www.geochemsoc.org

Geochemical Society

FROM THE PRESIDENT

Susan L. Brantley

Why Geochemists Never Agree: It's All about the Data!

A National Science Foundation program officer once asked me: "Why can't geochemists ever agree?" He intended this question as an indictment of our community. Compared with other kinds of scientists, we geochemists are disorganized and ineffective in promoting our own field. We seem to be uniquely challenged to agree on which programs should be funded, which approaches make the most sense, and what initiatives are the most exciting.

I believe that our failure to unite our voices as geochemists has a simple origin—it is the complexity of our subject. After two years as president of the Geochemical Society (GS), I have come to the conclusion that the GS can address this problem by leading the synthesis of geochemical data *because not only will it advance the science but it will unify the voices of geochemists*. In my parting comments here, I expand on this idea.

The most successfully organized Earth scientists of whom I am aware are the seismologists who self-organized into IRIS (www.iris.edu). The level of unity within IRIS has led to a global network of seismometers, shared equipment for seismological deployments, and shared data online. I would argue, however, that their data are less complex than our's. Think about it: seismologists measure the amplitude of ground motion versus time and at many locations. I do not mean in any way to disparage seismology; in fact, I am envious of their ability to collect large datasets, share them, and interpret them powerfully.

In contrast, geochemists measure the chemistry of the Earth's atmosphere, hydrosphere, biosphere, and lithosphere. The chemistry of these envelopes varies from the well-mixed atmosphere to poorly mixed lithosphere and biosphere. The parameters measured from these entities over the last 200 or so years vary with space and time over a range of more than ten orders of magnitude. I propose that *the reason geochemistry is so complex sociologically and scientifically is the heterogeneity implicit in the chemistry of our world.*

Using a metaphor, physicists look at the *framework* of the Earth—they look at the loom and the structure of the loom. Chemists, on the other hand, look at the *materials*—the individual threads—strung across the loom. As chemists, we love the complex beauty of this fabric, including the "threads" consisting of the 100 or so elements and the many species and isotopes per element. Furthermore, this lovely fabric is manifested as individual "cloths" —the 4500 or so minerals on Earth, the untold numbers of biological entities, and the amorphous, gas, and liquid phases. These entities sequester elements and mix incompletely; therefore, Earth's surface demonstrates extreme levels of heterogeneity, which change over space and time. It is precisely this complexity and heterogeneity that geochemists love to study.

The GS can move geochemistry forward by promoting the many synthesis of these geochemical datasets with an eye toward finding the important patterns that allow prediction. Specifically, the GS should catalyze the publication of geochemical data on the web. Does this seem banal

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HAVE YOU RENEWED?

If you have not renewed your membership for 2008, please take a moment to visit our website, www.geochemsoc.org, and renew online. Please consider making a charitable contribution with your renewal.

Benefits of Membership

SUBSCRIPTIONS
- *Elements – An International Magazine of Mineralogy, Geochemistry, and Petrology* (6/year), included with membership
- *Geochemical News* (online, 4/year), included with membership
- (optional) 2008 *Geochimica et Cosmochimica Acta* subscription (24/year, plus the Goldschmidt abstracts issue)
- (optional) 2008 *GCA* entitlement subscription (online access to *GCA* issues from 1995 to present through Elsevier's Science Direct)
- (optional) 2008 *Geochemistry, Geophysics, Geosystems* (*G-cubed*) entitlement subscription

PUBLICATION DISCOUNTS
- 25% off Geochemical Society Special Publications
- 25% off *Reviews in Mineralogy & Geochemistry* and many other MSA publications
- 25% off Elsevier online book orders
- 20% off Wiley/Jossey-Bass Publications

2008 CONFERENCE REGISTRATION DISCOUNTS
- AGU Joint Assembly, Fort Lauderdale, FL, USA, 27–30 May 2008 (www.agu.org/meetings/ja08)
- V.M. Goldschmidt Conference, Vancouver, Canada, 13–18 July 2008 (www.goldschmidt2008.org)
- GSA Annual Meeting, Houston, TX, USA, 5–9 October 2008 (www.geosociety.org/meetings/2008)
- Fall AGU, San Francisco, California, USA, 15–19 December 2008 (www.agu.org/meetings)

2008 RIMG SHORT COURSES REGISTRATION DISCOUNTS
- 2008 short courses to be announced. Check the MSA short courses and workshops listing for open and pending courses.

COMMUNITY
- Access to our member's-only web content (coming soon)
- Vote for Board of Director officers
- Receive important announcements and updates
- Participate in member surveys
- Be eligible for Geochemical Society volunteer opportunities

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2008 BOARD OF DIRECTORS ELECTIONS

This year marked the first-ever online election of the Geochemical Society's directorate. The online ballots were managed at the Geochemical Society business office utilizing surveymonkey.com to notify members and verify results. The voting was launched on September 24 and concluded on October 8. Three e-mail notices were sent to 2409 current members of the Geochemical Society, and 1084 ballots were received.

We thank everyone who voted and helped to open up the process of choosing the leaders of the Geochemical Society. Special thanks go out to all of the excellent candidates in the 2008 slate of officers who were willing to participate in the election process.

2008 ELECTION RESULTS

VICE-PRESIDENT
Samuel Mukasa (374)
Martin Palmer (323)
George Helz (303)

SECRETARY
Neil Sturchio (676)
David Fowle (322)

TREASURER
Louise J. Criscenti (870)

SPECIAL PUBLICATIONS EDITOR
Scott Wood (912)

NON-OFFICER DIRECTORS
Vickie C. Bennett (Australia) (526)
Simon Turner (Australia) (426)
David J. Wesolowski (USA) (355)
Roland Hellmann (France) (332)
Sidney Hemming (USA) (300)
Paterno R. Castillo (USA) (279)
Colleen Hansel (USA) (273)
Tim Shaw (USA) (193)
Nathan Yee (USA) (177)

2008 BOARD OF DIRECTORS
PRESIDENT: Martin Goldhaber
VICE-PRESIDENT: Samuel Mukasa
PAST-PRESIDENT: Susan Brantley
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SECRETARY: Neil Sturchio
OGD CHAIR: H. Rodger Harvey
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DIRECTOR: Marilyn Fogel
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DIRECTOR: Simon Turner
DIRECTOR: David Wesolowski

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European Association for Geochemistry

COLOGNE GOLDSCHMIDT MEETING A GREAT SUCCESS!

The 17th annual V.M. Goldschmidt meeting in Cologne, Germany, was held from August 19 to 24, 2007. Over 2300 abstracts were scheduled into 1270 oral presentations and 1090 posters over five action-packed days. Many thanks to the conference organizers!

At the meeting the EAG presented its annual Houtermans and Urey awards. Alex Halliday, EAG president, presents the Houtermans Medal to Stephen Parman (left).

Conference symposia covered a broad spectrum of geochemical fields of research. A special session addressed both scientists and the general public on recent scientific and political advances in CO_2 sequestration. A particularly large number of contributions dealt with isotopic variations of stable and radioactive elements, taking advantage of the latest advances in mass spectroscopy. Five plenary lectures described the making of the Earth from its dusty beginnings to the origin of life.

ERE GROUP LAUNCHES MEETING ON THE TOPIC "CARBON-CONSTRAINED FUTURE"

ERE is a division of the European Geosciences Union (EGU) devoted to the promotion of geosciences at the interface of energy, resources and environmental research. For the past four years, ERE has increasingly succeeded in developing discussions and cooperation among scientists. However, our meetings lack input from petroleum geologists and oil industry representatives. ERE needs your competence to fill this gap and would like to invite you to make things happen at the next EGU General Assembly, EGU 2008, which will be held on 13–18 April 2008 in Vienna, Austria. The Hydrocarbon Platform is a subgroup of ERE and is responsible for the promotion of this new event. The meeting will cover many topics, from petroleum exploration to CO_2 capture and storage (new energy and oil spills included). For more information about this meeting, please go to www.lmtg.obs-mip.fr/user/eag/Images/egu_ere_flyer_1.jp.

EAG SEEKS NEW COMMITTEE MEMBERS

Following revision of the EAG by-laws, several new committees have been formed, including the EAG Communications Committee, the EAG Program Committee and the EAG Publication Committee. Several places are still available on these committees. We invite motivated geochemists to volunteer to serve on these committees to help promote geochemistry through the EAG. To volunteer to serve please e-mail us at eag@lmtg.obs-mip.fr.

GOLDSCHMIDT 2008

July 13-18, 2008
Vancouver, Canada
www.goldschmidt2008.org

NEW MASTER OF SCIENCE PROGRAM IN EXPERIMENTAL GEOSCIENCES AT BAYERISCHES GEOINSTITUT

Bayerisches Geoinstitut (BGI) at the University of Bayreuth, Germany, introduces a new MSc degree in experimental geosciences. The two-year program includes training and research in the experimental simulation of processes occurring in the interior and on the surface of the Earth. This includes the characterization of physical and chemical properties of Earth materials under high pressure and temperature. The expertise obtained in these fields can be applied to many problems in industry. Through the approach based on Earth materials, the program encompasses a number of traditional scientific fields, including mineralogy, crystallography, solid-state physics, inorganic chemistry, materials science, geochemistry, cosmochemistry, and geophysics. Integrating these diverse subfields into one study program permits a deeper understanding of the solid Earth.

The program is built on the scientific and experimental expertise of BGI, which combines analytical methods to characterize sample, synthesis methods at high pressure and temperature, in situ methods for measuring physical properties, and theory and models to simulate material properties The MSc students will be trained in many of these techniques. The laboratory-based work is supplemented by literature and research seminars that prepare the students to critically evaluate scientific literature and research.

The MSc program starts in both the winter (October) and summer terms (April), with application deadlines of July 15 and January 15, respectively. Information about application material and more details on the MSc program can be found on the website: **www.bgi.uni-bayreuth.de/master**

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and uninteresting? It did to me at first. But now I see it as the best step toward unifying our disparate thoughts into a coherent voice. The difficult process of organizing our data into a useful resource on the web will require collaboration among the professional societies, the funding agencies, and the publishing houses.

Once multiple large datasets are accessible to all, we will have more geochemical minds considering the patterns that are manifest across scales of space and time. Importantly, we will not understand some of those patterns, so we will rush to create models explaining them. As models explain the online data, we will notice that some data are missing. That will force us to develop better networks of Earth and environmental observing systems. The data synthesis will highlight inconsistencies in measurements and will force us to grit our teeth and agree how to make standard measurements. We will argue about how long a publicly financed scientist can keep public data private. All of these processes could be, and should be, promoted by the GS.

To state my thesis succinctly by paraphrasing a famous line from a recent U.S. presidential election, "It's all about the data, stupid!"

Susan L. Brantley
President of the Geochemical Society

Postscript: I appreciate insights gleaned from Peter Heaney, Andy Nyblade, Jim Kubicki, Kerstin Lehnert, and Vincent Salters with respect to geochemical data and this piece. I also appreciate the fine work of Seth Davis who has made my tenure as president enjoyable. Of course, I also appreciate the many fine officers and directors of the Geochemical Society with whom I have worked over the last several years. In this regard, I salute Tim Drever (Past President), Jeremy Fein (Secretary), Youxue Zhang (Treasurer), Malcolm McCulloch (International Secretary), Mark McCaffrey (OGD Chairman), Laurie Reisberg (Director), Vincent Salters (Director), and Andreas Luttge (Director), all whom have rotated off this year. The Society thanks you for your work.