

ACS DIVISION OF GEOCHEMISTRY

FALL 2006 NEWSLETTER

231st NATIONAL ACS MEETING
March 25th - 30th
Atlanta, Georgia

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Message from the Chairperson

231st National Meeting and Exposition
Atlanta, GA, March 25 to 30, 2006



Welcome to the ACS National Meeting.

I hope this will be the best learning and networking opportunity you can have for your time and money. Division of Geochemistry is hosting five symposia this spring. We have lined up over 120 talks and posters, and most of them are quite multidisciplinary. By attending these symposia, you will find out how your fellow geochemists are claiming new territories, teaming up with scientists from a variety of disciplines, and pursuing familiar topics further.

Our division is 25 years old.

I hope you will enjoy this meeting so that you want to come back to participate in the San Francisco meeting this fall (September 10 – 14). Among the Division programs that are organized is a very special symposium titled: “Frontiers in Geochemistry: Commemorating the 25th Anniversary of the ACS-Geochemistry Division.”

Get Involved.

Division of Geochemistry is here to serve the interests of all geochemists. Everyone’s involvement is highly encouraged. Please come to the Division Business Meeting on Tuesday evening (5 pm, Meeting Room C110). Division members and non-members are both invited and highly encouraged to attend. We will have some liquid refreshments. This is a great way to find out and/or influence what the Division is doing and how you might be able to take advantage of what the Division has to offer.

Future Meetings.

Another great way to get involved is to participate in future symposium programming. If you have an idea about what types of symposia you would like to see, please contact Martin Schoonen, our next Program Chair (mschoonen@notes.cc.sunysb.edu). Organizing a symposium is quite straightforward as it is mostly done via e-mail and ACS meetings website (oasys.acs.org). Symposium organizers have an opportunity to apply for The Petroleum Research Fund travel grants (Type SE grants) to subsidize foreign speakers to enhance the quality of their symposia.

Division of Geochemistry Sponsored Symposia	Sun	Mon	Tue	Wed	Thu
Nanotechnology for Contaminated Soil and Groundwater Remediation** (ENVR)	D	P			
Adsorption of Metals to Geomedia** (ENVR)		D	D	D	
Benthic Processes: Interactions Among Macrofauna, Bacteria, and Organic Matter		P			
Mercury in the Environment: Sources, Cycling and Sinks** (ENVR)			P		
Recent Advances in Geomicrobial Processes					D

Notes from Atlanta Program Chair

Atlanta meeting kicked off the 25th anniversary year for Geochemistry Division. Judging from the many positive remarks I heard, the Atlanta meeting was a successful place to exchange scientific information and to network with new and old colleagues. I did hear a few complaints as well. Virtually all of them were about the distance between GEOC symposia and ENVR symposia. The GEOC volunteer team will continue to work with the ACS Headquarter and ENVR to ensure better locations for future meetings. If you have thoughts about Atlanta meeting, or suggestions for future meetings, please do not hesitate to call or e-mail me (yoko.furukawa@nrlssc.navy.mil; (228) 688-5474).

Thank you

The division would like to thank the following symposium organizers. The success of Atlanta meeting was due to their effort: Mark Barnett, Jane Caffrey, Doug Kent, Bill Landing, Johnson Olanrewaju, Ming-Yi Sun and Martial Taillefert

Organizing a symposium is a rewarding task. Please consider organizing a session at a future ACS meeting. To make your task easier, ACS and Geochemistry Division provide logistical and some financial support. If you are interested, contact our new Program Chair, Martin Schoonen (martin.schoonen@stonybrook.edu).

Congratulations! Geochemistry symposia in Atlanta were quite successful in terms of student participation as well as the quality of papers presented by them. I hope this trend continues. ACS encourages student participation by organizing programs that are centered around student interests (e.g., employment workshops, graduate school recruitment breakfast). Division encourages student participation by making the Best Student Paper Awards available to eligible students who present excellent papers. Each award comes with a certificate and \$100 check. The following student presentations have been awarded with the Best Student Paper Awards after deliberations by the Atlanta symposium organizers:

Gwen Bristow, Sara Cleveland, Jihong Dai, C. J. Landry, Amanda Mifflin, Jennifer D. Newton, Sanjai J. Parikh, Sarah Stetson, Suzanne Zvalaren

Welcome, R. Lee Penn

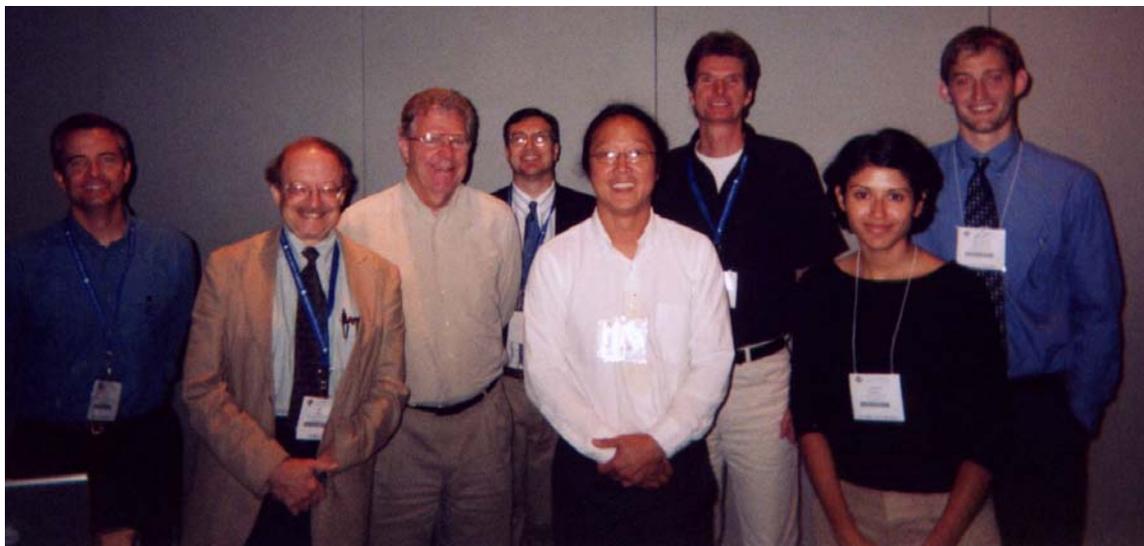
R. Lee Penn of University of Minnesota has joined the GEOC volunteer team as the new Membership Chair. She will be making sure that the volunteer team's effort to keep you informed (such as this newsletter) is delivered to you promptly. The Division's service to the community of geochemists is made possible by a team of volunteers. Please consider joining the team. You will be rewarded by the knowledge that you are helping the community of geochemists develop a forum to communicate within, as well as with other scientists. If you are interested, please contact me (yoko.furukawa@nrlssc.navy.mil; (228) 688-5474).

-Yoko

Message from the Past Chair



A three-day symposium on “Research, Education and Outreach in the NSF/DOE Environmental Molecular Science Institutes” was held at the 230th annual meeting in Washington DC. Co-sponsored by Geochemistry and Environmental Chemistry Divisions, the symposium was organized by Rich Reeder (SUNY Stony Brook), Chris Hadad (Ohio State), and James Kubicki (Penn State). These sessions presented talks in success stories of the EMSI education and outreach efforts, as well as scientific discoveries. The EMSI program is multi-disciplinary science, so this meeting created a venue for exchanging results and ideas across traditional boundaries. Speakers from eight EMSIs (Princeton, Northwestern, Stony Brook, Ohio State, Stanford, UC Irvine and Penn State) participated. With increasing recognition that multi-disciplinary team research is beneficial in environmental chemistry come a realization the management of these teams and mentoring of students must adapt to new expectations. Convening group such as this with similar problems and successes allows for exchanging ideas on the practical side of conducting research in addition to sharing information on environmental chemistry. A particularly exciting session on biogeochemistry (see photo) was chaired by Kevin Rosso (Pacific Northwest National Laboratories) and Peter Heaney (PSU). Ed Stiefel was the keynote speaker who gave a talk entitled “Environmental bioinorganic chemistry of iron: Essentiality, toxicity, scarcity, storage, DNA protection, and evolution in bacteria.”



Participants in the biogeochemistry session of the EMSI symposium included (from left to right): Kevin Rosso (chair), Ed Stiefel (keynote), John Groves, Peter Heaney (chair), Ming Tien, A. M. Spormann, Carmen D. Cordova and Nicholas S. Wigginton.

From The Chair, GEOC Medal Committee



Call for Nominations
ACS Geochemistry Division Medal

To be awarded for outstanding contributions in any area of the field of Geochemistry.

The Division of Geochemistry of the American Chemical Society is currently soliciting nominations for the 4th awarding of the Geochemistry Division Medal. The GEOC medal is awarded biennially to an individual for outstanding accomplishment in any area of Geochemistry.

Previous GEOC medal winners include: Frank J. Millero (2001), John M. Hayes (2003) and Patrick G. Hatcher (2005).

The award consists of a bronze medallion plus \$2000. The awardee will receive an allowance for travel to the award ceremony, as well as registration costs for the ACS meeting at which the award will be conferred. The 4th Geochemistry Division Medal will be presented at the 233rd ACS National meeting to be held in Chicago, IL, March 25-29, 2006.

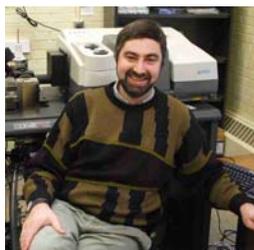
Letters of Nomination and supporting materials should be sent to the Chair of the GEOC Medal Committee, Dr George W. Luther, at the address given below, by June 1, 2006.

Nominations should include a detailed description of the nominee's outstanding accomplishments, relevant citations and, at the discretion of the nominator, any other supporting information. Two letters from individuals other than the primary nominator are requested, but not required, by the committee. Nominators should confirm, prior to submission of the nomination, that the nominee is willing to be considered for the award. Nominees are considered for two award cycles. Thus, new nominations, reviewed for the 2007 award and that are not successful, will be automatically reconsidered in the next award cycle (nominators will be contacted and invited to submit additional or updated information).

Additional details of the award can be found at the Divisional web site at:
<<http://membership.acs.org/g/geoc/>>

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From The Councilor



“No man is good enough to govern another man without that other's consent.”

I recently had the opportunity to visit New Salem, Illinois. New Salem is not much of a place now, in fact nobody lives there. The entire town is now part of a State Park. It was founded, grew and was abandoned in the space of a few decades in the early 1800's. Its one, and as far as I can tell only, claim on history is that a particular young man settled there for a few years, studied law and began an interest in politics. That man was Abraham Lincoln.

I took my family to New Salem because, even though I am an Australian by birth, I have always admired Lincoln and I wanted my children to learn something of the life of this extraordinary thinker and statesman. In my opinion, Lincoln's works are among the most eloquent political prose of the modern era. For my own part, the most memorable aspect of the visit was hearing the above quotation from one of Lincoln's earlier (1854) speeches, for the first time.

So what has this to do with the ACS and why am I writing this in my Councilor's comments? I have written to you several times over the past few years about changes that are in the wind at the ACS. ***Momentum for change is gathering.*** Some of the changes that are being considered are significant and could potentially result in changes in the structure and governance of the Society. That will certainly affect the Division and, hence, will affect you. I want you to know where I stand on these issues, and I want to hear from you how you feel too!

Changes are needed. I became involved in ACS governance as an advocate for change, and I remain an advocate for change today. Governance of the ACS is cumbersome, bureaucratic, and often seems to be out-of-touch with and unresponsive to the fast-changing needs of the membership. It is also, in my opinion, undemocratic in some of its aspects and I want to beg a little of your time to discuss just two aspects of the governance of the Society that I feel need to change.

You, the members, are represented in ACS governance primarily through the Council. The Board of Directors has ultimate fiduciary responsibility for the Society, but the ACS constitution specifies that the Council is the popular deliberative body of the Society. The Council is populated by Councilors elected by Local Sections and Divisions, and by a few ex-officio councilors such as the Secretary and past ACS presidents. I am the sole councilor for the Division of Geochemistry, but even if Geochemistry is the only division to which you belong and your only interaction with the Society, I am not your only representative in Council. Almost all ACS members belong to Local Sections, because, unless you live outside the boundaries of the all of the 188 ACS Local Sections, as soon as you join the ACS you are automatically assigned to a Local Section and that Local Section also represents you in ACS governance.

ACS members join the Society for all sorts of reasons. All members share a common interest in the chemical sciences. Beyond that, however, the natures of the interests of different members vary widely and the ACS has evolved discrete internal structures to meet these various types of interests. Some members join or remain members of the ACS primarily because they have an interest in the types of activities supported by Local Sections; others join because of their interest in activities typically supported by Divisions like ours. Some benefit from participation in both Local Section activities and Division activities and some have no interest in either, choosing to belong to the ACS because of benefits provided by the national organization (such as C&EN, discounted publications, member insurance and others). All of these choices are equally valid and they should be equally recognized, respected and reflected in Society governance. But they are not. For the purposes of governance, some of these choices carry more weight than others.

The practice of involuntarily assigning members to Local Sections means that ACS members are represented in Council by the Local Section covering the area in which they happen to live, even if they have no interest in and do not participate in Local Section activities. Members have no choice in this. That is, under the current system, Local Sections claim the right to represent members in ACS governance, without the consent of the members. I'm with Honest Abe on this one – that's not right, and it needs to change. ***No group should be able to claim to represent any member without the express informed consent of that member.*** ACS members should be given the opportunity to choose which group or groups represent them in Society governance. There are several ways in which this goal might be accomplished. I am in favor of an open debate on this subject so that the merits of each possibility can be explored and the system that best serves and reflects choices freely made by individual members can be emplaced.

There is a second aspect of the way in which the ACS governs itself that in my opinion needs to be changed. The ACS' electoral "vehicles" are the Divisions and Local Sections. It is through these groups that we elect officers to serve and represent our interests in Council. ***The composition of the Council (the ratio of Local Section Councilors to Divisional Councilors) is fixed through a constitutionalized gerrymander*** at 80% Local Section, 20% Division (the so-called 80:20 rule). That also is not right - and it too needs to change.

A gerrymander is the drawing of electoral boundaries in such a way as to give a select group disproportionate representation in governance. Chemistry is not defined geographically the way a country or a state is. You don't have to live or be born in a particular place to be a chemist, nor is everyone who lives within a certain area by definition a chemist. ACS members are defined by our shared interest in chemistry, in all its aspects, wherever it is practiced. Hence, even in our current system we do not define all of our electoral boundaries on the basis of geography. Certainly Local Sections are geographically defined, but we also recognize that other groups of members (the Divisions) are defined on the basis of a shared interest in a particular aspect of chemistry. We further recognize that the interests of those members are entitled to be represented in Council and we draw electoral boundaries around these groups based not on geographic parameters, but on voluntary membership. ***The constitutional fixing of the composition of Council is simply a form of gerrymander that exacerbates the disproportionate representation of certain types of interests in the governance of the ACS and denies the members of the Society the opportunity to set, through their own choices, the agenda of the Society.***

I do not mean to disparage Local Sections. Local Sections are an important element of the Society and provide services of great significance to some members, including many members of the Geochemistry division. Nor do I wish to imply that Councilors elected by Local Sections are either individually or collectively inherently anti-Division. On the contrary, virtually all of the Council members (whether Local Section or Division representatives) that I have had the opportunity to get to know over the past few years are hard working, dedicated individuals whom I respect and whom I am glad to have had the chance to work with and get to know. Some have become good friends and I value those relationships as one of the enduring rewards of involvement in ACS governance. But Local Section officers hold the offices they do first and foremost because of their interest and involvement in Local Section activities. Their individual backgrounds and interests reflect only a subset of the backgrounds and interests of the members of the Society. ***Members whose interests in the Society are served primarily or exclusively through the Divisions simply do not seek entry into the governance of the Society by running for office through Local Sections.*** I strongly feel that the disproportionate representation of Local Sections in the governance of the Society has, and is, skewing the overall agenda of the Society and is excluding some members, whose interests are more aligned with Divisional activities, from leadership opportunities.

Change will not be easy - changing the status quo never is. The current system is deeply entrenched. But changes are needed. The changes we pursue must not be random, they must not be superficial, and especially they must not be politically expedient compromises designed to placate the greatest proportion of the existing governance of the Society (who must vote to adopt whatever changes are proposed). Rather, we must pursue changes in the Society designed to ensure that individual members, the fundamental indivisible units of the society, have the greatest possible voice in the governance of the Society. ***We must attempt to ensure that to the greatest extent possible, our governance reflects, represents and serves the interests and values of the membership of the ACS.*** That standard, and no other, is the yardstick against which we must measure our debate.

No doubt some who read this, or who hear of it second hand, will perceive that its author is anti-Local Section. Eliminating involuntary Local Section membership will inevitably lead to loss of membership in many Local Sections and removing the 80:20 rule will probably reduce the influence of Local Sections in Council. Therefore, some will no doubt allege that I am proposing changes with the goal of weakening Local Sections. The fact that that is untrue will not prevent that charge from being brought. In fact, my goal in writing this essay is to point out aspects of the governance of the Society that in my opinion weaken the Society by making governance less representative that it could be, and ought to be. ***By removing these aberrations, I believe that we can make governance more reflective of the membership, and in so doing, strengthen the Society for all members.***

I have deliberately avoided proposing specific solutions herein. Rather, I have focused on trying to highlight where I feel key changes are necessary in the way in which we govern ourselves and to justify why I think those areas of our current governance fail to best serve the interests of the members. I do have suggestions to offer. But to this point there seems to be little opportunity to put forward suggestions. At present, this process appears to be the purview of only a select group and I fear that other voices are unwelcome or will be given only lip service rather than true consideration. ***This is a debate in which many voices must be heard, many ideas floated, and the collective wisdom of the***

membership distilled and considered. Myriad proposals must run the gauntlet of harsh criticism. Then and only then, can those that remain be pursued.

It will be a messy process. It will be time and energy consuming for those involved. It will not always be pleasant any it may not even always be polite. It need not be completely unruly, but those of us currently in governance will need to ***buckle up - it's going to be a bumpy ride!*** That's OK, democracy sometimes works that way, and to quote another great political thinker (Winston Churchill):

*"Democracy is the worst form of government
- Except all the others that have been tried".*

Ken B. Anderson
GEOC Councilor

232nd - San Francisco, CA September 10 to 14, 2006

**Come Celebrate the Geochemistry Division's
25th Anniversary!**



ABSTRACT DEADLINE APRIL 24th for all GEOCHEMISTRY SYMPOSIUM

Note that co-sponsored symposia have different deadlines.

SUBMIT ABSTRACTS ONLINE: <http://oasys.acs.org/oasys.htm>

**Frontiers in Geochemistry: Commemorating the 25th Anniversary of the ACS
Geochemistry Division**

This symposium will be organized around the following four broad general themes: Marine Geochemistry, Theoretical Geochemistry, Analytical Geochemistry, and Environmental Geochemistry. We seek contributions reporting advances in these broad areas. Abstracts due 4/24/2006

Organizers: J. D. Kubicki (kubicki@geosc.psu.edu) ; Yoko Furukawa (yoko.furukawa@nrlssc.navy.mil); Donald L. Macalady (dmacalad@mines.edu) ; Martin Schoonen (mschoonen@notes.cc.sunysb.edu), Gregory Druschel (Gregory.Druschel@uvm.edu) ; Michael Borda (mborda@udel.edu)

Physical Chemistry of Soil and Aquifer Systems Symposium in honor of Garrison Sposito's 67th Birthday

This symposium on state-of-the-art aqueous geochemical studies of soil and aquifer systems, is being set up in honor of Professor Garrison Sposito (University of California at Berkeley). It will include contributions by several of his many colleagues who will give research presentations on various aspects of adsorption-desorption, precipitation-dissolution, oxidation-reduction and colloidal interactions of environmental particles and solutes in aqueous systems. A unifying theme of the session will be the emergent "school of thought" associated with Professor Sposito's distinguished career and those who have been influenced by it. In particular, his work has engendered rigorous interpretations of experimental data on heterogeneous environmental systems (e.g., natural soils and waters) through (i) the careful application of thermodynamic, kinetic and molecular theory and (ii) the verification of molecular-scale mechanisms by judicious use of appropriate in-situ spectroscopies. Abstracts due 4/24/2006

Organizers: Patricia Maurice (pmaurice@nd.edu), Javiera Cervini-Silva (javiera@eps.berkeley.edu), Jon Chorover (chorover@cals.arizona.edu), Stephan Kraemer (stephan.kraemer@ito.umnw.ethz.ch)

The Structure and Reactivity of Nanoparticles in the Environment

Nanoscale minerals -- nanoparticles -- are formed in the biosphere by inorganic geochemical processes and microbial activity. The symposium will summarize the diverse environments and processes leading to nanoparticle formation and transformation, discuss the properties of important nanoparticle systems, and identify the geochemical processes, such as metal cycling, for which the distinct properties of nanoparticle have a crucial impact. Furthermore, the symposium will address the use of computational approaches to model the structure and properties of nanoparticles and their transport in aqueous system. Abstracts due 4/24/2006

Organizers: Benjamin Gilbert (BGilbert@lbl.gov) & John Bargar (bargar@slac.stanford.edu)

Characterizing Flood Waters and Flood Sediments Produced by Hurricanes Katrina and Rita: Implications for the Environment, Human Health, and Cleanup

This symposium is part of a series of symposia related to the central theme of the 232nd ACS meeting: “Recovery From and Prevention of Natural Disasters”. Contributions are solicited that report on research related to the flood waters and flood sediments produced by the Hurricanes Katrina and Rita. The emphasis in this symposium is on chemical and mineralogical characteristics and reactivity. See also co-sponsored Environmental Chemistry Symposium below. Abstracts due 4/24/2006

Gregory Meeker (gmeeker@usgs.gov) & **Geoffrey Plumlee** (gplumlee@usgs.gov)

SYMPOSIA CO-SPONSORED BY GEOCHEMISTRY DIVISION

Environmental interfaces. F. M. Geiger, Dept. of Chemistry, Northwestern U, 2145 Sheridan Rd., Evanston, IL 60208, (847) 467-6553, geigerf@chem.northwestern.edu; H. Fairbrother, Dept. of Chemistry, Johns Hopkins U, 3400 North Charles St., Baltimore, MD 21218, (410) 516-4328, fax (410) 516-8420, howardf@jhu.edu; G. D. Smith, Dept. of Chemistry, U of Georgia, Athens, GA 30602, (706) 583-0478, fax (706) 542-9454, gsmith@chem.uga.edu. **Organized by ACS-Division of Colloid and Surface Chemistry. ABSTRACTS DUE 4/15/2006.**

Water at Interfaces. S. H. Kim, Dept. of Chemical Engineering, Pennsylvania State U, 118B Fenske Lab, University Park, PA 16802, (814) 863-4809, shkim@enr.psu.edu; A. Benesi, Chemistry Dept., Pennsylvania State U, University Park, PA 16802, (814) 865-0941, alan@chem.psu.edu **Organized by ACS-Division of Colloid and Surface Chemistry. ABSTRACTS DUE 4/15/2006.**

Chemical and Biological Concerns in post Katrina New Orleans. *Extended abstracts (2-4 pages) are required to be sent via e-mail to the symposium organizer within 1 week of short abstract submittal. This symposium is part of a series of symposia related to the central theme of the 232nd ACS meeting: "Recovery From and Prevention of Natural Disasters".* George P. Cobb III, The Institute of Environmental and Human Health, Texas Tech University, Box 41163, Lubbock, TX 79409-1163, Phone: 806-885-0226, Fax: 806-885-4567, gcobb@ttu.edu . **Organized by ACS-Division of Environmental Chemistry. ABSTRACTS DUE 4/15/2006.**

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