: A Powerful Tool for the Analysis of Bound Residues Resulting from the Interaction Pesticides with DOM and Humic Substances Environmental Science & Technology, Vol. 34, No. 16, pp. 3514 - 3520
2) Pfeifer, T.; Klaus, U.; Hoffmann, R.; Spiteller, M. (2001). Chracterisation of humic substances using atmospheric pressure chemical ionisation and electrospray ionisation mass spectrometry combined with size-exclusion chromatography. Journal of Chromatography A, 926, pp 151 - 159
3) Pfeifer, T., Spiteller, M. (2001). Reducing the tailing of substances adsorbing on silica surfaces by a simple modification of the Finnigan atmospheric pressure chemical ionization source RCM Letter to the Editor, Journal of Rapid Communications in Mass Spectrometry, Vol. 15, pp 2206 - 2207
4) Frimmel, F.H.; Abbt-Braun, G.; Heumann, K. G.; Hock, B.; Lüdeman, H.-D.; Spiteller, M. (2002). Refractory Organic Substances in the Environment. Environmental Chemistry, WILEY-VCH
5) Monkiedje, A., Spiteller, M., Bester, K. (2003). Degradation of racemic and enantiopure metalaxyl in tropical and temperate soils. Environmental Science and Technology, 37 (4): 707-712.
6) Piccolo, A.; Spiteller, M. (2003). Electrospray ionizsation mass spectrometry of terrestrial humic substances and their size-fractions, Analytical and Bioanalytical Chemistry, 377, 1047 - 1059

Committee activities

Group of experts "Environmental Chemistry and Environmental Toxicology", head of working pool " Soil Chemistry and Soil Ecology".
Association of German Chemists, "Water Chemistry".
Advisory-Board, Zeitschrift für Ernährungsökologie.
Member of the scientific advisory board of the magazine "Environmental Science and Pollution Research".
Co-editor, Fresenius Environmental Bulletin.
Advisory-Board – Advances in Food Science.
Honorary member of the Serbian Chemical Society.
Advisory Board Institute of Spectroscopy ISAS.

Statement of Candidacy

I had the privilege to take part in the first IHSS meeting at Estes-Park, Colorado and also in most of the following meetings, first as a researcher in pesticide industry and later as a University teacher and researcher.

I was involved for 6 years in the ROSE (Refractory Organic Substances in the Environment) project, which was funded by the German Research Council dealing with structural investigations and their molecular interactions.

Although IHSS is an attractive platform in the interdisciplinary research bringing students and young scientists together from diverse disciplines, there is still a lot to be done to attract young people for research in the field of humic substances.

If elected Vice-President of IHSS, I would support any effort to develop a basic course in Humus Chemistry, which can be made available to students in modern electronic media.

I am also convinced that new methods and techniques that have been recently developed in pure chemistry and biology can help achieve a much deeper understanding of humic substances. On the other hand, many ambitious researchers who currently work with complex and diverse mixtures of humic substances in basic sciences and applications have not had any training to use these methods.

In the next few years, my research activities will be focused on the applications of new ionization techniques in liquid mass spectrometry and high-resolution mass spectrometry.

Candidate for Secretary of the IHSS

Dr. Gudrun Abbt-Braun

Universität Karlsruhe, Engler-Bunte-Institut, Division of Water Chemistry, 76131 Karlsruhe, Germany
born 1958, two sons (14 and 16 years old)

Education
1983 Diploma in Chemistry at the Technical University of Munich
1987 PhD (Dr. rer. nat.) at the Technical University of Munich, Institute of Hydrochemistry

Professional Employment
1984 – 1987: Ph.D. student at the Institute of Hydrochemistry (head: Prof. K.-E. Quentin), Technical University of Munich; 1987 – 1991: junior Scientist at the Research Institute of the German Gas and Water Association at the Engler-Bunte-Institute, division of waterchemistry (DVGW), University of Karlsruhe; 1992 - present: senior Scientist and Lecturer (Akademische Oberrätin) at the Division of Water Chemistry at the Engler-Bunte-Institute (head: Prof. F. H. Frimmel), University of Karlsruhe.

Publications and Lectures
More than 60 scientific publications (mostly in refereed journals), co-editor of 3 books (e.g. Refractory Organic Substances in the Environment, Wiley-VCH, 2002); about 60 oral and 50 poster presentations; lectures in “Aquatic humic substances“ and “Examinations and assessment of water quality“; practical training in “Inorganic chemistry” and “Waterchemistry”.

Editorial Boards
Vom Wasser.

Activities in Commissions and Societies
Organization and coordination of national and international meetings, co-organizer of the ROSE-conferences (Refractory Organic Substances in the Environment: 1997 and 2000, Karlsruhe); member of the German Chemical Society (GDCh); member of the Water Chemical Society - Division of the GDCh; member of the International Humic Substances Society (IHSS) since 1992; coordinator of the German Chapter of the IHSS since 1994; board member since 2002.
Elected member in the Senate of the University of Karlsruhe, 1995 – 1999; elected member for woman affairs in the Faculty of Chemical Engineering since1995; elected member in the faculty of Chemical Engineering and Processing at University of Karlsruhe, since 1998.

Awards
Prize for young talents in the field of water chemistry, awarded by the Water Chemical Society – Division of the GDCh, May 1992, for works on chemical and spectroscopic characterization of aquatic humic substances

Research Topics
Isolation of natural organic matter by different methods (XAD; RO, ultrafiltration); Characterization of natural organic matter (chromatography, spectroscopy, biochemical and chemical characterization); Reactions of humic substances in aquatic systems; Oxidation reactions of natural organic matter during water treatment processes (desinfection by-products).

Representative Publications
G. Abbt-Braun, F. H. Frimmel, H.-R. Schulten: Structural Investigations of Aquatic Humic Substances by Pyrolysis-Field Ionization Mass Spectrometry and Pyrolysis-Gas Chromatography/Mass Spectrometry. Water Research 23, 1579-1591 (1989).
G. Abbt-Braun, F. H. Frimmel, P. Lipp: Isolation of Organic Substances from Aquatic and Terrestrial Systems- Comparison of Some Methods. Wasser-Abwasser-Forschung 24, 285-292 (1991).
G. Abbt-Braun, K. Johannsen, M. Kleiser, F. H. Frimmel: Adsorption Behaviour of Humic Substances on Activated Carbon: Comparison with the Physical and Chemical Character of Material from Different Origin. Environment International 20, 397-403 (1994).
G. Abbt-Braun, F. H. Frimmel: Basic Characterisation of Norwegian NOM-Samples – Similarities and Differences. Environment International 25, 161-180 (1999).
M. Haitzer, G. Abbt-Braun, W. Traunsburger, C. E. W. Steinberg: Effects of Humic Substances on the Bioconcentration of Polycyclic Aromatic Hydrocarbons: Correlations with Spectroscopic and Chemical Properties of Humic Substances. Environ. Toxicol. Chem. 18, 2782-2788 (1999).
M. U. Kumke, C. Zwiener, G. Abbt-Braun, F. H. Frimmel: Spectroscopic Characterization of Fulvic Acid Fractions of a Contaminated Groundwater. Acta hydrochimica et hydrobiologica 27, 409-415 (1999).

Ya-Wen Ko, G. Abbt-Braun, F. H. Frimmel: Effect of Preozonation on the Formation of Chlorinated Disinfection By-products for River Ruhr. Acta hydrochimica et hydrobiologica 28, 256-261 (2000).
G. Abbt-Braun, F. H. Frimmel, Y. Chen, B. Chefetz, Y. Hadar: Transformation of Organic Matter to Humic Substances in Composted Municipal Solid Waste. In: R. S. Swift, K. M. Spark (Eds.): Understanding and Managing Organic Matter in Soils, Sediments, and Waters. Proceedings of the 9th International Conference of the International Humic Substances Society (IHSS), Adelaide, Australia, 187-194 (2001).
G. Abbt-Braun, J. B. Jahnel: Organically bound Sulfur in Refractory Organic Substances. Fresenius J. of Analytical Chemistry, 371, 682-687 (2001).
F. H. Frimmel, G. Abbt-Braun, K. G. Heumann, B. Hock, H.-D. Lüdemann, M. Spiteller (Eds.): Refractory Organic Substances in the Environment. Wiley-VCH (2002).
With several contributions:
G. Abbt-Braun, F. H. Frimmel: The relevance of Reference Materials: Isolation and General Characterization, 1-38 (2002).
K. G. Heumann, G. Abbt-Braun, B. Jakubowski, K. Behrens, P. Burba, A. Knöchel, J. Mielcke, G. Rädlinger, G. Marx, J. Vogl: Element Determination and its Quality Control in Fractions of Refractory Organic Substances and the Corresponding Original Water Samples. 39-53 (2002).
J. Thieme, C. Schmidt, G. Abbt-Braun, C. Specht, F. H. Frimmel: X-Ray Microscopy Studies of Refractory Organic Substances. 239-248 (2002).
J. Jahnel, T. Brinkmann, G. Abbt-Braun, F. H. Frimmel: Occurence of Amino Acids, Carbohydrates, and Low-Molecular Molecular Weight Organic Acids in Refractory Organic Substances. 264-281 (2002).
G. Abbt-Braun, U. Lankes, J. B. Jahnel, J. Lambert, H.-D. Lüdemann, F. H. Frimmel: Chemical and Spectroscopic Data of the ROSE Reference Samples – Comparison and Evaluation. 302-309 (2002).
T. Brinkmann, G. Abbt-Braun, F. H. Frimmel: Alkaline Degradation of Dissolved Organic Matter. Acta hydrochim. hydobiol. 31, 1-12 (2003).

Statement of Candidacy

I first took up contact with the IHSS during my Ph.D. studies, at the IHSS meeting 1986 in Oslo. Since then, I have had the chance of participating in most of the IHSS meetings giving oral and poster presentations. Since my Ph.D. studies, I have been involved in several national research projects dealing with humic substances and I have also gained extensive experience with international collaborations and projects. From 1994 to 2000, I was involved in the coordination of 25 interdisciplinary projects of the joint research project ROSIG (Refractory Organic Substances in the Environment; chairman: Prof. Fritz Frimmel) funded by the DFG (Deutsche Forschungsgemeinschaft). Besides other activities within this project I was responsible for the isolation and basic characterization of reference material.

If elected as secretary of the IHSS, I will conduct the correspondence of the IHSS, (including minutes of meetings and board meetings, notes for public news, maintenance of membership lists etc.) and will serve as Editor for the NEWSLETTERS. The NEWSLETTERS should be a platform for the interaction between the national chapters as well as between scientists of different disciplines, and also for younger and insider humic scientists. I am convinced that the IHSS plays a promoting part in the interdisciplinary research of environmental sciences. The IHSS can bring together scientists of different disciplines (humic scientists, geologists, water chemists, soil chemists, ecologists, geochemists, biologists, and engineers). This collaboration is stimulating, and will increase the knowledge of humic substances. The IHSS platform is attractive for students and young scientists in their research of humic substances. As secretary of the IHSS, in case of election, I would therefore support the issues mentioned above and do my best for the success of the IHSS.

Candidate for Secretary of the IHSS

Dr. Raymond M. Hozalski

University of Minnesota, Department of Civil Engineering, Minneapolis, USA
born June 10, 1968

Education

1996 Ph.D., Environmental Engineering, Johns Hopkins University
1992 M.S., Environmental Engineering, Johns Hopkins University
1990 B.Ch.E., Chemical Engineering, Villanova University

Principal Fields of Interest

Application of biological processes for the treatment of water, wastewater, and hazardous waste. One of my main areas of specialization within biological processes is biofilms, which are microbial communities immobilized on solid surfaces. My biofilms research program aims to enhance understanding of the structure and function of biofilms in engineered and natural systems, to develop or improve treatment processes that use biofilms, and to develop strategies for controlling biofilm growth on surfaces when biofilms are not desired. In addition, I am interested in studying the composition and reactivity of aquatic natural organic matter (NOM) with emphasis on the impacts of NOM on drinking water quality and treatment. Finally, my research group is involved in the development of innovative methods to analyze for disinfection byproducts (DBPs) in drinking water samples and in the study of the fate of DBPs in aquatic systems.

Current Research

(1) Abiotic Degradation of Disinfection Byproducts (Co-PI with W.A. Arnold, Funding from the National Science Foundation and AWWA Research Foundation). Disinfection by-products (DBPs) formed upon addition of chlorine to water consist of a wide variety of compound classes including trihalomethanes (THMs), haloacetic acids (HAAs), halonitromethanes (HNMs) and others. Many DBPs are known or suspected carcinogens and, unfortunately, little is known about the fate of DBPs in distribution systems. Important implications for understanding and predicting the fate of DBPs in water distribution systems and useful for designing new water treatment systems for DBP removal from water supplies.

(2) A Pilot-Scale Study to Evaluate Options for Geosmin Removal from a Water Supply. (Co-PI with M.J. Semmens, Funding from Saint Paul Regional Water Services). The St. Paul Regional Water Services (SPRWS) has an annual problem with taste and odor complaints that arise in the summer. The taste and odor complaints were linked to the presence of geosmin in the water, which is produced by algae growing in the chain of lakes supplying the treatment plant. This research project will focus on the evaluation of treatment processes for removing geosmin from the water supply. The approaches that will be considered include granular activated carbon (GAC) adsorption and ozonation-biofiltration.

Employment Experience

1997 – **Assistant Professor**, Dept. Civil Engineering*, University of Minnesota*, Minneapolis, Minnesota
9/96 – 6/97 **Post-Doctoral Researcher**, Dept. Geography and Environmental Engineering, *The Johns Hopkins University*, Baltimore, Maryland
5/96 – 8/96 **Instructor**, Part-Time Program in Engineering and Applied Science, *The Johns Hopkins University*, Baltimore, Maryland
9/90 – 5/96 **Graduate Research Assistant**, Department of Geography and Environmental Engineering, *The Johns Hopkins University*, Baltimore, Maryland

Awards and Honors

Department Development Award, Civil Engineering, University of Minnesota, Awarded December 2000.

Scholarships and Fellowships

Abel Wolman Doctoral Fellowship sponsored by the American Water Works Association, June 1993.

Membership in Professional Societies

American Chemical Society (ACS)
American Society for Microbiology (ASM)
American Water Works Association (AWWA)
Association of Environmental Engineering and Science Professors (AEESP)
International Humic Substances Society (IHSS)

Professional Registration
Registered Professional Engineer in the State of Minnesota.

Recent Publications

1. *McRae, B.M., LaPara, T.M., and ***Hozalski, R.M**. Biodegradation of Haloacetic Acids by Bacterial Enrichment Cultures.* Chemosphere *(in press).*
2. *Fang, Y., Novak, P.J., **Hozalski, R.M.**, Cussler, E.L., and *Semmens, M.J. Condensation in Gas Permeable Membranes.* Journal of Membrane Science *(in press).*
3. *Fang, Y., Clapp, L.W., **Hozalski, R.M.**, Novak, P.J., and *Semmens, M.J. Membrane Gas Transfer Under Conditions of Creeping Flow: Modeling Gas Composition Effects.* Water Research *(in press).*
4. **Clapp, L.W., Semmens, M.J., Novak, P.J., and **Hozalski, R.M.** Model for In Situ Perchloroethene Dechlorination via Membrane-Delivered Hydrogen.* Journal of Environmental Engineering *(in press).*
5. *Poppele, E.H. and ***Hozalski, R.M.** (2003). Micro-Cantilever Method for Measuring the Tensile Strength of Biofilms and Microbial Flocs.* Journal of Microbiological Methods*, 55:607-615.*
6. *Ma, X., Clapp, L.W., Novak, P.J., Semmens, M.J., and ***Hozalski, R.M.** (2003). Evaluation of Polyethylene Hollow-Fiber Membranes for Hydrogen Delivery to Support Reductive Dechlorination in a Soil Column.* Water Research*, 37:2905-2918.*
7. *Dai, X. and ***Hozalski, R.M.** (2003). Evaluation of Microspheres as Surrogates for* Cryptosporidium parvum *Oocysts in Filtration Experiments.* Environmental Science and Technology*, 37:5:1037-1042.*
8. *Roggy, D.K., Novak, P.J., **Hozalski, R.M.**, Clapp, L.W., and *Semmens, M.J. (2002). Membrane Gas Transfer for Groundwater Remediation: Chemical and Biological Fouling.* Environmental Engineering Science *19:6:563-574.*
9. *Muenzner, H.D., Clapp, L.W., **Hozalski, R.M.**, Semmens, M.J., and *Novak, P.J. (2002). Dechlorination of PCE by Mixed Methanogenic Cultures Using Hollow-Fiber Membranes.* Bioremediation J.*,6:4:337-350*
10. *Nelson, D.L., **Hozalski, R.M.**, Clapp, L.W., Semmens, M.J., and *Novak, P.J. (2002) Investigation of the Effects of Nitrate and Sulfate on Biological Reductive Dechlorination.* Bioremediation J.*, 6:3:225-236.*
11. **Dai, X. and **Hozalski, R.M.** (2002). Effect of NOM and Biofilm on the Removal of* Cryptosporidium parvum *Oocysts in Rapid Filters.* Water Research*, 36:3523-3532.*
12. *Fang, Y., ***Hozalski, R.M.**, Clapp, L.W., Novak, P.J. and Semmens, M.J. (2002). Passive Dissolution of Hydrogen Gas into Groundwater using Hollow-Fiber Membranes.* Water Research*, 36:3533-3542.*
13. *Zhang, M., Semmens, M.J., Schuler, D. and ***Hozalski, R.M.** (2002). Evaluation of Biostability and Microbiological Quality in a Chloraminated Distribution System.* Journal AWWA*, 94:9:112-122.*
14. ****Hozalski, R.M.**, Zhang, L., and Arnold, W.A. (2001). Reduction of Haloacetic Acids by Fe^0: Implications for Treatment and Fate.* Environmental Science and Technology*, 35:11:2258-2263.*
15. ****Hozalski, R.M.**, and Bouwer, E.J. (2001). Non-Steady State Simulation of BOM Removal in Drinking Water Biofilters: Model Development.* Water Research*, 35:1:198-210.*
16. ****Hozalski, R.M.**, and Bouwer, E.J. (2001). Non-Steady State Simulation of BOM Removal in Drinking Water Biofilters: Applications and Full-scale Validation.* Water Research*, 35:1:211-223.*
17. ***Hozalski, R.M.**, and Bouwer, E.J. (1998). Deposition and Retention of Bacteria in Backwashed Filters. *Journal AWWA*, 90:1:71-85.
18. ***Hozalski, R.M.**; Goel, S.; and Bouwer, E.J. (1995). TOC Removal in Biological Filters. *Journal AWWA*, 87:12:40-54.
19. *Goel, S.; **Hozalski, R.M.**; and Bouwer, E.J. (1995). Biodegradation of NOM: Effect of NOM Source and Ozone Dose. *Journal AWWA*, 87:1:90-105.

Statement of Candidacy

I teach undergraduate and graduate courses in environmental engineering and science and my main research interests concern water treatment. I have been active in NOM-related research, including recent work concerning the effects of dissolved natural organic matter (NOM) on the surface properties of *Cryptosporidium parvum* oocysts and their removal in filters. The NOM for this work was obtained from the IHSS collection. I helped to establish a NOM Center at the University of Minnesota and I have served on the organizing committees of several regional and international NOM conferences hosted by our center. I have been a member of IHSS since 1997 and I am organizing a session at the 2004 conference in Brazil. If I am elected to the position of Secretary of IHSS, I will continue the excellent work of past secretaries in conducting the correspondence of the society, but also strive to make targeted improvements. For example, I plan to improve the look and content of the newsletter, by taking advantage of desktop publishing software and the declining cost of color printing. In addition, I would like to oversee the revision and maintenance of our society webpage to ensure that the content is clearly presented and current. Finally, I plan to work with the leadership of the society to encourage more involvement of water treatment researchers at IHSS-sponsored meetings.

Candidate for Board Member of the IHSS

Dr. Claudio Ciavatta

University of Bologna, Dept. Scienze e Tecnologie Agro-Ambientali, Italy
born February 13, 1958

Claudio Ciavatta is Full professor of Agricultural Chemistry at the *Alma Mater Studiorum* University of Bologna, Italy. He was born in Rimini, Italy, on February 13, 1958. He graduated in Agricultural Sciences in 1982 with full marks and "*cum laude"* at the University of Bologna, Italy.
In **1989** he was appointed Research Assistant Professor. In **1993** and **1994** he was appointed as lecturer of Agricultural Biochemistry at the University of Ancona, Italy; in **1995-1997** lecturer of Agronomic Classification and Soil Cartography at the University of Bologna; in **1998** Associate Professor of Agricultural biochemistry I, Agricultural biochemistry II, Soil fertility and plant nutrition, Soil chemistry, Use and recycling of biomass in agriculture at *Alma Mater Studiorum* University of Bologna. In **2002** he got full professorship in a qualifying examination at the University of Florence.

Scientific responsibilities
Claudio Ciavatta has been head of research units in several National (MURST, MiUR, CNR, MiPAF, Private Companies) and International projects (NATO, INTAS, UE-funded) on soil organic matter characterization and dynamics. Now he is head of a research section of the UE-funded project BIOTROLL "Integrated biological treatment and agricultural reuse of olive mill effluents with the concurrent recovery of energy sources*"*.

Ministerial Assignments
Since March 1994 he is appointed by the Italian Ministry of Agricultural Policies Member expert to the Technical-Consultant Commission for Fertilizers; in 1996-2002 Member of the Scientific Technical Committee for the National Pedologic Observatory and for Soil Quality and from September 2000 Member of the Commission for Official analytical methods for fertilizers.

Main research topics
i) Characterization of humic substances in soils and humic and humic-like substances in compost and biomasses of urban and agro-industrial origin using electrophoteic (EF, CE), potentiometric, thermal analysis and spectroscopic (IR, NMR, Raman-SERS) techniques; ii) Evolution of the organic matter during composting; iii) Dynamic of the organic matter, nutrients and heavy metals in soils fertilized with organic biomasses; iv) Interactions of humic substances with nutrients; v) Interaction of pesticides with dissolved organic matter.

He is **author** and **co-author** of more than 200 scientific papers about 100 of which have been published in international and peer-reviewed journals. To date he has supervised more than 15 Ph.D. and M.Sc. students in their research work.

Recent Publications
1. Francioso O., Sànchez-Cortés S., **Ciavatta C.**, Marzadori C. and Gessa C.(2000). DRIFT and SERS analysis of peat humic and fulvic acid fractions. *Res. Adv. Appl. Spectrosc*., **1**:1-11.
2. Francioso O., **Ciavatta C.**, Sànchez-Cortés S., Tugnoli V., Sitti L. e Gessa C. (2000). Spectroscopic characterization of soil organic matter in long-term amendment trials. *Soil Sci.* **165**:495-504.
3. Sànchez-Cortés S., Francioso O., Garcìa-Ramos J.V., Marzadori C., **Ciavatta C.** and Gessa C. (2000). Formation of humic-like substances from phenols by means SERS spectroscopy. In: "*Proceedings of the 10th Int. Meeting of the IHSS, Toulouse, France, 2000*" (M. Kaemmerer et al., eds.), IHSS, 121-124.
4. Marzadori C., Francioso O., **Ciavatta C.** and Gessa C. (2000). Influence of humic acids obtained by different extractants on the stabilization of jack bean urease. In: "*Proceedings of the 10th Int. Meeting of the IHSS, Toulouse, France, 2000*" (M. Kaemmerer et al., eds.), IHSS, 325-328.
5. **Ciavatta C.,** O. Francioso, V. Tugnoli, C. Marzadori and C. Gessa (2000). NMR spectroscopy to study the structure of humic substances. *Res. Adv. Appl. Spectrosc*., **1**: 69-78.
6. Marzadori C., Francioso O. **Ciavatta C.** and Gessa C. (2000). Influence of heavy metal contents and nominal molecular weight of humic acids fractions on the activity and stability of urease. *Soil Biol. Biochem.*, **32**: 1893-1898.
7. Marzadori C., Francioso O. **Ciavatta C.** and Gessa C. (2000). Activity and stability of Jack bean urease in presence of peat of humic acids obtained using different extractants. *Biol. Fert. Soils*, **32**: 415-420.
8. Sànchez-Cortés S., Francioso O., Garcìa-Ramos J.V., **Ciavatta C.** and Gessa C. (2000). Cathecol polymerization in the presence of silver colloid. *Coll.Surfaces A:Physicochem.Eng Aspects*:**176**:177-184
9. Simoni A., **Ciavatta C.** and Brunetti L. (2000). Management of swine manure in a great potential

breeding: analysis of the operating factors. In: *Proceedings of the 9th Workshop of the network on Recycling of Agricultural, Municipal and Industrial Residues in Agriculture*. Gargnano (Italy), pp. 96-100.
10. **Ciavatta C.,** Francioso O., Tugnoli V. and Gessa C. (2000). Evaluation of the quality of organic matter of compost using spectroscopic techniques (DRIFT and 1H NMR). In: *Proceedings of the 9th Workshop of the network on Recycling of Agricultural, Municipal and Industrial Residues in Agriculture*. Gargnano (Italy), pp. 223-225.
11. Trubetskaya O.E., Trubetskoj O.A. & **Ciavatta C.** (2001). Evaluation of the evolution of organic matter to humic substances in compost by coupling SEC-PAGE. *Biores. Technol.* **77(1)**: 51-56.
12. **C. Ciavatta,** O. Francioso, D. Montecchio, L. Cavani and M. Grigatti (2001). Use of organic wastes of agro-industrial and municipal origin for soil fertilisation: quality criteria for organic matter. In: *The First International Encounter, Management of Organic Wastes in Rural Mediterranean Areas*. Pamplona, 22-23 February, 2001, University of Navarra, pp. 1-17.
13. Francioso O., Sànchez-Cortés S., Tugnoli V., Marzadori C. and **Ciavatta C.** (2001). Spectroscopic study (DRIFT, SERS and ^{1}H-NMR) of different humic substances. *J. Mol. Struct.* **565**: 481-485.
14. Montecchio D., Francioso O. and **Ciavatta C**. (2001). Determination of soil ability to oxidize Cr(III) to Cr(VI). Proc. 6th Int.Conference on the Biogeochemistry of Trace Elements – Guelph (Canada), pp. 425.
15. Sànchez-Cortés S., Francioso O., **Ciavatta C.**, Garcìa-Ramos J.V. and Gessa C. (2001). Structural characterization of peat humic substances by mean of surface enhanced Raman spectroscopy. In: "*Understanding and Managing Organic Matter in Soils, Sediments and Waters*" (R.S. Swift and K.M. Spark, eds.), IHSS, 133-139, *2001*.
16. Francioso O., **Ciavatta C**., Tugnoli V. and Gessa C. (2001). Molecular changes of organic matter in long-term amendment trials with cattle manure and crop-residues. In: "*Understanding and Managing Organic Matter in Soils, Sediments and Waters*" (R.S. Swift & K.M. Spark, eds.), IHSS, 268-291, *2001*.
17. Montecchio D., **Ciavatta C**., Seeber R., Tonelli D., Manunza B. and Gessa C. (2001). Acid-base properties of humic and fulvic acids: a study by potentiometric titrations. In: "*Understanding and Managing Organic Matter in Soils, Sediments and Waters*" (R.S. Swift and K.M. Spark, eds.), IHSS, 69-76, *2001*.
18. **Ciavatta C.,** Cavani L., Francioso O., Grigatti M., Montecchio D. and Gessa C. (2001). Compost of agro-industrial and municipal origin for soil fertilisation: quality criteria for organic matter. In: Ricicla 2001 (a cura di L. Morselli), pp. 717-731, *Maggioli Editore*, Rimini
19. Francioso O., Sànchez-Cortés S., Casarini D., Garcia-Ramos J.V., **Ciavatta C.**, and Gessa C. (2002). Spectroscopic characterization of humic acids fractionated by means of tangential ultrafiltration. *J. Molec. Structure.* **609**:137-147.
20. **Ciavatta C**. and Benedetti A. (2002). Foliar fertilizers: legislative aspects in Europe. In: Proc. Int. Symp. Foliar Nutrition Perennial Fruit Plants (Meran, Italy, Sept. 11-15, 2001). *Acta Horticulturae* **594**:269-276
21. Cavani L., **Ciavatta C**., Trubetskaya O.E., Reznikova O.I., Afanas'eva G.V. and Trubetskoj O.A. (2003). Capillary zone electrophoresis of soil humic acid fractions obtained by coupling size exclusion chromatography-polyacrylamide gel electrophoresis. *J. Chromat. A,* **983**:263-270.
22. Cavani L., **Ciavatta C.** and Gessa C. (2003). Identification of organic matter from peat, leonardite and lignite fertilisers using humification parameters and electrofocusing. *Biores. Technol***. 86**: 45-52.
23. Cavani L., **Ciavatta C**. and Gessa C. (2003). Determination of free L- and D-alanine in hydrolysed protein fertilisers by capillary electrophoresis. *J. Chromat. A*, **985**:463-469.
24. Francioso O., **Ciavatta C.**, Montecchio D., Tugnoli V., Sànchez-Cortés S., and Gessa C. (2003). Quantitative estimation of peat, brown coal and lignite humic acids using chemical parameters, ^{1}H-NMR and DTA analyses. *Biores. Technol***. 88**: 189-195.
25. Braschi I., **Ciavatta C**., Giovannini C. and Gessa C. (2003). Effect of water and organic matter on phosphorus availability in calcareous soils. *Nutrient Recycling in Agroecosystems* **67**:67-74.
26. Manici L. M., **Ciavatta C**., Kelderer M., Erschbaumer G. (2003). Replant problems in South Tyrol: role of fungal pathogens and microbial population in conventional and organic apple orchards. *Plant and Soil* 256: 315-324.

Statement of Candidacy

I believe that the main goals and activities to be pursued in the future should be devoted to the standard samples collection of the IHSS in order to maintain and increase the number of standard samples collected and analyzed.
The important role of this collection, not only within the scientific community, should be increased i) applying new analytical method of characterization and ii) including new kind of samples, for instance, arising from composted biomasses (compost) widely used for soil fertilization or in substitution of peat materials.
Funds collected from sale of the standard samples should permit to increase the number of fellowships and awards mainly devoted to young people involved in research on humic substances.

Candidate for Board Member of the IHSS

Dr. Ladislau Martin-Neto

Embrapa Instrumentação Agropecuária, 13560-970 São Carlos, SP, Brazil
born 04 June 1960

Education

Undergraduate: Physics, 1981, Univ. of São Paulo State (UNESP), Campus of Bauru, Brazil
Master Degree: Applied Physics, 1985, University of São Paulo (USP), Campus of São Carlos, Brazil
Doctor Degree: Applied Physics, 1988, University of São Paulo (USP), Campus of São Carlos, Brazil
Thesis: Influence of humidity degree in hemoprotein conformation as revealed by changes of iron (III) symmetry in electron paramagnetic resonance spectroscopy
Post-doctorate: Soil and Environmental Science, 1993-1994, University of California/ Berkeley, USA

Main Research activities

Application of spectroscopic methods (as nuclear magnetic resonance, electron paramagnetic resonance, fluorescence, infrared and light absorption) in humic substances and soil organic matter research, including studies on interaction with pesticides and metallic ions, tillage effects and soil carbon sequestration. Recently started researches with aquatic humic substances in a project on water quality with studies on formation of trihalomethane in tropical water conditions.

Functions and awards in Embrapa

- Director of Embrapa Agricultural Instrumentation Center (2002 - ...)
- Full Researcher of Embrapa Agricultural Instrumentation Center (1986 - ...)
- Assistant Head of Embrapa Agricultural Instrumentation Center (1990 - 1992)
- Research and Development Head of Embrapa Agricultural Instrumentation Center (1994-1997)
- Executive Secretariat of National Agricultural Automation Program of Embrapa (1997 to now)
- Prize of Professional Excellence of Embrapa (individual category, attributed to less than 2% of researchers of Embrapa) due to scientific contributions
- Prize by Technical Quality of Project “Spectroscopic Characterization of Soil Organic Matter and Pollutant in Soil and Water” (Coordinator of Project, attributed to less than 5% of yearly projects of Embrapa)

Other Functions and Researchers activities

- Board Member of IHSS (period 2001-2003)
- Founder and Chapter Coordinator of Brazilian Chapter of IHSS (1996 to now). 105 members
- Chairman of XII International Meeting of International Humic Substances Society, to be held in July, 26-30, 2004, in the city of São Pedro, central region of Brazil
- President of Organizing Committee of II Meeting of Brazilian Chapter of IHSS (São Carlos, Brazil 1997
- Convenor of Symposium 5, 17th World Congress of Soil Science, August, 2002 in Bangkok, Thailand
- Professor and Adviser in the University of São Paulo (USP) in Chemistry Institute, Physics Institute and Material Science Program at Campus of São Carlos (8 Ph.D students and 2 pos-docs under supervision)
- Member of Committees and co-adviser in Agricultural Schools in Federal University of Rio Grande do Sul, Federal University of Viçosa (Minas Gerais) and University of São Paulo (Piracicaba), Federal University of Pará (Amazônia) (nowadays participate in 5 doctorates and 1 master degree program)
- Second Vice-President of Commission II (Soil Chemistry), IUSS (Vienna, Austria, 1998-2002, elected in Montpellier, France during 16th World Congress of Soil Science)
- Member of Financial Committee of International Union of Soil Science (Philadelphia, USA, 2002-2006)
- Presentations & Sessions coordinator X & XI Int. Meet. of IHSS (Toulose, France, 2000, and Boston, 2002)
- Fellowship of Brazilian Council of Research and Development (CNPq) in the category Productivity in Research (1995 to now, every two years, attributed to less than 10% of Brazilian researchers)
- Assistant Editor of Brazilian Journal of Soil Science (2001-...)
- Ad-hoc assessor: Environmental Science & Technology, European Journal of Soil Science, Geoderma, Soil Science Society of America Journal, Brazilian Journal of Soil Science, Rural Science Journal – (Federal University of Santa Maria, Brazil), Foundation of Research of São Paulo State (FAPESP), Brazilian Council of Research and Development (CNPq), Brazilian Foundation of Studies and Projects (FINEP).

Numbers

- Published Books: 3 / Books Chapters: 5 / Publications in periodic: 45 / Patents solicited: 6 / Master Degree Students with dissertation concluded: 6 / Ph.D. students with thesis concluded: 6 / Project nowadays in development: 3 (total budget: US$ 350,000.00, Agency/Program: PADCT/CNPq (1998-2003, include funds from World Bank), FAPESP (1999-2004 & 2003-2005) & Embrapa (2002-2005)

Relevant Publications in the last three years

1. GONZÁLEZ-PÉREZ, M.; **MARTIN-NETO, L.;** SAAB, S.C.; NOVOTNY, E.H.; MILORI, D.M.B.P.; BAGNATO, V.S.; COLNAGO, L.A.; MELO, W.J.; KNICKER, H. Characterization of humic acids from a Brazilian oxisol under different tillage systems by EPR, 13C NMR, FTIR, and fluorescence spectrosocopy. **Geoderma,** 118, n. 3-4, 181-190, 2004.
2. SAAB, S.C.; **MARTIN-NETO, L.** Studies of semiquinone free radicals by ESR in the whole soil, HA, FA and humin substances. **Journal of Brazilian Chemical Society,** in press, 2003.
3. SAAB, S.C.; **MARTIN-NETO, L.** Use of the EPR technique to determine thermal stability of some humified organic substances found in soil organic-mineral fractions. **Quimica Nova**, 26,4,497-498, 2003
4. FERREIRA, J.A.; **MARTIN-NETO, L**.; VAZ, C. M. P.; REGITANO, J.B. Sorption Interaction beteween imazaquin and a humic acid extracted from a typical Brazilian oxisol. **Journal Environmental Quality,** v. 31, 1665-1670, 2002.
5. MILORI, D. M.B. P.; **MARTIN-NETO, L**.; BAYER, C.; MIELNICZUCK, J.; BAGNATO, V.S.. Humification degree of soil humic acids determined by fluorescence spectroscopy. **Soil Science,** 167:739-749, 2002.
6. BAYER, C.; **MARTIN-NETO, L**.; MIELNICZUCK, J.; SAAB, S.C.; MILORI, D.M.P.; BAGNATO, V.S. Tillage and cropping system effects on soil humic acid characteristics as determined by electron spin resonance and fluorescence spectroscopies. **Geoderma**, v. 105, 81-92, 2002.
7. NOVOTNY, E.H.; **MARTIN-NETO, L.** Effects of humidity and metal ions in free radical analysis of humic substances. **Geoderma,** v. 106, 305-317, 2002.
8. FERREIRA, J. A.; NASCIMENTO, O.R.; **MARTIN-NETO, L.** Hydrophobic interactions between spin-label 5-SASL and humic acid as revealed by ESR spectrocopy. **Environmental Science & Technology**, vol. 35, 761-765, 2001.
9. **MARTIN-NETO, L**.; TRAGHETTA, D.G.; VAZ, C.M.P.; CRESTANA, S.; SPOSITO, G. On the interaction mechanisms of atrazine and hydroxyatrazine with humic substances. **Journal of Environmental Quality,** vol. 30, 520-525, 2001.
10. BAYER, C.; **MARTIN-NETO, L.;** MIELNICZUK, J.; PILLON, C.N.; SANGOI, L. Changes in soil organic matter fracions under subtropical no-till cropping systems. **Soil Science Society of America Journal,** vol. 65, 1473-1478, 2001.
11. FERREIRA, J.A.; OSIRO, D.; HERRMANN, P.S.P.; **MARTIN-NETO, L.** Atomic force microscopy (AFM) characterization of a tropical soil humic acid. **Acta Microscopica,** vol. 10 (1), 43-47, 2001.
12. BAYER, C.; **MARTIN-NETO, L.;** MIELNICZUK, J.; CERETTA, C.A. Effect of no till cropping on soil organic matter in a sandy clay loam Acrisol from Southern Brazil monitored by electron spin resonance and nuclear magnetic resonance. **Soil & Tillage Research,** 53: 95-104, 2000.
13. BAYER, C.; MIELNICZUK, J.; AMADO, T.J.C.; **MARTIN-NETO, L**.; FERNANDES, S.V. "Organic matter storage in a sandy clay loam Acrisol affected by tillage and cropping systems in southern Brazil. **Soil & Tillage Research,** 54, p. 101-109, 2000.
14. BAYER, C.; MIELNICZUK, J.; **MARTIN-NETO, L**. "Efeitos de sistemas de preparo e de cultura na dinâmica da matéria orgânica e na mitigação das emissões de CO_2" (translation: Effects of tillage and crop rotation in soil organic matter dynamics and mitigation of CO_2 emission). **Revista Brasileira de Ciência do Solo** (translation: Brazilian Journal of Soil Science)**,** 2000, 24: 599-607.

Statement of Candidacy

My participation in the Board of IHSS would be an important opportunity to contribute to several activities, such as:

1. To increase interactions between IHSS and other scientific organizations and institutions (both public and private), to promote partnerships intended to strengthen and broaden IHSS activities;
2. To encourage the release of new books and invited series texts on humic substances research, to broaden information to appear in the IHSS newsletter or other publications as an additional means to maintain and increase the number of IHSS members;
3. To increase participation of younger students in the IHSS via the use of competitive fellowships and exchange programs between different research groups and countries;
4. To promote evaluation of the National Chapters and stimulate organization of respective national and/or regional meetings that will help strengthen studies of humic materials in different countries;
5. To help generate new standards of humic substances and obtain reference materials from different regions and ecosystems with a worldwide representation;
6. To stimulate researchers from developing countries and increase their participation in the IHSS. For example, there is a large number of specific issues associated with humic substances in tropical areas; they demand additional research efforts to be genuinely understood. Correspondingly, the IHSS could give strategic support in organizing courses, meetings and cooperation with recognized researchers to improve and strengthen research of humic substances in these countries.