SLC 2005

Science • Learning • Colleagues

GSA Annual Meeting & Exposition

16–19 October 2005, Salt Palace Convention Center, Salt Lake City, Utah

Greetings!

From surprising discoveries on Titan to the devastation of the December tsunami to climate change, recent events remind us of the intricacy and power of nature and the need to better understand our dynamic world. We face difficult challenges and exciting opportunities. How will our growing population interact with complex earth systems? What can we learn from the past to help us understand our future? How can we better utilize natural resources and more safely cope with geologic hazards? How should we be educating our children and our communities about science? How will we utilize evolving technologies and better communicate across disciplines?

The 2005 Annual Meeting is shaping up to be a truly exciting opportunity to explore these challenges and opportunities, by sharing our Science, expanding our Learning, and collaborating with our Colleagues. Combine a diverse range of special topic and discipline sessions with stimulating Hot Topic dialogues on controversial issues, season with great field trips, add the dramatic geologic backdrop of Salt Lake City, and you have all the ingredients for a great meeting!

Your participation will help make this a vibrant time where we can share new ideas and build new bridges. Submit an abstract to one of the many topical sessions or to an open discipline session and then encourage your students and colleagues to do the same. At the meeting, plan to attend a Pardee Symposium, Hot Topics session, or Public Forum, and explore sessions outside your area. Attend a workshop to expand your horizons, visit exhibits, take advantage of special events, and at the end of the day, explore fine microbreweries and restaurants.

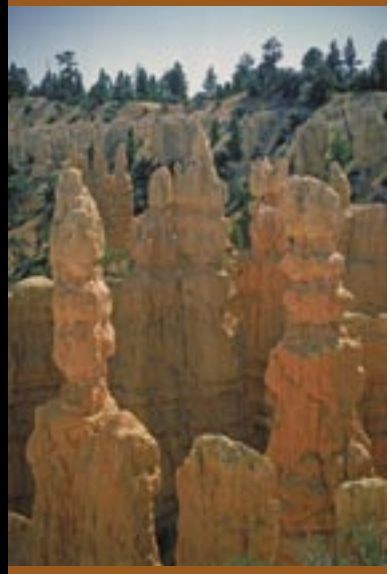
Science • Learning • Colleagues: Be there!

Adolph Yonkee
General Chair, Salt Lake City Local Committee

Important Dates, Events & Deadlines

Registration Opens:	Early June
Abstracts Deadline:	12 July
Standard Registration Deadline:	12 Sept.
Cancellation Deadline:	19 Sept.
Premeeting Field Trips:	Thurs.–Sat., 13–15 Oct.
Short Courses & Workshops:	Fri.–Sat., 14–15 Oct.
Presidential Address & Awards Ceremony:	Sat., 15 Oct., 7–9 p.m.
Welcoming Party & Exhibits Opening:	Sun., 16 Oct., 5:30–7:30 p.m.
Technical Program:	Sun.–Wed., 16–19 Oct.
Pardee Keynote Symposia:	Sun.–Wed., 16–19 Oct.
Private Alumni Reception:	Mon., 17 Oct., 5:30 p.m.–1 a.m.
Group Alumni Reception:	Mon., 17 Oct., 7–9:30 p.m.
Exhibit Hall Hours:	Sun., 16 Oct., 5:30–7:30 p.m.
	Mon.–Tues., 17–18 Oct., 9 a.m.–5:30 p.m.
	Wed., 19 Oct., 9 a.m.–2 p.m.
Hot Topics:	Sun.–Wed., 16–19 Oct., 12:15–1:15 p.m.
Postmeeting Field Trips:	Wed.–Sat., 19–22 Oct.

THE GEOLOGICAL SOCIETY OF AMERICA



2005 Annual Meeting Local Committee

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Annual Meeting Sponsor

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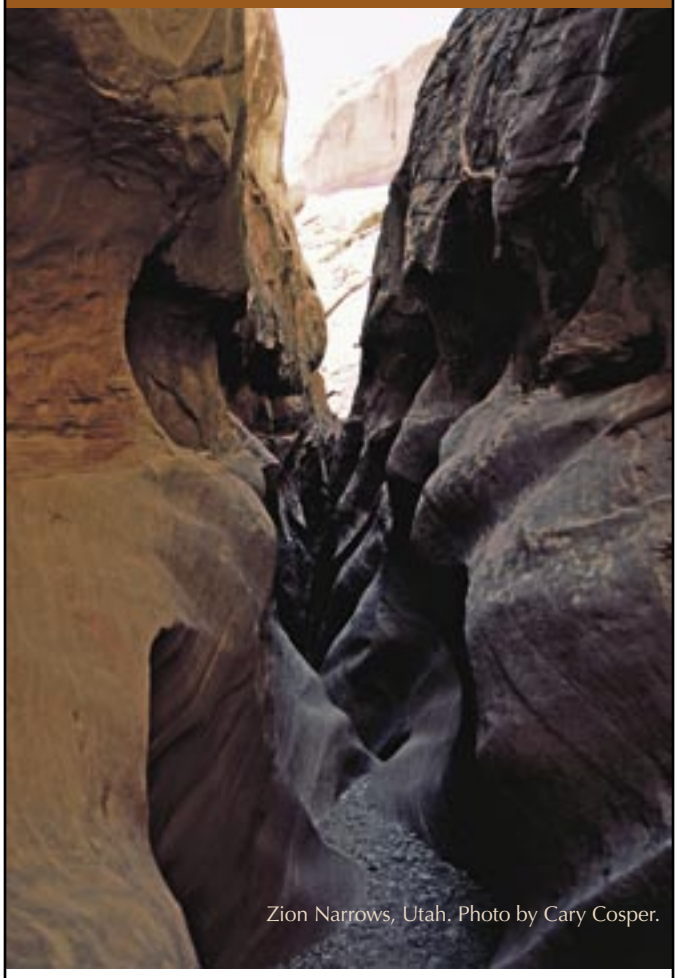
Title Sponsor of the 2005 GSA Annual Meeting.

Call For Papers

Attention

GSA Associated & Allied Society and GSA Division Leaders:



Zion Narrows, Utah. Photo by Cary Cosper.

Did you ever wait until the last minute to plan an event only to find out no meeting space was available?

You can avoid panic and frustration by planning now for your business meeting, alumni party, reception, banquet, or social event at the Salt Lake City GSA Annual Meeting. To reserve space for your event at the headquarters hotels or at the convention center, make your plans NOW and complete the Meeting Space Request form online.

Step 1. Start planning NOW.

Step 2. Go to www.geosociety.org.

Step 3. Click on "Meetings and Excursions," then "SLC 2005: Science • Learning • Colleagues"

Step 4. Go to the Meeting Space Request Form and complete it online.

Space Request deadline: 1 July 2005

Thank you!

GSA Associated Societies

American Association of Stratigraphic Palynologists
American Institute of Professional Geologists
American Quaternary Association
American Rock Mechanics Association
American Society of Limnology and Oceanography*
Association for Women Geoscientists
Association of American State Geologists
Association of Earth Science Editors
Association of Engineering Geologists
Association of Geoscientists for International Development
Council on Undergraduate Research, Geosciences Division
Cushman Foundation
Environmental & Engineering Geophysical Society
Geochemical Society
Geoscience Information Society
History of the Earth Sciences Society
International Association of GeoChemistry*
International Association of Hydrogeologists
Mineralogical Society of America
National Association of Black Geologists and Geophysicists
National Association of Geoscience Teachers
National Earth Science Teachers Association
National Ground Water Association
Paleontological Research Institution
Paleontological Society
Sigma Gamma Epsilon
Society for Sedimentary Geology
Society of Economic Geologists
Society of Vertebrate Paleontology

GSA Allied Societies

American Association of Petroleum Geologists
Asociación Geológica Argentina
Geological Association of Canada
Geological Society of Australia
Geological Society of London
Geological Society of South Africa
Karst Waters Institute*
Sociedad Geológica Mexicana, A.C.*
Soil Science Society of America

***GSA welcomes these new Associated and Allied Societies!**

Pardee Keynote Symposia

INVITED PAPERS

The Pardee Keynote Symposia are made possible by a grant from the Joseph T. Pardee Memorial Fund.

These Pardee keynote sessions are *special events* of broad interest to the geoscience community. They represent hot issues on the leading edge in a scientific discipline or area of public policy, address broad fundamental issues, and are interdisciplinary. Selection was on a competitive basis. This year's eight Pardee Symposia were reviewed and accepted by the Annual Program Committee. ***(All speakers are invited.)***

P1. 2004 South Asian Tsunami
GSA Geophysics Division; GSA International Division; GSA Sedimentary Geology Division; GSA Structural Geology and Tectonics Divisions; GSA Geology and Society Division

Marine/Coastal Science; Neotectonics/Paleoseismology; Public Policy

Joanne Bourgeois, University of Washington, Seattle, Wash.; Brian F. Atwater, U.S. Geological Survey, Seattle, Wash.

The South Asian Tsunami of 26 December 2004 raises questions about the parent earthquake, the tsunami's generation and runup, and global access to the benefits of science.

P2. Research Opportunities, New Frontiers, and the Questioning of Paradigms in Structural Geology and Tectonics: Celebrating the 25th Anniversary of the SGT Division
GSA Structural Geology and Tectonics Division; NSF Tectonics Program

Structural Geology; Tectonics; Neotectonics/Paleoseismology

William Matthew Dunne, University of Tennessee, Knoxville, Tenn.; John Geissman, University of New Mexico, Albuquerque, N.Mex.; David Lageson, Montana State University, Bozeman, Mont.; Elizabeth Schermer, Western Washington University, Bellingham, Wash.; Peter Vrolijk, ExxonMobil Upstream Research Co., Houston, Tex.

The Structural Geology and Tectonics Division will use the opportunity of its 25th anniversary to convene a group of 12 leading geoscientists to present papers about exciting new opportunities and frontiers for the future of structural geology and tectonics, while encouraging all to challenge existing paradigms.

P3. Science, Politics, and Environmental Policy
GSA Geology and Society Division; Geology and Public Policy Committee; U.S. Geological Survey Science Impact Program

Public Policy; Geoscience Information/Communication; Geoscience Education

Herman A. Karl, Massachusetts Institute of Technology and U.S. Geological Survey, Cambridge, Mass.; Judith A. Layzer, Massachusetts Institute of Technology, Cambridge, Mass.

Too often scientists find their work ignored, marginalized, or misrepresented in environmental policy debates. This session explores the relationship between science and politics and describes emerging processes that aim to improve the effectiveness of science in environmental problem solving.

P4. Speaking Out for Evolution: Rationale and Resources for Supporting the Teaching of Evolution
Paleontological Society; Society of Vertebrate Paleontology

Geoscience Education; Paleontology, Diversity, Extinction, Origination; Stratigraphy

Judy Scotchmoor, University of California Museum of Paleontology, Berkeley, Calif.; Carol M. Tang, California Academy of Sciences, San Francisco, Calif.

Hear the latest efforts to strengthen the teaching of evolution, deep time, and geologic history in American classrooms. Through talks and a panel discussion, understand the relevance, strategies, resources, rationale, and support for teaching evolution.

P5. The 2004–2005 Eruption of Mount St. Helens: New Insights and Hazard Management of an Extraordinary Dacitic Dome-Growth Eruption
GSA Quaternary Geology and Geomorphology Division; GSA Geophysics Division; GSA Engineering Geology Division

Volcanology; Geophysics/Tectonophysics/Seismology; Geoscience Information/Communication

Jon Major, U.S. Geological Survey, Vancouver, Wash.; Cynthia Gardner, U.S. Geological Survey, Vancouver, Wash.

The 2004–2005 eruption of Mount St. Helens afforded unprecedented documentation of uncommonly rapid, steady-state growth of a lava dome. This session explores connections among petrology, geodesy, geochemistry, seismicity, mechanics, hydrology, hazard management, and public communication associated with dacitic dome growth.

P6. The Return to Saturn: Results from Cassini-Huygens
GSA Planetary Geology Division

Planetary Geology; Remote Sensing/Geographic Info System; Geoscience Education

Thomas R. Watters, Smithsonian Institution, Washington, D.C.; Louise Prockter, Applied Physics Lab, Laurel, Md.

Twenty-three years after the last robotic probe encountered Saturn, the Cassini-Huygens mission is returning unprecedented views of the gas giant, its rings, and its moons. The session will present the latest results from this international mission of science and exploration.

P7. The Wasatch Range–Great Salt Lake Hydroclimatic System
GSA Hydrogeology Division; International Association of Hydrogeologists/U.S. National Chapter; American Geophysical Union; GSA Quaternary Geology and Geomorphology Division; Friends of the Great Salt Lake

Hydrogeology; Quaternary Geology/Geomorphology; Paleoclimatology/Paleoceanography

(Pardee Symposia, continued)

Christopher J. Duffy, Pennsylvania State University, University Park, Pa.; Danny Marks, Agricultural Research Service, U.S. Department of Agriculture, Boise, Idaho; David G. Tarboton, Utah State University, Logan, Utah; Craig B. Forster, University of Utah, Salt Lake City, Utah

Broadly interdisciplinary session on the dynamic Wasatch Range–Great Salt Lake system will integrate geologic, hydrologic, and ecologic issues of the water cycle, under pressure today from climate change and resource manipulation.

P8. Water Resources Science and Public Policy
GSA Hydrogeology Division; GSA Geology and Society Division; Geology and Public Policy Committee

Hydrogeology; Public Policy; Environmental Geoscience

David M. Diodato, U.S. Nuclear Waste Technical Review Board, Arlington, Va.; Peter F. Folger, American Geophysical Union, Washington, D.C.; Tamara L. Dickinson, National Academy of Sciences, Washington, D.C.

The health and economic security of American citizens depend upon a safe and reliable water supply. At this symposium, prominent national policy makers and scientists discuss present and future challenges and opportunities of water resources science and public policy.

Topical and Discipline Sessions

Abstracts Deadline: July 12

TOPICAL SESSIONS

Below is a listing of all approved topical sessions. These sessions are topically focused with a mix of invited and volunteered papers. Sessions are designed to promote the exchange of interdisciplinary, state-of-the-art information. Papers can be submitted to a specific topical session and you may choose up to three scientific categories. After each topical description below, the categories are identified as they appear on the abstract form. PLEASE SUBMIT ONLY IN THE MODE (oral or poster) AND CATEGORIES INDICATED in the description. An abstract submitted in the incorrect mode will be transferred automatically to a discipline session.

ABSTRACTS DEADLINE: JULY 12

Please use the online electronic abstract form found on the GSA Web site, www.geosociety.org. An abstract submission fee will be charged. The fee is $18 for all students; $30 for all others. If you cannot submit your abstract electronically, contact Nancy Carlson, (303) 357-1061, ncarlson@geosociety.org.

DISCIPLINE SESSIONS

From the list found on the electronic abstract form, you may choose up to three discipline categories you feel your abstract would best fit. Joint Technical Program Committee representatives organize the papers in sessions focused on disciplines (e.g., environmental geoscience, mineralogy).

T1. Centennial Celebration Symposia for the Society of Economic Geologists
Society of Economic Geologists

Economic Geology; Petrology, Igneous; Tectonics

Brian Hoal, Society of Economic Geology, Littleton, Colo.

This session will present speakers from the 100th Anniversary Volume of the Society of Economic Geologists. ORAL

T2. Advances in Geophysics and New Techniques: Lithospheric and Crustal Architecture, Ore Deposit Visualization, and New Technologies in Analytical Techniques and Mineral Processing
Society of Economic Geologists

Economic Geology; Geophysics/Tectonophysics/Seismology; Remote Sensing/Geographic Info System

Joe Inman, Kennecott Exploration, Salt Lake City, Utah; Ricardo D. Presnell, Kennecott Exploration, Salt Lake City, Utah, Albania; Karin O. Hoal, Golden, Colo.

This session will present advances in our understanding of the architecture of the crust and lithosphere from imaging of geophysical and various other datasets and their application and implication to ore deposit formation. ORAL

T3. Advances in the Understanding of Tectonic Settings and Structural Control of Ore Deposits
Society of Economic Geologists

Economic Geology; Tectonics; Structural Geology

John F. Thompson, Teckcominco, Vancouver, British Columbia

This session will present advances in our understanding of the tectonic setting and structural control of ore deposits. ORAL

T4. Sources of Porphyry Copper Deposits: Magmas, Metals, and Fluids
Society of Economic Geologists

Economic Geology; Petrology, Igneous; Geochemistry, Other

Jeff Hedenquist, Ottawa, Ontario; Ricardo D. Presnell, Kennecott Exploration, Salt Lake City, Utah

This session will provide a forum for the presentation of new data on igneous rocks, fluid chemistry, and genesis from porphyry copper deposits. ORAL

T5. The Evolving Earth: Implications for Ore Deposit Formation, Evolution, and Benefaction
Society of Economic Geologists

Economic Geology; Tectonics; Precambrian Geology

Murray Hitzman, Colorado School of Mines, Golden, Colo.

This session will explore the relationship between ore deposit formation and the evolution of the earth. ORAL

T6. Borates, Uranium, Mineral Sands and Bulk Commodities: Deposit Models, Processes, and Descriptions
Society of Economic Geologists

Economic Geology; Limnogeology; Coal Geology

Ricardo D. Presnell, Kennecott Exploration, Salt Lake City, Utah

This session will provide a forum for the presentation of deposit models, processes, and descriptions of non-metallic bulk commodities such as borates, uranium, mineral sands, iron-ore, coal, and other industrial minerals. ORAL

T7. A Tribute to Hans-Olaf Pfannkuch: From Darcy to the Modern World of Environmental and Contaminant Hydrogeology
GSA Hydrogeology Division; American Institute of Hydrology; Minnesota Ground Water Association

Hydrogeology; Environmental Geoscience; History of Geology

E. Calvin Alexander Jr., University of Minnesota, Minneapolis, Minn.; Martin O. Saar, University of Minnesota, Minneapolis, Minn.

Hans-Olaf Pfannkuch and his students have had a large impact on the application of hydrogeologic tools in Minnesota and the United States. Presentations will cover the history, present, and future of environmental and contaminant hydrogeology. ORAL

T8. Artificial Recharge of Groundwater—Hydrogeologic Characterization and Implementation
GSA Hydrogeology Division

Hydrogeology; Environmental Geoscience; Public Policy

Hugh A. Hurlow, Utah Geological Survey, Salt Lake City, Utah; Mike Lowe, Utah Geological Survey, Salt Lake City, Utah; Marek Matyjasik, Weber State University, Ogden, Utah

Topics include the role of geologic, geophysical, and hydrologic characterization in the design and function of artificial recharge projects, and use of artificial recharge as a tool for the conjunctive management of water resources. ORAL and POSTER

T9. Bedrock Infiltration: Advances in Understanding Vadose-zone Processes, Percolation through Macropores and Shallow Soils, and Recharge to Consolidated-Rock Aquifers
International Association of Hydrogeologists; GSA Hydrogeology Division

Hydrogeology; Geochemistry, Aqueous; Geophysics/Tectonophysics/Seismology

Victor M. Heilweil, U.S. Geological Survey, Salt Lake City, Utah; Lorraine E. Flint, U.S. Geological Survey, Sacramento, Calif.

This session focuses on understanding bedrock infiltration and recharge in a variety of climates and geologic settings. We encourage papers on field studies, macropore flow, soil physics, plant dynamics, contaminant transport, environmental tracers, and modeling. ORAL

T10. Chemistry, Ecology, and Groundwater Hydrology of Lakes, Streams, Playas, and Springs: Observations at the Interface
GSA Hydrogeology Division; GSA Limnogeology Division; GSA Geobiology and Geomicrobiology Division

Limnogeology; Geochemistry, Aqueous; Geomicrobiology

Alison J. Smith, Kent State University, Kent, Ohio; Donald Rosenberry, U.S. Geological Survey, Denver, Colo.; Emi Ito

This session will highlight the many ways in which mixing of surface water and groundwater provides a unique ecological niche and generates chemical reactions that modify the hydrochemical budget and sediment record of many surface water bodies. ORAL and POSTER

T11. Dissolution, Precipitation, and Redox Reaction Kinetics in Aquifers
GSA Hydrogeology Division; Geochemical Society; GSA Geobiology and Geomicrobiology Division

Geochemistry, Aqueous; Hydrogeology; Environmental Geoscience

Chen Zhu, Indiana University, Bloomington, Ind.; Mark Person, Indiana University, Bloomington, Ind.; Niel Plummer, U.S. Geological Survey, Reston, Va.

Aquifers are major sites of water-rock interactions, and reaction rates in aquifers are important to many geological and environmental problems. We encourage papers in field, laboratory, and modeling studies of groundwater systems. ORAL

T12. Environmental Issues Related to Oil and Gas Exploration and Production

GSA Hydrogeology Division; International Association of GeoChemistry (IAGC)

Hydrogeology; Environmental Geoscience; Geochemistry, Aqueous

Yousif K. Kharaka, U.S. Geological Survey, Menlo Park, Calif.; James K. Otton, U.S. Geological Survey, Lakewood, Colo.

Papers on past and present impacts to soil, water, and ecosystems caused by exploration and production of petroleum and coal-bed methane. We seek general presentations, case histories, and new methodologies that minimize impacts and improve site remediation. ORAL and POSTER

T13. Fault Zone Controls on Fluid Movement, Earth Resources and Processes: Perspectives from Field, Laboratory, and Modeling Studies

GSA Hydrogeology Division; GSA Structural Geology and Tectonics Division; GSA Geophysics Division

Hydrogeology; Structural Geology; Geophysics/ Tectonophysics/Seismology

Victor F. Bense, Indiana University, Bloomington, Ind.; Jonathan Caine, U.S. Geological Survey, Denver, Colo.

This session is intended to bring together people from diverse disciplines (e.g., groundwater hydrologists, geologists, petroleum engineers, numerical modelers) who face similar challenges in the geological characterization of fault zones and their impacts on fluid flow in the Earth's upper crust. ORAL and POSTER

T14. Flowpaths Integrating Terrestrial and Aquatic Components of Catchment Ecosystems

GSA Hydrogeology Division; GSA Geobiology and Geomicrobiology Division

Hydrogeology; Geochemistry, Aqueous; Geomicrobiology

Madeline E. Schreiber, Virginia Tech, Blacksburg, Va.; H. Maurice Valett, Virginia Tech, Blacksburg, Va.

Hydrologic and biogeochemical flowpaths connect terrestrial and aquatic environments and play important roles on the function of catchment ecosystems. Presentations on the role of these flowpaths in both natural and engineered settings are encouraged. ORAL

T15. Groundwater Quality and Quantity Interconnections: The Effects of Natural and Anthropogenic Contamination on Groundwater Availability

GSA Hydrogeology Division; National Ground Water Association/Association of Ground Water Scientists and Engineers

Hydrogeology; Environmental Geoscience; Geochemistry, Aqueous

Michael J. Moran, U.S. Geological Survey, Rapid City, S.Dak.; Vicki Kretsinger, Luhdorff and Scalmanini, Consulting Engineers, Woodland, Calif.

This session will focus on the interconnections between groundwater quality and quantity including the effect that quality can have on the volume of groundwater that is effectively available for present and future human and ecological needs. ORAL

T16. Hydrogeology and Climate Change: Insights from the Past

GSA Hydrogeology Division

Hydrogeology; Limnogeology; Quaternary Geology

Vicki Remenda, Queens University, Kingston, Ontario; Mark Austin Person, Indiana University, Bloomington, Ind.

Groundwater flow systems can respond to climate change on time scales of decades to millennia. This session focuses on isotopic, sedimentological, and geochemical evidence for Holocene and Pleistocene hydrogeologic change within watersheds and sedimentary basins. ORAL and POSTER

T17. Identification, Quantification, and Simulation of Contaminant Exchange at the Atmosphere and Land Interface

GSA Hydrogeology Division

Geochemistry, Aqueous; Hydrogeology; Limnogeology

William Blanford, Louisiana State University, Baton Rouge, La.; Thomas Boving, University of Rhode Island, Kingston, R.I.

The exchange mechanisms for contaminants between atmosphere and land are poorly understood. This session seeks to showcase research on these processes for a variety of contaminants that occur over a wide range of scales. ORAL

T18. Innovations and New Frontiers in Hydrologic Modeling

GSA Hydrogeology Division; National Ground Water Association; International Association of Hydrogeologists; GSA Engineering Geology Division

Hydrogeology; Limnogeology

Frank W. Schwartz, The Ohio State University, Columbus, Ohio; Motomu Ibaraki, The Ohio State University, Columbus, Ohio

Models have grown from a mathematical curiosity to an indispensable tool for analysis of hydrologic systems. This session examines new developments in groundwater and hydrologic modeling, emphasizing innovations in theory, design, and data handling. ORAL

T19. Innovative Methods of Estimating Recharge in Humid Climates

GSA Hydrogeology Division

Hydrogeology; Environmental Geoscience

Todd W. Rayne, Hamilton College, Clinton, N.Y.; Kenneth R. Bradbury, Wisconsin Geological and Natural History Survey, Madison, Wis.; Randy J. Hunt, U.S. Geological Survey, Middleton, Wis.

We encourage papers that focus on innovative methods of estimating recharge in humid climates and examples of potential problems with current recharge estimation methods. ORAL

T20. Innovative Monitoring and Modeling Techniques for Assessing the Performance of Passive Remediation Projects for Contaminated Water and Soil

GSA Hydrogeology Division

Hydrogeology; Environmental Geoscience; Geochemistry, Aqueous

David Naftz, U.S. Geological Survey, Salt Lake City, Utah; Christopher Fuller, U.S. Geological Survey, Menlo Park, Calif.; Terry Snyder, Bureau of Land Management, Salt Lake City, Utah

Passive remediation methods offer low-cost alternatives to other methods for soil and water clean up. The success of these efforts is dependent on innovative techniques to monitor and assess long-term performance. This session will focus on recently developed laboratory, modeling, and monitoring techniques. ORAL

T21. Innovative Use of Natural and Artificial Tracers in Mountain Catchments Underlain by Fractured Rocks

GSA Hydrogeology Division; International Association of Hydrogeologists

Hydrogeology

Mike Wireman, U.S. Environmental Protection Agency, Region 8, Denver, Colo.; Mark Williams, University of Colorado, Boulder, Colo.

This session focuses on the use of natural and artificial tracers to characterize groundwater sources, flowpaths, residence times, and hydraulic connection to surface water beneath mountain catchments underlain by fractured rocks. ORAL

T22. Interactions of Groundwater and Surface Water at the Land-Sea Margin

GSA Hydrogeology Division

Hydrogeology; Marine/Coastal Science; Geochemistry, Aqueous

René M. Price, Florida International University, Miami, Fla.; Jaye E. Cable, Louisiana State University, Baton Rouge, La.

New research related to seawater intrusion, submarine groundwater discharge, and associated geochemical processes are encouraged. Papers discussing the provenance and quantification of geochemical constituents in groundwater flow at the land-sea margin are welcome. ORAL

T23. Nano- to Field-Scale Processes Governing the Transport of Microbes and Colloids in the Subsurface

GSA Hydrogeology Division

Hydrogeology; Geochemistry, Aqueous; Geomicrobiology

William P. Johnson, University of Utah, Salt Lake City, Utah; Joseph N. Ryan, University of Colorado, Boulder, Colo.

This session highlights advances in understanding of nanoscale to field-scale controls (e.g. physical, geochemical,

biological) on the transport of microbes (viruses, bacteria, and protozoa) and colloids in the subsurface. ORAL and POSTER

T24. Naturally Occurring Perchlorate (and Other Oxyanions) in the Hydrologic Cycle—Origins, Accumulation, Transformations, and Transport

GSA Hydrogeology Division; GSA Geobiology and Geomicrobiology Division

Environmental Geoscience; Hydrogeology; Geomicrobiology

David A. Stonestrom, Menlo Park, Calif.; Scott W. Tyler, University of Nevada, Reno, Nev.; Andrew W. Jackson, Texas Tech University, Lubbock, Tex.

Advancing analytics are revealing the chemical, isotopic, and microbial systematics of naturally occurring oxyanions. All topics are welcome, including atmospheric reactions, deposition, accumulation, transport, microbial and chemical transformations, climatic and biologic shifts, and extraterrestrial occurrences. ORAL and POSTER

T25. Arsenic Occurrence and Fate in Hydrogeologic Systems

GSA Hydrogeology Division; Geochemical Society; GSA Geobiology and Geomicrobiology Division

Hydrogeology; Geochemistry, Aqueous; Geomicrobiology

Alan Fryar, University of Kentucky, Lexington, Ky.; Abhijit Mukherjee, University of Kentucky, Lexington, Ky.; Alan Welch, U.S. Geological Survey, Carson City, Nev.

Because of its toxicity at low concentrations and its presence in a variety of geologic settings, arsenic is a contaminant of concern in groundwater. This session will encompass sources, mobility, and cycling of arsenic. ORAL and POSTER

T26. Quantifying Controls on Microbial Reaction Rates in Subsurface Environments

GSA Hydrogeology Division; National Ground Water Association; GSA Geobiology and Geomicrobiology Division

Hydrogeology; Geomicrobiology; Environmental Geoscience

Barbara Bekins, U.S. Geological Survey, Menlo Park, Calif.; Eric Roden, University of Alabama, Tuscaloosa, Ala.; Gary P. Curtis, U.S. Geological Survey, Menlo Park, Calif.

Accurate subsurface microbial reaction rates are central to modeling the fate of groundwater contaminants and quantifying global chemical cycles. We encourage studies investigating controls on subsurface microbial reaction rates by direct and proxy methods. ORAL and POSTER

T27. Seafloor Hydrogeology: Investigating Fluid Flow through the Oceanic Crust and Seafloor Sediments

GSA Hydrogeology Division

Hydrogeology; Geochemistry, Aqueous; Marine/Coastal Science

Jennifer D. Shosa, Colby College, Waterville, Maine; Lindsay B. Masters, Colby College, Waterville, Maine

This session will bring together hydrogeologists investigating fluid flow through the seafloor and will provide a forum for discussion about the nature of these systems and the effects of fluid flow on oceanic crust, seafloor sediments, and seawater chemistry. ORAL

T28. Stream-Hyporheic Interactions: Hydrology, Geochemistry, and Biology

GSA Hydrogeology Division

Hydrogeology; Geochemistry, Aqueous; Quaternary Geology/Geomorphology

Eric W. Peterson, Illinois State University, Normal, Ill.; Robert A. Payne, Utah State University, Logan, Utah

An interdisciplinary session designed to synthesize and expose concepts of hyporheic zone, focusing on the "exchange flows" that link the hydrology, geochemistry, and biology of the stream with the substrate the forms the hyporheic zone. ORAL

T29. Surface and Subsurface Geologic Characterization of the Edwards and Trinity Carbonate Aquifer Systems, Central Texas (Posters)

GSA Hydrogeology Division

Hydrogeology; Structural Geology; Geophysics/Tectonophysics/Seismology

Charles D. Blome, Denver, Colo.; Geary M. Schindel, Edwards Aquifer Authority, San Antonio, Tex.

This multidisciplinary session will highlight the recent advances in characterizing the surface and subsurface geology (mapping, 3-D modeling, geophysics, and isotope geology) of the Edwards and Trinity aquifer systems of central Texas. POSTER

T30. The Hydrosystem of the Great Salt Lake Basin: New Frontiers for Observing and Modeling Human-impacted Hydrologic, Climatic, and Geomorphologic Processes

GSA Hydrogeology Division; American Geophysical Union

Hydrogeology; Paleoclimatology/Paleoceanography; Environmental Geoscience

David Tarboton, Utah State University, Logan, Utah; Craig Forster, University of Utah, Salt lake City, Utah; Christopher J. Duffy, Penn State University, University Park, Pa.; Danny Marks, Agricultural Research Service, U.S. Department of Agriculture, Boise, Idaho

Observations and modeling of climatic, hydrologic, and geomorphologic processes impacted by human activity in the rapidly urbanizing Great Salt Lake Basin provides insight, and serves as a microcosm, for understanding hydrosystems of the modern West. ORAL and POSTER

T31. The Role of Colloids and Semicrystalline/Amorphous Materials in Environmental Cycling of Trace Elements

GSA Hydrogeology Division

Geochemistry, Aqueous; Environmental Geoscience; Geochemistry, Other

Katherine Walton-Day, U.S. Geological Survey, Denver, Colo.; Lisa Stillings, U.S. Geological Survey, Reno, Nev.

Amorphous/semicrystalline materials composed of iron, aluminum, and manganese minerals help control trace metal(loid) cycling, transport, and mobility in environmental systems. We welcome presentations describing the nature of these materials and their interactions with trace metal(loid)s. ORAL

T32. Water Resource Management and Planning for Fractured and Karstic Aquifers
GSA Hydrogeology Division

Hydrogeology; Public Policy; Environmental Geoscience

Todd Halihan, Oklahoma State University, Stillwater, Okla.; Maureen Muldoon, University of Wisconsin, Oshkosh, Wis.; Stanley T. Paxton, Oklahoma State University, Stillwater, Okla.

Spatial heterogeneity and high-permeability of karstic and fractured aquifers make them exceedingly susceptible to contamination, challenging to characterize, and difficult to model and manage. This session brings together scientists and managers to discuss these issues. ORAL

T33. Water, Solute, and Sediment Fluxes through Carbonate and Karst Aquifers
GSA Hydrogeology Division; GSA Sedimentary Geology Division; Karst Waters Institute

Hydrogeology; Quaternary Geology/Geomorphology; Sediments, Clastic

Ira D. Sasowsky, University of Akron, Akron, Ohio; Jonathan B. Martin, University of Florida, Gainesville, Fla.

Includes field and theoretical studies of water, solute, and sediment movement through sinkholes, drip water, speleothems, matrix, fractures and conduits. Present and paleohydrology are appropriate. A holistic understanding is sought through varied approaches. ORAL and POSTER

T34. Springs: Keys to Understanding Geochemical Processes in Aquifers
GSA Hydrogeology Division; International Association of Hydrogeologists; Karst Waters Institute

Hydrogeology; Geochemistry, Aqueous; Environmental Geoscience

Brian G. Katz, U.S. Geological Survey, Tallahassee, Fla.; Dorothy J. Vesper, West Virginia University, Morgantown, W.Va.

Springs provide unique opportunities to study geochemical processes in aquifers in natural systems and those impacted by anthropogenic inputs. This session focuses on studies that use biogeochemical, hydrologic, and geophysical methods to characterize processes affecting spring-water chemistry. ORAL and POSTER

T35. Riparian Corridors in Semi-Arid and Arid Environments: Results and Approaches of Integrative Studies in Support of Scientifically Based Management and Restoration, with Emphasis on the Great Basin
Hydrogeology; Quaternary Geology/Geomorphology; Environmental Geoscience

David Jewett, U.S. Environmental Protection Agency, Ada, Okla.; Mark Lord, Western Carolina University, Cullowhee, N.C.; Dru Germanoski, Lafayette College, Easton, Pa.

This session focuses on the results and approaches of integrative geomorphic, hydrologic, geophysical, stratigraphic, and/or ecological studies to characterize, understand, manage and/or restore riparian ecosystems in semiarid and arid environments. ORAL and POSTER

T36. Debris Flows Initiated by Runoff and Erosion: Processes, Recognition, and Hazard Implications
GSA Engineering Geology Division

Engineering Geology; Geomorphology; Quaternary Geology/Geomorphology

Jeffrey A. Coe, U.S. Geological Survey, Denver, Colo.; Susan H. Cannon, U.S. Geological Survey, Denver, Colo.

Runoff-generated debris flows impact many regions, but are poorly understood. Initiation processes and hazards from these debris flows are significantly different from landslide-mobilized debris flows. This session promotes a discussion of runoff-generated debris flows. ORAL

T37. Debris-flow Processes, Stratigraphy, Geomorphology, and Societal Response
GSA Engineering Geology Division; GSA Geology and Society Division

Engineering Geology; Environmental Geoscience; Geomorphology

Jeffrey R. Keaton, AMEC Earth and Environmental, Inc., Anaheim, Calif.; Richard E. Giraud, Utah Geological Survey, Salt Lake City, Utah; John D. Kiefer, University of Kentucky, Lexington, Ky.

Debris-flow processes produce distinctive stratigraphy, geomorphology, and source-area features. Debris-flow velocity and runout depend on slurry and channel characteristics. Societal response depends on hazard recognition and typically involves avoidance and engineered structures. ORAL

T38. Drought Related Geologic Hazards: A Worldwide Perspective
GSA Engineering Geology Division

Engineering Geology; Quaternary Geology; Geomorphology

David C. Noe, Colorado Geological Survey, Denver, Colo.; L. Darlene Batatian, Planning and Development Services Division, Salt Lake City, Utah

The initiation and behavior of geologic hazards during wet periods is well known, but what about during times of drought? This session considers a wide variety of geologic hazards caused or influenced by droughts. ORAL and POSTER

T39. Exploring How Private Projects Affect Public Land
GSA Engineering Geology Division; GSA Geology and Society Division

Engineering Geology; Public Policy

Jerome V. DeGraff, USDA Forest Service, Clovis, Calif.; Thomas J. Evans, Wisconsin Geological and Natural History Survey, Madison, Wis.

The session will examine the policy and technical issues that arise from these pressures and the mandates of Federal agencies administering these lands. ORAL

T40. Genesis, Behavior, Mapping, and Treatment of Collapsible Soils
GSA Engineering Geology Division

Engineering Geology; Quaternary Geology; Geomorphology

Paul M. Santi, Colorado School of Mines, Golden, Colo.; Jonathan L. White, Colorado Geological Survey, Denver, Colo.

Collapsible soils are widespread throughout arid climates and cause significant damage to structures built on them. This session will focus on identification and mapping methods, laboratory characterization, mitigation, and case studies of collapsible soils. ORAL

T41. Geologic Remote Sensing
GSA Engineering Geology Division

Remote Sensing/Geographic Info System

Vern Singhroy, Canada Centre for Remote Sensing, Ottawa, Ontario; Farouk El-Baz, Boston University, Boston, Mass.

This session will focus on the uses of integrated remote sensing (SAR, optical, thermal and hyperspectral sensors) for studies in geological mapping, mineral and hydrocarbon exploration and geohazard assessment. Particular emphasis will be placed on new developments in InSAR, hyperspectral, and data fusion techniques. ORAL

T42. Mine Rock Piles and Pyritically Altered Areas: Their Slope Stability and Effect on Water Quality
GSA Engineering Geology Division; Geochemical Society

Hydrogeology; Engineering Geology; Geomicrobiology

Patrick Walsh, New Mexico Bureau of Geology and Mineral Resources, Socorro, N.Mex.; Kathleen S. Smith, U.S. Geological Survey, Denver, Colo.; Virginia T. McLemore, New Mexico Tech, Socorro, N.Mex.

Presenters describe multidisciplinary characterization studies of mine rock piles, tailings dams, and naturally exposed alteration areas. Workers analyze the effects on nearby water quality and the stability of mine rock piles and hydrothermal alteration areas. ORAL and POSTER

T43. Recognition and Characterization of Neogene Faults
GSA Engineering Geology Division; GSA Structural Geology and Tectonics Division

Engineering Geology; Neotectonics/Paleoseismology; Geophysics/Tectonophysics/Seismology

Vincent S. Cronin, Baylor University, Waco, Tex.; Keith A. Sverdrup, University of Wisconsin, Milwaukee, Wis.

The death toll related to earthquakes since 1999 exceeds that of the previous decade. The importance of active-fault studies is self-evident. This forum includes the broad spectrum of efforts to find and characterize active faults. ORAL and POSTER

Students: Sign Up to Volunteer and Reap the Rewards!

Do you ever feel the only way you can afford to go to a meeting is to panhandle? Now you don't have to! Become a student volunteer and offset your meeting costs.

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Additionally, volunteers receive a stipend of $25 for each half-day (5 hours) volunteered at the meeting. (Stipends can only be issued to students who have a U.S. government–issued Social Security Number, Green Card, or Student Work Visa.) Optional partial food stipend available.

For more information contact Kevin Ricker, kricker@geosociety.org, or visit www.geosociety.org/meetings/2005/students.htm.

T44. Seismogenic Landslides
GSA Engineering Geology Division

Engineering Geology; Neotectonics/Paleoseismology; Quaternary Geology/Geomorphology

Thomas C. Badger, Washington State Department of Transportation, Olympia, Wash.

Both near- and far-field effects of earthquakes have included dramatic examples of slope instability. This session focuses on the distribution, characterization, and/or causal mechanisms of prehistoric and historic seismogenic landslides. ORAL

T45. What Goes Up Must Come Down: The Science and Policy of Dam Removal
GSA Engineering Geology Division; Geology and Public Policy Committee

Environmental Geoscience; Geomorphology; Public Policy

John F. Bratton, U.S. Geological Survey, Woods Hole, Mass.; Walter Barnhardt, U.S. Geological Survey, Woods Hole, Mass.

About 200 of the 2.5 million dams in the U.S. have been removed since 1999, with more planned. The geoscience and public policy frameworks for this boom of dam busting are trying to keep pace. ORAL

T46. Conservation and Management of Global Geoheritage Resources: Regional and Local Sites
GSA Geology and Society Division; GSA International Division; National Park Service; Geology and Public Policy Committee

Public Policy; Environmental Geoscience; Geoscience Education

John D. Kiefer, University of Kentucky, Lexington, Ky.; Robert D. Higgins, National Park Service, Denver, Colo.; Maurice J. Terman, Falls Church, Va.

A companion to the session "Conservation and Management of Global Geoheritage Resources," with its international perspective, this session will explore outstanding examples of protecting and maintaining geoheritage or geopark sites at local and regional levels. ORAL and POSTER

T47. Forensic Geology: Geographic Sourcing, a Modern Day Provenance Study
Mineralogy/Crystallography; Geochemistry, Other; Environmental Geoscience

Christopher S. Palenik, Stafford, Va.; Samuel J. Palenik, Microtrace, Elgin, Ill.

This session showcases the ways various aspects of geology, including mineralogy, petrology, geochemistry, and palynology, applied to forensic evidence can be used to reconstruct a modern environment to provide investigative leads in forensic casework. ORAL

T48. Geology in the National Forests—Stewardship, Education, and Research
Geoscience Information/Communication; Environmental Geoscience; Geoscience Education

Joseph Gurrieri, U.S. Forest Service, Butte, Mont.; Andrew H. Rorick, USDA Forest Service, Sandy, Ore.

GSA Trivia Night

Come along and test your knowledge of geoscience trivia at this evening of fun! There are over 100 questions waiting for you to rack your brain and test your skills. Winning teams will be awarded fabulous prizes and the prestige of being the second annual GSA Trivia Night winners!

Register a team or come and join a team, meet new people, share your knowledge and have a great evening in Salt Lake City!

Teams and individuals need to register before the event by e-mail to Gary Lewis, glewis@geosociety.org.

Papers are encouraged on geoscience-related studies or activities conducted in the National Forests. Topics include but are not limited to paleontology, cave and karst geology, engineering geology and natural hazard mitigation, hydrogeology, interpretive and recreational geology, and geoscience education. ORAL

T49. Geology in the National Parks: Research, Mapping, and Resource Management
National Park Service

Geoscience Education; Remote Sensing/Geographic Info System; Environmental Geoscience

Bruce A. Heise, National Park Service, Lakewood, Colo.; Jim Wood, National Park Service, Denver, Colo.; Tim Connors, National Park Service, Denver, Colo.

This session will address the role of geoscience in the National Parks. Presentations are encouraged on geologic research, geologic mapping, paleontology, coastal geology, glacier studies, and resource management in National Parks, Monuments, Seashores, and Historic Sites. ORAL and POSTER

T50. Geology of Parks and Public Lands: Effective and Innovative Informal Earth Science Education for the Masses
National Park Service; Bureau of Land Management; Association of Earth Science Editors

Geoscience Information/Communication; Geoscience Education

Marion Malinowski, Bureau of Land Management, Lakewood, Colo.; Monica Gaiswinkler Easton, Ministry of Northern Development and Mines, Sudbury, Ontario; Jim F. Wood, National Park Service, Lakewood, Colo.

This session will explore programs and products (e.g., displays, publications, signs, Web sites, virtual and real field trips) for effective informal earth science education about the geology of parks, monuments, open spaces, and public lands. ORAL and POSTER

T51. Investigation of Sources and Fates of Anthropogenic Inputs to the Environment through Isotopic Systematics

Environmental Geoscience; Geochemistry, Other; Hydrogeology

P. Evan Dresel, Pacific Northwest National Lab, Richland, Wash.; John N. Christensen, Lawrence Berkeley National Laboratory, Berkeley, Calif.

Isotopic studies can provide valuable information on the sources and fate of contaminants and of other anthropogenic compounds. This session will highlight novel application of isotopic geochemistry and biogeochemistry to understanding human impacts on the environment. ORAL and POSTER

T52. Sources, Transport, Fate, and Toxicology of Trace Elements in the Environment

International Association of GeoChemistry

Geochemistry, Aqueous; Environmental Geoscience; Geomicrobiology

LeeAnn Munk, University of Alaska, Anchorage, Alaska; David Long, Michigan State University, East Lansing, Mich.; W. Berry Lyons, Ohio State University, Columbus, Ohio

Papers are welcome on the study of trace elements in the environment related to sources, transport, controls on mobility, toxicological consequences, ecology (e.g., food web dynamics, as limiting nutrients) and accumulation in sediments and soils. ORAL

T53. The Changing Planet: A Special Tribute Session Celebrating the Contributions of Fred T. Mackenzie

Environmental Geoscience; Geochemistry, Aqueous; Marine/Coastal Science

Rolf S. Arvidson, Rice University, Houston, Tex.; Albert S. Colman, Carnegie Institution of Washington, Washington, D.C.; John W. Morse, Texas A&M University, College Station, Tex.

This multidisciplinary session will include past and future biogeochemical cycles, coupled with experimental and field observations of mineral-fluid interaction with implications for ancient and modern systems, and impact of modern activities on atmosphere and ocean chemistry. ORAL

T54. This Changing Planet: Explaining Geologic Hazards to the Media, Policy Makers, and the General Public

GSA Engineering Geology Division; GSA Geology and Society Division; Association of Earth Science Editors; National Park Service; Geology and Public Policy Committee

Geoscience Information/Communication; Public Policy; Environmental Geoscience

Monica Gaiswinkler Easton, Ministry of Northern Development and Mines, Sudbury, Ontario; Diane E. Lane, Association of Earth Science Editors, Pittsburgh, Pa.; Robert D. Higgins, National Park Service, Denver, Colo.

Scientists need to explain volcanoes, earthquakes, tsunamis, landslides, and hydrothermal features, as well as swelling clays, radon, and asbestos, among others. This session will focus on successfully communicating information on geologic hazards to nonscientists. ORAL and POSTER

T55. Advances and Applications of Tephrochronology and Tephrostratigraphy: In Honor of Andrei M. Sarna-Wojcicki

GSA Quaternary Geology and Geomorphology Division

Quaternary Geology/Geomorphology; Paleoclimatology/Paleoceanography; Neotectonics/Paleoseismology

Janet L. Slate, U.S. Geological Survey, Denver, Colo.; Jeffrey R. Knott, California State University, Fullerton, Calif.; Michael E. Perkins, University of Utah, Salt Lake City, Utah

Tephra layers provide time-stratigraphic markers that enable regional correlations for geologic mapping and studies of climate change, geologic hazards, and Neogene stratigraphy. This session honors Andrei Sarna-Wojcicki, a pioneer in the field of tephrochronology. ORAL

T56. Carving the Western Landscape: The Evolution of the Colorado Drainage from Source to Sink

GSA Quaternary Geology and Geomorphology Division

Quaternary Geology/Geomorphology; Sediments, Clastic; Tectonics

Joel L. Pederson, Utah State University, Logan, Utah; Kyle House, University of Nevada, Reno, Nev.

New research is providing answers and raising more questions about the integration and erosion of the Colorado drainage. This session brings together old and new work to revise the history of this famous landscape. ORAL and POSTER

T57. Paleoenvironmental Records in and around the Bonneville Basin: From Glacial/Interglacial Cycles to Anthropogenic Impacts

GSA Limnogeology Division; GSA Quaternary Geology and Geomorphology Division; GSA Archaeological Geology Division

Paleoclimatology/Paleoceanography; Quaternary Geology/Geomorphology; Limnogeology

Joseph G. Rosenbaum, U.S. Geological Survey, Denver, Colo.; Katrina A. Moser, University of Utah, Salt Lake City, Utah

The session focuses on the drivers of environmental change (e.g., climate, tectonics, man) and their impacts on land surface, hydrology, and aquatic systems from all types of deposits (e.g., sediments, shorelines, fluvial and glacial deposits, soils, middens, tree-rings). ORAL and POSTER

T58. Recent Advances in Numerical Dating Techniques for Developing Quantitative Chronostratigraphies in Arid and Semi-Arid Environments

INQUA (International Union for Quaternary Research): Working Group on Dryland Dating

Quaternary Geology/Geomorphology; Stratigraphy; Paleoclimatology/Paleoceanography

Lewis A. Owen, University of Cincinnati, Cincinnati, Ohio; Ashok Singhvi, Physical Research Lab, Ahmedabad, India

Advances in numerical dating techniques, including OSL, ESR, SED and U-series dating, will be presented to provide new results on the chronologies and the nature of Quaternary paleoenvironmental change and landscape evolution for dryland regions. ORAL and POSTER

T59. The 2004–2005 Eruption of Mount St. Helens: New Insights and Hazard Management of an Extraordinary Dacitic Dome-Growth Eruption (Posters)

GSA Quaternary Geology and Geomorphology Division; GSA Geophysics Division; GSA Engineering Geology Division

Volcanology; Geophysics/Tectonophysics/Seismology; Geoscience Information/Communication

Cynthia Gardner, U.S. Geological Survey, Vancouver, Wash.; Jon Major, U.S. Geological Survey, Vancouver, Wash.

The 2004–2005 eruption of Mount St. Helens afforded unprecedented documentation of uncommonly rapid, steady-state growth of a lava dome. This session explores connections among petrology, geodesy, geochemistry, seismicity, mechanics, hydrology, hazard management, and public communication associated with dacitic dome growth. POSTER

T60. Dendrogeology: Geologic Applications of Tree-Ring Studies

GSA Archaeological Geology Division

Environmental Geoscience; Hydrogeology; Geochemistry, Other

Gregg R. Davidson, University of Mississippi, University, Miss.

Tree-ring studies have a wide ranging role in geologic studies. Topics may include tree rings as indicators of past conditions or as evidence of the influence the trees themselves have exerted on their environment. ORAL

T61. Glacial Geology and Lake Sedimentology: In Memory of Geoffrey O. Seltzer

GSA Limnogeology Division

Quaternary Geology; Geomicrobiology; Limnogeology

Donald T. Rodbell, Union College, Schenectady, N.Y.; Jacqueline A. Smith, Syracuse University, Syracuse, N.Y.

This session honors the scientific legacy of Geoff Seltzer. We seek papers that summarize records of environmental change based on glacial geology and lake sediment cores, especially from South America, Central America, and Alaska. ORAL

T62. Ice Free versus Cold-Based Ice: Cosmogenic Nuclides, Trimlines, and Ice Sheet History of Differentially Weathered Landscapes

GSA Quaternary Geology and Geomorphology Division

Quaternary Geology; Geomorphology; Paleoclimatology/Paleoceanography

Jason P. Briner, SUNY Buffalo, Buffalo, N.Y.; Michael R. Kaplan, University of Edinburgh, Edinburgh, UK

The interpretation of weathering zones and trimlines in differentially weathered landscapes has been debated for decades. This session solicits papers that address our current understanding of ice sheet history in these ubiquitous landscapes. ORAL

T63. Timing and Nature of Mountain Glacier Advances throughout the Last Glacial Cycle

Mountain Glacier Working Group, International Quaternary Union

Quaternary Geology; Geomorphology; Paleoclimatology/Paleoceanography

Glenn D. Thackray, Idaho State University, Pocatello, Idaho; Lewis A. Owen, University of Cincinnati, Cincinnati, Ohio

Mountain glacier fluctuations were spatially and temporally variable during the last glacial cycle, ca. 125–10 ka. Talks in this session will explore variability in the extent and chronology of glaciation and the paleoclimatic implications thereof. ORAL and POSTER

T64. Comparative Carbonate Sedimentology: A Tribute to the Career of R.N. Ginsburg

GSA Sedimentary Geology Division

Sediments, Carbonates; Environmental Geoscience; Stratigraphy

Peter Swart, University of Miami, Miami, Fla.; Gregor Eberli, University of Miami, Miami, Fla.

This session is a tribute to the pioneering work of Robert N. Ginsburg in studying the modern environment as an analogue for the ancient. The session will illustrate the impact of comparative sedimentology on our understanding of depositional systems. ORAL and POSTER

T65. Establishment of an Integrated and Calibrated Chronostratigraphic Framework for High Resolution Sequence Stratigraphic Analysis, Stratal Correlation, and Sedimentary Basin Geohistory Reconstruction

GSA Sedimentary Geology Division

Stratigraphy; Sediments, Carbonates; Sediments, Clastic

Ernest A. Mancini, University of Alabama, Tuscaloosa, Ala.

This session will focus on the concepts, disciplines, methods, techniques, and tools required to establish an integrated and calibrated chronostratigraphic framework for high resolution sequence stratigraphic analysis, stratal correlation, and sedimentary basin geohistory reconstruction. ORAL

T66. Petrographic Methods Applied to Sedimentary Rocks

GSA Sedimentary Geology Division; Society for Sedimentary Geology (SEPM)

Sediments, Carbonates; Sediments, Clastic; Mineralogy/Crystallography

Kitty Milliken, University of Texas at Austin, Austin, Tex.; F. Leo Lynch, Mississippi State University, Mississippi State, Miss.

This session, celebrating the 80th birthday of noted sedimentary petrologist and teacher, Bob Folk, is devoted to the technologies available for "looking at rocks." Abstracts are encouraged to showcase any petrographic method applied to sedimentary systems. ORAL and POSTER

T67. Reading the Record of the Rocks: Resolving the Tectonic and Eustatic Signals in Stratigraphic Successions: In Honor of Don Swift on His 70th Birthday

Society for Sedimentary Geology (SEPM)

Stratigraphy; Geophysics/Tectonophysics/Seismology; Marine/Coastal Science

Nora Noffke, Old Dominion University, Norfolk, Va.; Donald J. P. Swift, Old Dominion University, Norfolk, Va.

Resolving the eustatic and tectonic signals of sedimentary successions is a central goal of stratigraphers. Growing concern with global environmental problems has lead to renewed interest in the eustatic-tectonic signals that serve as indicators for biotic and climatic components. ORAL

T68. Recent Advances in the Application of Sedimentology and Stratigraphy to Tectonic Problems

GSA Sedimentary Geology Division; GSA Structural Geology and Tectonics Division

Tectonics; Stratigraphy; Geochemistry, Other

David Barbeau, University of South Carolina, Columbia, S.C.; Andrew Leier, The University of Arizona, Tucson, Ariz.

This session explores recent advances in tectonics and sedimentation research across a wide range of spatial and temporal scales, including studies of basin architecture, growth strata, active tectonics, and the composition of syntectonic sediments. ORAL and POSTER

T69. Refining the Global Neoproterozoic Geologic Record

GSA Sedimentary Geology Division; GSA Geobiology and Geomicrobiology Division

Precambrian Geology; Stratigraphy; Geochemistry, Other

Carol M. Dehler, Utah State University, Logan, Utah; Paul K. Link, Idaho State University, Pocatello, Idaho; Frank A. Corsetti, University of Southern California, Los Angeles, Calif.

Emerging and existing datasets will be explored in the context of bio-, chrono-, litho- and chemostratigraphy, correlation, and basin analysis toward understanding climatic, tectonic, and biogeochemical evolution of the Neoproterozoic Earth System. ORAL and POSTER

T70. Resolving the Late Paleozoic Gondwanan Ice Age in Time and Space: Integration of Southern and Northern Hemisphere Records

GSA Sedimentary Geology Division

Stratigraphy; Sediments, Clastic; Sediments, Carbonates

C.R. Fielding, University of Nebraska, Lincoln, Neb.; T.D. Frank, University of Nebraska, Lincoln, Neb.; J.L. Isbell, University of Wisconsin, Milwaukee, Wis.

This session aims to bring together stratigraphers, sedimentologists, and geochemists who are working on the climate record of the Carboniferous and Permian systems worldwide. Emphasis will be placed on integrating geochemical with lithostratigraphic archives. ORAL

T71. Sedimentary Basins in Transition: Stratigraphic and Structural Records of Plate Tectonic Reconfiguration (Posters)

GSA Sedimentary Geology Division

Tectonics; Stratigraphy; Structural Geology

Cari L. Johnson, University of Utah, Salt Lake City, Utah; Kenneth Ridgway, Purdue University, West Lafayette, Ind.

This session features case studies of sedimentary basins that record fundamental changes in tectonic setting over time, such as shifting plate boundary configurations or multiphase reactivation of structures in intraplate settings. POSTER

T72. Sedimentology Goes to Mars

GSA Planetary Geology Division; GSA Sedimentary Geology Division

Planetary Geology; Sediments, Clastic

R. Aileen Yingst, GSA Planetary Geology Division, Green Bay, Wis.; Kenneth Edgett, Malin Space Science Systems, San Diego, Calif.

Like Earth, Mars has a sedimentary record, one that continues today. This session will review and explore the state of Martian sedimentology revealed by recent missions and the science to be addressed by future missions. ORAL and POSTER

T73. Sedimentology, Stratigraphy, and Paleontology of Southern Utah Public Lands

Sediments, Clastic; Stratigraphy; Paleontology/Paleobotany

Robert L. Eves, Southern Utah University, Cedar City, Utah; Larry E. Davis, College of St. Benedict and St. John's University, Collegeville, Minn.

Public lands in southern Utah have become the focus of geologic research in the past decade. Geologic investigations are due to new land designations and an interest in resource identification and management by federal agencies. ORAL

T74. Waves of Destruction: Historical and Geological Records of Tsunamis and Their Effects (Posters)

GSA Sedimentary Geology Division

Marine/Coastal Science; Neotectonics/Paleoseismology; Public Policy

Joanne Bourgeois, University of Washington, Seattle, Wash.; R. Heather Macdonald, College of William and Mary, Williamsburg, Va.

Geoscientists who have surveyed effects of the 2004 tsunami and older events are encouraged to prepare posters and video presentations illustrating their results—geological, biological and societal impacts. POSTER

T75. Weathering, Sedimentation, and Diagenesis in Major Element Cycles
GSA Sedimentary Geology Division

Geochemistry, Other; Environmental Geoscience; Geochemistry, Aqueous

Robert A. Berner, Yale University, New Haven, Conn.; Miriam Kastner, Scripps Institute of Oceanography 0212, La Jolla, Calif.; Abraham Lerman, Northwestern University, Evanston, Ill.

This session in memory of Raymomd Siever, on weathering, sedimentation, and diagenesis in major element cycles, will highlight the breadth of Ray Siever's significant contributions to this broad field. The origin, evolution, and secular changes in sediments will also be emphasized. ORAL

T76. The Bureau of Land Management's National Landscape Conservation System as Outdoor Laboratories: New Research in Grand Staircase–Escalante National Monument and the Surrounding Area
Stratigraphy; Structural Geology; Sediments, Clastic

Alan L. Titus, Bureau of Land Management, Kanab, Utah; John D. Powell, Bureau of Land Management, Kanab, Utah

The session is to highlight recent geological research within Grand Staircase–Escalante National Monument and surrounding area. Potential topics are limited only by the regional context and all submissions are welcome. ORAL

T77. Advances and Applications with the Fossil Record of Non-Marine Arthropods (Paleogeoarthropods: Insecta, Chelicerata, Myriapoda, some Crustacea) for Geoscientists and Biologists
Paleontological Society; GSA Geobiology and Geomicrobiology Division; GSA Limnogeology Division

Paleontology, Diversity, Extinction, Origination; Paleontology, Paleoecology/Taphonomy; Paleoclimatology/Paleoceanography

Cary R. Easterday, University of Illinois at Chicago, Chicago, Ill.; Sara H. Lubkin, Cornell University, Ithaca, N.Y.

Non-marine arthropods have represented the bulk of animal diversity and abundance for about 300 million years. Research with this vast fossil database has advanced our knowledge of biostratigraphy, paleobiogeography, biomechanics, paleoecology, and other fields. ORAL

T78. Habitat Partitioning above, on, and within the Substrate
Paleontological Society; GSA Geobiology and Geomicrobiology Division

Paleontology, Paleoecology/Taphonomy; Paleontology, Diversity, Extinction, Origination; Paleontology/Paleobotany

A.A. Ekdale, University of Utah, Salt Lake City, Utah; Leif M. Tapanila, University of Utah, Salt Lake City, Utah

Dynamics and complexity of vertical tiering and lateral partitioning of habitat space of benthic communities in hard and soft substrates in modern environments and in the geologic record. ORAL

Welcoming Party and Exhibit Hall Hours

Our Welcoming Party kicks off the GSA Annual Meeting in the Exhibit Hall on Sunday, 16 Oct., 5:30–7:30 p.m. This event provides exposure to 5,000+ attendees with no conflicting events! Exhibits are also open Mon. and Tues., 17–18 Oct., 9 a.m.–5:30 p.m. and Wed., 19 Oct., 9 a.m.–2 p.m.

T79. Jurassic Marine Paleobiology: Tracing the Roots of the Modern Biota
Paleontological Society

Paleontology/Paleobotany; Paleontology, Paleoecology/Taphonomy; Paleontology, Diversity, Extinction, Origination

Carol M. Tang, California Academy of Sciences, San Francisco, Calif.; Paul Taylor, Natural History Museum, London, UK

During the Jurassic, many groups of organisms made their first appearances, establishing the modern fauna. This session will address the key changes that affected the evolution of marine communities and taxonomic groups during the Jurassic. ORAL

T80. Paleoenvironments and Taphonomy of Cambrian Lagerstatten
Paleontological Society

Paleontology, Paleoecology/Taphonomy; Sediments, Clastic; Geochemistry, Other

Wayne Powell, Brooklyn College, New York, N.Y.; Robert Gaines, Pomona College, Claremont, Calif.

This session will focus on aspects of the physical, chemical, and ecological environments associated with Burgess Shale–type deposits, and how these factors contributed to the preservation of fossils of soft-bodied organisms. ORAL

T81. Protists in Extreme Environments: Fossil Evidence to Physiological Adaptations
Cushman Foundation; Paleontological Society

Environmental Geoscience; Geomicrobiology; Paleontology, Paleoecology/Taphonomy

Pamela Hallock, University of South Florida, St. Petersburg, Fla.

Emerging and existing evidence for fossil and extant eucaryotic microorganisms in their environmental extremes, including morphological and physiological adaptations that enable their survival and proliferation. ORAL

T82. Taphonomy: Process and Bias through Time
Paleontological Society

Paleontology, Paleoecology/Taphonomy; Sediments, Carbonates; Paleontology, Diversity, Extinction, Origination

Peter A. Allison, Imperial College London, UK; David J. Bottjer, University of Southern California, Los Angeles, Calif.

This session will focus on the extent to which taphonomic bias has changed through time in different environments. ORAL

T83. The Dawn of Animal Life: Evolutionary and Paleoecological Patterns in the Neoproterozoic-Cambrian Animal Fossil Record
Paleontological Society; GSA Geobiology and Geomicrobiology Division

Paleontology, Paleoecology/Taphonomy; Paleontology, Diversity, Extinction, Origination

Stephen Q. Dornbos, University of Wisconsin, Milwaukee, Wis.

This session will include a broad spectrum of studies on the evolution and paleoecology of early animals, providing a synthesis of the latest ideas and results in this rapidly changing field. ORAL

T84. Thinking about Fossils: The Emergence and Development of Paleontological Thought in North America from Native American Customs to the End of the Great Western Surveys
GSA History of Geology Division; History of Earth Sciences Society (HESS); GSA Archaeological Geology Division; Paleontological Society; Society of Vertebrate Paleontology

History of Geology; Paleontology/Paleobotany; Paleontology, Paleoecology/Taphonomy

Edward Rogers, History of the Earth Sciences Society, Poncha Springs, Colo.; Patrick Wyse Jackson, Trinity College, Dublin, Ireland

This session on the emergence and development of paleontological thought in North America will cover the period from Native American beliefs regarding fossils to ideas developed up to the end of the great government and institutional surveys of the western United States and Canada. ORAL

T85. Traces of Life: Micro- to Macroscopic Evidence of Past and Present Biogenic Activity and their Implications
Paleontological Society; GSA Geobiology and Geomicrobiology Division

Paleontology, Paleoecology/Taphonomy; Geomicrobiology; Paleontology/Paleobotany

Stephen T. Hasiotis, University of Kansas, Lawrence, Kans.; Jennifer A. Roberts, University of Kansas, Lawrence, Kans.

Ichnofossils preserve a range of organism-substratum interactions that provide insights into physicochemical processes and behaviors of microbes to plants and animals. Submissions regarding neoichnologic-taphonomic actualistic studies, ichnodiversity, paleoenvironment, pedology, paleoecology, paleohydrology, and paleoclimate are welcomed. ORAL and POSTER

T86. Collaboration for the Dissemination of Geologic Information among Colleagues
Geoscience Information Society

Geoscience Information/Communication; Public Policy; Geoscience Education

Adonna Fleming, Geoscience Information Society, Lincoln, Neb.

This session focuses on cooperative projects and practices by faculty, students, government agencies, librarians, professional and trade organizations, or others, designed to disseminate information among the geologic community. Includes discussion of Web pages, guides, classes, workshops, digitization projects, or any other forum in which geological information was dispersed to colleagues. ORAL and POSTER

T87. Communicating Geoscience Information through Public Speaking: Problems and Solutions
GSA Geology and Society Division; Association of Earth Science Editors; Geology and Public Policy Committee

Geoscience Information/Communication; Geoscience Education; Public Policy

Sarah Andrews, Sebastopol, Calif.

Science meets the art of communication. ORAL

T88. Does Geology Serve Society? Let's Count the Ways!
Geology and Society Division; Geology and Public Policy Committee; Critical Issues Caucus

Public Policy; Geoscience Information/Communication; Geoscience Education

Paul H. Reitan, SUNY at Buffalo, Buffalo, N.Y.

Examples of geology being put to good use abound: protecting a community water supply, mitigating natural hazards, controlling erosion, finding and managing resources, reducing slope failure, informing legislation/education—you name it. Let's share successes. ORAL

T89. Efficient and Effective Practices in Using Web Sites and Technologies to Support and Manage Information, Student Learning and Recruitment, and Public Education
National Association of Geoscience Teachers

Geoscience Information/Communication; Geoscience Education; Remote Sensing/Geographic Info System

Christopher W. Thomas, Indiana University–Purdue University, Indianapolis, Ind.

Increasingly, student learning and recruitment and public education are supported by organizational or individual Web sites, Web technologies, and online courses. This explores successful implementations that increase student/public learning or make Web technologies usable, simple, and informative. ORAL

T90. From Rocks to Records: Geological Preservation for the Profession and the Public Good
GSA Geology and Society Division

Public Policy; Geoscience Information/Communication; Geoscience Education

Donald G. Mikulic, Illinois State Geological Survey, Champaign, Ill.; Joanne Kluessendorf, Weis Earth Science Museum, Menasha, Wis.

This session highlights the timeliness of preserving geological samples, data, and sites as new developments underscore their importance in meeting the modern needs of the geological profession and the general public. ORAL

T91. Geology and Art—Forever the Twain Shall Meet
Geoscience Education

Mary C. Simmons, University of Southern Indiana, Evansville, Ind.

Our species has engaged in equally endless practices of discovery and the production of art objects. This session will illustrate the specific scientific basis behind the production of the artwork; e.g. pigments, glass, ceramics, metals. ORAL

T92. Keys to Opportunities with the National Park Service
National Park Service; Geological Society of America; American Geological Institute; Association for Women Geoscientists

Public Policy; Geoscience Information/Communication; Geoscience Education

Judy Geniac, National Park Service, Denver, Colo.; Gary Lewis, GSA Education and Outreach, Boulder, Colo.; Ann Benbow, Alexandria, Va.; Marguerite Toscano

Examine lessons learned: accessing parks for research, developing partnerships, aiding or benefiting from projects, and finding volunteer and paid positions. Discover geoscience opportunities in national parks for professors, students, retirees, organizations, universities, companies. ORAL

T93. The National Geologic Map Database (Posters)
U.S. Geological Survey; Association of American State Geologists

Geoscience Information/Communication

David Soller, U.S. Geological Survey, Reston, Va.; Thomas M. Berg, Ohio Geological Survey, Columbus, Ohio

The National Geologic Map Database (http://ngmdb.usgs.gov/) is a congressionally mandated effort. This session focuses on the collaborative USGS and state geological survey advances in digital mapping, standards (map symbolization, data model, science language), and map databases that are conducted under the aegis of, or in collaboration with, this project. POSTER

T94. Conservation and Management of Global Geoheritage Resources: A National Perspective
GSA International Division; GSA Geology and Society Division; National Park Service; Geology and Public Policy Committee

Public Policy

Robert D. Higgins, National Park Service, Denver, Colo.; Maurice J. Terman, Falls Church, Va.; Jim Wood, National Park Service, Denver, Colo.

This session will explore examples of managing geologic heritage resources and sites through national programs whose goals are in accordance with conservation and public enjoyment. ORAL

T95. Conservation and Management of Global Geoheritage Resources: International Perspectives
GSA International Division; GSA Geology and Society Division; National Park Service; U.S. Geological Survey; Geology and Public Policy Committee

Public Policy; Geoscience Education; Geoscience Information/Communication

Maurice J. Terman, Falls Church, Va.; John D. Kiefer, University of Kentucky, Lexington, Ky.; Robert Higgins, National Park Service, Denver, Colo.

This session will introduce many more American geoscientists to the UNESCO Geoparks concept and thus stimulate broader discussion of how best to conserve and manage these

resources increasingly threatened by burgeoning populations and economic constraints. ORAL

T96. Geological Monitoring in National Parks
National Park Service

Marine/Coastal Science; Geomorphology; Remote Sensing/ Geographic Info System

Robert S. Young, Western Carolina University, Cullowhee, N.C.; Lisa Norby, National Park Service, Lakewood, Colo.

There has been an increased recognition of the importance of geologic monitoring as national parks focus on science-based management. Presentations may include geologic monitoring protocols, results, or resource management implications. ORAL and POSTER

T97. Innovation, Evaluation, and Best Practices in Informal Geoscience Education
National Association of Geoscience Teachers; GSA Geoscience Education Division; Association of Earth Science Editors

Geoscience Education; Geoscience Information/ Communication

Robert M. Ross, Paleontological Research Institution, Ithaca, N.Y.; Warren D. Allmon, Paleontological Research Institution, Ithaca, N.Y.

Informal education reaches millions every year with potentially life-changing geoscience education. This session will feature best practices in informal geoscience education, for example innovative approaches, techniques for evaluation, and creation of partnerships with formal education. ORAL

T98. Innovations in Geological Mapping (Posters)
GSA Engineering Geology Division; GSA Geology and Society Division; GSA Hydrogeology Division; Geology and Public Policy Committee; Association of American State Geologists; GSA Quaternary Geology and Geomorphology Division

Quaternary Geology/Geomorphology; Stratigraphy; Hydrogeology

Richard C. Berg, Champaign, Ill.; Peter T. Lyttle, U.S. Geological Survey, Reston, Va.; Harvey Thorleifson, University of Minnesota, St. Paul, Minn.

Geological mapping is a key to environmental and water resource protection and management. This session will highlight innovative mapping products that are being used by an increasingly broad range of users. POSTER

T99. Imparting Hands-on Geological Education: Reaching out to Undergraduates and K–12 Students (Posters)
Geoscience Education; Geoscience Information/ Communication; Environmental Geoscience

Nazrul I. Khandaker, York College of City University of New York, Jamaica, N.Y.; Stanley Schleifer, York College of City University of New York, Jamaica, N.Y.

This session is intended to provide an opportunity for motivated and curious undergraduates and K–12 students to present the results of their research to the geoscience community as a part of their early involvement in inquiry-based learning abilities. POSTER

T100. Integrating Research into Undergraduate Geoscience Coursework
National Association of Geoscience Teachers

Geoscience Education

C. Frederick Lohrengel, Southern Utah University, Cedar City, Utah; Robert L. Eves, Southern Utah University, Cedar City, Utah; Mark Colberg, Southern Utah University, Cedar City, Utah

Research as an integral part of undergraduate coursework is a rapidly growing trend. Share your successes, failures, and ideas for future growth directions with others. ORAL

T101. Interdisciplinary Education: Applications of GIS and the Infusion of Spatial Concepts across the Curriculum
National Association of Geoscience Teachers

Geoscience Education; Remote Sensing/Geographic Info System; Geoscience Information/Communication

Richard B. Schultz, Elmhurst College, Elmhurst, Ill.; Mark R. Hafen, University of South Florida, Tampa, Fla.; J. Christopher Haley, Virginia Wesleyan College, Norfolk, Va.

This interdisciplinary session, emphasizing the diverse applications of GIS and educational methodologies of spatial concept instruction, showcases broad and unique applications for GIS and creates an awareness for the infusion of spatial concepts across the educational curriculum. ORAL and POSTER

T102. International Undergraduate Field Trips: Logistics, Challenges, and Successes
Geoscience Education

Timothy P. Flood, St. Norbert College, DePere, Wis.; Nelson R. Ham, St. Norbert College, DePere, Wis.

This session welcomes geoscience educators to share their experiences in leading undergraduate international field trips. The presenters will provide information to those who conduct such trips and those who wish to initiate such trips. ORAL

T103. Is it Science? Strategies for Addressing Creationism in the Classroom and the Community
National Association of Geoscience Teachers; GSA Geology and Society Division; Geology and Public Policy Committee; GSA Geoscience Education Division

Geoscience Education; Public Policy; Geoscience Information/ Communication

Michael A. Phillips, Illinois Valley Community College, Oglesby, Ill.; Robert C. Thomas, University of Montana–Western, Dillon, Mont.; Sheila M. Roberts, University of Montana–Western, Dillon, Mont.

Creationists present their faith-based philosophy as scientifically rigorous and valid. This session will explore techniques for dealing with creationist challenges in the college classroom and present strategies for addressing efforts to add creationist content to K–12 science curricula. ORAL

T104. It's About Time: Teaching the Temporal Aspects of Geoscience (Posters)

National Association of Geoscience Teachers; GSA Geoscience Education Division

Geoscience Education

R. Heather Macdonald, College of William and Mary, Williamsburg, Va.; David W. Mogk, Montana State University, Bozeman, Mont.; Barbara Tewksbury, Hamilton College, Clinton, N.Y.

Posters will demonstrate ways to enhance student understanding of all aspects of geologic time and its measurement (including rates, recurrence intervals, predictions, dating techniques, teaching with a temporal theme, research on learning about time). POSTER

T105. Let's Rock Their World: Integrating Planetary Science Data into Undergraduate Geoscience Courses

GSA Planetary Geology Division; GSA Geoscience Education Division; On the Cutting Edge; National Association of Geoscience Teachers

Planetary Geology; Geoscience Education

Eric B. Grosfils, Pomona College, Claremont, Calif.; Barbara Tewksbury, Hamilton College, Clinton, N.Y.

This session will present examples of innovative ideas for effectively integrating planetary science data into a variety of types of undergraduate geology courses at both the introductory and upper level. ORAL and POSTER

T106. Methods of Assessing Teaching and Learning in the Geosciences

National Association of Geoscience Teachers

Geoscience Education

David N. Steer, The University of Akron, Akron, Ohio; David A. McConnell, The University of Akron, Akron, Ohio; Katherine Owens, The University of Akron, Akron, Ohio

This session will focus on effective assessment of student learning and the impact on faculty teaching in the geosciences. Papers are solicited that discuss development, implementation, and research findings from assessment studies. ORAL and POSTER

T107. Minorities, Women, and Persons with Disabilities in the Geosciences: Avenues to Success

Committee on Minorities and Women in the Geosciences

Geoscience Education; Geoscience Information/ Communication; Public Policy

Marc A. Carrasco, University of California, Berkeley, Calif.; Denise A. Battles, Georgia Southern University, Statesboro, Ga.

This session will highlight what resources (personal and financial) are available to minorities, women, and persons with disabilities in the geosciences and explore new and existing programs to enhance their representation. ORAL and POSTER

T108. Museum-College Connections: Rich Opportunities for Earth Science Education (Posters)

National Association of Geoscience Teachers

Geoscience Education

Eleanor Miele, Brooklyn, N.Y.; Maritza Macdonald, American Museum of Natural History, New York, N.Y.; Wayne Powell, Brooklyn College, New York, N.Y.

This session will profile how partnerships between museums and colleges have improved earth science education and provide blueprints for how other institutions might build similar productive educational teams. POSTER

T109. Providing Future Elementary and Middle School Teachers with Meaningful Geoscience Content Knowledge

GSA Geoscience Education Division; National Association of Geoscience Teachers

Geoscience Education

Heather L. Petcovic, Western Michigan University, Kalamazoo, Mich.; Elizabeth Nagy-Shadman, California State University, Northridge, Calif.

How do we ensure that prospective K–8 teachers have an adequate yet meaningful understanding of geoscience content? This session considers research-based, effective methods, courses or curricula that enhance the geoscience content knowledge of future teachers. ORAL and POSTER

T110. REU at 25: Its Impact on Undergraduate Geoscience Education

National Association of Geoscience Teachers; Council on Undergraduate Research, Geoscience Division

Geoscience Education; Geoscience Information/ Communication

Jeffrey G. Ryan, University of South Florida, Tampa, Fla.; Lori Bettison-Varga, College of Wooster, Wooster, Ohio; Laura Guertin, Penn State University–Delaware County, Media, Pa.

In celebration of 25 years of the National Science Foundation–Research Experiences for Undergraduates (NSF-REU) program, this session will highlight geoscience REU initiatives, examine best practices for research with undergraduates, and assess the role of REU in geoscience Bachelor's degree programs today. ORAL and POSTER

T111. Sigma Gamma Epsilon Student Research (Posters)

Sigma Gamma Epsilon

Environmental Geoscience

Donald W. Neal, East Carolina University, Greenville, N.C.; Charles Mankin, Oklahoma Geological Survey, Norman, Okla.

All students are welcome to present their research in any area of geology. POSTER

T112. Earthcaching—Educational Earth Science Geocaches that Link Public and other Lands with the General Public via a Web-based Adventure Game

Geoscience Education; Geoscience Information/ Communication

Gary B. Lewis, Geological Society of America, Boulder, Colo.

Earthcaching is the educational earth science–based component of the geocaching game. It takes real sites and provides educational notes via the Web that visitors can use to discover some fascinating aspect of our planet. ORAL

T113. Strategies for Teaching Introductory Geoscience in Large Lecture Classes

National Association of Geoscience Teachers

Geoscience Education

Michelle L. Stoklosa, Boise State University, Boise, Idaho; Karen Viskupic, Boise State University, Boise, Idaho

This session will focus on strategies for teaching introductory geoscience to classes of 100+ students. Papers are solicited that illustrate effective or failed methods for improving any aspects of teaching/learning in large lecture classes. ORAL and POSTER

T114. We Can Continue to Do Better: More Alternatives to the Same Old Lab-Lecture Format in the College Classroom

GSA Geoscience Education Division; National Association of Geoscience Teachers

Geoscience Education

Elizabeth M. King, Illinois State University, Normal, Ill.; Dexter Perkins, University of North Dakota, Grand Forks, N.Dak.

There are many excellent alternative teaching tools rather than the standard lab-lecture format. Building on last year's successful theme session, this session will provide an opportunity to continue sharing innovative teaching styles across the discipline. ORAL and POSTER

T115. Holocene Climate Change in Western North America: Spatial-Temporal Phasing of Climate Modes, Events, and Transitions

GSA Limnogeology Division; GSA Archaeological Geology Division

Limnogeology; Paleoclimatology/Paleoceanography; Quaternary Geology

Matthew E. Kirby, California State University, Fullerton, Calif.; Steve P. Lund, University of Southern California, Los Angeles, Calif.; Larry V. Benson, U.S. Geological Survey, Boulder, Colo.; Rob Negrini, California State University, Bakersfield, Calif.

This session will highlight recent advances in our knowledge of Holocene climate variability in western North America over annual to millennial scales from terrestrial environments, including the spatial and temporal phasing of climate modes, events, and transitions. ORAL and POSTER

T116. Causes and Effects of the Paleocene-Eocene Thermal Maximum and Other Paleogene Hyperthermal Events

GSA Limnogeology Division

Paleoclimatology/Paleoceanography; Paleontology, Diversity, Extinction, Origination; Geochemistry, Other

Scott L. Wing, Smithsonian Institution, Washington, D.C.

The Paleocene-Eocene Thermal Maximum is the best-documented geological example of sudden global warming and its effects on biotas. Authors in this session will report new results on the PETM and other, recently-discovered Paleogene hyperthermal events. ORAL

T117. Terrestrial and Extraterrestrial Environments for Microbial Survival

GSA Geobiology and Geomicrobiology Division

Geomicrobiology

Stephen E. Grasby, Natural Resources Canada, Calgary, Alberta; Penny Morris; Susan Wentworth, Johnson Space Center, Houston, Tex.

The session will be dedicated to understanding the variety of microbial systems that have existed throughout geological time and how this may help us predict environments for survival in extraterrestrial systems. ORAL

T118. The Peña Blanca Uranium District, Chihuahua: A Natural Analogue for the Transport of Radionuclides in a Nuclear Waste Repository in Unsaturated, Welded Tuff

Geology and Public Policy Committee

Geochemistry, Aqueous; Geochemistry, Other; Hydrogeology

Ardyth M. Simmons, Los Alamos National Laboratory, Los Alamos, N.Mex.; Patrick F. Dobson, Lawrence Berkeley National Laboratory, Berkeley, Calif.

Studies conducted at the Peña Blanca uranium district of Chihuahua, Mexico, address features and processes analogous to those anticipated in a Yucca Mountain, Nevada, waste repository and modeling predictions relevant to total system performance assessment. ORAL

T119. Mercury in Coal: Origins to Emissions

GSA Coal Geology Division; GSA Geology and Society Division

Coal Geology; Environmental Geoscience; Public Policy

Jeffrey C. Quick, Utah Geological Survey, Salt Lake City, Utah; Allan Kolker, U.S. Geological Survey, Reston, Va.

New rules will limit mercury emissions from coal-fired electric utilities. We encourage presentations on mercury in modern mires, its distribution in fossil coal, behavior during beneficiation and combustion, control strategies, and atmospheric fate. ORAL

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T120. Experimental, Theoretical, Stable Isotope, and Predictive Studies of Sulfide Oxidation Processes in the Field and Laboratory

Environmental Geoscience; Geochemistry, Aqueous; Geomicrobiology

W.C. Pat Shanks, U.S. Geological Survey, Denver, Colo.; Robert R. Seal, U.S. Geological Survey, Reston, Va.

Papers are welcome on experimental and modeling studies of inorganic and microbial oxidation of sulfides in mine waste and other settings, partitioning of metals among primary phases, secondary phases, aqueous environment, and use and calibration of light element and transition element stable isotopes to understand these processes. ORAL

T121. Thermochronology: Techniques, Applications, and Interpretations

Tectonics; Geomorphology; Geochemistry, Other

Todd A. Ehlers, University of Michigan, Ann Arbor, Mich.; Peter W. Reiners, Yale University, New Haven, Conn.

Time-temperature histories of rocks from thermochronologic approaches provide unique constraints on a wide range of tectonic, geomorphic, magmatic, and other processes. This session will explore recent developments in analytical and interpretation techniques, and new applications using both high and low-temperature thermochronology. ORAL and POSTER

T122. Dynamics of Metamorphic and Hydrothermal Processes: From Grain-Scale to Mountain Belt

Petrology, Metamorphic; Mineralogy/Crystallography; Geochemistry, Aqueous

John R. Bowman, University of Utah, Salt Lake City, Utah; C. Tom Foster, University of Iowa, Iowa City, Iowa

This session solicits field, analytical, and modeling studies that focus on the mechanisms, rates and timescales of crystal growth, mineral reaction, heat/mass transfer, and fluid fluxes in metamorphic and hydrothermal systems. ORAL and POSTER

T123. Mars Analogue Research and Instrument Field Testing

GSA Planetary Geology Division

Planetary Geology; Remote Sensing/Geographic Info System

John C. Armstrong, Weber State University, Ogden, Utah; Luther Beegle, Jet Propulsion Laboratory, Pasadena, Calif.; R. Glenn Sellar, Jet Propulsion Laboratory, Pasadena, Calif.

This session will bring together those working with Mars analogue environments and remote sensing of terrestrial environments related to Mars with researchers performing new pre-flight instrument field tests. ORAL

T124. The Lunar Exploration Initiative: Current Science Knowledge and Future Exploration

GSA Planetary Geology Division

Planetary Geology

Ben Bussey, Applied Physics Lab, Laurel, Md.; R. Aileen Yingst, GSA Planetary Geology Division, Green Bay, Wis.

This session will discuss opportunities afforded by the President's Lunar Exploration Initiative, the current state of lunar science, types of data to be acquired and how these will add to our understanding of the Moon. ORAL

T125. 4-D Evolution of the Continents: Integrated Solutions through Cyberinfrastructure

GSA Geophysics Division; GSA Structure and Tectonic Division

Tectonics; Geophysics/Tectonophysics/Seismology; Structural Geology

A.K. Sinha, Virginia Tech, Blacksburg, Va.; Robert D. Hatcher, University of Tennessee, Knoxville, Tenn.; G. Randy Keller, University of Texas, El Paso, Tex.

Several recent initiatives and programs are focused on studies of the 4-D evolution of continents. Answering key questions about continental tectonics requires highly integrated studies. Data and model integration through cyberinfrastructure facilitates scientific discovery. ORAL and POSTER

T126. Accretionary Orogens in Space and Time
GSA Geophysics Division

Geophysics/Tectonophysics/Seismology; Precambrian Geology; Tectonics

Kent C. Condie, New Mexico Institute of Mining and Technology, Socorro, N.Mex.; Peter A. Cawood, University of Western Australia, Crawley, Australia; Alfred Kroner, Johannes Gutenberg–Universität Mainz, Mainz

This multidisciplinary session focuses on the origin and evolution of accretionary orogens through time. We encourage papers on tectonics, terrane accretion, juvenile crust production, seismology, changes in tectonic settings through time, and relationship to the supercontinent cycle. ORAL and POSTER

T127. Geometry and Evolution of Extensional Basins and their Influence on Fluid Flow, Sedimentation, Seismicity, and Magmatism
GSA Geophysics Division; GSA Structural Geology and Tectonics Division

Tectonics; Geophysics/Tectonophysics/Seismology; Structural Geology

Victoria E. Langenheim, U.S. Geological Survey, Menlo Park, Calif.; V.J.S. Grauch, U.S. Geological Survey, Denver, Colo.

We solicit papers that discuss how the geometry and evolution of extensional basins influence seismicity, fluid flow, magmatism, and sedimentation, particularly but not exclusively in the Basin and Range and Rio Grande Rift. ORAL

T128. Processes of Basin and Range Extension: An EarthScope Primer
GSA Geophysics Division; GSA Structural Geology and Tectonics Division

Geophysics/Tectonophysics/Seismology; Tectonics; Neotectonics/Paleoseismology

Dennis Harry, Colorado State University, Fort Collins, Colo.; Craig H. Jones, University of Colorado, Boulder, Colo.

Presentations on the geology, geophysics, geochemistry, and geodesy of the Basin and Range and its margins. Focus is on identifying and elucidating processes and problems that should be addressed by the EarthScope Program. ORAL and POSTER

T129. The Yellowstone Hotspot: Its Influence on the Magmatic and Tectonic Evolution of the Western U.S.
GSA Geophysics Division; GSA Structural Geology and Tectonics Division

Geophysics/Tectonophysics/Seismology; Volcanology; Tectonics

Robert B. Smith, University of Utah, Salt Lake City, Utah; Richard Carlson, Carnegie Institution of Washington, Washington, D.C.; John Shervais, Utah State University, Logan, Utah

This session seeks to integrate the volcanic and tectonic history with geochemical, geophysical, and field data to understand the evolution of this and other intracontinental hotspot systems. In conjunction with session T130. ORAL

T130. The Yellowstone Hotspot: Integrated Field, Geochemical, and Geophysical Studies
GSA Geophysics Division; Geochemical Society

Petrology, Igneous; Geophysics/Tectonophysics/Seismology; Volcanology

John Shervais, Utah State University, Logan, Utah; Victor Camp, San Diego State University, San Diego, Calif.; Dennis J. Geist, University of Idaho, Moscow, Idaho; Jonathan M.G. Glen, U.S. Geological Survey, Menlo Park, Calif.

This session seeks to integrate the volcanic and tectonic history with geochemical, geophysical, and field data to understand the evolution of this and other intracontinental hotspot systems. In conjunction with session T129. ORAL and POSTER

T131. Geophysical Studies for Improving Management of Land, Water, Environment, and Hazards (Posters)
GSA Geophysics Division; GSA Hydrogeology Division; GSA Engineering Geology Division

Geophysics/Tectonophysics/Seismology; Hydrogeology; Engineering Geology

V.J.S. Grauch, U.S. Geological Survey, Denver, Colo.; Dennis Harry, Colorado State University, Fort Collins, Colo.

This session encourages geophysical and integrated studies that are likely to have short- or long-range impact on decisions regarding management of land use, water resources, water quality, environmental cleanup, or natural hazards. POSTER

T132. High-Pressure Mineral Physics: To Honor Ho-Kwang Mao, Roebling Medalist
Mineralogical Society of America; Geophysical Laboratory of the Carnegie Institution of Washington and COMPRES: COnsortium for Materials Properties Research in Earth Sciences

Mineralogy/Crystallography; Petrology, Experimental; Geophysics/Tectonophysics/Seismology

William A. Bassett, Cornell University, Ithaca, N.Y.; Russell J. Hemley, Carnegie Institution of Washington, Washington, D.C.; Anne Hofmeister, Washington University, St. Louis, Mo.

This session to celebrate Ho-Kwang Mao's receipt of the Roebling Medal covers a broad spectrum of research in mineral physics. Areas that Dr. Mao pioneered will be highlighted along with their importance to all geology. ORAL

T133. Insights into the Raising of the Colorado Plateau
GSA Geophysics Division

Geophysics/Tectonophysics/Seismology; Tectonics; Quaternary Geology/Geomorphology

Shari Kelley, New Mexico Institute of Mining and Technology, Socorro, N.Mex.; Mousumi Roy, University of New Mexico, Albuquerque, N.Mex.

The latest ideas about the origin of the dramatic, incised landscape of the Colorado Plateau, particularly when and how this broad region came to stand at a modern elevation of ~1.9 km, will be presented. ORAL

T134. Mesozoic and Cenozoic Crustal Evolution of Alaska and Western Canada (Posters)
Neotectonics/Paleoseismology; Tectonics; Geophysics/Tectonophysics/Seismology

Jeff Trop, Bucknell University, Lewisburg, Pa.; Kenneth Ridgway, Purdue University, West Lafayette, Ind.; Peter Haeussler, U.S. Geological Survey, Anchorage, Alaska

This multidisciplinary session integrates new studies focused on processes responsible for crustal growth in Alaska and western Canada, including collisional deformation, terrane accretion, mountain building, magmatism, accretionary wedge development, and sedimentary basin formation. POSTER

T135. Orogenic Plateaus from Top to Bottom
GSA Structural Geology and Tectonics Division; GSA Geophysics Division; GSA Sedimentary Geology Division

Tectonics; Geophysics/Tectonophysics/Seismology; Stratigraphy

Bradley D. Ritts, Indiana University, Bloomington, Ind.; Brian K. Horton, University of California, Los Angeles, Calif.

Resolving the evolution of orogenic plateaus is fundamental to understanding continental mountain building and its effects on the global environment. This cross-disciplinary session will explore the growth and decay of modern and ancient plateaus using geophysics, numerical modeling, petrology, stratigraphy, structural geology, and geodesy. ORAL and POSTER

T136. Out of the Tethys: The Making of Asia
Tectonics; Stratigraphy; Geophysics/Tectonophysics/Seismology

Rasoul Sorkhabi, University of Utah, Salt Lake City, Utah; Ezat Heydari, Jackson State University, Jackson, Miss.

This multidisciplinary session examines how recent geoscientific studies have contributed to our understanding of Asian mountains, plateaus, and basins resulting from the birth and demise of Tethyan oceans and the collision of the Indian and Arabian plates with Asia. ORAL and POSTER

T137. The Backbone of America from Patagonia to Alaska: Plateau Uplift, Shallow Subduction, and Ridge Collision
GSA International Division

Tectonics; Petrology, Igneous; Geophysics/Tectonophysics/Seismology

Mark Cloos, University of Texas at Austin, Austin, Tex.; Suzanne Kay, Cornell University, Ithaca, N.Y.

This session is a precursor to the Backbone of the Americas Meeting in 2006. We seek presentations concerning tectonic and magmatic processes related to plateau uplift, shallow subduction, and ridge collision in either North or South America. ORAL

T138. Tectonic Hazards of the SE Asian Region
GSA Structural Geology and Tectonics Division; GSA Geophysics Division

Tectonics; Geophysics/Tectonophysics/Seismology; Structural Geology

Ron Harris, Brigham Young University, Provo, Utah

The Sumatra megathrust earthquake of 2004 is one of the epic disasters of recorded history. This session will present the latest geological and geophysical research of the earthquake's source region and other potentially hazardous and densely populated seismic source regions in SE Asia. ORAL and POSTER

T139. Tectonics in the Information Age: Large Datasets and Numerical Models in Solid Earth Science
GSA Geophysics Division

Tectonics; Geophysics/Tectonophysics/Seismology; Geoscience Information/Communication

Christopher L. Andronicos, University of Texas at El Paso, El Paso, Tex.; Aaron A. Velasco, University of Texas at El Paso, El Paso, Tex.

We will bring together geologists and geophysicists to discuss the use and design of large high quality databases and numerical models focused on solving large-scale tectonic problems. ORAL

T140. EarthScope: Challenges in Understanding the Heterogeneity of the Lithosphere
GSA Structural Geology and Tectonics Division; EarthScope National Office; GSA Geophysics Division

Tectonics; Geophysics/Tectonophysics/Seismology; Petrology, Metamorphic

Rick Aster, New Mexico Institute of Mining and Technology, Socorro, N.Mex.; Karl Karlstrom, University of New Mexico, Albuquerque, N.Mex.; Mike Williams, University of Massachusetts, Amherst, Mass.

This session will discuss geologic and geophysical perspectives on vertical and lateral heterogeneity of the lithosphere and provide a forum for presentation of EarthScope results on the physical properties that control tectonic processes. ORAL and POSTER

T141. Geology and EarthScope
GSA Structural Geology and Tectonics Division; Integrated Solid Earth Sciences (ISES); Mineralogical Society of America

Geophysics/Tectonophysics/Seismology; Tectonics; Structural Geology

David W. Mogk, Montana State University, Bozeman, Mont.; Basil Tikoff, University of Wisconsin, Madison, Wis.; Michael Brown, University of Maryland, College Park, Md.

EarthScope provides an unprecedented opportunity for integrated research from the Earth's surface to the lower mantle. This session provides numerous examples of how geoscientists can engage EarthScope for research and education and outreach. ORAL

T142. Controversies, Conundrums, and Innovative Approaches in Extensional Tectonics: A Tribute to Ernie Anderson
GSA Structural Geology and Tectonics Division

Tectonics; Structural Geology; Petrology, Igneous

James E. Faulds, University of Nevada, Reno, Nev.; Robert G. Bohannon, U.S. Geological Survey, Denver, Colo.; Keith A. Howard, U.S. Geological Survey, Menlo Park, Calif.; L. Sue Beard, U.S. Geological Survey, Flagstaff, Ariz.

This session honors Ernie Anderson, whose pioneering work on the highly extended Colorado River region 30 years ago and subsequent contributions inspired many to study extensional terranes. Contributions emphasizing existing conundrums and innovative approaches are encouraged. ORAL and POSTER

T143. Great Basin Tectonics and Metallogeny
U.S. Geological Survey

Tectonics; Economic Geology

Albert H. Hofstra, U.S. Geological Survey, Denver, Colo.; David A. Ponce, U.S. Geological Survey, Menlo Park, Calif.; Alan Wallace, U.S. Geological Survey, Reno, Nev.; Jonathan M.G. Glen, U.S. Geological Survey, Menlo Park, Calif.

Relationships between tectonics and metallogeny in the Great Basin will be elucidated via a series of synoptic presentations on geophysics, crustal structure, basement, sedimentation, deformation, magmatism, paleogeography, ore deposit types, geochemistry, fluid flow and mass transport. ORAL and POSTER

T144. The Edges of Extension: Boundaries of the Basin and Range Province as Natural Laboratories for Studying Tectonic and Structural Processes
GSA Structural Geology and Tectonics Division; GSA Geophysics Division

Structural Geology; Tectonics; Geophysics/Tectonophysics/Seismology

Phillip Resor, Wesleyan University, Middletown, Conn.; Joseph Colgan, Stanford University, Stanford, Calif.; Eric Flodin, Indiana University–Purdue University Fort Wayne, Ind.

The goal of this session is to bring together an interdisciplinary group of scientists focused on understanding problems and processes of continental extension as expressed at the margins of the Basin and Range Province. ORAL and POSTER

T145. The Nature, Significance, and Evolution of Transtensional Tectonic Regimes
GSA Structural Geology and Tectonics Division

Structural Geology; Tectonics; Neotectonics/Paleoseismology

Robert E. Holdsworth, University of Durham, Durham, UK; Basil Tikoff, University of Wisconsin, Madison, Wis.; John Waldron, University of Alberta, Edmonton, Alberta

A session bringing together structural geologists, geophysicists, and geodeticists who have worked in obliquely divergent regimes worldwide allowing discussion of the key variables that control transtensional deformation patterns in the crust. ORAL and POSTER

T146. Young and Active Transtensional Deformation along the Western Margin of North America: Walker Lane Belt/Eastern California Shear Zone to the Gulf of California
GSA Structural Geology and Tectonics Division; GSA Geophysics Division; GSA Quaternary Geology and Geomorphology Division

Neotectonics/Paleoseismology; Tectonics; Structural Geology

Paul Umhoefer, Northern Arizona University, Box 4099, Flagstaff, Ariz.; Jeffrey Lee, Central Washington University, Ellensburg, Wash.

This session will explore and compare strain distribution and localization and geodynamic controls on faulting patterns along the length of a linked transtensional zone extending from the Walker Lane Belt to the Gulf of California. ORAL and POSTER

T147. Ductile Flow and Folding in Geo-Materials: A Multidisciplinary Perspective
GSA Structural Geology and Tectonics Division

Structural Geology; Tectonics; Volcanology

Graham D.M. Andrews, University of Leicester, Leicester, UK; Steve Temperley, University of Leicester, Leicester, UK; Michael J. Branney, University of Leicester, Leicester, UK

A multidisciplinary session bringing together workers studying flow and folding in geo-materials, including ice, lava, and rock. This will allow the cross-fertilization and development of paradigms allowing a better understanding of viscous flow. ORAL and POSTER

T148. What is a Magma Chamber? The Role of Sheets in the Assembly of Intrusions
GSA Structural Geology and Tectonics Division

Structural Geology; Geophysics/Tectonophysics/Seismology; Petrology, Igneous

Sven Morgan, Central Michigan University, Mount Pleasant, Mich.; Basil Tikoff, University of Wisconsin, Madison, Wis.; Drew Coleman, University of North Carolina, Chapel Hill, N.C.

A variety of data indicate the final shape of intrusions does not represent the shape of a single magma chamber. We solicit presentations on the structural, geochronological, petrological, and geophysical evidence concerned with understanding the dynamics of "magma sheeting." ORAL and POSTER

T149. Rheological Information from Naturally Deformed Materials: New Approaches to Understanding Bulk Ductile Behavior
GSA Structural Geology and Tectonics Division

Structural Geology; Tectonics; Geophysics/Tectonophysics/Seismology

Dyanna Czeck, University of Wisconsin, Milwaukee, Wis.; Cheryl Waters-Tormey, Western Carolina University, Cullowhee, N.C.

This session highlights challenges in and new approaches for inferring "bulk" rheology from natural heterogeneous ductile deformation zones. We seek studies that test predictions from experimental work and consider the multiscalar factors affecting bulk mechanical behavior. ORAL and POSTER

T150. Fracturing and Faulting of the Clastic Rocks of the Colorado Plateau
Structural Geology; Hydrogeology; Sediments, Clastic

Atilla Aydin, Stanford University, Stanford, Calif.; James P. Evans, Utah State University, Logan, Utah

This session encourages discussion into the diverse processes of fracturing and faulting in clastic rocks of the Colorado Plateau. Contributions combining structure with diagenesis, fluid flow, and depositional environment are welcome. ORAL and POSTER

HOW TO SUBMIT YOUR ABSTRACT

Please use the online abstract form found on the GSA Web site, www.geosociety.org. An abstract submission fee of $18 for all students and $30 for all others will be charged. If you cannot submit your abstract electronically, contact Nancy Carlson, (303) 357-1061, ncarlson@geosociety.org.

From the home page of www.geosociety.org, click on the "Submit an Abstract" button and follow the steps given. If you lose your Internet connection before you are finished, you can resume making a submission when you log back on.

You and your coauthors will be provided (by e-mail) with a record of the abstract identification number and password, and you can access your abstract and revise it as necessary from any Internet connection until the published abstract submission deadline date.

The system supports the submission of complex abstracts that contain subscripts, superscripts, italic and boldface type, tables, Greek letters, and equations.

SCIENTIFIC CATEGORIES

Determine if your paper would fit neatly under one of the topical sessions. If it doesn't, please submit your abstract for inclusion in the general discipline sessions. The available choices are:

- Archaeological Geology
- Coal Geology
- Economic Geology
- Engineering Geology
- Environmental Geoscience
- Geochemistry, Aqueous
- Geochemistry, Organic
- Geochemistry, Other
- Geomicrobiology
- Geomorphology
- Geophysics/Tectonophysics/Seismology
- Geoscience Education
- Geoscience Information/Communication
- History of Geology
- Hydrogeology
- Limnogeology
- Marine/Coastal Science
- Mineralogy/Crystallography
- Neotectonics/Paleoseismology
- Paleoclimatology/Paleoceanography
- Paleontology, Biogeography/Biostratigraphy
- Paleontology, Diversity, Extinction, Origination
- Paleontology, Paleoecology/Taphonomy
- Paleontology, Phylogenetic/Morphological Patterns
- Petrology, Experimental

- Petrology, Igneous
- Petrology, Metamorphic
- Planetary Geology
- Precambrian Geology
- Public Policy
- Quaternary Geology
- Remote Sensing/Geographic Info System
- Sediments, Clastic
- Stratigraphy
- Structural Geology
- Tectonics
- Volcanology

Presentation Modes

Select your preferred mode of presentation: oral, poster, or either (no preference). **Please note:** The program organizers will do their best to fit you into your preferred mode; however, they will override your original mode selection if they feel your paper would fit well in a particular session with other compatible abstracts. The decision of the program organizers is final.

Oral Mode. This is a verbal presentation before a seated audience. The normal length of an oral presentation is 12 minutes, plus three minutes for discussion.

Poster Mode. Each poster session presenter is provided with one horizontal, freestanding display board approximately 8' wide and 4' high. Precise measurements will appear in the speaker guide, which will be posted on the GSA Web site in September. Speakers must be at their poster booths for at least two of the four presentation hours.

Papers for discipline sessions may be submitted in either oral or poster mode. Papers for topical sessions are to be submitted *only* in the mode noted in the session description. If a topical abstract is submitted in the incorrect mode, the abstract will be transferred automatically to a discipline session.

Speaker Equipment. GSA provides the following equipment in each Technical Session Room at no charge to speaker:

- 1 Desktop Computer (with Windows 2000 Operating System and MS Office XP. All Macintosh or MS PowerPoint XP presentations will work, but must be saved in a PC format).
- 1 LCD Projector
- 1 Screen
- 1 Laser Pointer
- 1 Lectern/Podium with light and microphone
- 1 Wired Lavaliere microphone

Slide projectors, overhead projectors, and multiple screens are no longer part of the standard set-up, but are available for an additional fee. More information on this is included in the speaker guide, which will be posted on the GSA Web site in September.

Abstract Body

Please keep the abstract's body to 2,000 characters or fewer. The online abstract system will reject it if it exceeds this limit.

You can include a table with your abstract, but understand that the table might reduce the number of words allowed in your abstract. Taken together, the body of the abstract should take up no more space than would be occupied by roughly 2,000 characters alone.

Check the spelling of the abstract's body and title using your own word processor. Then read it again and make sure that it is something the whole world should see. (We won't check or edit it for you.)

For typing and pasting, add an extra line between paragraphs or they will run together when displayed (you can do this before copying, after pasting, or while typing).

Abstracts Fee

Once the abstract is in place, a window to submit payment will appear. The nonrefundable submission fee is $18 for all students; $30 for all others.

You May Present Only ONE Volunteered Abstract

- Please submit only one *volunteered* abstract as speaker or poster presenter in topical and/or discipline sessions. This helps avoid speaker scheduling conflicts and gives everyone an equal opportunity to be heard. ***Multiple submissions as speaker-presenter will result in rejection of all abstracts.***
- This limitation does not apply to, nor does it include, *invited* contributions to keynote symposia or topical sessions.

JTPC to Finalize Program in Early August

The Joint Technical Program Committee (JTPC) selects abstracts and determines the final session schedule. All authors will be notified in August. The JTPC includes representatives from those GSA Associated Societies and Divisions participating in the technical program. GSA Council approved the JTPC technical program chairs.

Future GSA Annual Meetings

2006	Philadelphia (October 22–25)
2007	Denver (October 28–31)
2008*	Chicago (October 26–29)
2009	Portland, Ore. (tentative; October 18–21)
2010	Denver (October 31–November 3)
2011	Minneapolis (tentative; October 9–12)

* Joint meeting with American Society of Agronomy, Crop Science Society of America, and Soil Science Society of America.

Salt Lake City 2005 Field Trips

The Annual Meeting in Salt Lake City is the ideal opportunity for a great field trip experience. Classic features and ground-breaking research can be explored at the doorstep of the meeting venue—and what a doorstep! It includes the red-rock country of the Colorado Plateau as well as the Basin-and-Range, Rocky Mountains, and Snake River Plain. There are 28 trips distributed across a range of topics and interests, from the Neoproterozoic to the neotectonic, from living brine shrimp to new dinosaur digs, and from glacial cirques to desert canyons. About one-third of the trips are single or half-day excursions to locations around the Salt Lake region, but note that a few of the longer trips start and end in Las Vegas or Reno, Nevada. Remember that air travel plans that include a Saturday night stay can be less expensive. This savings on airfare can substantially offset field trip costs. The following list is tentative and subject to change. Detailed descriptions of these trips will be available when registration for the meeting begins in June.

The field trip co-chairs for the Salt Lake City 2005 meeting are Joel L. Pederson, Department of Geology, Utah State University, 4505 Old Main Hill, Logan, UT 84322-4505, (435) 797-7097, fax 435-797-1588, bolo@cc.usu.edu, and Carol M. Dehler, Department of Geology, Utah State University, 4505 Old Main Hill, Logan, UT 84322-4505, (435) 797-0764, fax 435-797-1588, chuaria@cc.usu.edu. For more information about the current list of field trips, please contact the field trip leaders.

PREMEETING

Basaltic Volcanism of the Central and Western Snake River Plain and its Relation to the Yellowstone Plume
Thurs.–Sat., Oct. 13–15. John Shervais, Department of Geology, Utah State University, Logan, Utah 84322, (435) 797-1274, fax 435-797-1588, shervais@cc.usu.edu; John Kauffman; Kurt Othberg; Virginia Gillerman. Max.: 22. Cost: $325.

From Cirques to Canyon Cutting: New Quaternary Research in the Uinta Mountains
Thurs.–Sat., Oct. 13–15. Jeffrey Munroe, Geology Department, Middlebury College, Middlebury, VT 05753, (802) 443-3446, fax 802-443-2072, jmunroe@middlebury.edu; Joel Pederson; Benjamin Laabs; Eric Carson. Max.: 30. Cost: $255.

Geomorphology and Rates of Landscape Change in the Fremont River Drainage, Northwestern Colorado Plateau
Thurs.–Sat., Oct. 13–15. David Marchetti, Department of Geology and Geophysics, University of Utah, Salt Lake City, UT 84112, (801) 581-7062, fax 801-581-8219, dwmarche@mines.utah.edu; John Dohrenwend; Thure Cerling. Max.: 25. Cost: $315.

Ice in Equatorial Pangea: The Unaweep-Cutler System
Thurs.–Sat., Oct. 13–15. Cosponsored by *GSA Sedimentary Geology Division*. G.S. (Lynn) Soreghan, School of Geology and Geophysics, University of Oklahoma, Norman, OK 73019, (405) 325-4482, fax 405-325-3140, lsoreg@ou.edu. Max.: 24. Cost: $270.

Lacustrine Records of Laramide Landscape Evolution, Green River Formation
Thurs.–Sat., Oct. 13–15. Cosponsored by *GSA Limnogeology Division*. Alan Carroll, Department of Geology and Geophysics, University of Wisconsin, Madison WI 53706, (608) 262-2368, fax 608-262-0693, carroll@geology.wisc.edu; Paul Buchheim; Arvid Aase. Max.: 33. Cost: $340.

Late Cretaceous Stratigraphy, Depositional Environments, and Macrovertebrate Paleontology in Grand Staircase–Escalante National Monument, Utah
Thurs.–Sat., Oct. 13–15. Alan L. Titus, Grand Staircase–Escalante National Monument, 190 E. Center St., Kanab, UT 84741, (435) 644-4332, fax 435-644-4350, Alan_Titus@blm.gov; John D. Powell; Eric Roberts; Stonnie Pollock; Jim Kirkland; L. Barry Albright. Max.: 36. Cost: $220.

Neoproterozoic Uinta Mountain Group of Northeastern Utah: Pre-Sturtian Geographic, Tectonic, and Biologic Evolution
Thurs.–Fri., Oct. 13–14. Cosponsored by *GSA Sedimentary Geology Division*. Carol M. Dehler, Department of Geology, Utah State University, Logan, UT 84321, (435) 797-0764, fax 435-797-1588, chuaria@cc.usu.edu; Susannah Porter; Doug Sprinkel. Max.: 27. Cost: $185. *This field trip is in conjunction with the Pocatello Formation and Overlying Strata, Southeastern Idaho: Snowball Earth Diamictites, Cap Carbonates, and Neoproterozoic Isotopic Profiles field trip held on Sat., Oct. 15.*

Sheet-like Emplacement of Satellite Laccoliths, Sills and Bysmaliths of the Henry Mountains, Southern Utah
Thurs.–Sat., Oct. 13–15. Sven Morgan, Department of Geology, Central Michigan University, Mount Pleasant, MI 48859, (989) 774-1082, fax 989-774-2142, sven.morgan@cmich.edu; Eric Horsman; Basil Tikoff; Michel de Saint Blanquat. Max.: 36. Cost: $195.

Transect across the Northern Walker Lane, Northwest Nevada and Northeast California: An Incipient Transform Fault along the Pacific–North American Plate Boundary
Thurs.–Sat., Oct. 13–15. James E. Faulds, Nevada Bureau of Mines and Geology, MS178, University of Nevada, Reno, NV 89557, (775) 784-6691 ext. 159, fax 775-784-1709, jfaulds@unr.edu; Christopher D. Henry; Nicholas H. Hinz. Max.: 29. Cost: $285. *Begins and ends in Reno.*

Brittle Deformation, Fluid Flow, and Diagenesis in Sandstone at Valley of Fire State Park, Nevada
Fri.–Sat., Oct. 14–15. Peter Eichhubl, Physical and Life Sciences Department, Texas A&M University–Corpus Christi, Corpus Christi, TX 78412, (361) 825-2309, fax 361-825-3345, peichhubl@falcon.tamucc.edu; Eric Flodin. Max.: 20. Cost: $170. *Begins and ends in Las Vegas.*

Evolution of a Miocene-Pliocene Supradetachment Basin, Northeastern Great Basin
Sat., Oct. 15. Alexander Steely, Department of Geology, Utah State University, Logan, UT 84321, (435) 797-1273, fax 435-797-1588, asteely@cc.usu.edu; Susanne Janecke; Stephanie Carney; Sean Long; Robert Oaks Jr. Max.: 25. Cost: $95.

Geology and Natural Burning Coal Fires of the Ferron Sandstone Member of the Mancos Shale, Emery Coal Field, Utah
Sat., Oct. 15. Cosponsored by *GSA Coal Geology Division.* Glenn B. Stracher, East Georgia College, Swainsboro, GA 30401, (478-289-2073, fax 478-289-2080, stracher@ega.edu; Paul B. Anderson; David E. Tabet; Janet L. Stracher. Max.: 36. Cost: $90.

Latest Pleistocene/Early Holocene Human Occupation in the Bonneville Basin
Sat., Oct. 15. Cosponsored by *GSA Archaeological Geology Division.* David Rhode, Desert Research Institute, Reno, NV 89512, (775) 673-7310, fax 775-673-7397, dave.rhode@dri.edu; Ted Goebel; Bryan Hockett; Kevin Jones; David Madsen. Max.: 48. Cost: $75.

Neotectonics and Paleoseismology of the Wasatch Fault, Utah
Sat., Oct. 15. Ronald L. Bruhn, Department of Geology and Geophysics, University of Utah, Salt Lake City, UT 84112, (801) 581-6619, fax 801-581-8219, rlbruhn@mines.utah.edu; Ronald Harris; William R. Lund; Christopher DuRoss. Max.: 40. Cost: $70.

Pocatello Formation and Overlying Strata, Southeastern Idaho: Snowball Earth Diamictites, Cap Carbonates, and Neoproterozoic Isotopic Profiles
Sat., Oct. 15. Cosponsored by *GSA Sedimentary Geology Division.* Paul Link, Department of Geosciences, Idaho State University, Pocatello, ID 83209, (208) 282-3346, fax 208-282-4414, linkpaul@isu.edu; Frank Corsetti; Nathaniel Lorentz. Max.: 30. Cost: $80. *This field trip is in conjunction with the Neoproterozoic Uinta Mountain Group of Northeastern Utah: Pre-Sturtian Geographic, Tectonic, and Biologic Evolution field trip held Thurs.–Fri., Oct. 13–14.*

DURING THE MEETING

Geology of the Wasatch: A Two Billion Year Tour through the Upper Third of the Crust—A One-Day Trip
Mon., Oct. 17. Cosponsored by *National Association of Geoscience Teachers.* Michael Bunds, Department of Earth Science, Utah Valley State College, Orem, UT 84058, (801) 863-6306, fax 801-863-8064, bundsmi@uvsc.edu; William Dinklage; Daniel Horns. Max.: 36. Cost: $60.

Unique Geologic Features of Timpanogos Cave National Monument—A Half-Day Trip
Tues., Oct. 18. Cosponsored by *National Park Service.* Jon Jasper, Timpanogos Cave National Monument, American Fork, UT 84003, (801) 492-3647, fax 801-756-5661, jon_jasper@nps.gov; Dave Herron. Max.: 20. Cost: $95.

Biogeochemistry, Limnology, and Ecology of Great Salt Lake—A Half-Day Trip
Wed., Oct. 19. David Naftz, U.S. Geological Survey, 2329 Orton Cir., Salt Lake City, UT 84119, (801) 908-5053, fax 801-908-5001, dlnaftz@usgs.gov; Wayne Wurtsbaugh; Don Paul. Max.: 45. Cost: $75.

POSTMEETING

Anatomy of Reservoir-Scale Normal Faults in Central Utah: Stratigraphic Controls and Implications for Fault Zone Evolution and Fluid Flow
Wed.–Fri., Oct. 19–21. Peter Vrolijk, ExxonMobil Upstream Research Company, Houston, TX 77252, (713) 431-4151, fax 713-431-4114, peter.vrolijk@exxonmobil.com; Zoe K. Shipton; Rod Myers; James P. Evans; Mike Sweet. Max.: 24. Cost: $220.

Folds, Fabrics, and Kinematic Criteria in Rheomorphic Ignimbrites of the Snake River Plain, Idaho: Insights into Emplacement and Flow
Weds.–Sat., Oct. 19–22. Graham D.M. Andrews, Department of Geology, University of Leicester, Leicester, UK, (+44)1162523930, gdma1@le.ac.uk; Steve Temperley; Mike J. Branney. Max.: 24. Cost: $225.

Mesozoic Lakes of the Colorado Plateau
Wed.–Sat., Oct. 19–22. Cosponsored by *GSA Limnogeology Division.* Tim Demko, Department of Geological Sciences, University of Minnesota, Duluth, MN 55812, (218) 726-8340, fax 218-726-8275, tdemko@umn.edu; Kathleen Nicoll; Steve Hasiotis; Lisa Park. Max.: 30. Cost: $300.

Birth of the Lower Colorado River—Stratigraphic and Geomorphic Evidence for its Inception and Evolution near the Conjunction of Nevada, Arizona, and California
Thurs.–Sat., Oct. 20–22. P. Kyle House, Nevada Bureau of Mines and Geology, University of Nevada, Reno, NV 89557, (775) 784-6691 ext. 176, fax 775-784-1709, khouse@unr.edu; Philip A. Pearthree; Keith A. Howard; John W. Bell. Max.: 30. Cost: $245. *Begins and ends in Las Vegas, Nevada.*

Classic Geology of Zion and Bryce Canyon National Parks and Cedar Breaks National Monument
Thurs–Sat., Oct. 20–22. Grant C. Willis, Utah Geological Survey, P.O. Box 146100, Salt Lake City, UT 84114, (801) 537-3300, fax 801-537-3400, grantwillis@utah.gov; Robert F. Biek. Max.: 45. Cost: $290.

Development of Miocene Faults and Basins in the Lake Mead Region: A Tribute to Ernie Anderson and a Review of New Research on Basins
Thurs.–Sat., Oct. 20–22. Paul Umhoefer, Department of Geology, Northern Arizona University, Flagstaff, AZ 86011, (928) 523-6464, fax 928-523-9220, paul.umhoefer@nau.edu;

Thomas Hickson; Ernie Anderson; L. Sue Beard; Melissa Lamb. Max.: 33. Cost: $320. *Begins and ends in Las Vegas, Nevada.*

Don R. Currey Memorial Field Trip to the Shores of Pleistocene Lake Bonneville: Stratigraphy, Geomorphology, and Climate Change
Thurs.–Sat., Oct. 20–22. Holly Godsey, Department of Geology and Geophysics, University of Utah, Salt Lake City, UT 84112, (801) 474-0179, fax 801-581-8219, hgodsey@mines.utah.edu; Elliott Lips; David Miller; Mark Milligan; Jack Oviatt; Dorothy Sack. Max.: 40. Cost: $185.

Paleoseismology and Geomorphology of the Hurricane Fault/Escarpment
Thurs.–Sat., Oct. 20–22. Lee Amoroso, U.S. Geological Survey, 2255 N. Gemini Dr., Flagstaff, AZ 86001, (928) 556-7186, fax 928-556-7196, lamoroso@usgs.gov; Cassie Fenton; Jason Raucci. Max.: 20. Cost: $175. *Begins and ends in Las Vegas.*

Sedimentology and Sequence Stratigraphy of Isolated Shelf Turbidite Bodies, Book Cliffs, Utah
Thurs.–Sat., Oct. 20–22. Simon A.J. Pattison, Department of Geology, Brandon University, Brandon, Manitoba R7A 6A9, Canada, (204) 727-7468, fax 204-728-7346, pattison@brandonu.ca; Huw Williams; Trevor A. Hoffman. Max.: 30. Cost: $240.

Geologic Hazards of the Wasatch Front, Utah
Thurs., Oct. 20. Barry J. Solomon, Utah Geological Survey, P.O. Box 146100, Salt Lake City, UT 84114, (801) 537-3388, fax 801-537-3400, barrysolomon@utah.gov. Max.: 42. Cost: $80.

SEG Field Trips

Bingham Canyon Porphyry Cu-Au-Mo Deposit
Fri., Oct. 14. Sponsored by *Society of Economic Geologists.* Organizer: Ricardo D. Presnell, Kennecott Exploration Co., 224 N 2200 W, Salt Lake City, UT 64116, (801) 238-2414, fax 801-238-2430, ricardo.presnell@kennecott.com.

Lisbon Valley Sediment-Hosted Cu Deposit
Sat.–Sun., Oct. 20–21. Sponsored by *Society of Economic Geologists.* Organizers: Jon Thorson, 5515 Nuthatch Road, Parker, CO 80134, (303) 805-2502, fax 303-805-2503, jonthorson@rmi.net; Ricardo D. Presnell, Kennecott Exploration Co., 224 N 2200 W, Salt Lake City, UT 64116, (801) 238-2414, fax 801-238-2430, ricardo.presnell@kennecott.com.

SALT LAKE CITY 2005 SHORT COURSES

GSA-SPONSORED SHORT COURSES

Standard Registration Deadline: September 12

Registration information and course descriptions will be published in the June issue of *GSA Today.* For additional information, contact Edna Collis at GSA Headquarters, ecollis@geosociety.org, or see GSA's Web site, www.geosociety.org.

Introduction to Geographic Information Systems (GIS), Using ArcGIS9 for Geological Applications
Fri. and Sat., Oct. 14–15. Cosponsored by *GSA Geoscience Education Division* and *Environmental Systems Research Institute.* Ann B. Johnson and Willy Lynch, ESRI, Denver, Colo. Fee: US$330. CEU: 1.6.

Measurement of Indoor Radon in Geologically Diverse Terrains
Fri. and Sat., Oct. 14–15. Cosponsored by *GSA Engineering Geology Division.* Douglas Mose and George Mushrush, George Mason University, Fairfax, Va. Fee: US$360. CEU: 1.6.

A Tracer Runs through It: Applications of the Tracer-Injection Methods
Sat., Oct. 15. Cosponsored by *GSA Hydrogeology Division.* Briant A. Kimball, U.S. Geological Survey, Denver, Colo.; Robert L. Runkel, U.S. Geological Survey, Salt Lake City, Utah. Fee: US$310. CEU: 0.8.

Science in Environmental Policymaking
Sat., Oct. 15. Cosponsored by *GSA Geology and Society Division.* Herman Karl, Judith Layzer, Massachusetts Institute of Technology, Cambridge, Mass.; Christine Turner, U.S. Geological Survey, Denver, Colo. Fee: US$340. CEU: 0.8.

Springs Inventory and Classification
Sat., Oct. 15. Cosponsored by *GSA Hydrogeology Division.* Abe Springer, Northern Arizona University, Flagstaff, Ariz.; Larry Stevens, Stevens Ecological Consulting, Flagstaff, Ariz.; Heidi Kloeppel, Grand Canyon Wildlands Council, Flagstaff, Ariz. Fee: US$295. CEU: 0.8.

Three-Dimensional Geologic Mapping for Groundwater Applications Workshop
Sat., Oct. 15. Cosponsored by *GSA Geology and Society Division* and *GSA Hydrogeology Division.* Richard C. Berg, Illinois State Geological Survey, Champaign, Ill.; Hazen Russell, Geological Survey of Canada, Ottawa, Ontario; Harvey Thorleifson, University of Minnesota, St. Paul, Minn. Fee: US$195. CEU: 0.8.

Other Courses

Registration and information can be obtained from the contact person listed.

Sequence Stratigraphy for Graduate Students
Fri. and Sat., Oct. 14–15. Free short course for graduate students. Cosponsored by *ExxonMobil* and *British Petroleum*. Instructors: Kirt Campion (ExxonMobil) and Art Donovan (BP). Information and registration: Kirt Campion, kirt.m.campion@exxonmobil.com, or Art Donovan, art.donovan@bp.com.

Thermochronology
Fri. and Sat., Oct. 14–15. Snowbird Resort, Snowbird, Utah. Sponsored by *Mineralogical Society of America*. Organizers: Peter W. Reiners, Department of Geology and Geophysics, Yale University, New Haven, Conn., (203) 432-3761, peter.reiners@yale.edu; Todd A. Ehlers, Department of Geological Sciences, University of Michigan, Ann Arbor, Mich., (734) 763-5112, tehlers@umich.edu. Information: MSA Business Office, 1015 18th St., NW, Ste 601, Washington, D.C. 20036-5212, USA, (202) 775-4344, fax (202) 775-0018, business@minsocam.org, or visit the MSA Web site, www.minsocam.org.

Paleobiogeography: Generating New Insights into the Coevolution of Earth and Its Biota
Sat., Oct. 15. Sponsored by *Paleontological Society*. Organizer: Bruce Lieberman, Department of Geology, University of Kansas, 323 Lindley Hall, 1475 Jayhawk Boulevard, Lawrence, KS 66045-7613, (785) 864-2741, fax 785-864-5276, blieber@ku.edu.

EARTHCACHING

GSA puts an earth science education spin on geocaching: *Earthcaches*. Earthcaches are "virtual" caches—Earthcache visitors learn about each site they visit (using Global Positioning System [GPS] technology) through online cache notes.

Earthcaches work well in both rural and urban settings. One Earthcache now being set up will provide a guided tour of the building stones used in Denver, with notes on each stone type. Active Earthcaching sites in Australia, Canada, and the United States feature cache notes about local faults, folds, fossils, minerals, glacial features, and waterfalls.

Learn more at **www.earthcache.org** or contact Gary Lewis, glewis@geosociety.org, or Wesley Massey, wmassey@geosociety.org.

GSA is developing these Earthcaches in association with the U.S. Park Service and U.S. Forest Service and in partnership with Groundspeak Inc. and Subaru America.

STUDENTS:

APPLY FOR TRAVEL GRANTS TODAY!

The GSA Foundation has made available $4,500 in grants to each of the six GSA sections. The money, when combined with equal funds from the sections, is used to help GSA undergraduate Student Associates and graduate Student Members travel to GSA meetings. For information and deadlines, please visit the Web sites from each section listed below or contact the section secretary directly.

Cordilleran	www.geosociety.org/sectdiv/cord/ The Cordilleran Section will not be offering Student Travel Grants to the Annual Meeting this year.
Rocky Mountain	www.geosociety.org/sectdiv/rockymtn/ Kenneth E. Kolm +1-303-273-3932 kkolm@bbl-inc.com
North-Central	www.geosociety.org/sectdiv/northc/ Robert F. Diffendal Jr. +1-402-472-7546 rfd@unl.edu
Northeastern	www.geosociety.org/sectdiv/northe/ Stephen G. Pollock +1-207-780-5353 Pollock@usm.maine.edu
South-Central	www.geosociety.org/sectdiv/southc/ Elizabeth Y. Anthony +1-915-747-5483 eanthony@geo.utep.edu
Southeastern	www.geosociety.org/sectdiv/southe/ Donald W. Neal +1-252-328-4392 neald@mail.ecu.edu

Mentor Programs at the 2005 GSA Annual Meeting

Looking for a job—now or in the future?

Plan to attend the Careers Roundtable Discussions Mentor Program

Join this group of mentors for one-on-one career advice, networking opportunities, and job-market perspectives. They represent a broad range of geoscience-related professions including academics, industry, and government agencies. This FREE come-and-go event is open to everyone. **Registration not required**. Date and location TBA. For more information, contact Karlon Blythe, kblythe@geosociety.org.

Attention Students Pursuing a Hydrogeology Career Path—This Mann Mentor Program is for You!

The Mann Mentors in Applied Hydrogeology Program underwrites the cost for up to 25 students to attend the distinguished Hydrogeology Division Luncheon and Awards Presentation. That's right—no cost to students. **Eligible students are those who have: (1) ticked the box on their membership application indicating their professional interest in hydrology/hydrogeology, AND (2) registered for the Annual Meeting by September 13, 2005.** The lucky recipients of these tickets will have the chance to meet with some of the nation's most distinguished hydrogeologists. FREE tickets will be awarded to the first 25 students who respond to an **e-mail invitation**, based on the eligibility criteria above. **Registration required**. Date and location TBA. For more information, contact Karlon Blythe, kblythe@geosociety.org.

Students: check out the GEOLOGY IN GOVERNMENT MENTOR PROGRAM!

A **FREE lunch** for undergraduate and graduate students will be held at GSA's Salt Lake City meeting. This popular annual event will feature a select panel of mentors representing various government agencies. Mentors will invite questions from the students, offer advice about preparing for a career, and comment on the prospects for current and future job opportunities within their agencies. Mon., Oct. 17, 2005, 11:30 a.m.–1:00 p.m., location TBA. **Registration not required.** Every student registered for the Annual Meeting will receive a ticket to this event along with their badge; however, attendance is limited, so arrive early! For more information, contact Karlon Blythe, kblythe@geosociety.org.

K–16 PROGRAM

Attention College Faculty, K–12 Teachers, Teacher Trainers, and Pre-Service Teachers:

Look for the K–16 Education Workshops listing in the June issue of *GSA Today*.
Questions? Contact Edna Collis, ecollis@geosociety.org or (303) 357-1034, for more information.

Graduate School Information Forum

Don't delay—*Reserve your space now!*

Meet face-to-face with prospective students in a relaxed, informal setting by participating in the Graduate School Information Forum (GSIF) during the 2005 GSA Annual Meeting. Take advantage of this excellent opportunity to promote your school to over 1,500 students.

The GSIF will be open Sun.–Weds., Oct. 16–19. You may choose from one day to all four days. Space is limited, and Sunday and Monday will be the first to sell out. Those schools reserving multiple days will be assigned first and to the most visible booths.

Participating schools will be promoted in the September issue of *GSA Today* (pending submittal date of reservation form), the 2005 Annual Meeting Program, and by e-mail links on the GSA Web site so that prospective students may schedule appointments prior to the Annual Meeting.

Go online to reserve your space at https://rock.geosociety.org/forms/xGSIF_form.asp. For more information, contact Kevin Ricker at +1-303-357-1090, kricker@geosociety.org.

SALT LAKE CITY 2005 Registration Information

Standard Registration Deadline: 12 September 2005
Cancellation Deadline: 19 September 2005

Registration information will be available in the June issue of *GSA Today* and on the GSA Web site, www.geosociety.org, in early June. Online registration and information regarding Subaru-sponsored grants for Utah-based graduate students and two-year college faculty also will be available in early June.

REGISTRATION FEES

	Standard Reg. June–12 Sept.	Onsite/Late Reg. after 12 Sept.
Professional Member—Full Meeting	US$299	US$380
Professional Member—1 Day	US$194	US$205
Professional Member >70—Full Meeting	US$244	US$320
Professional Member >70—1 Day	US$139	US$150
Professional Nonmember—Full Meeting	US$379	US$470
Professional Nonmember—1 Day	US$219	US$230
Student Member—Full Meeting	US$94	US$125
Student Member—1 Day	US$64	US$65
Student Nonmember—Full Meeting	US$124	US$155
Student Nonmember—1 Day	US$79	US$80
K–12 Professional—Full Meeting	US$44	US$45
Field Trip or Short Course Only	US$40	US$40
Guest or Spouse	US$80	US$80

This year GSA will provide each meeting registrant* with a copy of the *Abstracts with Programs* on CD-ROM. The 2005 Section Meeting abstracts are also included on the CD.

**Field Trip or Short Course only and guest or spouse registrants are excluded.*

Are You Taking Advantage of the Member Rate?

Not a GSA member or a member of one of the GSA Associated or Allied Societies? Join GSA and pay significantly less for your meeting registration while gaining access to all that GSA has to offer. For information on member benefits and to join securely online, please visit www.geosociety.org/members or call +1.888.443.4472.

LODGING

Salt Lake City offers high-quality, affordable hotel rooms for meeting attendees. GSA has booked rooms at seven hotels, offering special convention rates as low as $89 a night. The co-headquarter hotels are the Hilton Salt Lake City Center Hotel and the Salt Lake City Marriott Downtown. Most activities will take place at the Salt Palace Convention Center and the two headquarter hotels. Additional housing information will be included in the June issue of *GSA Today* as well as on the GSA Meeting Web site beginning in June.

STUDENT TRAVEL FUND

You can make a difference!

Help make it more affordable for students to attend the annual meeting by contributing to the Student Travel Fund via your Annual Meeting Registration Form. Your donation can make it possible for students to attend the 2005 Annual Meeting in Salt Lake City. 100% of the contributions received will go to help fund student travel. To get the fund started off on the right foot, GSA and the GSA Foundation are happy to contribute US$1,000 each.

Guests Invited!

Make plans now to participate in the GSA Guest Program at the Annual Meeting in Salt Lake City, and get ready to be pampered! GSA extends a warm welcome to all spouses, family members, and friends to register for the Guest Program.

The guest or spouse registration fee of $80 per person is for non-geologist spouses or family members and friends of professional and/or student registrants to the GSA Annual Meeting. The guest registration fee is required to attend guest activities, gain entrance to the Exhibit Hall, attend seminars and workshops (to be listed in the June issue of *GSA Today*), and take advantage of refreshments in the Guest Hospitality Suite. Formal tours (also to be listed in the June issue of *GSA Today*) will be offered at an additional cost. Fees cover the cost of professional tour guides, round-trip transportation, admission fees, and gratuities. Reservations for all tours will be accepted on a first-come, first-served basis. Since the tour operator requires a final guarantee weeks in advance, most tours have attendance minimums and maximums. Please register early to guarantee your spot. Tours may be canceled if minimum attendance is not met.

The guest registration fee will NOT provide access to all Technical Sessions. However, guests can sign in with the hostess in the Guest Hospitality Suite and get a Visitor Badge allowing them to attend a specific presentation.

Guest Hospitality Suite Hours

Sun.–Wed., Oct. 16–19

8 a.m.–5:30 p.m.

Registration for the Guest Program begins in June.

Look for the June *GSA Today* or register online at www.geosociety.org.