

# NEWSLETTER

## INTERNATIONAL HUMIC SUBSTANCES SOCIETY

---

Number 35

SPRING, 2006

Dear IHSS Members,

Time has come to announce the results of the election process conducted by the IHSS membership. This is the third time in the history of our Society that elections are held following the "double envelop" procedure that allows voters to remain anonymous. This procedure was adopted to grant all members maximum confidentiality as well as, at the same time direct democratic control over the election of IHSS officers. The IHSS Board is aware that this system can, at present, cause some practical problems in a few countries, where mail services do not work properly, nevertheless we believe that these difficulties will be overcome with time and that this is by far the best way to handle elections in the interest of the largest possible majority of our members.

I take the opportunity to remind you of another important democratic event: the biannual assembly of the Society that will be held during the next IHSS meeting in Karlsruhe. During this assembly we will ask members to discuss proposed changes to the current bylaws in order to improve processes of management.

With the approval of the Board I decided to use part of the President's allowance to give four travel bursary for students wishing to participate to one of the four large chapters meetings (USA, Italy, Brazil and Nordic chapter). The first of these bursaries was given on the occasion of the 6<sup>th</sup> symposium of the Italian chapter. The others will be available next year according to deadlines and conditions decided by the organizers of the meetings.

Following the election of the new Vice President, it is now time for me to leave the Presidency in Paul Bloom's hands. I sincerely thank all of you and, in particular, all the members of the IHSS Board for their cooperation and support during my presidency. I really got the feeling of working with a determined and resourceful team of friends. It has been a great experience.

Together with conveying our best wishes to the newly elected officers, I am sure all of you will join me in thanking our past President, Yona Chen and Board member Ladislau Martin Neto, who are now leaving the Board, for their invaluable service to the IHSS.

Maria De Nobili

## ELECTIONS

---

### Committee of Counting:

Dr. Gudrun Abbt-Braun, Head of Committee, Secretary of IHSS, Karlsruhe, Germany

Dr. Margit Müller, Member of IHSS, Karlsruhe, Germany

Dr. Ulrich Lankes, Member of the group of Prof. Frimmel, Karlsruhe, Germany

Prof. Dr. Fritz Frimmel, Member of IHSS, former President of IHSS, Karlsruhe, Germany

Results:

New Vice-President **Jerzy Weber**

Professor of Soil Science  
Agricultural University of Wrocław,  
Poland  
Institute of Soil Science and Agricultural  
Environment Protection  
51-639 Wrocław  
weber@ozi.ar.wroc.pl



New Board Member



**Etelka Tombácz**

Associate Professor,  
Department of Colloid Chemistry,  
University of Szeged, Hungary  
[tombacz@chem.u-szeged.hu](mailto:tombacz@chem.u-szeged.hu)

Treasurer

**C. Edward Clapp**

Research Chemist,  
U.S. Department of Agriculture  
& Professor of Soil Biochemistry,  
Dept. of Soil, Water, & Climate  
University of Minnesota, St. Paul,  
MN, USA;  
eclapp@umn.edu



Together with the ballots for elections, there was a request to agree to a change in Article V, Section 4 of the bylaws.

Change in bylaws	<b><u>238 yes</u></b>	30 no	273 total	4 abstention	1 invalid
------------------	-----------------------	-------	-----------	--------------	-----------

**Article V, Section 4** of the bylaws, which will read as follows:

“An officer, except the President, the Vice President/President Elect and the Treasurer, may hold the same office for no more than two (2) additional consecutive terms. No officer, except the Treasurer may serve more than twelve (12) consecutive years on the Board of Directors”.

# IHSS CONFERENCE 2006 KARLSRUHE



## 13<sup>th</sup> Meeting of the International Humic Substances Society

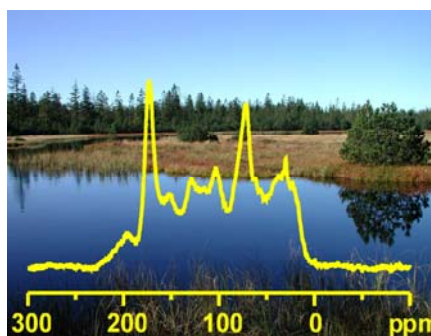
**July 30 to August 4, 2006, Universitaet Karlsruhe (TH), Karlsruhe, Germany**

### Humic Substances – Linking Structure to Functions

The 13<sup>th</sup> Meeting of the International Humic Substances Society (IHSS) will be held in Karlsruhe, Germany following the conferences in Sao Pedro, Brazil (2004), Boston, USA (2002) and Toulouse, France (2000). Scientists, engineers and ecologists are invited to use this forum for intensive discussions of the recent findings in the fields of humics and natural organic matter. The meeting will be held on the campus of the Universitaet Karlsruhe (TH).

Contribution to the following main topics of humic and natural organic matter research are most welcome:

- New analytical aspects
- Biological aspects and transformation
- Ecological aspects and genesis
- Physico-chemical aspects
- Applications



### Important Deadlines

until 15 Jul. 2006                      Deadline for registration payment \*

### For more information, please contact

Prof. Dr. Fritz H. Frimmel, Dr. Gudrun Abbt-Braun

Engler-Bunte-Institut, Universitaet Karlsruhe, 76128 Karlsruhe, Germany,

Phone:            +49 (0) 721 608 2580            Fax:    +49 (0) 721 69 91 54

E-mail:            [IHSS2006@ebi-wasser.uni-karlsruhe.de](mailto:IHSS2006@ebi-wasser.uni-karlsruhe.de)

[www.wasserchemie.uni-karlsruhe.de/ihss2006/](http://www.wasserchemie.uni-karlsruhe.de/ihss2006/)

### NEWS on the WEBPAGE

- **Time Schedule and Preliminary Program**
- **Informations about Excursion**

## TRAVEL BURSARIES 2006

---

Eleven students have been selected for the Travel Bursaries 2006 to attend the conference in Karlsruhe.

The awardees are: .

Noel Palmer	USA	Malcolm Award
Samuel M Mugo	Canada	Travel Award
Tiphaine Weber	France	Travel Award
Ursula Rodríguez	Brazil	Travel Award
Gilboa Arye	Israel	Travel Award
Jim Cooke	UK	Travel Award
Karpiouk Leonid	Russia	Travel Award
Andrea Majzik	Hungary	Travel Award
Khalid Anwer	India	Travel Award
Taketoshi Kusakabe	Japan	Travel Award
Yaron Drori	Israel	Travel Award

## TRAINING BURSARIES 2007

---

### GUIDELINES and APPLICATION

Proposals may be submitted by graduate students (MSc, PhD) and young scientists.

Detailed information is given in NEWSLETTER 32 or on the webpage of the society (<http://www.ihss.gatech.edu>).

All applications must be received by May 15 of each odd year. Please note that there will not be any call for training bursaries in 2006 as the IHSS will give only travel bursaries for participation of students to the Karlsruhe meeting. **The next call for training bursaries will be in January 2007.**

For more information see the website of the IHSS: <http://www.ihss.gatech.edu>; "Travel awards".

## BOARD OF DIRECTORS 2006

---

### **Past President**

Dr. Maria de Nobili  
Dip. Prod. Vegetali e Tecn. Agrarie  
Università di Udine  
Via delle Scienze 208  
33100 Udine, Italy  
☎ (+) 39 0432 558644  
☎ (+) 39 0432 558603  
[maria.denobili@uniud.it](mailto:maria.denobili@uniud.it)

### **President**

Dr. Paul R. Bloom  
Dept. Soil, Water, Climate  
University of Minnesota  
1991 Upper Buford Circle  
St. Paul, MN 55108, USA  
☎ (+) 1 612 6254711  
☎ (+) 1 612 6261204  
[prb@umn.edu](mailto:prb@umn.edu)

### **Vice President**

Dr. Jerzy Weber  
Institute of Soil Science and  
Agricultural Environmental  
Protection  
Agricultural University of Wrocław,  
Wrocław, Poland  
☎ (+) 48 71 3205631  
[weber@ozi.ar.wroc.pl](mailto:weber@ozi.ar.wroc.pl)

### **Secretary**

Dr. Gudrun Abbt-Braun  
Engler-Bunte-Institut, Wasserchemie  
Universität Karlsruhe  
Engler-Bunte-Ring 1  
76131 Karlsruhe, Germany  
☎ (+) 49 721 6084309  
☎ (+) 49 721 6087051  
[gudrun.abbt-braun@ebi-wasser.uni-karlsruhe.de](mailto:gudrun.abbt-braun@ebi-wasser.uni-karlsruhe.de)

### **Treasurer**

Dr. C. E. Clapp  
USDA-ARS  
Dept. Soil, Water, Climate  
University of Minnesota  
1991 Upper Buford Circle  
St. Paul, MN 55108, USA  
☎ (+) 1 612 6252767  
☎ (+) 1 612 6261204  
[eclapp@umn.edu](mailto:eclapp@umn.edu)

### **Chairman, Samples Collection**

Dr. Paul R. Bloom  
Dept. Soil, Water, Climate  
University of Minnesota  
1991 Upper Buford Circle  
St. Paul, MN 55108, USA  
☎ (+) 1 612 6254711  
☎ (+) 1 612 6261204  
[prb@umn.edu](mailto:prb@umn.edu)

### **Board Position**

Dr. Claudio Ciavatta  
Dip. Scienze Tecnologie Agro-Ambientali  
Università di Bologna  
Viale Fanin, 40  
40127 Bologna, Italy  
☎ (+) 39 051 2096201  
☎ (+) 39 051 2096203  
[claudio.ciavatta@unibo.it](mailto:claudio.ciavatta@unibo.it)

### **Board Position**

Dr. Etelka Tombacz  
Department of Colloid Chemistry,  
University of Szeged  
Aradi Vt. 1.  
H-6720 Szeged, Hungary  
☎ (+) 36-62-544212  
☎ (+) 36-62-544042  
[tombacz@chem.u-szeged.hu](mailto:tombacz@chem.u-szeged.hu)

### **Honorary Members**

Dr. Wolfgang FLAIG †  
Dr. Morris SCHNITZER  
Dr. Frank J. STEVENSON  
Dr. Ronald L. MALCOLM †  
Dr. Michael H.B. HAYES  
Dr. Ejgil 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 UPDATES!!!**

### **Informations on FUTURE CONFERENCES**

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](mailto:michael.perdue@eas.gatech.edu).

## IHSS STANDARD AND REFERENCE COLLECTION

---

### **New Reference Sample from the Antarctica**

A team from the Ohio State University and the University of Colorado under the direction of Yo Chin and Diane McKnight were in the Antarctica December 2005 through February 2006 to sample the FA in Pony Lake. The sample has been homogenized and 54 g were recently delivered to the IHSS. The NOM from Pony Lake represents a zero terrestrial input end-member of aquatic NOM and it has no input of lignin residues. After characterization it will be made available for sale. A special series of papers on the detailed characterization of this sample is contemplated.

### **Sales of the Collection Continues to Increase**

The total income from sales of humic materials in 2005 was \$81,655, a 10 % increase from 2004, which was up 25 % from 2003. The income was up despite the fact the number of sales decreased from 263 in 2004 to 248 in 2005. Sales of both aquatic and terrestrial source materials increased but aquatic sources still are by far the best selling products. The HA, FA, and NOM from the Suwannee River accounted for \$50,000 of sales. In 2005 we made sales to customers in 28 countries, including 143 sales in North America, 62 in Europe and 38 in Asia (including Australia).

### **IHSS Upgrades Computer System for Sales and Accounting**

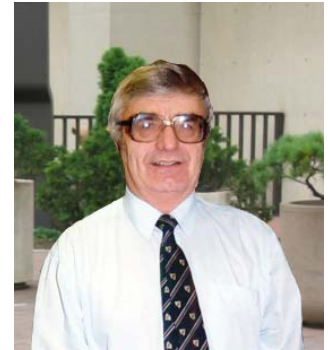
The IHSS has purchased a commercial computer program for sales invoicing, inventory tracking and accounting. A consultant group that specializes in working with not for profit organizations was hired to help set up the system and to do training. Once fully implemented later this year the computer system will greatly aid in record keeping and in generating invoices and reports

*Paul Bloom IHSS Director for Sales*

## LIFE HISTORIES OF HONORARY IHSS MEMBERS

---

### MICHAEL H. B. HAYES



Michael Hilary (Bermingham) Hayes was born on January 14, 1930, in Lisbawn, Kilmihil, Co. Clare, Ireland. His family (on his mother's and father's side) had been farmers for as long as could be traced. Michael received his early education in a local, rural National School. Instruction at that time was in Gaelic. At 12 Michael was taken for secondary schooling to Dublin. The school was host to persons who became presidents and many great authors. The vast number of excellent pupils meant that MH's secondary school days were more memorable for his extracurricular activities than for any academic excellence. He satisfied the entrance requirements to College at 16 but was too young to enroll.

Because the Hayes area in Co. Clare had a mixture of mineral soils and peatlands, and because the peatlands were not productive agriculturally, it was from the age of 8 the ambition of Michael to 'make the bogs bloom.' Thus, the subject of Soil Science was his major reason for enrolling in the Faculty of Agriculture of University College Dublin. However, the amount of instruction he could obtain in Soil Science at the time was about the equivalent of a Soils I course in a Land Grant College in the USA. But, none the less he greatly enjoyed his undergraduate career, and especially his involvements with Gaelic Football, Track and Field, and with the Agricultural Science Society and its debates and fund raising (for field trips) social activities.

In 1950 a visit to Dublin of the Cornell and Princeton track team opened Michael's eyes to Agriculture at Cornell. Then after graduation when a library search alerted him to an Organic Soils Group in the Agronomy Department of Cornell, led by Dr. Jeffrey Dawson, the dye was cast. There was also a very attractive entry about Organic Soils led by Dr. Rouse Farnham of Minnesota. But when the legendary Dr. Richard Bradfield offered an assistantship to work with Dr. Dawson at Cornell, he knew where his destiny lay.

In the Summer of 1952 MH happened by chance to be in University College Dublin when the International Peat Society Symposium was taking place. He was not aware of the Society, or of its interests, and so he saw this meeting as an opportunity to find out about peat science. He

attended a lecture given by a dark haired, hugely enthusiastic young German who spoke of phenols and quinones, and of their contributions to the genesis of humic substances. The young German was Wolfgang Flaig whose interests and enthusiasm continued to be inspirational. About six years later Michael learned much more in a day with Wolfgang at Ohio State, and at a time when he was better prepared to understand the Organic Chemistry. About the same time (at OSU) he met the charismatic Jack Bremner whose concepts of SOM solubilization had 'sown seeds 'of interest' in humic isolations and fractionation.

At Cornell in 1953, Michael met Ed Clapp who already was a student of Jeffrey Dawson. He and Ed became close friends, and the friendship and collaboration born then has endured the tests of time. Ed was also from a farm background, and knew all about making hay and milking cows, and as well Ed had run cross country and competed in track at U. Mass, while Michael ran and threw in Dublin. Michael persisted with his involvement with Gaelic Football in New York, and he represented Cornell at rugby football (not a varsity sport and so graduates could take part).

In 1956, Dr. Jim Mortensen offered Michael an assistantship to replace Gunther Stotsky (who had replaced Frank Stevenson) at Ohio State. Some of the leisure activities at Cornell (which may have exceeded at times the quota for a dedicated student) were replaced by more intensive academic pursuits at OSU. In the period of intensive study and research at OSU, Michael had taken course work to meet requirements for a PhD in Organic Chemistry and possibly for Biochemistry. He had been fascinated by the Waksman concept of humic acid as a 'ligno/casein' complex, and the words of Jeff Dawson kept ringing in his ears 'no one has ever isolated a protein from soil.' And so, as a sideline to his major research project (Subsidence and Humification in Peats) he made an oxidized lignin/casein complex following the procedure of Waksman and Iyer. The signals obtained from DTA were composites of those from the oxidized lignin and casein, and totally different from that for humic acids from peats. That influenced his search for an understanding of the compositions/structures/reactivities of humic substances.

Professor Maurice Stacey, FRS, a world leader then in the field of Carbohydrate Chemistry, of the Chemistry Department of the University of Birmingham gave a series of seminars in the Chemistry Department of Ohio State in 1959. Michael had just taken the M.L. Wolfrom (another of the World's great Carbohydrate Chemists) course on Carbohydrate Chemistry, and he saw how techniques outlined by Maurice Stacey could have applications for studies of Soil Polysaccharides. Ed Clapp had alerted Michael to interests in Soil Polysaccharides, and for his PhD at Cornell Ed had completed a study of Soil Saccharides that was outstanding, and unique at a time before GC had arrived as an analytical tool.

Maurice Stacey offered Michael an ICI Fellowship in his Chemistry Department in Birmingham. For many then an ICI Fellowship was comparable to a tenure track position in the US. Michael



came to England with a view of staying for two years. After that he hoped to return to Ireland to continue his 'dream', or to return to the US, a land and a people he had grown to love, and to pursue his academic dreams there. But, in any case Birmingham had cast its spell. He was with colleagues who were willing to share knowledge and equipment, and to help when asked. Many of these colleagues were 'household names' in courses in Chemistry at OSU, and in particular the Colloid Chemists, Carbohydrate Chemists, and Analytical Scientists such as Gilbert, Peaker, Stacey, Foster, Barker, Belcher.

In addition, the University had excellent facilities for track, but little organisation for the sport. In the 1960 to 1998 period 70 international athletes were Birmingham graduates and about half of these were Olympians, and some were members of the Research Teams of Michael. In 1980 Michael was appointed to the Presidency of Lake Hall, where the 1984 IHSS Conference was based, and he greatly enjoyed that position for 17 years. Ed Clapp joined him as a member of the Senior Common Room during his sabbatical in 1988.

MH had many outstanding graduate students at Birmingham, and some great colleagues. All members of IHSS will know Roger Swift who was one of the first (alpha) research students of Michael at Birmingham. Needless to say, Roger had ideas of his own, and all who know him will realise what a pleasure it is to reason and to argue with him. Indeed Michael will say that he learned more from many of his research students than perhaps he taught them. His last student (the omega) in Birmingham was Andre Simpson, and already Andre has made a striking mark in the humic sciences. Michael will say that if ever he could claim to have some vision in science then it is only because he was 'lifted' by those he worked with. Dr. Jim Burdon, one of Birmingham's outstanding Organic Chemists, and Dr. Colin Graham who still leads Analytical Chemistry there were colleagues who shared their expertise and contributed hugely to the efforts of the Soil and Water Colloids Group in Chemistry at Birmingham.

It had not always been possible to raise the funds needed to support a full time effort in Humic Chemistry. But Michael was never happy to stray from a 'Soils Theme'. Thus, as funds became available for studies of clays it was easy enough to convert some of his interests to studies of polymer/clay interactions, interactions of anthropogenic organic chemicals with clays (and of course with humic substances), and studies of the dynamics of water in the interlayer spaces of expanding layer clays (with friend and colleague Keith Ross of Physics).

When Roger Swift and Michael attended the International Soils Congress in Edmonton in 1978, they observed two persons approaching with the determined looks of zealots. Roger will say how he took flight and hid. But there would not be a place to hide because the effusively bearded one soon found him. The two were the clean-shaven Ron Malcolm and Pat MacCarthy (whose career

began in Galway, where blanket peats abound). There was no doubting the commitment of these men to the humic sciences, and they convinced Hayes and Swift that their subject deserved more emphasis than that given through the Soil Science Societies. Ron had the support and commitment of Bob Averett, a leading scientist in the USGS WRD, who had recognised the health hazards of the by-products of chlorination of waters enriched in humic substances. With the Averett support and blessing, Ron and a group of colleagues from the WRD at Denver obtained funds to set up a Standards Collection of Humic Substances. A meeting was called at USGS, Denver in 1981, attended by Michael Hayes, Roger Swift, Frank Stevenson, Morris Schnitzer, Pat MacCarthy, Ron Malcolm, Bob Averett, and WRD colleagues Jerry Leenheer, George Aiken, Diane McKnight, and Kevin Thorne. A broad range of aspects of the humic sciences was discussed, and especially the operational procedures for isolating and fractionating humic substances. Towards the end of the meeting it was decided to establish the IHSS, with Ron Malcolm as President, Roger Swift as Vice President, and Pat MacCarthy as Secretary/Treasurer. A procedure was agreed to set up IHSS Standards for humic substances in soils and waters, starting with the Humic and Fulvic acids from the Suwannee River (led by Ron Malcolm and colleagues), from a mineral soil, from a peat soil, and from a Leonardite coal. A Mollisol (Elliott) from Illinois was chosen as the mineral soil, and the extraction process was led by Roger Swift (then at Lincoln College, University of Canterbury, New Zealand). A Florida Peat (Pahokee) from Belle Glade was the peat soil chosen, and the isolation process was led by Michael and his colleagues in Birmingham, England. A Leonardite coal sample from Gascoyne, ND, was selected and the Humic acid (no Fulvic) was isolated by the Morris Schnitzer Group in Ottawa, Canada.

Since then newly extracted Standards and a number of Reference samples have been added to the IHSS collection.

Promotion of IHSS was difficult in the early days, and the Society grew only because of the dedicated efforts of the founding leaders. Michael was elected President in the early nineties when the foundations had been thoroughly set, and Ed Clapp was elected treasurer. The coming on stream of the Standards has had a huge impact, and credit for this is due to the work of Pat MacCarthy, and now to Paul Bloom and Ed Clapp of Minnesota.

Eventually, on retirement from the University of Birmingham, the 'call home' could be answered, and MH was pleased in 1998 to become an Honorary Professor in the University of Limerick, 60 km from his birthplace, and the same distance from a farm on the Shannon Estuary that he had purchased in 1985. It was good to come home, and to be able to continue to work on the humic sciences. Gradually, as the Celtic Tiger grew stronger, research funds became available and he has been able to build a Research Group. His major focus is on the isolation and characterisation of the humic substances in Irish soil types, and with especial emphasis on humin. He continues to

enjoy collaborating with colleagues Ed Clapp, Andre Simpson, Jim Burdon, and Colin Graham. In 2003 he was elected to Membership of the Royal Irish Academy. It does look as if the compositions of humics mixtures are simpler than they were thought to be, and it looks as if soon Humin will no longer be the 'great mystery'

Circumstances have introduced a new interest to the Group. Michael's son, Dan, was awarded a State Scholarship to study Biomass as a replacement for fossil fuels. Last year, at the 12<sup>th</sup> IHSS symposium in Brazil, Dan gave a presentation on a process that recovers levulinic acid and other potential fuel extenders and platform chemicals from lignocellulose precursors. Such technology is especially relevant if Ireland (which imports 90 % of its energy raw materials) is to sustain an economy that is ranked third or fourth in the world in terms of GDP per person of population. Also, technologies of that type will assume world-wide importance as oil reserves become depleted. It must be said that it was Dan who introduced Michael to this new theme.

The bogs now have the potential to 'bloom' and to produce an abundance of biomass, and Michael is thankful that others have brought about the realisation of the potential they hold. His major interest is still in understanding the compositions and aspects of the structures of humic substances, and to promote a better awareness of the essentiality of these in an environment that is increasingly dismissive of their importance. He is forever grateful for the inputs/sacrifices of his parents and family, and for all those that he has worked with, played with, who have inspired him, and often painstakingly led him to awareness of new concepts and mechanisms.

## PAST CONFERENCES

---

### **6<sup>th</sup> National Symposium of the Italian Chapter of IHSS, Perugia, Italy, December 2005**

The 6<sup>th</sup> National Symposium of the Italian Chapter of IHSS was hosted by the University of Perugia, on the 15<sup>th</sup> -16<sup>th</sup> December 2005 and organised by the research group in Agricultural Chemistry of the department of Agricultural and Environmental Sciences lead by Prof. Luciano Scarponi. There were two invited speakers from abroad: Prof. Frimmel who gave a lecture on colloid mediated transport in porous media and Prof. Weber who gave a lecture on the effects of compost additions on soil fertility parameters. The meeting was attended by a good representative of IHSS members from all parts of Italy and attendees had the opportunity to get a comprehensive state of the art view of humic substances research in this country. A particularly positive feature of the meeting was the large participation of students and young researchers, which had been successfully encouraged by Prof. Nicola Senesi, national coordinator of the Italian Chapter. Five students received a bursary by the Italian Chapter of IHSS to participate to the symposium and present their work. One bursary was offered by the IHSS President. It is really encouraging to see

that, in spite, of the fact that in Italy funding and career perspectives in this field of research have never been so low, the interest and enthusiasm of young people for studies on NOM are still high. The 23 oral presentations were divided into 3 sessions: chemical and biochemical aspects, methodological and technical approaches, environmental and application aspects. There was also a poster session with nine posters. All participants enjoyed the warm hospitality and good organization which made us forget the freezing wind blowing over Perugia's hill and most of us actively and animatedly participated in the scientific discussion.

*Maria De Nobili*



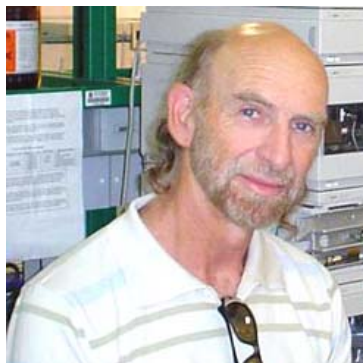
Perugia, Italy, December 2005

### **NINTH HS&T CONFERENCE HELD IN BOSTON**

The Humic Substances Seminars were renamed the Humic Science & Technology Conferences in 2004 to reflect their scope and growing interest in putting new knowledge of humic substances properties to use. The HS&T Conferences feature molecular descriptions of HSs and practical applications of their remarkable properties. HS&T IX, held March 22-24 at Northeastern University, Boston, USA had 32 papers with 77 authors from eight countries. We ran the range from aqueous systems to coal-derived humic acids, and covered physiological and plant growth effects. Since their establishment in 1997, the Conferences have hosted 276 oral presentations from 25 countries. HS&T IX had strong representation from the humics product industry.

The 2006 Conference was dedicated with thanks for the work of Dr E. Michael Thurman of the Universidad de Almería, Almeria, Spain. Formerly of the US Geological Survey, Dr Thurman is one the most cited authors in environmental science. The Honorary Chair was Dr Jerry A. Leenheer,

who retires this year from the USGS after a long and distinguished career in NOM research. Dr Leenheer's work on natural organic matter fractionation and characterization is also widely cited in the literature. It was a privilege to have these eminent scientists leading the discussions.



Dr. E. Michael Thurman



Dr. Jerry A. Leenheer

Plans are well underway for the HS&T X Conference to be held at Northeastern from March 21-23, 2007 immediately prior to the ACS National Meeting in Chicago, Illinois. All presentations are oral and the abstract and registration deadline is December 31, 2006. Come celebrate our **TENTH ANNIVERSARY** with us!

*Geoff Davies and Elham Ghabbour, Chairs, HS&T Conferences*

## FUTURE CONFERENCES

	<p><b><u>Humic Science &amp; Technology Conference X</u></b></p>
	<p>You are cordially invited to</p>
	<p><b>HS &amp; T X</b></p>
	<p><b>OUR TENTH ANNIVERSARY</b></p>
	<p><b>THE BEST OF THEM ALL!</b></p>
	<p>Northeastern University, Boston, MA, USA, March 21-23, 2007</p>
	<p><b>PLAN AHEAD!</b></p>
	<p>Abstract Deadline: December 31, 2006</p>

For further information contact Geoffrey Davies and Elham Ghabbour, <[www.hagroup.neu.edu](http://www.hagroup.neu.edu)>.

### Impressum

Editor: INTERNATIONAL HUMIC SUBSTANCES SOCIETY  
Newsletter 35

President:  
Dr. Paul R. Bloom  
Dept. Soil, Water, Climate  
University of Minnesota  
1991 Upper Buford Circle  
St. Paul, MN 55108, USA  
☎ (+) 1 612 6254711  
☎ (+) 1 612 6261204  
✉ [prb@umn.edu](mailto:prb@umn.edu)

Secretary:  
Dr. Gudrun Abbt-Braun  
Engler-Bunte-Institut, Wasserchemie  
Universität Karlsruhe  
Engler-Bunte-Ring 1  
76131 Karlsruhe, Germany  
☎ (+) 49 721 6084309  
☎ (+) 49 721 6087051  
✉ [gudrun.abbt-braun@ebi-wasser.uni-karlsruhe.de](mailto:gudrun.abbt-braun@ebi-wasser.uni-karlsruhe.de)

