UNIVERSITY of ARKANSAS 1871

Department of Geosciences

SPRING SEMESTER 2008
ANNUAL NEWSLETTER
ISSUE I

Welcome to the first of what we hope will be an annual newsletter. I am thinking back to when I became Chair and pondering all the changes that have occurred. Time does fly and accelerate as we age. We have numerous exciting things that we would like to share with you. In turn, we hope that you will keep us updated with events in your lives so that we can include it in our next edition. Every newsletter will devote space to the whereabouts and accomplishments of our alumni of which we are extremely proud.

One of the most important things that occurred during the past few years was the formation of our External Advisory Board. The members of the Board are listed to the left. We trust that you received the mailing last spring from the Board Chair, Mr**. John Williams**. The Board has been of enormous help to the Department of Geosciences by providing us with guidance, connecting us with alumni, and supporting our efforts. We could not be more pleased. If you are interested in joining the Board, let us know. The Board meets twice yearly, once in the fall and once in the spring. The spring meeting coincides with the Spring Banquet. Last year, it was a resounding success with good food and better company. The **Spring Banquet** this year promises to be even better. Mark your calendars. The event will be Thursday, May 1, 2008 at the Starr Theater of the Walton Arts Center.

We have expanded our physical space. The Center for Advanced Spatial Technology (CAST) moved from Ozark Hall into their new offices at the J.B. Hunt Center for Excellence in July. We now occupy several of the rooms that they vacated, which has allowed us to provide quality office space for graduate students and to consolidate our computer laboratories rooms. We are turning Ozark 44 into a **sample preparation laboratory** to replace Ferritor 121 and converting Ozark 20 into a **hydrogeological laboratory**. Ozark 214 will have tables for teaching exercises and research projects that require interpretation of maps and other large-format media. The replacement of Ferritor 121 is necessary to accommodate a **state-of-the-art clean laboratory** being built for our newest faculty member, Dr. **Fang-Zhen Teng**, a geochemist who uses lithium isotopes to examine crustal processes. The lab will be one of only a handful in the country like it. We also plan to construct a geochemistry lab in Ozark 207 in the near future to accommodate the increased demand for such facilities brought by another junior faculty member, Dr. **Sonja Hausmann**, who joined the Department in fall 2006. Her work focuses on examining diatoms in lake sediments to constrain paleoclimate and water quality.

The Department continues to maintain its commitment to field trips. We purchased two new vans this year, which were sorely needed. Unfortunately, Dr. **Walt Manger** led his last spring break field trip two years ago to the Bahamas, marking the end of an era and resulting in a hiatus of one year for the trip. We are pleased that the tradition has been revived for this year with faculty and students heading to eastern California for a week.

On a more personal note, Dr. **Ken Steele** retired in summer 2007 after more than 30 years. He was awarded Emeritus Professor status and comes to Ozark often to work on his research. Dr. **Fiona Davidson** and Dr. **Tom Paradise** are the proud parents of Samia, a very happy six-month-old.

Finally, we would like to express our gratitude to each of you who has so graciously supported us financially through the years. A description of our scholarships is included in this newsletter. Should you feel so motivated, an envelope is included to facilitate contributing. We indeed are fortunate to have such generous alumni. You are essential to our success.

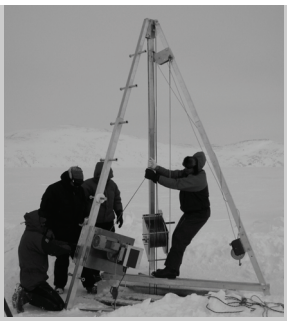
All the best…
Pamela

DEPARTMENT BANQUET
May 1, 2008
Happy Hour 6:00 pm
Dinner 7:00 pm
Starr Theater Walton Arts Center
495 West Dickson Street
For more info: lmilliga@uark.edu

Alumni Reception on Monday, October 6, 2008 at the Geological Society of America Annual Meeting in Houston, Texas.

Alumni Reception on Monday, April 21, 2008 at AAPG in San Antonio, Texas

2007 Geoscience Graduate Studies



2008 Colloquium Schedule

January 18
Dr. Steve Boss, UA
"Shoreline Changes at Yellowstone Lake"

January 25
Dr. Tarek Rashed, University of Oklahoma
"Geospatial Technologies for Urban Social Studies"

February 5
Dr. Mike Peacock, AAPG Distinguished Lecturer
"Athabasca Oil Sands"

February 7
Dr. Robert Costanza, University of Vermont
"Toward Ecological Economy"

February 15
Dr. Elizabeth Catlos, Oklahoma State University
"The Menderes Massif, Western Turkey"

February 22
Dr. Arlene Hill, University of Memphis
"Remote Sensing to Explore the Geography of Disaster"

February 26
Dr. Karen Fischer, MARGINS Dist'd Lecturer
"Mantle Structure, Dynamics, & Melting in the Central American Subduction Zone"

February 28
Dr. Kirk Johnson, AAPG Dist'd Lecturer
"Crocodiles in Greenland & Hippos in London"

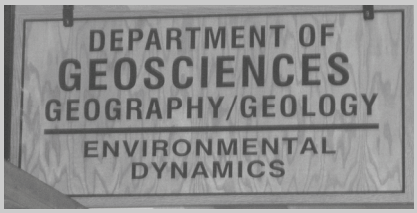
March 7
Dr. Shannon O'Lear, University of Kansas
"A Post-Soviet Country, A Lot of Oil, A Recipe for Conflict? What the resource conflict literature doesn't tell us about the case Azerbaijan"

March 28
Dr. Dave London, AAPG Dist'd Lecturer
"Large, Gem-Quality Crystals in Granitic Pegmatites"

April 7
Dr. Daniele Chemiak, Mineralogical Society
"Diffusion in Minerals"

April 11
Student Presentations

April 25
Dr. Glen MacDonald, UCLA
"Climate Warming & Perfect Droughts"



* Special thanks to senior, **Daniel Allen**, for many of the pictures in this newsletter!

GEOLOGY

"Migration of Landfill Contaminants in a Tilted-Block Mantled-Karst Setting in North West Arkansas" by **Susan E. Bolyard.** (*USGS)

"The Effects of Land-Use Change on Water Quality & Speleogenesis in Ozark Cave Systems- A Paired Cave Study of Civil War and Copperhead Caves, North West Arkansas" by **Jonathan A. Gillip**. (* USGS)

"Woodford Shale Deposition & it's Relationship to the Paleotopography & Environmental Setting of Pre-Woodford Carbonate Successions: Arkoma Basin, Leflore County, Oklahoma" by **Jeremy D. Keaster**. (*Terra Renewal Systems)

"Arc Kinematics of the Northern Lesser Antilles from GPS Geodesy" by **Shane E. Matson**. (*Spyglass Energy)

"Regional Stratigraphic Framework of Morrowan Strata, North Arkoma Basin" by **Jessica L. Pontiff**. (*Schlumberger)

"Sequence Stratigraphy and Lithostratigraphy of Devonian Reservoir Successions, Arkoma Basin, North East Oklahoma and North Arkansas" by **Matthew Boyce**. (*PhD program, Univ. of West Virginia)

"Structural, Stratigraphic, and Reservoir Characteristics of Natural Gas Production from the Boone Formation, Batson and Zone Fields, Arkoma Basin, West Arkansas" by **Clayton Y. Davis**. (*Southwestern Energy)

"Structural, Stratigraphic and Petrophysical Controls on Natural Gas Production from the Travis Peak and Pettet Formations, Lower Cretaceous, in the Overton Field, Smith County and Cherokee County, East Texas" by **Eric D. Gross**. (*Southwestern Energy)

"Stratigraphic Framework and Depositional Systems of the Tackett, Morris, Glassey, and Lower Carpenter Sands of the Atoka Formation in the Arkoma Basin" by **Robert M. Houston**. (*Questar)

"Subsurface Stratigraphy and Depositional Systems, Lower Cretaceous Travis Peak Formation, Shelby & Nacogdoches Counties, East Texas" by **Matthew L. Wilson**. (*DeGloyer & MacNaughton)

"Reservoir Assessment of the Pennsylvanian Hartshorne Sandstone, Central Arkoma Basin, AR" by **Kammie R. Wood**. (*New Dominion)

"Sequence Stratigraphy & Depositional Dynamics, Basal Atoka Fm (ORR-Patterson Members), Middle Pennsylvanian, Arkoma Basin, Central Arkansas" by **Jamie A. Woolsey**. (*Sedna Energy)

"A Hydrogeologic & Water-Quality Evaluation of the Springfield Aquifer in the Vicinity of North-Central Washington County, Arkansas" by **Aaron C. Laubhan**. (*Chesapeake Energy)

"Applications of $\delta 15N, \delta 180$ of Nitrate to Waste Storage Effectiveness in Mantled Karst Terrain, North West Arkansas" by **Daniel M. Wagner**. (*USGS)

GEOGRAPHY

"A Remote Sensing and GIS Analysis of Riparian Vegetation Change along the San Pedro River, Arizona" by **Charles A. Calhoun**. (*iCubed)

"A 600-Year Streamflow History in the Salinas Valley Reconstructed from Blue Oak Tree-Rings" by **Richard D. Griffin**. (*traveling in New Zealand)

"Earthquake Hazard & Risk Perception among Residents of Messina and Eastern Sicily" by **Dawn M. Jaber**. (*undecided)

"Small Mammal Population and Species Habitat Selection in the Remnant Tallgrass Prairies of North West Arkansas" by **Eric B. Nelson**. (*PhD program, University of Tulsa)

"Assessment of the Perception of Rice Producers on Groundwater Availability and Usage in the Arkansas Delta" by **Matthew A. Reece**. (*Washington County Assessor)

"Ancient Cypress-Tupelo Forest at the Dagmar Wildlife Management Area, Arkansas" by **Mark D. Spond**. (*PhD program, University of Tennessee)

"An Expert System Decision Tree Classification Model for the Location of Blue Oak in the Interior Coast Ranges of San Benito County, California" by **Barbara E. Boland**. (*)

"Remote Sensing Analysis of Surface Temperature & Landscape Feature Dynamics" by **Aaron D. Jensen**. (*US Census Bureau)

"Patterns of Urban Encroachment on the Wedington Unit of the Ozark National Forest: 1941-2005" by **David R. Reed**. (*City of Fayetteville)

(* denotes where they are now!)

Grad Student Chris Howard teaching a General Geology lab.

CHESAPEAKE SCHOLARS

During a brunch reception at University House on October 16, 2007 before the Razorbacks took on Auburn, Chesapeake Energy announced the creation of the Chesapeake Scholars program in the Department of Geosciences. Each year for the next five years, Chesapeake Energy will provide $4,000 scholarships to five graduate students in Geosciences who are interested in pursuing careers in the energy industry. To be a Chesapeake Scholar, the student must hold a teaching or research assistantship. The funds from the Chesapeake Scholarship will be added to the amount the student receives from the assistantship. Current scholars are Stephen James, Drew Lonigro, Valerie Feller, Ryan Dupree and Danny Rains. Not pictured: Valerie Feller.

GTU is the student honor organization for undergraduate and graduate students with interest in Geography. A major in Geography is not required. GTU partners with SGE in the planning, financing, and hosting of the Christmas and Spring banquets, trash pickups, and departmental colloquium. GTU also offers print services to faculty and students who wish to make general large format posters. GTU gives several student awards for conference travel and excellence in membership. The faculty advisor is Dr. Jackson Cothren. The current president is Lindsey Turner and she is responsible for coordination of the Geography portion of departmental colloquium. Her email is LNT01@uark.edu.

SGE is the student honor organization for undergraduate and graduate students with interest in Geology. Anyone with the appropriate academic qualifications may join. Having a major in the Geosciences is not required. SGE traditionally has been responsible for the Christmas and Spring Banquets, trash pickups along the highway near Devil's Den, departmental colloquium, and rock bags sold to students taking general geology I. SGE also oversees several student awards, such as the Dan Gabor Scholarship, which carry financial remuneration due to the generosity of alumni. The faculty advisor is Dr. Walter Manger. The current president is Jeremy Winston, a senior. His email is: jwinsto@uark.edu. Kathy Knierim is responsible for coordination of the Geology portion of departmental colloquium. Her email address is: kknierim@uark.edu.

SCHOLARSHIPS FOR THE DEPARTMENT OF GEOSCIENCES

A new scholarship, the Malcolm Cleaveland Endowment Fund, was started this past fall with an initial sum of $12,500 from an anonymous donor. This a challenge gift to encourage donors to provide another $12,500 to bring this to the level necessary to permit awarding of a scholarship. The Malcolm Cleaveland Endowment Fund is for physical geography or geology students interested in climatology or earth surface processes.

Endowed Scholarships

Dan Gabor Memorial Field Camp: undergraduate or graduate geology students with academic potential and financial need who will attend Geology Summer Field Camp.

Jack D. Musset: undergraduate or graduate geology students with academic achievement and leadership.

James Harrison Quinn: undergraduate or graduate geology majors with academic achievement and financial need.

Robert L. Tucker: undergraduate or graduate geology majors with academic ability and financial need.

Ronnie S. and Doris A. Keisler: undergraduate or graduate geology students with financial need and demonstrated academic merit.

John Glynn Williams: geology majors with preference to graduate studies and honors projects.

Vernon Peppard: undergraduate or graduate geology majors with academic achievement and financial need.

W. Joe Edwards Jr.: geology majors and those pursuing geological studies.

Non-endowed Scholarships

Geography Scholarship Fund for geography majors.

Geology Department Award for geology majors.

Kern C. Jackson Igneous and Metamorphic Award Fund is traditionally given to the best student in petrology.

Quantitative Geography Award for one undergraduate and one graduate student studying quantitative aspects of geography

Geoscience Awards 2007

The Geology Division of the Department of Geosciences has many scholarships and awards that are available for their graduate and undergraduate students.

For their research, the recipients of the Edwards Awards were graduate students **Pierre DuPont**, **Valerie Feller**, and **Drew Lonigro**. The James Harrison Quinn Scholarship went to **Jesse Edmondson**. Three Jack Mussett Scholarships were awarded to grad students **Yarri Davis**, **Jeremy Kassouf** and **Stephen James** for being outstanding teaching assistants. **Robert Houston** received the Wagner Sons Award for Outstanding Geochemist.

The Vernon Peppard Scholarship went to undergrad **Keshia Koehn** for her academic achievement. The James Harrison Quinn Scholarship went to **Charles Redifer** and the James Sherman Scholarships went to **Zach Mullen** and **Joshua Lynch**. **Seth Martin** and **Kathryn Jeffcoat** won the Ron and Doris Keisler Scholarships for field camp. The Gabor Field Camp Scholarship went to **Daniel Allen**.

Students also won scholarships for field camp. **Robert Verdoot** and **Darrell Pennington** received his from the James Harrison Quinn Scholarship. **Melissa Opela**, **Jeremy Winston**, **Landy Doyel** and **Derek Gordon** won the Vernon Peppard Scholarship. The Tucker Scholarship went to **Anna Nottmeier**. **Daniel Page Smith** received the Tarr Award, a James Harrison Quinn Scholarship, for Outstanding Undergraduate. **Daniel Allen** won the Kern Jackson Award for excellence in petrology, a James Harrison Quinn Scholarship.

STEVE BOSS
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Dr. Boss has been Director of the Environmental Dynamics PhD program since 2000. He has further developed this program to include the Honors-ENDY Research Mentoring Experience for Students (HERMES). This matches honor undergraduates with PhD students for a mutual educational exchange: undergraduates learn how to conduct research and the graduate students learn to teach and mentor students. He is also very involved with the UA Sustainability issues including the development of the Campus Demotechnic Index (DCI), a measure of progress toward sustainability for our campus and at universities across the US. Dr. Boss conducts research at Yellowstone Lake, regarding the influence of caldera deformation on lake levels and the impacts of highway engineering on the lake shore. Closer to home he is actively involved in measuring the impacts of development on sedimentation in the Beaver Reservoir.

VAN BRAHANA
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Professor of Geosciences here since 1990, with research interests that focus on karst hydrogeology, structural control of regional groundwater flow boundaries, and application of radionuclides and stable isotopes to elucidate hydrogeologic processes and controls of hydrothermal spring deposits. The photo shows him at Big Hole Cave, one of several major caves that overlie NE -trending basement faults in northern Arkansas. Dogtooth spar crystals from this and the nearby Chilly Bowl Cave are thought to have been deposited from deep basinal brines expelled during pulses of the Ouachita orogeny, and preserved in unique protected environments. Van hopes to enhance the understanding of deep regional groundwater flow systems. Van is also involved in the Savoy Experimental Watershed. NW Arkansas is an area of widespread poultry and animal production; he hopes to fully characterize flow and transport and develop methods & tools to optimize land use & determine the ultimate carrying capacity for specific human activities in this & similar settings.

MALCOLM CLEAVELAND
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Professor Emeritus, Geographer. BA, Johns Hopkins University, Liberal Arts, 1963; (6 years in the Army 1963-69); Clemson University, Forest Management, 1972; MS , Clemson University, Forest Management, 1975; Ph.D. University of Arizona, Geosciences, 1983. Tree-Ring Lab, UA Department of Geography: research associate and research assistant professor, 1984-1990; Assistant Professor 1990-1996; Associate Professor 2000-2006 (Department of Geosciences); Professor Emeritus 2006-present. Classes taught: Geographic Information Science, Conservation of Natural Resources, Tree-Ring Applications, Paleoclimatology. Current research: Use of tree rings to reconstruct past climates.

JACK COTHREN
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Current research includes digital photogrammetry including sensor modeling, DEM extraction, feature extraction and matching for orientation, integration of LIDAR point-clouds, reliability analysis of adjustment models and integration with enterprise-scale Geospatial information Systems. He's been a Research Associate at CAST and received grants from NSF, NASA & the US Amy Corp of Engineers, which included multi-temporal land-cover mapping in Central American and integrated geophysics surveys for archaeological research. Prior to joining the UA he was a Photogrammetric Engineer at the National Air Intelligence Center, US Air Force in Ohio, directing photogrammetric proposals for competitive grants. He was a Scientific Analyst at the National Air Intelligence Center developing proposals being technical program manager for improvement of intelligence collection from multi-source imagery including National Technical Means.

FIONA DAVIDSON
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fdavidso@uark.edu

During the course of 2007 I was blessed with two great events. The first was a Scottish election, which provides my data for the next two years as I have been working on examining the effects of scale on voting behavior in Scottish local, national, Westminster, and EU elections. This is a little complicated by the fact that Scotland now uses four different electoral systems for those four sets of elections.

The second event was the birth of a daughter to me and Tom (Paradise). Samia is now six months old, happy, healthy, and growing like a weed. Teaching was a little tough last semester but now we're back in a routine and I'm back to enjoying teaching Human Geography (with all 180 students) and Political Geography—which is always my favorite class to teach.

RALPH DAVIS
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A hydrogeologist here since 1994. Director of the Arkansas Water Resources Center. Current research is physical & chemical hydrogeology, with emphasis on bacterial & nutrient (N & P) fate and transport, primarily in karst environments. He has the program in water resources planning & management in conjunction with the Santee Sioux Nation in northern Knox County, Nebraska. In the GSA Hydrogeology Division he served in many capacities including Program Chair in 1998 and secy/tres. from 2001-2006. He received the GSA Hydrogeology Division Distinguished Service Award in 2005. He is a member of the University of Nebraska Geosciences Alumni Board. He currently teaches Physical Geology & Environmental Geology, & Hydrogeologic Modeling, Geochemistry, & Environmental Site Assessment. Also active in the Hydrogeology Summer Field Program.

JOHN DIXON
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A geomorphologist who joined the UA faculty in 1981. His research interests lie primarily in the area of landscape evolution in Arctic and alpine environments. His research focuses on the role of chemical processes in landscape evolution in cold climates. For the last 15 years he has worked with his colleagues at the University of Illinois in Swedish Lapland where their work has focused on various aspects of landscape geochemistry & the contributions of chemical erosion to landscape denudation. They are also engaged in similar research in the Jotunheimen of southern Norway. His research has been supported by grants from the National Science Foundation & National Geographic Society. He is published in a variety of journals including GSA Bulletin, Geomorphology, Earth Surface Processes and Landforms, and Catena .

FALKO FYE
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ffye@uark.edu

Dr. Fye is presently teaching senior-level weather and climatology within the Geography branch of the geosciences. He is also doing research with the Tree-Ring Laboratory using the tools of GIS and statistics to analyze and interpret tree ring and other environmental data. Prior to 1993 Dr. Fye held various positions in the US Air Force, retiring in the grade of Colonel, with responsibilities in the meteorology career field and specializing in the technical areas of weather forecasting and analysis for aviation support; radiation, radar, and satellite meteorology; remote sensing; software engineering with a large world-class environmental data base; and project management of multi-million dollar data automation acquisitions and facilities. Dr. Fye has 5 degrees: BS—Earth Science, East Texas State U; BS Meteorology, U of Utah; MS Meteorology, U of Utah; MA Geography, UA; and PhD Environmental Dynamics, UA.

TOM GRAFF
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For most of the last two decades I have focused my research upon Wal-Mart and its competitors. I examine the corporate strategies of Target and Kmart, particularly in their utilization of the supercenter format. I have also been examining grocery chains in their competition with Wal-Mart, which has changed from selling few groceries to largest grocery retailer in the nation. Wal-Mart has placed tremendous stress on the grocery industry causing bankruptcy, downsizing, and reorganization. Yet several grocery chains have expanded. I am identifying the characteristics of successful competitors of Wal-Mart. I am also collaborating on amenity-based recreational communities in the US. I have researched migration patterns of elderly Americans. We focus on the environmental impacts of these communities and examine the demographic and economic factors fueling this migration. Bottomline: we have far more of these communities than we have affluent retirees to occupy them. I have been playing duplicate bridge. Roger Koeppe (UA Chem Prof) & I won the 199er championship last summer in Nashville. My theory: get a very good partner.

PEGGY GUCCIONE
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pguccione@uark.edu

I started teaching geology classes in 1979. My major interest is in Quaternary Geology and Geomorphology. I concentrate on fluvial sedimentology, geomorphology, & soils. Field areas are the Mississippi, Missouri, & Red rivers, smaller Ozark streams, & the Po Valley in Italy. My studies have primarily been the application of these Quaternary studies to paleoseismology& archeology problems. Most recently we worked on geoarcheology along two pipelines from central Arkansas, across the entire Mississippi River Valley & into central Mississippi. Our project was to map the potential for buried archeological sites up to 4 m deep along the pipeline. Map areas that were mapped as having potential for buried sites were cored for three dimensional information. This 6-month project is becoming two master's theses.

SONJA HAUSMANN
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Joined us 2006. After finishing her PhD at the University of Berne, Switzerland she worked at the University Laval, Canada. Her primary scientific interest is paleolimnology, the examination of past environmental changes archived in lake sediments. She works with diatoms to study pollen, grain-size, paleomagnetics, chironomids, and paleopigments. In 2008 she was nominated as Connor Faculty Fellow. Currently she is working on paleoflood history of the White River Wildlife Refuge, spatial and historical distribution of geosmin and MIB producers in Beaver Reservoir. And a paleolimnological study of the Arctic Impact Crater Lake Pingualuit in northern Quebec. Sonja is teaching Conservation of Natural Resources, Climate Through Time, and Pollution of Lakes and Rivers. She is supervising doctoral students Ruchi Bhattacharya and Byron Winston and the postdoctoral researcher Jessica Black who defended her PhD at INSTAAR in Boulder, CO in 2006.

PHIL HAYS
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Pursues research in application of stable isotopes and other geochemical indicators in delineating movement and behavior of contaminants in ground-water systems and in characterizing paleoclimate & paleoenvironment. Represents the USGS and UA as Ground Water Specialist for the interagency Natural Resources Conservation Service National Water Management Center, providing assistance in ground-water hydrology and geochemistry to government entities in the US and abroad to advance science in management and sustainable use of natural resources and protection of the human environment; this work involves UA students in such diverse research areas of mercury contamination in the Guianas Ecoregion, radionuclide contamination in thermal springs of Hot Springs National Park, sustainable resources use curricula development and teaching in central Africa, and salt-marsh restoration in coastal New England.

JOHN HEHR
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Associate Dean, Fulbright College of Arts & Sciences.
Professor, Department of Geosciences.
Ph.D., Michigan State University, Geography 1971.
M.A., Western Michigan University, Geography 1967.
B.S., Ohio University, Earth Science, 1964.
Dr. Hehr's research interests are in the areas of meteorology and climatology and in particular severe storm occurrence over the central interior of the United States. Other interests include Paleoclimatology and global change. Since 1988 he has been Associate Dean of the J. William Fulbright College of Arts and Sciences.

PAMELA JANSMA
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My general research interests are the kinematics and dynamics of subduction zones. I work on specific projects in the Caribbean (the Greater and Lesser Antilles, Central America) examining strain and slip partitioning during oblique convergence using the technique of GPS geodesy. The Caribbean emphasis stems from the ten years I spent on the faculty at the University of Puerto Rico prior to coming to Arkansas in 2000. I teach Physical Geology, Structural Geology, and Tectonics. My dissertation involved field structural geology and focused on the Paleozoic Antler Orogeny in central Nevada. I would love to get back to doing that type of research again once I have more time in the summers to devote to fieldwork. With a teenage son who plays golf tournaments and a husband who travels extensively, finding the time can be problematic. Our daughter is in college now, so perhaps the time pressures will ease slightly.

RON KONIG
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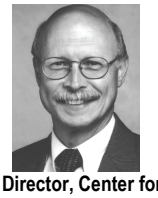
My big goal in life right now is to figure out how in the world to retire after 49 years of teaching. Being a General Geology teacher and running the General Geology labs is getting a little old, to say the least. It has gotten to the point that about half the students on campus at any one time have had geology with me. If this sounds incorrect to you, consider the fact that I have put more than 15,000 students through General Geology alone, not counting the 2,000 or so that I have instructed in upper level geology courses over the years. It has been fun.



FRED LIMP
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Director, Center for Advanced Spatial Technologies and Professor, Departments of Anthropology, Geoscience (Adjunct) and Environmental Dynamics. Assistant and Interim Director, Arkansas Archaeological Survey. Founding Board Member, Open GIS Consortium; NASA ESE State Advisors Board; SPOT Image Academic Advisors Board; Executive Board Intergraph Geospatial Executive Board; National University Consortium on Preservation Technology; Foundation for American Archaeology; Treasurer, Society for American Archaeology; others. Former Chair, Arkansas State Mapping & Land Records Modernization Board and joint author Arkansas Act 150; Governor appointee to Arkansas Land Information Board. GAIA Award, Fulbright College Master Researcher Award, University of Arkansas Alumni Distinguished Research Award, University of Arkansas Alumni Distinguished Service Award, University Professor of Anthropology. He has written or edited 8 books and over 95 journal articles and edited chapters. He has published over 100 articles in national and international professional magazines, served as keynote or plenary session speaker at ten conferences, presented over 80 professional papers, organized six professional meetings. He serves as a contributing editor for *GeoWorld* and is a regular contributor to the industry press including *Earth Observing Magazine, Mapping Awareness, GeoWorld Asia, GeoWorld Europe* and *Business Geographics*.

WALT MANGER
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College of Wooster, Ohio, BA, 1966.
University of Iowa Geology MS, 1969.
University of Iowa Geology PhD, 1971.
1966 Summer Field Camp, University of Illinois, 8-wk course at SheridanWY.
Ten short courses through professional societies on various aspects of Stratigraphy, Environmental Site Assessments, Dinosaur Paleobiology.
UA, since 7/1981,Professor of Geology.
University of Oklahoma, 1994, Visiting professor of Geology.
UA, 8/1984-6/1992, Chairman.
UA, 8/1972-8/1984,Curator ofGeology.
Northeastern University, 8/1971-6/1972 Assistant Professor

Professional Affiliations and Offices
Special Publications Editor – Paleontological Society, 1997-1999.
Assoc. Editor, GSA, Bulletin, 1990-96.
Titular Memberships, Subcommission on Carboniferous Stratigraphy, 1992-1997; North American Commission on Stratigraphic Nomenclature, since 2000.
Management Board, SEPM, 1987-1990
Secretary, Subcommission on Carboniferous Stratigraphy, 1984-1987.
Nominating Committee, Paleontological Society, 1975-1978.
Professional Geologist Registration, #1601 – State of Arkansas.
Expert Witness Credentials – Arkansas Oil and Gas Comm., Docket 88-80.
Expert Witness Credentials – Arkansas Department of Environmental Quality.

GLEN MATTIOLI
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I began as an experimental geochemist; my interest was in the petrological evolution of the Earth's upper mantle. I also had a strong secondary interest in convergent margin tectonics and island arc volcanism. After a brief sojourn with an oil company, I returned to academe at the Department of Geology at the University of Puerto Rico, Mayaguez. It was there that I met Prof. Alan Smith, a veteran of 25 years of field studies of active and quiescent volcanic systems in the Lesser Antilles; he initiated me into the amazing world of active volcanoes. High precision GPS geodesy, InSAR, and LIDAR techniques were exploding onto the geoscience research horizon. Since 1994, when I participated in my first GPS campaign in the Caribbean, I have been smitten by the vast array of problems that can be addressed using various geodetic techniques. Here I have inaugurated the Geodesy Lab to support our ongoing research in the NE Caribbean. Now I have several NSF-funded research projects.

H.C. MACONALD
575-7428

Dr. MacDonald was on the faculty of the University of Arkansas in the Geology Department from 1971 until his retirement in 1998 as an Emeritus University Professor. With specialization in remote sensing and petroleum geology, Dr. MacDonald analyzed various remote sensing techniques to determine the best to use for different landscapes. Active in radar geologic research, he served as a Co-Investigator on the first Shuttle Imaging Radar Experiment-A (SIR-A), a project carried aboard the space shuttle Columbia in 1981. The experiment demonstrated the capability of space-borne imaging radar as a tool for geological exploration and included radar mapping of areas in Arkansas and other areas around the world. The project introduced new methods to examine prospects for mineral and petroleum exploration. Dr. MacDonald and his research team were presented the NASA Group Achievement Award (1983) "for pioneering the economic application of scientific investigations on the first shuttle payload." MacDonald's work continued with subsequent SIR-B (1984-1986) and SIR-C (1990-1995), shuttle imaging experiments that aided NASA in developing models for future imaging radars. From 1984 to 1989, he also served as Co-Investigator on Magellan, a spacecraft mission that used imaging radar to map the surface of Venus.

TOM PARADISE
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A Geography Professor, also the Director of the King Fahd Center for Middle East and Islamic Studies here. He comes from a diverse background in earth and environmental sciences, Middle East and North Africa geography, and cartography and spatial visualization. Before coming to Arkansas in 2000, he was a professor of Geography and Environmental Studies at the University of Hawaii, overseeing their Hazards, and Regional Studies Programs. Paradise has also taught abroad at universities in Rome, Venice, Amman, as well as in the US in Georgia, Hawai'i, Arizona and California. His expertise has been requested by agencies in Italy, Great Britain, Egypt, Morocco, Tunisia, Lebanon, and Jordan, in addition to UNESCO, USIA-USIS, USAID and the US State Department. He has published more than forty articles, chapters, and books on Petra, Jordan, and has advised numerous foreign agencies on cultural heritage management, stone architectural deterioration, and Middle Eastern and North African architecture.

DAVE STAHLE
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Last February we took a two-week field collection trip to Chiapas and Guatemala and cored enormous Montezuma baldcypress. My spring and summer months were spent preparing research proposals with NSF and NOAA: "Mesoamerican Dendroclimatology: Climate Dynamics and Socioeconomic Impacts," Millennium-Long Reconstructions of Cool and Warm Season Precipitation Over the Southeastern and Southwestern US," " Long Daily Mean Temperature Records for the Central US." We are working on a couple of new papers: "Drought in Mexico" and "Winter and Summer Precipitation Reconstructions Over New Mexico for 2100 Years." With Ed Cook we published, "North American Drought: Reconstructions, Causes, and Consequences." I co-edited a volume in Climatic Change, "Tree-Ring Reconstructed Megadroughts over North American since AD 1300."

KEN STEELE
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Although I officially retired in August 2007, I have several small grants that require some time in the office and field. The grants are related to arsenic mobilization in the alluvial aquifers of Arkansas. About 20% of the wells in the Bayou Bartholomew watershed near Pine Bluff have arsenic concentrations that exceed drinking water limits (10µg/L). Collaboration with Dr. Davis and two Environmental Dynamics Program Ph.D. students on the project has shed light on the source of the high arsenic from iron oxyhydroxide mineral coatings of the aquifer sediment under reducing conditions. A second project is located in NW Arkansas. Poultry feed has arsenic compounds added which means that the poultry manure contains significant amounts of arsenic. Poultry litter is applied to the surface of fields and pastures as fertilizer. There is concern that the arsenic in the litter may contaminate streams and ground water.

My Emeritus status allows me time for travel with my wife Beth. Our spouses died several years ago, and we married in 2005.

FANG-ZHEN TENG
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I come from the Department of Geophysical Sciences at the University of Chicago & Department of Geology at the Field Museum. My B.S. is from University of Science & Technology of China in 2001 and Ph.D. from University of Maryland at College Park in 2005. My research interest is the composition & evolution of the continental crust, mantle heterogeneity & the origin & evolution of the solar system. I study terrestrial & extra-terrestrial materials through analysis of non-traditional stable & radiogenic isotopes produced by the decay of short-lived nuclides using Multi-Collector-Inductively Coupled Plasma Mass Spectrometry (MC-ICPMS). Currently: 1) Applying Al-Mg isotopic systematic to study the formation & evolution of the early solar system; 2) Tracing crust-mantle interactions by using Li and Mg isotopes; 3) Studying planetary differentiation by using iron isotopes.

JASON TULLIS
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Dr. Tullis is focusing on remote sensing and other geomatics research in three overlapping areas, including 1) management of spatial scale, 2) integration of multi-source remote sensor, in situ, and ancillary data, and 3) vegetation biophysical remote sensing. As a recent example, Dr. Tullis utilized small-footprint LIDAR collected in a 32 km^2 area of the Boston Mountains to develop eleven 1 x 1 m height percentile surfaces that together capture vertical structure of the oak-hickory forest. Theses data are in turn being applied to questions about forest vulnerability to the red oak borer when its populations are unusually high and also for the improvement of spatial scale management techniques. In a new study, Dr. Tullis is working with the Inter-American Biodiversity Information Network (IABIN) on methods for translating hierarchically-scaled ecosystem maps produced by different institutions, regions, or countries.

DOY ZACHRY
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I currently teach Mineralogy, and Stratigraphy and Sedimentology at the undergraduate level, and Petroleum Geology and Sedimentary Petrology at the graduate level. I also direct the departmental field class in southwestern Montana during the summer. My interests are in the areas of fluvial sedimentology and basin analysis from the standpoint of depositional systems and their response to tectonic activity. My research centers around the stratigraphic and sedimentologic processes that were active during development of the Arkoma foreland basin in Arkansas and Oklahoma during the lat Paleozoic. I am supervising seven graduate students, four of which are investigating the late Mississippian and early Pennsylvanian succession in outcrop at the northern margin of the basin; three are utilizing subsurface data to construct a Stratigraphic framework for similar rocks in the basin.

Ryan Henry was recently named the winner of the 2007 AAPG Teacher of the Year. He is 27, the youngest person ever to receive the TOTY award, sponsored annually by the AAPG Foundation to promote earth sciences education. He is being honored for his teaching at Street School in Tulsa. Henry, who recently moved with his family to teach in Denver, was nominated by the Tulsa Geological Society and will be honored during the All-Convention Luncheon at the AAPG Annual Convention in Long Beach, Calif. Henry will receive $5,000 from the AAPG Foundation; $2,500 goes to Street School in Tulsa for education use under Henry's direction, and the other half is for his personal use. He also receives an all-expense paid trip to the annual convention. Although from Tulsa, Henry grew up backpacking, canoeing, swimming in creeks and going on family ski trips in Colorado. Taking geology classes at the University of Arkansas in Fayetteville, he recalled geology professor **Ronald Konig** connecting to him with the words, "The earth is one big dude." "From then on," Henry said, "I was hooked on geology."(taken from Susie Moore, Explorer Staff Writer)

Chili Cook-Off

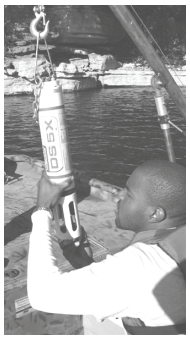
Sigma Gamma Epsilon (SGE) hosted a Chili Cookoff in December 2007 for the Department of Geosciences. It was held at the Ozark Mountain Smokehouse on Dickson Street here in Fayetteville. Over 10 contestants submitted chili to be judged. SGE supplied the prizes for "Best Chili," "Worst Chili," second runner-up, and third runner-up.

Along with good eats and fellowship, a slide show was presented by **Dr. Van Brahana.** It highlighted the goings-on from the past semester and previous summer.

Department Website

www.uark.edu/geosciences

Our website is up and running! At this site you can find information for the geology and geography departments, bachelor and master degree information, pictures and information about our faculty and staff, as well as their research interests, the latest news, colloquiums, and guest speakers, and many interesting links.



ENDY student Byron Winston collecting water samples.

Lisa Milligan—Geosciences Secretary
Jo Ann Kvamme—Program Coordinator for Environmental Dynamics
Teresa Center—Administrative Assistant for Geosciences

Fulbright College of Arts and Sciences offers a major in earth science, geology and geography leading to the Bachelor of Science or Bachelor of Arts degree. Students interested in environmental problems, teaching earth science in public schools, or wishing to pursue graduate work in either geography or geology will obtain much of the necessary foundation through this degree.

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Join us for the First Annual

Alumni & Friends Field Trip Weekend

Friday, October 17 to Sunday, October 19, 2008
Red Apple Resort, Heber Springs, AR
Field trips led by Geosciences faculty
to the surrounding region on Saturday and Sunday
World-class trout fishing
Dining featured in Southern Living
18 hole championship golf course, one of 50 most scenic courses in the US by ***Golf Digest***
(If there is interest, we can organize a "tournament")
$1,500 per person includes all meals, local transport, and lodging
($1,000 is a tax deductible contribution to Geosciences scholarships)

ATTENTION ALUMNI !

Please send us updates: your whereabouts, and your career and family news. We enjoy reading about classmates who survived Fayetteville in whatever era!

Mail to: **Geoscience News**,
Department of Geosciences,
113 Ozark Hall,
University of Arkansas,
Fayetteville, AR 72701
or email to lmilliga@uark.edu

Please include your name, email address, mailing address, degree(s) (year and institution), current position/employer, and news about yourself, your family and friends.