



# THE GEOLOGICAL SOCIETY OF AMERICA

## *Geology and Health Division*

June 2007

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Friends of Geology and Health:

I hope that you are all enjoying a wonderful beginning to the summer season. Summer is certainly gorgeous here in the mid-west (if a bit on the warm side...) and a time to enjoy the many health benefits provided by geology, including the obvious ones of walking on a geologically created landscape, but also the opportunity to enjoy fresh local produce packed with minerals extracted cleverly from soils by plants. This is one of the many beneficial aspects of geology and health, a general topic that is often overlooked but one which nonetheless was the focus of a special section at GSA Northeastern meeting and a planned session at the 2007 GSA Annual Meeting in Denver, both sponsored by the Geology and Health Division.

Here in Indianapolis, as in many larger cities in the US, summer brings both increased outdoor activity and decreased outdoor air quality. A combination of higher temperature and sunlight can cause elevated tropospheric ozone levels, a pulmonary threat to those with lung disease or asthma. Additionally, drier conditions in late summer can cause increased atmospheric fine particulates, which bring with them a number of potentially harmful heavy metals (like lead) as well as their own pulmonary burden. This is a clear example of some of the interactions between geology and health that can bring about adverse health outcomes. Additionally, with a warming planet, we are seeing a number of both subtle and potentially catastrophic changes to our planet that directly impact human health; this topic was covered in the inaugural Pardee Symposium in Philadelphia last year sponsored by the Geology and Health Division, and is also the focus of one of the planned sessions at the 2007 GSA Annual Meeting in Denver.

Regardless of your particular interest in Geology and Health, you became a member because of an awareness of the integral role that the earth sciences play in the health of humans (and ecosystems) on our planet. You also likely have a keen interest in understanding these interactions further, in order to improve health outcomes for yourself, your family, or your fellow humans.

I welcome you to exercise these passions by continuing to engage in the activities sponsored by the Geology and Health Division, to tell your friends about the Division, and to provide the Division with new ideas to enhance the connection between the earth and health sciences. This Newsletter outlines several ways in which to participate in Division activities and continue to build this, YOUR Geology and Health Division. I look forward to seeing you at some of these events, and also welcome any suggestions that you have to continue our already rapid growth as a Division.

See you in Denver,

Gabe

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**Geology and Health Division website:** <http://rock.geosociety.org/GeoHealth/index.html>.

## **1. Submit abstracts for the 2007 GSA Annual Meeting Oct. 27-31, Denver, CO**

### **Abstracts due JULY 10**

The Geology and Health Division is sponsoring a number of sessions at the GSA meeting and strongly encourages members to submit abstracts to these sessions and to tell colleagues about them.

These sessions are listed below, and I encourage you to directly contact the session chairs about your interest in advance of the abstract submittal deadline—the sessions will not run without adequate submissions, so this next month is critical in terms of getting your exciting research submitted for presentation in Geology and Health sessions at GSA!

Use the link below each session description to submit your abstract or go to <http://www.geosociety.org/meetings/2007/abstracts.htm>.

### *Geology and Health Sponsored Sessions*

#### **T8. Role of Geology in Planning and Mitigation of Natural Hazards**

*GSA Engineering Geology Division; Association of Environmental and Engineering Geologists (AEG); GSA Geology and Health Division; GSA Geology and Society Division*

Syed E. Hasan

The session aims at gathering experts from a diverse field comprising geoscience, engineering, public policy, emergency planning and management, health, pollution control, and hazard forecasting to discuss lessons learned from major hazards and their mitigation. Oral.

Environmental Geoscience; Geology and Health; Public Policy [Submit an abstract to this session](#)

[Submit an abstract to this session](#)

#### **T125. Climate Change and Human Health: From Subtle Changes to Potential Disasters, Past, Present, and Future**

*GSA Geology and Health Division; GSA Geology and Society Division*

Matthew Huber, Gabriel Filippelli

This session will include studies of past climatic impacts on societies, the current state of climate modeling and risk analysis, and the variety of future scenarios, prioritized from the standpoint of risk potential. Oral.

Geology and Health; Paleoclimatology/Paleoceanography; Public Policy

[Submit an abstract to this session](#)

#### **T126. Malice and Medical Geology: From Arsenic to Polonium—An Examination of Geological Agents as Poisons**

*GSA Geology and Health Division; GSA Geology and Society Division*

Gabriel Filippelli, Geoffrey Plumlee

This session will include techniques and case studies involving the identification and use of geological agents as human poisons in the past, and current efforts to quickly identify and treat toxicity cases. Oral.

Geology and Health; Public Policy

[Submit an abstract to this session](#)

**T127. Positive and Beneficial Aspects of Earth Sciences in Public Health**

*GSA Geology and Health Division; GSA Geology and Society Division*

Ulli Limpitlaw, Lynda Williams

We are seeking to bring together researchers of various disciplines including but not limited to geology, mineralogy, geomicrobiology, hydrology, medicine, dentistry, and geochemistry, who investigate Earth materials that benefit humans and animals. Oral.  
Geology and Health

[Submit an abstract to this session](#)

**T129. Teaching Climate Change and Energy Issues in the Classroom: An Imperative for Educated Citizens and Geoscientists**

*National Association of Geoscience Teachers; GSA Geology and Society Division; GSA Geology and Health Division; GSA Geoscience Education Division*

George T. Stone, Andrew M. Buddington

Presentations will provide geoscience educators essential knowledge and methodologies for effectively communicating salient conclusions and predictions of climate change science and energy policy analysis in the classroom and the public arena. Oral.  
Geoscience Education; Environmental Geoscience; Geoscience Information/Communication

[Submit an abstract to this session](#)

**T130. Forensic Geoscience: Research and Case Studies**

*GSA Geology and Society Division; American Society of Forensic Geologists; GSA Geology and Health Division*

Elisa Bergslien, C.E. Nehru

Applications of geoscience research to the law. A forum to share active research projects or present case studies. Use of analytical techniques, geophysical tools, database development, provenance, remote sensing, disturbed stratigraphy, and other investigative techniques. Oral.

Environmental Geoscience; Geology and Health; Geochemistry

[Submit an abstract to this session](#)

*Other proposed sessions focusing on aspects of geology and health*

**T7. The Environmental Geology and Geochemistry of Mineral Deposits: Best Practices for Effective Prediction, Mitigation, Closure, and Remediation**

*Society of Economic Geologists*

Geoffrey S. Plumlee, William X. Chávez Jr, Mark Logsdon

This session presents expert perspectives on best practical application of geological and geochemical information throughout all phases of mineral development (exploration through closure), so that adverse environmental and health impacts can be anticipated and prevented. Oral.

Environmental Geoscience; Economic Geology; Geology and Health

[Submit an abstract to this session](#)

**T29. Arsenic: From Nature to Human**

*GSA Geology and Society Division; Geochemical Society; International Society of Groundwater for Sustainable Development*

Prosun Bhattacharya, Abhijit Mukherjee, Jochen Bundschuh, Alan H. Welch

Arsenic of geogenic origin contaminates drinking water resources, soils and plants and that calls for global approaches through exchange of information and experiences among different regions of the world. Oral.

Hydrogeology; Environmental Geoscience; Geology and Health

[Submit an abstract to this session](#)

## **2. G&H Division Business Meeting**

Look for the annual Business Meeting of the Geology and Health Division at Denver GSA. The meeting will be scheduled just after one of the Geology and Health oral sessions (likely on Monday, October 29, although this will be finalized when sessions are scheduled in mid-August) from 5-7 pm. Hear what the new incoming Chair of the Division, Geoff Plumlee, has to say about the exciting future of the Division. This includes a chance to develop several targeted sessions at the 2008 GSA in Houston, which is being hosted jointly by the Soil Science Society of America (and which has its own interest in earth materials and human health).

## **3. “The Student Spotlight”**

Students! The Geology and Health Division wants to get to know you! And to help you get to know each other!

Because the Geology and Health Division is committed to cultivating tomorrow’s leaders, the next G&H newsletter (Fall 2007) will introduce a new feature called “The Student Spotlight.” The purpose is to share the successes of our student members, as well as learn about the inspirational research being conducted by them.

Each issue will highlight a student member of the G&H Division, selected randomly or based on volunteered submissions. In addition to spreading good news around, “The Student Spotlight” will present an excellent networking opportunity for students and possible mentorship ideas for professionals.

Do you know of a student we should profile? Or do you have news you’d like to share about yourself? E-mail your suggested name or your own details to [monica.gowan@canterbury.ac.nz](mailto:monica.gowan@canterbury.ac.nz) to help us find the first student to celebrate in this fun special section!

Suggested information to include: Name, hometown, favorite hobby or activity, something interesting about you, what you are studying and where, your career interests, why you joined the G&H Division, special ideas or suggestions you have for division activities.

Thank you!

Monica Gowan, Second Vice-Chair, Geology and Health Division

## **4. G&H Division Sponsoring a Workshop/Training Conference**

The G&H Division is sponsoring a workshop/training conference with a focus on geosciences and human health (description below). More information will be coming shortly, but save the date (Dec. 4-6, 2007) for this event. This workshop was facilitated strongly by Deborah Nelson of GSA, who we thank for involving our division.

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Building Bridges for Collaboration between the Geosciences and Health Sciences:  
A Cross-disciplinary Training Conference

### Purpose and Goals

Human health issues are increasingly viewed in the context of the natural world. That many diseases and injuries arise directly from exposure to natural or anthropogenic agents in the

environment is well recognized. A deepening understanding of linkages between human health and the environment has been aided by collaboration between scientists and practitioners in the geosciences and the health sciences. However, communication and cooperation among these experts may be hampered by differences in vocabulary, models, research methods, etc.

USGS and the Geological Society of America (GSA) will convene a cross-disciplinary training conference in Reston, VA, on 4-6 December 2007. The purpose of this meeting is to outline the technical basis of the geosciences and of the health sciences to practitioners of the other discipline, and to provide opportunities for professionals to work with their counterparts on case studies of public health hazards with earth science and policy components.

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## **5. Logo Ideas for the Division?**

Some of the Divisions have simple but creative logos. We would like to sponsor a small contest among members to design a logo for our division. Please look at the division websites below with such a visual identity and begin thinking of clever ideas. We will announce the contest details in a late summer newsletter and plan to unveil our logo at the Business Meeting in Denver.

<http://rock.geosociety.org/arch/>

<http://rock.geosociety.org/limno/index.html>

<http://rock.geosociety.org/sed/SGD.html>

<http://rock.geosociety.org/sgt/index.html>

<http://gsaged.org/>

## **6. Collaborative Discussions with the International Medical Geology Association Underway**

We have had several discussions with Robert Finkelman from the IMGGA related to geology and health, including developing a permanent liaison-type position between IMGGA and the G&H Division. We are very much looking forward to working with IMGGA in the future to enhance the links between earth sciences and health sciences—check out their website below...

<http://www.medicalgeology.org/>

## **7. Congratulations to Monica Gowan!**

Our Second Vice-Chair, Monica Gowan, has been elected to GSA Council for a four year term starting this summer. Congratulations, Monica—the Geology and Health Division will have a new friend in GSA Leadership! Our continuing friend in Council, G&H member Jill Schneiderman, will remain our Division liaison.

## **8. From the Engineering Geology Division...**

A new book entitled “Geology of Coal Fires: Case Studies from around the World,” edited by Coal Geology Division First Vice-Chair Glenn B. Stracher, is being published by the GSA Engineering Geology Division (Reviews in Engineering Geology, v. 18).

This book includes chapters devoted to spontaneous combustion, greenhouse gases, mineralogy and petrology of coal fires, geophysics of coal fires, and public policy. It will be available in November or December 2007. Order forms for the book will be available at the 2007 GSA Annual Meeting in Denver.