G E O P H Y S I C I S T S

Honors

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Judy C. Holoviak, former director of publications and deputy executive director at AGU, has been selected by the Association of Earth Science Editors (AESE) to receive its Lifetime Honor Award in 2009. The award will be presented to her at the end of October "in recognition of [her] extraordinary efforts, professionalism, and creativity throughout an unparalleled career in scientific publishing, and for [her] leadership roles in the AESE and the Society for Scholarly Publishing," according to AESE.

Three AGU members have been selected by the Geological Society of America (GSA) to receive GSA's highest honors for achievement in geological sciences. **B. Clark Burchfiel**, Schlumberger Professor of Geology at Massachusetts Institute of Technology, Cambridge, has been awarded the Penrose Medal for 2009, which recognizes outstanding original work that marks a major advance in the science of geology. **T. Mark Harrison**, professor of geology at the University of California, Los Angeles, was selected as the Arthur L. Day Medalist for outstanding distinction in contributing to geologic knowledge through the application of physics and chemistry to the solution of geologic problems. **Cin-Ty A. Lee**, associate professor at Rice University, Houston, Tex., has been selected to receive the Young Scientist Award, consisting of the gold Donath Medal and a cash prize of $20,000. The award recognizes scientists aged 35 or younger for outstanding original research marking a major advance in the Earth sciences.

Robert M. Hirsch has received the U.S. Geological Survey's (USGS) 2009 Eugene M. Shoemaker Award for Lifetime Achievement in Communication. The award is "in recognition of exceptional leadership in communicating USGS hydrologic sciences to scientific and non-scientific audiences, for championing the importance of water science, and for passionately and effectively communicating the relevance of USGS science to society." Hirsch has worked at USGS for 33 years in a variety of positions including a stint as acting director and 14 years as chief hydrologist. Since 2008, Hirsch has been a research scientist and communicator on current water issues such as water quality trends and also on the impacts of climate change on water resources.

In Memoriam

Robert A. Baltzer, 78, 19 August 2009, Hydrology, 1976

Geoffrey Bartington, 60, 13 December 2008, Geomagnetism and Paleomagnetism, 2006

Hugh Bradner, 92, 5 May 2008, Seismology, 1990

Richard F. Donnelly, 72, 19 August 2009, Atmospheric Sciences, 1962

Wolfgang M. Krauss, 78, 3 July 2009, Ocean Sciences, 1959

Robert O. Reid, 87, 23 January 2009, Fellow, Ocean Sciences, 1947

Jerry Ritchie, 71, 13 June 2009, Hydrology, 1991

Donald Stauble, 62, 26 August 2009, Ocean Sciences, 1986

MEETING

Understanding the Extent and Causes of Abrupt Climate Change

Chapman Conference on Abrupt Climate Change; Columbus, Ohio, 15–19 June 2009

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Nearly 100 scientists working in disciplines ranging from atmospheric and marine chemistry, paleoclimatology, paleoceanography, and paleoclimate model-data comparison to archaeology attended a weeklong Chapman Conference on abrupt climate change. The basic purpose of the conference was to understand the spatiotemporal extent of abrupt climate change and the forcings behind it.

Most of the presenters demonstrated that regardless of whether the paleorecords were from lakes, cave formations (speleothems), ice cores, or marine sediments, abrupt climate change was a recurrent phenomenon at least during the last glacial-interglacial climate cycle (11.6–130 thousand years ago). Whether such recurrent events occurred during previous glacial cycles is not well documented due to the scarcity of very long paleorecords with the requisite spatial and temporal resolution. Participants noted that the number of paleorecords from the Southern Hemisphere irrespective of glacial cycles was very low and stressed the need to increase efforts to acquire more paleorecords from the Southern Hemisphere.

Many important discoveries and well-dated paleorecords were presented at the conference and will be published in an upcoming AGU Geophysical Monograph. Several new areas of inquiry were discussed, including (1) the role of Southern Hemisphere local insolation in developing an independent chronostratigraphy (circumventing the traditional method of deriving an age using orbital tuning) and using the chronostratigraphy to correlate the Northern Hemisphere insolation with the glacial terminations, (2) phasing between the deep-ocean and surface water warming (derived from oxygen isotope ratios ($\delta^{18}O$) in benthic and planktonic foraminifera) across the terminations, (3) indication of monsoon failure from atmospheric oxygen isotope ($\delta^{18}O_{atm}$) and deep-ocean temperature change from inert gases, (4) timing of the opal flux and deep-ocean carbon dioxide (CO_2) release in the atmosphere and phasing with the position of the westerlies, (5) dynamic proxies and models' response to freshwater forcing in assessing meridional overturning circulation strength, and (6) the role of Antarctic Intermediate Water in distributing heat and transporting old carbon around the ocean.

Participants also deemed necessary several other improved approaches to understanding abrupt climate change, including (1) investigating clumped isotopes (measurements of carbon and oxygen isotopes' ordering in carbonate mineral lattices), a promising tool to provide an independent temperature proxy; (2) studying sea ice proxy biomarker IP25, a fast and powerful feedback in subpolar regions such as the North Atlantic and the subantarctic; (3) concentrating on a few key time horizons but using many proxies, and (4) collecting more high-quality data and improving coordination of paleoclimate and modeling approaches.

Many meeting participants agreed that more high-quality paleorecords with improved temporal resolution, as well as "zero" uncertainty dating, are required for state-of-the-art model-data comparison studies. The presenters further stressed the urgent need to formulate strategic plans to expand on the excellent data sets already available from the last glacial-interglacial cycle and take on new challenges to contribute to efforts predicting climate changes in a warmer world, as undertaken by the Intergovernmental Panel on Climate Change. To contribute to climate change prediction efforts, it is important to understand the mechanisms of transient climate events during the Holocene (the past 11.6 thousand years), such as those 5.2 and 4.2 thousand years ago. These events are found mainly in low-latitude climate archives related to hydrological history and are

contemporaneous with the disruption of civilizations on three different continents. Most of the participants also agreed that given that more than half of humanity lives in the tropical belt, any changes in regional hydrological cycles cannot be overemphasized.

This report was prepared with important input by Leonid Polyak and Ellen Mosley-Thompson.

—HARUNUR RASHID, Byrd Polar Research Center, Ohio State University, Columbus; E-mail: rashid.29@osu.edu

ABOUT AGU

Maeve Boland Selected as AGU Congressional Science Fellow

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Maeve Boland, research assistant professor at the Colorado School of Mines, is AGU's 2009–2010 Congressional Science Fellow. Boland, who has a Ph.D. in geology from the Colorado School of Mines, is spending a year working in the office of U.S. Sen. Byron Dorgan (D-N. D.). She was selected in March by AGU's Committee on Public Affairs after a competitive interview process, and she is AGU's 32nd Congressional Science Fellow.

In September, Boland and 31 other Congressional Science Fellows participated in a 2-week course in politics and the legislative process put on by the American Association for the Advancement of Science. She then interviewed with a number of congressional offices and was offered a position in the office of Sen. Dorgan, who chairs the Senate Appropriations Subcommittee on Energy and Water Development and is a member of the Committee on Energy and Natural Resources and the Committee on Commerce, Science, and Transportation. Boland is working as a legislative fellow carrying out a range of duties such as organizing congressional hearings, crafting legislation, advising legislators on votes, meeting with lobbyists, and writing speeches. Fellows also are often asked to assist their senator or representative during committee hearings and on the U.S. House or Senate floors during legislative debates.

In some cases, AGU Congressional Science Fellows have become permanent staff members following their fellowships. Karen Wayland worked in the office of Sen. Harry Reid (D-Nev.) while she served as the 2001–2002 AGU Congressional Science Fellow and is now an advisor on climate and energy policy for Speaker of the House Nancy Pelosi (D-Calif.).

Boland expressed excitement to be working at the forefront of issues pertaining to energy, environment, the economy, and national security. "Geoscientists and policy makers must work together if we are to deal effectively with many critical issues facing society including global climate change, natural hazards, and resource—energy, water, minerals—supply. It is imperative that geoscientists learn to be effective and active participants in public policy, and the best way to learn is by engaging in the process," she said.

Boland received her B.A. and M.S. in geology from Trinity College, in Dublin, Ireland. She then worked in mineral exploration and the petroleum sector and for the Geological Survey of Ireland, where she focused on industrial minerals. Boland moved to the United States in 1993 and completed her Ph.D. in 2005. Her thesis topic, which combined her passions for public policy and geology, centered on a policy appraisal of the U.S. Geological Survey's National Map, a federal program that provides basic geospatial data for the United States. Throughout her career, Boland has maintained a strong involvement and interest in public policy, teaching a course entitled "Science and Technology Policy" and moderating and teaching a seminar on "U.S. Public Policy" at the Colorado School of Mines.

Maeve Boland

The Congressional Science Fellowship program educates the scientific and governmental communities on the value of science-government interaction, promotes more effective use of scientific knowledge in government, and provides a unique experience to scientists who seek careers involving public use of technical information. AGU members who are interested in the program may visit http://www.agu.org/outreach/science_policy/congress_fellows.shtml or contact Elizabeth Landau by telephone at +1-202-777-7535 or by e-mail at elandau@agu.org. The application for the 2010–2011 fellowship is open from 1 November 2009 to 1 February 2010.

—KAITLIN CHELL, AGU Public Affairs Coordinator; E-mail: kchell@agu.org