

MEGAN E. CARR

6904 WOODLAND LANE • KNOXVILLE, TN 37919
(281) 229-3400 • MEGCARR44@GMAIL.COM

NEAR-SURFACE ENVIRONMENTAL GEOPHYSICIST

I have established a professional career in the environmental sciences, geosciences, and academia through collaboration with multiple organizations and interdisciplinary team-based approaches to problem solving. Specific areas of expertise are:

- Ground Penetrating Radar (GPR)
 - Magnetic Gradiometry
 - Electro-Magnetic Geophysical Techniques
 - Quantitative Data Integration
 - Environmental Consulting
 - Soil Sciences
 - Watershed Management
 - Community Outreach and Education
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EDUCATION

August 2006 – Present

PhD Candidate in Geophysics; University of Tennessee, Knoxville, TN (Gregory S. Baker)

Dissertation topic: *Quantitative Integration of Multiple Near-Surface Geophysical Techniques for Improved Subsurface Imaging and Reducing Uncertainty in Discrete Anomaly Detection*

August 2002 – August 2004

MS Environmental Science; Baylor University, Waco, TX (Joe C. Yelderman Jr.)

Thesis Topic: *A Comparison Study of Various Dispersal Methods for On-Site Sewage Facilities Within the State of Texas*

August 1998 – August 2002

BA Earth Science and Environmental Studies; Baylor University, Waco, TX (Susan Bratton)

Thesis Topic: *Evaluation of the Plans for Channelization of Clear Creek within Friendswood, Texas, Utilizing the HEC-RAS and Flow Master Hydrologic Models*

Continuing Education Courses:

- *Processing of Seismic Refraction Tomography* presented by Intelligent Resources, Inc., USGS, and Battelle in Keystone, CO. April 2010
- *Principles and Applications of Seismic Refraction Tomography* presented by Intelligent Resources, Inc., USGS, and Battelle in Keystone, CO. April 2010
- *Multi-Disciplinary Subsurface Integration in Exploration and Production* presented by ExxonMobil in Houston, TX. March 2009.
- *Seismic Interpretation in the Exploration Domain* presented by SEG (Society of Exploration Geophysicists) in Houston, TX. February 2007.
- *Trans Appalachians Internides Geotraverse* presented by Robert Hatcher (University of Tennessee). Two day field trip during Fall of 2006.
- *Mapping and Flood Damage Reduction Using LIDAR, NEXRAD, and GIS* presented by Phil Bédient (Rice University) in Houston, TX. November 2004.

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WORK EXPERIENCE**September 2009 – Present**

Research Associate with The Analytic Science Corporation (TASC), formerly a division of Northrop Grumman Corporation; Coordinate efforts between the University of Tennessee Environmental Geophysics Group, TASC, Department of Homeland Security, and Border Patrol for design and implementation of project goals. Develop reports and present findings to appropriate parties. Manage equipment and trouble-shoot technical issues.

June 2009 – December 2009

Project Manager for East Tennessee Geosciences Program; Managed “Diversity in the Geosciences” NSF grant; Coordinate undergraduate students in groups under-represented in the geosciences with faculty members to serve as assistants in various research projects.

December 2007 – May 2009

Research Assistant with Archaeological Research Lab, Department of Anthropology, University of Tennessee; Organize collection of geophysical data, process and integrate data, write reports, assist archaeologist in selection of excavation sites and targets of various projects. Trained and coordinated team of undergraduate students in collection of field data, operation of equipment, and processing of data.

August 2006 – Present

Teaching Assistant for Earth and Planetary Sciences Department, University of Tennessee; Instruct students in basics of geology and the application of geologic principles in everyday life. Prepare lectures, quizzes, and exams. Assist professors in coursework and grading.

August 2004 – August 2006

7th Grade Science Teacher with Clear Creek ISD (League City, TX); Design state aligned curriculum; Plan and implement laboratory activities to expand on concepts within curriculum; Create various methods of assessment of course material for specific learning styles.

May 2003 – August 2003

Environmental Engineering Internship with Brazos River Authority (Waco, TX); Maintained datasheets on projects, GIS applications, Trained in Risk Assessment of Dam Security, Put together reports for resident engineers and hydrologists.

August 2002 – May 2004

Teaching Assistant for the Baylor Interdisciplinary Core (BIC) Natural World Program at Baylor University; Prep and breakdown laboratory exercises weekly, Instruct students in laboratory procedures and lecture on material.

September 2002 – September 2004

Consultant for Brazos On-Site Consulting (Waco, TX); Perform on-site evaluations for environmental compliance of septic systems, soil analysis and texture classification. Comprise reports and complete statistical analysis of data.

Summer 2002

Research Assistant with Department of Environmental Science at Baylor University; Studied and compared the effects of the fishing industry at various sized villages/ports in England and Ireland; Compiled statistical data and prepared reports for further study with the grant.

October 1999 – March 2004

Sampling Coordinator for Baylor Onsite Wastewater Program (Waco, TX); Maintain a daily log for experimental technologies, data entry, perform basic chemical laboratory techniques.

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COMPUTER/TECHNICAL LITERACY

- Adobe Acrobat Suite
 - Ekko_Mapper
 - MATLAB
 - Oasis Montaj
 - ArcGIS
 - Ekko_View Delux
 - Microsoft Access
 - SAS
 - Archeosurveyor
 - Flow Master
 - Microsoft Office Suite
 - Visual Modflow
 - DAT 31W
 - HEC-RAS
 - ODEC Stratabox
 - Surfer
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PROFESSIONAL AFFILIATIONS

- Geological Society of America (GSA)
 - American Geophysical Union (AGU)
 - Environmental and Engineering Geophysical Society (EEGS)
 - Sigma Xi Honor Society
 - Society of Exploration Geophysicists (SEG) and served as President of Student Chapter (2008-2010)
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AWARDS AND HONORS

- GSA Travel Award
 - Sigma Xi Research Grant
 - University of Tennessee Travel Award
 - AGU Travel Award
 - William Ross Scholarship
 - State of Texas Classroom Enhancement Grant
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PUBLICATIONS AND PROFESSIONAL PRESENTATIONS

A comparison of disposal methods for on-site sewage facilities within the state of Texas, USA. Megan E Carr, David L Jumper, and Joe C Yelderman Jr., *Environmentalist* (2009) 29:381-387

- GSA Annual Meeting in Denver, CO (October 2007)
 - Southeastern Archaeological Conference in Charlotte, NC (November 2008)
 - AGU Annual Meeting in San Francisco, CA (December 2008)
 - Will be presenting at the EEGS Annual Meeting in Keystone, CO (April 2010)
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COMMUNITY OUTREACH

- Teach elementary children at McClung museum within the geologic exhibit (University of Tennessee)
 - Teach inner-city high school students during summer programs on water quality within Chattanooga, TN
 - Ecological enhancement projects along Third Creek in Knoxville, TN
 - Trail building with the Appalachian Mountain Bike Club across Oak Ridge and Knoxville, TN area
 - Instructor for the Earth and Planetary Sciences Department (University of Tennessee) Earth Science Fair
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REFERENCES

Available upon request