

Curriculum Vitae
James Roger Mayer
September 17, 2010

TEACHING EXPERIENCE

Date	Title	Institution and Department
1991 - 1994	Teaching Assistant	Univ. of Texas at Austin; Geological Sciences Dept.
1996 - 2005	Assistant Professor	State University of West Georgia; Geosciences Dept.
1996 - 2005	Associate Professor	University of West Georgia; Geosciences Dept.

SERVICE TO INSTITUTION

Committee Memberships

Arts and Sciences ENV 230 Committee: Created integrative Environmental Studies course to serve as foundation to eventual Environmental Studies major (1996).

Arts and Sciences Environmental Studies Curriculum Committee (1997 - 1998): Designed and implemented Interdisciplinary Environmental Studies majors: Environmental Science and Environmental Studies.

Arts and Sciences Faculty Advisory Committee (1999- 2000)

Chair, various Geoscience Department committees including faculty search, 3rd year review and promotion/tenure (2001-present).

Faculty Senate, 2005-2007

FASP Committee, 2005-2007

UWG Intellectual Property Committee, 2006-2007

Participation in Educational Activities

Lecturer, Project STARRR for at-risk kids (1996)

Supervised Carrollton High School student independent study (1997)

Coordinated Earth Science event for Science Olympiad (1997)

Guest speaker at area middle and elementary schools (1997-2003)

Leader, "Georgia Science Underground": Two-day seminar Georgia for secondary-school science teachers sponsored by UWG Youth Science program. Held geology orientation and field trip to undeveloped cave (1998).

Judged oratory contest for high-school students sponsored by Carrollton Optimists Club (1998)

Represented Geology Department at Science Olympiad "Academic Fair" (1998)

Judge, Sigma Xi Student Research Presentations (1999 and 2000)

Contributor, Science Olympiad Geology event (1999)

Guest Speaker, Carrollton Lions Club (2000)

Organized "Water Resources Awareness Day," panel discussion and student poster exhibition (2000)

Project PREP lecturer, UWG. Conducted lectures and campus field trips for 4 groups of 30 – 40 middle school students (2001).

Coordinated Sigma Xi Student Research Presentations (Spring, 2002-2010)
Judge, Carrollton Jr. High Academic Fair (2004)
Judge West Georgia Regional Science and Engineering Fair (2004)
Numerous presentations to school groups, cub scouts, etc. (1997-2004)

Other service activities

Reviewed 20+ articles and grant proposals as reviewer for National Science Foundation, Geological Society of America, and National Groundwater Association and others (1997-2010).
Participated in Little Tallapoosa River and/or Chattahoochee River cleanups (1999-2010)
Taught course for faculty member on medical leave (1/3 of Spring Semester, 2001)
Organized "Geosciences Film Festival" (2001)
A-Day department coordinator (2002-2010)

ACADEMIC ACHIEVEMENT

B.S. University of Wisconsin, Madison 1978-1983
Major: Geology and Philosophy (double major)

M.S. Cornell University 1983-1985
Thesis: COCORP Basin and Range to Colorado Plateau seismic survey

Ph.D. University of Texas at Austin 1991-1995
Dissertation: The role of fractures in regional groundwater flow

PROFESSIONAL GROWTH

Memberships in professional societies

Registered Professional Geologist, Georgia GA registr. #001375
Geological Society of America
National Groundwater Association
National Speleological Society
Georgia Geological Society

Publications in refereed journals

Mayer, James R., Brinson, J. and George, B., 2002, Groundwater quality implications of bank-storage in a crystalline-rock setting: *Environmental Geology*, vol. 9, no. 2.

Mayer, James R., 1999, Spatial and Temporal Variation of Groundwater Chemistry in Pettyjohns Cave, Northwest Georgia, U. S. A: *Journal of Cave and Karst Studies*, vol. 61, no. 3, p. 131-138.

Mayer, James R. and Sharp J. M., Jr., 1998, Fracture control of regional groundwater flow in a carbonate aquifer in a semi-arid region: *Geological Society of America Bulletin*, vol. 110, p. 1657-1671.

Guidebook Publications

Garner, Terence and Mayer, James R., 2004, Geochemical and flow characterization of Cave Spring, northwest Georgia, *in* Paleozoics, Northwest Georgia: Structure, Seismicity, Geomorphology, Hydrology and Economic Geology, 39th Annual Field Trip of the Georgia Geological Society, Chowns, T.M. and Kath, R.L. eds. Georgia Geological Society Guidebook, vol. 24, no. 1, p. 41-46.

Abstracts/Conference presentations

- Bhattji, Parna and James Mayer, 2010, Groundwater chemistry of floodplain sediments near the Little Tallapoosa River, Georgia, USA. Geological Society of America *Abstracts with Programs*, Vol. 42, No. 1, p. 117
- Bhattji, Parna and James Mayer, 2010, Groundwater chemistry within alluvium beneath a Georgia Piedmont floodplain. *Georgia Journal of Science*, v. 68, no. 1
- Cowan, Brian, Ethan Smith and James Mayer, 2004, Surface-water/ groundwater interaction beneath a Georgia Piedmont floodplain. *Georgia Journal of Science*, v. 62, no. 1. **Winner, best undergraduate student paper, Earth and Atmospheric Sciences.**
- Cowan, Brian, Ethan Smith and James Mayer, 2004, Surface-water/ groundwater interaction beneath a Georgia Piedmont floodplain. Presented at UWG Sigma Xi research competition. **Third place in competition.**
- Mayer, James, Brian Cowan, Ethan Smith, and Heather Bailey, 2003, Surface-water/groundwater interaction in a floodplain environment in the Piedmont physiographic province, Georgia, U.S.A. Geological Society of America, *Abstracts with Programs*, v. 35, no. 6.
- Smith, Ethan and James Mayer, 2003, Major-ion and stable-isotopic composition of groundwater and surface water from a Georgia Piedmont floodplain. Geological Society of America, *Abstracts with Programs*, v. 35, no. 6.
- Mayer, James R., 2001, Stream/groundwater interaction in the Piedmont physiographic province: Elastic response of surficial and bedrock groundwaters to rapid stream-stage fluctuations. National Groundwater Association, Southeast Focus Conference, Atlanta, Georgia, September 24-25, 2001.
- Mayer, James R., 2001, Teaching undergraduate hydrogeology using an on-campus well field: balancing theory and practical application. Geological Society of America, *Abstracts with Programs*, v. 33, no. 6.
- Mayer, James R., 2001, Rapid hydraulic head fluctuations in crystalline-rock aquifers: evidence for intimately connected surface-water and groundwater in the Piedmont. Geological Society of America, Southeastern Section, *Abstracts with Programs* v. 33, no. 2.
- Garner, Terence, and Mayer, James R., 2001, Monitoring of a diffuse-flow karst spring in northwest Georgia, *Georgia Journal of Science*, v. 59, no. 1.
- Garner, Terence, and Mayer, James R., 2001, Monitoring of a diffuse-flow karst spring in northwest Georgia, Presented at UWG Sigma Xi research competition.
- Hasbun, Javier and Mayer, James R., 2001, One-dimensional, convective-conductive heat transport through a porous medium. *Georgia Journal of Science*, v. 59, no. 1, p. 20.

- Mayer, James R., Brinson, Jonathan, and George, Barry, 2000, Stream-groundwater interaction in the Piedmont physiographic province of Georgia, USA. Geological Society of America, Abstracts with Programs, v. 32, no. 7.
- George, Barry, and Mayer, James R., 2000, Using hydraulic head and natural tracers to monitor stream-groundwater interaction in a crystalline-rock setting, Piedmont physiographic province, Georgia (Abstract). *Georgia Journal of Science*, v. 58, no. 1, p. 58.
- George, Barry, and Mayer, James R., 2000, Using hydraulic head and natural tracers to monitor stream-groundwater interaction in a crystalline-rock setting, Piedmont physiographic province, Georgia (Abstract), Presented at UWG Sigma Xi research competition.
- Mayer, James R., 1999, Karst conduit water-chemistry: implications for springflow. Geological Society of America, Abstracts with Programs, v. 31, no. 7, p. A-397.
- Mayer, James R., 1999, Hydrogeology of the State University of West Georgia Crystalline Rock Hydrogeologic Research Station. Geological Society of America 48th Annual Meeting, Southeastern Section, Abstracts with Programs vol. 31, no 3, p. A-55.
- Smith, Scott and Mayer, James R., 1999, Provenance of sediment deposited within a karst aquifer: Analysis of fine sediment from Pettyjohn's Cave, Georgia: Geological Society of America 48th Annual Meeting, Southeastern Section, Abstracts with Programs vol. 31, no 3, p. A-69.
- Brinson, Jonathan and Mayer, J. R., 1999, Stream-groundwater interaction in a crystalline-rock setting, Piedmont province, Georgia (Abstract). *Georgia Journal of Science*, v. 57, no. 1, p. 58.
- Smith, Scott and Mayer, James R., 1999, Hydrologic implications of fine sediment distribution, composition, and grain size in Pettyjohn's Cave, Georgia (Abstract). *Georgia Journal of Science*, v. 57, no. 1, p. 61. **Winner, best undergraduate student paper, Earth and Atmospheric Sciences.**
- Mayer, James R., 1998, Fracture control of regional groundwater chemistry in the southern Basin-and-Range, Texas and New Mexico. Geological Society of America Abstracts with Programs, v. 30, no. 7, p. A-225.
- Mayer, James R. and Burgess, James, 1998, The role of groundwater mixing in karst water chemistry variations: an example from Pettyjohn's Cave, Georgia. Annual Convention Program - National Speleological Society, vol. 1998, p. 77.
- Burgess, James and Mayer, James R., 1998, Karst conduit flow and groundwater mixing: an illustration from Pettyjohn's Cave, northwest Georgia (Abstract). *Georgia Journal of Science*, v. 56, no. 1, p. 52. **Winner, best undergraduate student paper, Earth and Atmospheric Sciences.**
- Burgess, James and Mayer, James R., 1998, Karst conduit flow and groundwater mixing: an illustration from Pettyjohn's Cave, northwest Georgia, Presented at UWG Sigma Xi research competition. **Winner, best presentation.**
- Hinesley, S., Mayer, James R., and Kath, R., 1998, Water-level variations in a rock-saprolite-alluvium system, Piedmont physiographic province, Georgia (Abstract). *Georgia Journal of Science*, v. 56, no. 1, p. 52.
- Crisp, E. and Mayer, James R., 1997, Sediment transport within karst aquifers: an example from Pettyjohn's cave, northwest Georgia (abstract): *Georgia Journal of Science*, v. 55, no. 1. p. 77.

- Crouch, M. and Mayer, James R., 1997, Response of shallow and deep aquifers to rainfall, Piedmont physiographic province, Georgia (abstract): *Georgia Journal of Science*, v. 55, no. 1, p. 77.
- Mayer, James R., 1996, Fracture control of regional groundwater flow in the southern Basin-and-Range, Texas and New Mexico, Abstracts with Programs - Geological Society of America, vol. 28, no. 7, p. 285.
- Sharp, John M., Jr., Mayer, James R., 1996, Regional fracture systems in carbonates; a major control of groundwater flow systems. Geological Society of America, Abstracts with Programs vol. 28, no. 1, p. 63.

Invited Lectures

- Fracture control of regional groundwater flow in the southern Basin-and-Range, Texas and New Mexico.* Auburn University, Auburn; Alabama (1998).
- Stream-groundwater interaction in the Piedmont physiographic province of Georgia: elastic response of shallow and deep aquifers to a passing surface-water floodwave.* Georgia State University; Atlanta, Georgia (2000).
- Stream-groundwater interaction in a crystalline-rock setting: implications for surficial and deep-bedrock aquifers.* Wisconsin Geologic and Natural History Survey, Madison, Wisconsin (2001).
- Stream-groundwater interaction in Piedmont physiographic province.* Atlanta Geological Society, Atlanta, Georgia (2002)
- Fracture controlled regional groundwater flow in the Otero Mesa/ Diablo Plateau, New Mexico and Texas.* New Mexico Bureau of Geology and Mineral Resources, Socorro, New Mexico (2002).

Professional Consultation

- Determination of evapotranspiration rate for an artificial pond to estimate water loss by seepage. Report prepared for Carrollton homeowner (May 1997).
- Compilation of daily rainfall for the West Georgia campus area, Spring 1998. Report prepared for Fortune-Jackson Construction Company, Carrollton, Georgia (March 1998).
- Characterization of recharge and regional groundwater flow, Delaware/Sacramento Mountain area, Texas and New Mexico. Report prepared for Brown and Caldwell, Inc., Las Vegas, Nevada (March 1999).
- Spring discharge and water chemistry monitoring to establish baseline flow characteristics of Cave Spring, City of Cave Spring, Georgia. (January – December 2001).
- Characterization of stormwater runoff and groundwater seepage River Place Apartments, Carrollton, Georgia: Problem assessment and recommendations. Report prepared for Place Collegiate Properties, Atlanta, Georgia (February, 2001)
- Formulation of use plan for discharge control, and monitoring of Rolater Lake, Cave Spring, Georgia to ensure public health and safety and water quality of Little Cedar Creek. Prepared on behalf of Rolater Park Board, City of Cave Spring, Georgia, pursuant to Georgia Environmental Consent Order dated November 20, 2000 (May 2001).

Bacteriological and nutrient-load monitoring of Rolater Lake, Cave Spring, Georgia. Monitoring conducted for Rolater Park Board, City of Cave Spring, Georgia (May-September 2001).

External Funding Obtained

National Science Foundation. Acquisition of an ion chromatograph for multi-disciplinary water-chemistry analysis, \$19,988.00

Rolater Park, City of Cave Spring, Georgia. Discharge control and monitoring of Rolater Lake, \$7956.00

City of Cave Spring, Spring discharge and water chemistry monitoring, \$3240.00

Place Collegiate Properties, Runoff characterization study, \$1950.00

Internal research funding obtained

Faculty Research Grant, 1996-1997, \$1600, Crystalline Rock Hydrogeology

Faculty Research Enhancement Award, 1996-1997, \$1975, Crystalline Rock Hydrogeology

Faculty Research Grant, 1997-1998, \$1475, Karst Hydrogeology

Faculty Research Enhancement Award, 1997-1998, \$1100, Crystalline Rock Hydrogeology

Faculty Research Grant, 1998-1999, \$1500, Karst Hydrogeology

Faculty Research Grant, 1999-2000, \$1400, Karst Sediment Transport

Faculty Research Enhancement Award, 1999-2000, \$1635, Crystalline Rock Hydrogeology

Faculty Research Grant, 2000-2001, \$800, Crystalline Rock Hydrogeology

Faculty Research Grant, 2001-2002, \$1250.00, Crystalline Rock Hydrogeology

Faculty Research Enhancement Award, 2001-2002, \$1890, Crystalline Rock Hydrogeology

Faculty Research Grant, 2002-2003, \$1350, Crystalline Rock Hydrogeology

Faculty Research Grant, 2003-2004, \$1340, Floodplain Hydrogeology

Faculty Research Grant, 2004-2005, \$1440, Groundwater Chemistry

Faculty Research Grant, 2005-2006, \$1350, Surface-water/Groundwater Interaction

Faculty Research Grant, 2010-2011, \$1290, Groundwater Chemistry

Additional external funding applied for

Georgia Water Resources Institute Program (USGS), Spring 1997 (\$36,125)

American Chemical Society, Petroleum Research Fund, Type G Starter Grant, Spring 1998 (\$20,000)

Georgia Water Resources Institute Program (USGS), Spring 1998 (\$144,341)

Environmental Protection Agency, STAR Grant (Randall Kath, PI), Spring 1998 (\$99,154)

Georgia Water Resources Institute Program (USGS), Spring 1999 (\$156,935)

National Science Foundation CAREER Program, Summer 1999 (\$227,475)

National Science Foundation Collaborative Proposal, 2003 (\$150,738)

National Science Foundation REU Proposal, 2005 (\$114,325)

Reports

- Cave Spring Flow and Groundwater Geochemistry. Prepared for City of Cave Spring, Georgia (2000).
- River Place Apartments Runoff Study. Prepared for Place Collegiate Properties, Atlanta, Georgia (2000).
- Rolater Park Swimming Area Use Plan. Prepared for City of Cave Spring, Georgia in Cooperation with Rolater Park Board (2001).
- Discharge and Water Chemistry of Cave Spring, Cave Spring, Georgia: January – June 2001. Prepared for City of Cave Spring (2001).

Awards and distinctions

- Recognized by Student Disability Services for outstanding efforts on behalf of students with disabilities (1996-97 and 1997-98 academic years)
- Sponsor of winner, State University of West Georgia Sigma Xi, 1998 Student Research Presentation Competition
- Sponsor of “Best Student Speaker, Earth and Atmospheric Sciences”, 1998 Georgia Academy of Science Meeting
- Sponsor of “Best Student Speaker, Earth and Atmospheric Sciences”, 1999 Georgia Academy of Science Meeting
- Sponsor of “Best Student Speaker, Earth and Atmospheric Sciences”, 2004 Georgia Academy of Science Meeting

Professional Development Activities

- Georgia Academy of Science meeting, Albany, GA (3/96)
- Council on Undergraduate Research conference (6/96)
- Connecting Teachers and Technology Conference (9/96)
- Georgia Geological Society Fieldtrip, “The Cartersville Fault, Revisited” (10/96)
- Geological Society of America annual meeting, Denver, CO (11/96)
- Received Professional Geology Registration in the state of Georgia (1/97)
- Georgia Academy of Science meeting, Carrollton, GA (3/97)
- Georgia Geological Society Fieldtrip, “Geology of the Georgia Piedmont in the Vicinity of Athens and Eastern Metropolitan Atlanta Area” (10/97)
- College of Arts and Sciences Computer Training: Intermediate Excel (2/98)
- College of Arts and Sciences Computer Training: GIS (2/98)
- Georgia Academy of Science meeting, Savannah, GA (3/98)
- College of Arts and Sciences Computer Training: Intermediate Power Point (5/98)
- Geological Society of America annual meeting, Toronto, Canada (10/98)
- Georgia Academy of Science meeting, Lawrenceville, GA (3/99)
- Geological Society of America, Southeastern Section meeting, Athens, GA (3/99)
- Geological Society of America annual meeting, Denver CO (11/99)
- Geological Society of America Field Trip, “Hydrogeology of Manitou Springs and Cave of the Winds, Colorado”

Georgia Academy of Science meeting, Valdosta, GA (3/00)
Geological Society of America annual meeting, Reno NV (11/00)
Georgia Academy of Science meeting, Brunswick GA (3/01)
Geological Society of America, Southeastern Section meeting, Raleigh NC (3/01)
Geological Society of America meeting, Denver CO (10/01)
Geological Society of America meeting, Boston MA (10/02)
Geological Society of America meeting, Seattle WA (10/03)
Georgia Academy of Science meeting, Rome GA (3/04)