

AMERICAN GEOSCIENCES INSTITUTE LEADERSHIP FORUM

September 10, 2012

9:00 am to 5:00 pm

Association of Public and Land-Grant Universities

1307 New York Ave, NW, Washington DC

Multi-Purpose Room

Media in the Geosciences: Trends and Tools for Publication, Education, and Outreach

According to Wikipedia there are seven categories of [Mass Media](#)

1. [Print](#) ([books](#), [pamphlets](#), [newspapers](#), [magazines](#), etc.) from the late 15th century
2. [Recordings](#) ([gramophone records](#), [magnetic tapes](#), [cassettes](#), [cartridges](#), [CDs](#), [DVDs](#)) from the late 19th century
3. [Cinema](#) from about 1900
4. [Radio](#) from about 1910
5. [Television](#) from about 1950
6. [Internet](#) from about 1990
7. [Mobile phones](#) from about 2000

The forum will explore how mass media is being used in the geosciences for publication, education, outreach, and big data. We will discuss effective uses of media in the geosciences and ways for member societies to advance the geosciences using evolving media.

Speakers will describe some examples of how mass media is being used for publication, education, outreach, and/or handling of big data sets to advance the geosciences. After each panel there will be time for discussion of some or all of the following questions:

What are some of the most effective tools for advancing the geosciences through the many different types of media?

What are some of the newest tools in different media types?

What does the future hold for different types of media?

How can geoscience societies most effectively use current or future tools in different media types to advance the geosciences for the profession and the public?

How can geoscience societies help their individual members use these tools?

How can societies and/or geoscientists collaborate on using current or new tools in different types of media to advance the geosciences?

AGENDA

Light breakfast (9:00 – 9:30)

INTRODUCTION (9:30 – 9:45)

EDUCATION (Two 15-minute talks, followed by 30 minutes of discussion – 9:45-10:45)

Ann Benbow, Education, Outreach and Development Director, American Geosciences Institute
Developing and Using Online Textbooks

Susan Buhr, Education Program Director, Cooperative Institute for Research in Environmental Sciences, University of Colorado
National Association of Geoscience Teachers (NAGT): Teaching tools and examples in Earth Sciences

Discuss most effective tools each society has for education, what societies need and how societies might collaborate

Break

PUBLICATION (Two 15-minute talks, followed by 30 minutes of discussion, 11:00-12:00)

Stewart Wills, Editorial Director, Web and New Media, Science Magazine
Online Content for Scientific Publications

Alex Speer, Executive Director, Mineralogical Society of America
The Many Flavors of Open Access for the Geosciences, Their Future Depends on Who Treats

Discuss most effective tools each society has for publication (journal and website), what societies need and how societies might collaborate

Lunch

BIG DATA (Two 15-minute talks, followed by 30 minutes of discussion – 1:15-2:15)

Lee Allison, Arizona State Geological Survey
Large Geoscience Databases: Data

Sharon Tahirkheli, Information Systems Director, American Geosciences Institute
GeoRef and Beyond: Reference Databases and How They Integrate with New Media

Discuss most effective tools each society has for big data, what societies need and how societies might collaborate

Break

OUTREACH (Two 15-minute talks, followed by 30 minutes of discussion – 2:30-3:30)

Callan Bentley, Assistant Professor of Geology, Northern Virginia Community College
Geology in the Blogosphere and the Twitter-Rich Microblogosphere

Tim Herzog, Open Data Specialist, World Bank
Using Apps to Deploy Open Data

Discuss most effective tools each society has for outreach, what societies need and how societies might collaborate

CONCLUSIONS (3:30 – 5:00)

RECEPTION (5:00 – 6:30)

SPEAKER BIOGRAPHIES

Ann Benbow is the Director of Education, Outreach and Development at the American Geosciences Institute (AGI) in Alexandria, VA, where she is responsible for curriculum development, teacher professional development, educational research, and public outreach programs. After teaching science (biology, chemistry, and Earth science) in high school, she became an elementary science coach for 14 schools. She has also taught science courses at the two-year college level and elementary and secondary science methods at the university level. After finishing her doctoral studies, she spent 13 years working in national curriculum development and teacher education for the American Chemical Society, followed by 3.5 years at the SPRY Foundation specializing in older adult learning. In addition to her articles and work in curriculum development, Benbow has co-authored a college textbook on elementary science methods. Her most recent co-authored publications include a series of six children's science fair books. She has a B.S. in Biology from St. Mary's College of Maryland (double major in English), a Master's in Science Education and a Ph.D. in Curriculum and Instruction from the University of Maryland College Park. Her area of research is cognitive psychology.

Susan Buhr directs the Education Outreach program of the Cooperative Institute for Research in Environmental Sciences (CIRES) at University of Colorado. Before beginning her work in K-12 education, she conducted research in atmospheric chemistry analytical methods with CIRES and the NOAA Aeronomy Laboratory. Susan enjoys the opportunity to learn about a wide variety of science topics through education work, and the opportunity to work with educators, students, geoscientists and social scientists. Susan's current projects include professional development workshops for science teachers, provision of education related to research projects and oversight of numerous other education projects within the CIRES Outreach group.

Stewart Wills is the Editorial Director for Web and New Media at the journal *Science*, published by the American Association for the Advancement of Science. In that position, Wills helps to shape *Science's* online strategic direction, manages a team that works on additional Web features tied to Science content, and has led or participated in a wide range of front- and back-end development and content efforts for the *Science* site. His work at *Science* caps a 30-year editorial career. Wills's Twitter feed appears as a "side dish" on SSP's *Scholarly Kitchen* blog. Stewart has a Ph.D. in Geological Sciences from Columbia University, New York, a B.S. in Geology from Rutgers University, New Brunswick, NJ, and a B.A. in English from the University of California, Los Angeles.

J. Alex Speer is the Executive Director of the Mineralogical Society of America (MSA). MSA is a relatively small, non-profit individual membership scientific society with a world-wide membership and is, among other things, a publisher of a scientific journal, textbooks, monographs, and a magazine. As a publisher, MSA is in the process making all its current and

past publications available in both print and electronic forms, and deciding how best they can be made available to anyone with an interest on a sustainable basis. Prior to joining MSA, Alex worked as a teacher and researcher in academics and an R&D manager in industry. His research interests have included mineralogy, igneous and metamorphic petrology, radon hazards, low-temperature geothermal energy resources, electrocrystallization, and tribology. Geologic areas of interest included the Nain anorthosite complex, Labrador and the 300 Ma granites of the southeastern United States. Dr. Speer served on the Steering Committee and initial Board of Directors of GeoScienceWorld. Alex holds a bachelor's degree in geology from Franklin and Marshall College, Lancaster, PA and a MS and PhD in geology from the Virginia Polytechnic Institute and State University, Blacksburg, VA.

Lee Allison was appointed State Geologist and Director of the Arizona Geological Survey in December, 2005. Previously, he served as State Geologist in Utah (1989-1999) and Kansas (1999-2004). During 2004-2005, he was Policy Advisor for Science and Energy to Gov. Kathleen Sebelius of Kansas. He holds BA, MS, and PhD degrees in geology. Lee serves on the Advisory Council to the Geosciences Directorate of the National Science Foundation. He chairs the Governance Steering Committee for the NSF EarthCube (geoscience cyberinfrastructure) initiative, co-chairs the US Geoscience Information Network (USGIN) Steering Committee, is the Informatics member of the AGU Eos Editorial Advisory Board, a member of the OneGeology Operational Management Board, and chairs the Information Committee of AASG. He is co-founder of the Coalition on the Public Understanding of Science (COPUS) and is publisher of the *Arizona Experience* interactive multimedia website designed in celebration of the state's centennial. He's been blogging for over five years at "Arizona Geology" www.arizonageology.blogspot.com.

Sharon Tahirkheli is the Director of Information Systems at the American Geosciences Institute, where she directs the production of GeoRef, the primary bibliographic system for the geosciences, maintenance of the Glossary of Geology, and the development of other AGI bibliographic databases. She has served on the Steering Committee and the Board of Directors for GeoScienceWorld and on the Management Council for the Digital Library for Earth System Education (DLESE). She holds an MSLS from Catholic University. Her interests include the development and maintenance of controlled vocabularies and geographic metadata for information retrieval.

Callan Bentley is assistant professor of geology at the Annandale campus of Northern Virginia Community College, a position he's held since 2006. He has taught at the University of Maryland, George Washington University, and George Mason University, as well as less formal geological education for the Audubon Society, the Smithsonian Associates program, the Potomac Appalachian Trail Club, Cultural Tourism DC, and the National Park Service. Callan has

been an early adopter of many social media and internet-enabled outreach media. In addition to freelance writing and cartooning for EARTH magazine, he blogs, tweets, GigaPans, and posts videos to YouTube. You can even find him on Facebook! Callan is an active member of the Geological Society of Washington, the Geo2YC division of the National Association of Geoscience Teachers, and serves on the board of the Environmental Education Alliance of Southeast Asia, the education committee of the Burgess Shale Geoscience Foundation, and NOVA's sustainability committee. He is helping revise the physical geology textbook "Earth," by Tarbuck & Lutgens, for the 11th edition.

Tim Herzog is an Open Data Specialist at the World Bank, where he supports the Bank's ongoing efforts to expand and improve its portfolio of open data products. Most recently Tim helped to coordinate the launch of the World Bank's Open Climate Data Initiative in 2011, and is managing the Apps For Climate competition. Prior to joining the World Bank in 2011, Tim served as Director of Online Communications at the World Resources Institute, an environmental think tank based in Washington, DC. While at WRI he also served as a Climate Policy Specialist and project lead for the Climate Analysis Indicators project. He also worked in the private sector for many years as a technology consultant to several leading U.S. companies. Tim holds a Master's degree in public policy from the Georgetown Public Policy Institute and a bachelor's degree in communications from Bethel University in Minnesota.