

Geological Sciences

Refereed Publications

Barton, C.C, Genova Ezequiel, and Barton C.C., 2004, Global positioning system accuracy and precision at Hubbard Brook Experimental Forest, Grafton County, NH: A guide to the limits of handheld GPS receivers: U.S. Geological Survey Open File Report 03-316 (CD-ROM).

Barton, C.C., Johnson C.E., and Barton C.C., 2004, Using GPS effectively in environmental field studies: *Frontiers in Ecology and the Environment*, v. 2, issue 9, p.475-482.

Dai, Z., Ritzi R.W., and Dominic D.F., 2004, Estimating parameters for hierarchical permeability correlation models, in *Aquifer Characterization*, Eds. J. Bridge and D Hyndman, SEPM Special Publication No. 80, SEPM Publishing, Tulsa, p.41-54.

Dai, Z., Ritzi, R. W., Huang C., Y. Rubin and Dominic D. F., 2004, Transport in heterogeneous sediments with multimodal conductivity and hierarchical organization across scales, *Journal of Hydrology*, v. 294, Issues 1-3, p. 68-86.

Genova Ezequiel, and Barton C.C., 2004, Global positioning system accuracy and precision at Hubbard Brook Experimental Forest, Grafton County, NH: A guide to the limits of handheld GPS receivers: U.S. Geological Survey Open File Report 03-316 (CD-ROM).

Hurley A., Watts D.R., Burke B., Richards C., 2004 Identification of Gypsy Moth Infestations in Ohio using Landsat Data. *Environmental & Engineering Geoscience*, V 10, pp. 321-328.

Johnson C.E., and Barton C.C., 2004, Using GPS effectively in environmental field studies: *Frontiers in Ecology and the Environment*, v. 2, issue 9, p.475-482.

Proce, C.J., R.W. Ritzi, D.F. Dominic, and Z. Dai, 2004, "Modeling multi-scale heterogeneity and aquifer interconnectivity," *Ground Water* 42(5): 658-672

Ritzi, R.W., Z. Dai, D.F. Dominic and Y.N. Rubin, 2004, "Spatial correlation of permeability in cross-stratified sediment with hierarchical architecture," *Water Resources Research* 40: p. 3515-3529

Reuter J. C., Watts D.R., 2004, An ancient river channel system incised on the Precambrian-Cambrian unconformity beneath Jackson County, Ohio, *American Association of Petroleum Geologists Bulletin*, V 88, 1041-1048.

Slattery W., Meyers R.J., Kunk,K., 2004, Ripples of learning: A middle school teacher's application of content and pedagogy learned in the ESSEA online earth systems science

course: Journal of Earth System Science Education, 1 (Article), JESSE-04-400-06, 2004, <http://jesse.usra.edu/archive/jesse04-400-06>

Watts, D. R. 2004, Paleomagnetic determination of the age of the Serpent Mound Disturbance, Ohio Journal of Science, V 104, pp 101-108.

Presentations

Goltz, M.N., A. Agrawal, D.L. Phillips, M.R. Stevens, and M.D. Welling, Application of Palladium (Pd) Catalysis with Formic Acid as a Reductant for In Situ Treatment of Groundwater Contaminated with Chlorinated Aliphatic Hydrocarbons (CAHs) and Nitroaromatic Compounds (NACs), Partners in Environmental Technology Technical Symposium and Workshop, Washington DC, 30 November 2 December 2004.

Agrawal A., Goltz M.N., Phillips D.L., Stevens M.R., and Welling M.D., Application of Palladium (Pd) Catalysis with Formic Acid as a Reductant for In Situ Treatment of Groundwater Contaminated with Chlorinated Aliphatic Hydrocarbons (CAHs), Nitroaromatic Compounds (NACs), and Nitrate, Proceedings Third International Conference on Oxidation and Reduction Technologies for In-Situ Treatment of Soil and Groundwater (ORTs-3), San Diego CA, 25-28 October 2004.

Pallavi K., Agrawal A. and Goltz, M.N.. Bench-scale treatment of nitrate contaminated groundwater with palladium catalyst and formic acid. Proceedings Battelle 4th International Conference on Remediation of Chlorinated and Recalcitrant Compounds, Monterey CA, 24-27 May 2004.

Barton C.C., Tebbens S.F., Burroughs S.M., Dismukes J.S., and Morton R.A., Forecasting shoreline position: Fall Meeting of American Geophysical Union, 13-17 Dec. 2004. (invited)

Barton C.C., Presented two invited lectures at Department of Earth and Atmospheric Sciences, Cornell University, Ithaca, NY. (June 2004)

Barton C.C., Presented lecture at Hubbard Brook Cooperators Meeting (July 2004)

Barton C.C., Presented lecture at WSU Biology Dept. Colloquium (Sept. 2004)

Barton C.C., Presented invited lecture at annual meeting of American Geophysical Union (Dec. 2004)

Barton C.C., Invited Session Chair, Modeling and Forecasting Complexity in Geophysical Systems: Role of Global and Multiscale Processes, Fall Meeting of American Geophysical Union (Dec. 2004)

Shi P., Cheng S., and Smith S.. 2004. Acid lake identification using GIS and Remote Sensing. GSA Annual Meeting, Denver, Colorado, Session 123, poster.

Kurylo L, and Cheng S., 2004. Biogeochemistry of a eutrophic lake, west-central Ohio. GSA North Central Section Meeting, March, St. Louis, Missouri. GSA Programs with Abstracts, vol. 36, no. 3.

Kamann Patrick J., Ritzi Robert W. Jr , Dominic David F., And Dai Zhenxue, Porosity And Permeability In Sediment Mixtures: Geological Society of America Abstracts with Programs, Vol. 36, No. 5, p. 133 (Annual Meeting)

Ritzi, Robert W., Dominic, David F., and Dai, Zhenxue, Future Needs For Representing Aquifer Architecture In Hydrogeologic Modeling, Geological Society Of America Abstracts With Programs, Vol. 36, No. 5, P. 27, (Annual Meeting invited)

Dominic, Roy, Moutusi, Dominic, David F., and Ritzi, Robert W., The Spatial Distribution Of Permeability In Depositional Sedimentary Structures, Geological Society of America Abstracts with Programs, Vol. 36, No. 5, p. 133, (Annual Meeting).

Ritzi, R.W., Z. Dai, and D.F. Dominic, 2004, "The future of representing aquifer architecture in hydrogeologic modeling," Geological Society of America Abstracts with Programs, Vol. 36, No. 5, p. 27.

Dai, Z, X. Samper, and R.W. Ritzi, 2004, "Inverse modeling of water flow and multicomponent reactive transport in coastal aquifer systems," Geological Society of America Abstracts with Programs, Vol. 36, No. 5, p. 325.

Doyle Watts, Maddula, R., and Watts, D. R., 2004, Using MODIS data to identify gypsy moth infestations, East Lakes Division of the Association of American Geographers, Program with Abstracts p14 (invited)

Doyle Watts, Reuter, J., and Watts, D. R., 2004, Voxel-based interpretation of a 3-D Seismic Data Volume from Jackson County, Ohio, American Association of Petroleum Geologists Eastern Section, Program with Abstracts, p117.

Doyle Watts, Mason, G., Watts, D. R., Bean, D., Baranoski, M. T., and Brown, M., 2004, The Ohio Dillon Falls Subsurface Structure: Impact or Tectonic Feature. American Association of Petroleum Geologists Eastern Section, Program with Abstracts, p104.

Invitations to Chair Symposia

Barton, C.C. - Modeling and Forecasting Complexity in Geophysical Systems: Role of Global and Multiscale Processes, Fall Meeting of American Geophysical Union

Editorial Board Membership

Dominic – Associate Editor, Journal of Sedimentary Research

Offices Held in National Professional Organizations

Ritzi - Geological Society of America, Hydrogeology Division, Past Chair. Geological Society of America, Committee on External Awards

Special Events

Dayton Area Geology Alumni Reception held at Department, organized by Barton with help from the Dean's office. (Oct. 2004)

Faculty Awarded Professional Development Leave

Agrawal- Winter and Spring Quarters 2004 – NASA Stennis Space Center, Mississippi and John's Hopkins University. Impact of land use on stream water quality and role of surface characteristics in environmental remediation processes.

Slattery – Fall Quarter 2004.

Student Clubs and activities

Sigma Gamma Epsilon Honor Society (SGE) and the American Institute of Professional Geologists (AIPG)

Annual Events:

AIPG Annual Dinner
Quarterly Adopt A Highway Cleanup
Located on off and on ramps of 844 near campus
Cleaned once a quarter
Earth Science Week
Movie Night
Book Sale
Booth for student awareness in Quad
Decoration of the Department
Teaching in local schools
Student field trips
Ronald McDonald Penny Drive
May Daze Booth
SGE/AIPG Annual Senior Banquet
Tarr Award
Field Camp Scholarship
Numerous fundraisers for club activities

Undergraduate honors students

Karly Howerton, Dr. Cindy Carney, Depositional History and Diagenesis of a Pleistocene Core from Andros Island, Bahamas

Off campus or special interest courses – faculty, purpose, location

Cindy Carney - One-day workshop at Ohio University, "An Island as an Environment, the Hydrogeology of Andros Island, Bahamas.

Graduate students – List of those who graduated in 2004

Title of Thesis or Presentation

Christopher Atchison - Tools for Everyday Approaches to Science: A Model Curriculum of Magnetism and Technology for the Middle School Student

Robert Bonham - 7th Grade Science Unit: Does Overpopulation Affect our Ecosystem?

Caryn Bonham - Silurian Period Coral Reefs in Fairborn, Ohio?

Christopher Buckman - Mapping of Bedrock Depth with Seismic-Reflection Using a Stationary Floating Hydrophone Array, Romeoville, Illinois

Adrienne Clemens - The Effects of Human Activity on the Environment

Katrina Dietrich - New Science Indicators Met Through Field Trips to a Local Park Making the Future Fairborn Geology Park User Friendly and Effective for Teachers and Students in K-2 Classrooms

Jacqueline Ehresman - Future Fairborn Geology Park User Friendly and Effective for Teachers and Students in K-2 Classrooms

Patrick Kamann - Porosity and Permeability in Sediment Mixtures

Jason Lach - Treatment of Contaminated Groundwater in a Constructed Wetland: A Biogeochemical Analysis

Angela Q.Lehtimaki - Water Quality Analysis and Land Use Influences within the Stillwater River Watershed Region

Mark Loughridge - Earth Science, the Scientific Method, and a Science Fair

Robin Manning - The Rainforest

Kimberly McEldowney - Let's Build a Home Using Technology to Teach Soil Science

Kurtz Miller - Exploring the Geoarchaeology of Sunwatch Indian Village and Archaeological Park: Using Ground Penetrating Radar and Resistivity Data Volumes to Delineate Limestone Slab-Covered Burial Sites

Beth Ray - A Sixth Grade Pilot Test Program of the CUES Science Curriculum

Moutusi Roy - The Spatial Distribution of Permeability in Depositional Sedimentary Structures

Margret Smart - Using Remote Sensing to Correlate Changes in Land Use with Changes in Water Quality: An Analysis of the Upper Little Miami River Watershed

Christina Specker -A Guide to the Rocks and Fossils of the Oakes
Quarry Park: Integrating Field and Lab Exercises

Erin R. Watson - Kindergarten Recycling

Tracey Wise - The Oakes Quarry Park: Educational Resources for Grades 9-12