

Geology

Publications

Dr. Robert W. Ritzi, Jr.

Ritzi, R.W., Z. Dai, D.F. Dominic, and Y.N. Rubin, 2003, "Review of permeability in buried-valley aquifers: centimeter to kilometer scales," in *Calibration and Reliability in Groundwater Modelling: A Few Steps Closer to Reality*, K. Kovar, ed., IAHS Publication no. 277, International Association of Hydrologic Sciences Press.

Dr. William Slattery

Slattery, William, Brame, Roderic (2003) Supporting the Standards: A Master's Degree Program for K-12 Teacher Professional Development. *Journal of Geoscience Education*. Volume 51, number 3.

Dr. Doyle R. Watts

Baranoski M.T., Shumacher G.A., **Watts D.R.**, Carlton R.W. 2003, *Subsurface Geology of the Serpent Mound Disturbance, Report of Investigations*, no. 146, State of Ohio Division of Geological Survey, 60 pages.

Talks: Presentations and Invited Talks

Dr. Abinash Agrawal

At The Center for Higher Learning, NASA's Stennis Space Center, MS:
"Water Quality Investigations in the Great Miami River Watershed "
[Host: Keith Long, Associate Director]

Dr. Cindy K. Carney

Carney, C., 2003, "Lagoons to Dune: Bahamian Analogs for Mississippian Carbonate Deposition in the Appalachian Basin," presented at the Geology Department, Youngtown State University

Friedrich, A.P., and **Carney, C.**, 2003, "A Facies Analysis of a Carbonate Deposit in the Brassfield Formation Near Fairborn, Ohio": Geological Society of America Annual Meeting, Seattle, WA.

Dr. David F. Dominic

Dominic, D.F., R.W. Ritzi, and Z. Dai, 2003, "Modeling multi-scale heterogeneity in buried-valley aquifers using indicator geostatistics," Geological Society of America, Annual Meeting, Seattle, WA. Invited

Ritzi, R.W., Z. Dai, **D.F. Dominic**, and Y.N. Rubin, 2003, Why did Sudicky (1986) find exponential spatial correlation in permeability at the Borden site?," Geological Society of America, Annual Meeting, Seattle, WA. Invited

Dai, Z., Ritzi, R.W., **D.F. Dominic**, and Y.N. Rubin, 2003, "Relating spatial correlation of permeability to sedimentary architecture in outcrop-analog studies," Geological Society of America, Annual Meeting, Seattle, WA. Invited

Dr. Robert W. Ritzi

Ritzi, R.W., **Z. Dai**, D.F. Dominic, and Y.N. Rubin, 2003, Why did Sudicky (1986) find exponential spatial correlation in permeability at the Borden site?," Geological Society of America, Annual Meeting, Seattle, WA. Invited.

Dai, Z., **Ritzi, R.W.**, D.F. Dominic, and Y.N. Rubin, 2003, "Relating spatial correlation of permeability to sedimentary architecture in outcrop-analog studies," Geological Society of America, Annual Meeting, Seattle, WA. Invited

Dominic, D.F., **R.W. Ritzi**, and Z. Dai, 2003, "Modeling multi-scale heterogeneity in buried-valley aquifers using indicator geostatistics," Geological Society of America, Annual Meeting, Seattle, WA. Invited

Dr. William Slattery

On-line Earth Systems Science Courses for Middle School Classroom Educators. Joint presenter of workshop at Science Education Council of Ohio Conference, Dayton, Ohio.

Myers, Robert J., Davis, Hilarie B., Botti, James A., **Slattery, William**, (2003), A Professional Development Model for K-4 Earth Systems Science Teachers. American Educational Research Association Chicago, Illinois, April 2003.

Scheerschmidt, Julie, **Slattery, William**, (2003), Sun, Sand and Science: An Inquiry-based Ocean Study in a Fourth Grade Class. Presented to the Geological Society of America, Annual Meeting, November 4, 2003, Seattle, Washington.

Slattery, William (2003), Linking K-12 Teacher Professional Development To Inquiry-Based Learning in K-12 Classrooms. Geological Society of America North-Central Meeting, March, 2003, Kansas City, Missouri.

Slattery, William (2003), Using an ESSEA Earth Systems Science Course in a Web Enhanced Setting For Pre-Service Middle School Teachers. American Geophysical Union Fall Meeting, San Francisco, CA. Invited

Dr. Doyle R. Watts

Remote Sensing of Gypsy Moth Infestation in Ohio, presented at OhioView meeting at Ohio Aerospace Institute in Cleveland, Ohio.

Remote sensing and management of invasive species: The Gypsy Moth in North America, July 21, 2003, Environmental Change Institute, University of Oxford, Oxford, England.

Beneath the cornfields. Seismic images of possible impacts and ancient topography in Ohio, USA, Department of Earth Sciences, March 21, 2003, The Open University, Milton Keynes, England.

Beck, R.A., Vincent, R.K., **Watts, D.R.**, Seibert, M., Pleva, D., Cavley, M., Scott, T., Harter, D. Kosmo, J., Ross, A., Groneman, K., Rojas, S., NASA Mobile Lunar and Planetary Science Module, 24th Lunar and Planetary Science Conference, Houston, TX.

Harris, M., Zhang, H.F., and **Watts, D.** 2003, The North Himalayan Granites of the Tethyan Himalaya, 18th Himalaya- Karakoram, Tibet Workshop, Ascona.

Symposia: Invitations to Participate or Chair Symposia

Dr. Ernest Hauser

Participation in Ohio Seis Workshop, Ohio Geological Survey, Alum Creek.

Dr. William Slattery

Session Chair – Volunteering in K-12 Settings. Geological Society of America
Annual Meeting, Seattle, Washington

Editorial Boards

Dr. David F. Dominic

Associate Editor for *Journal of Sedimentary Research*

Reviews for SEPM Special Publication #39 edited by J. Bridge and D. Hyndman

Dr. Ernest Hauser

Review of book: "Environmental Geology Today" by Abel and McConnell, published by Prentice Hall

Dr. Robert W. Ritzi, Jr.

Manuscript review for *Water Resources Research*

Manuscript review for *Groundwater*

Manuscript review for *Journal of Hydrogeology*

Dr. William Slattery

NASA Educational Product Development Reviewer

Manuscript reviewer, *Journal of Geoscience Education*

American Geological Institute Advisory Board for Middle School Earth Systems Science Textbook Development (CUES)

Study Sections: Membership in Granting Agency Study Section

Dr. Abinash Agrawal

Member of the review committee of the USDA Small Business Innovative Research Grants (1998-Present): to evaluate research proposals submitted to the USDA annually for funding in the field of environmental restoration and management technologies.

Dr. Cindy K. Carney

Review Committee, North Central Geological Society of America,
Undergraduate Research Grants

Dr. Robert W. Ritzi, Jr.

Technical Review Committee, Wright Patterson Air Force Base,
Environmental/Hydrogeology

Dr. William Slattery

Proposal Reviewer, Ohio Environmental Education Fund, Ohio
Environmental Protection Agency

National Offices: Offices in Nat'l Professional Organizations

Dr. Cindy K. Carney

Award Committee, Association of Women Geoscientists Outstanding
Educator

National Vice President, Northeastern Province, Sigma Gamma Epsilon
Management Board Member, North Central Geological Society of America

Dr. Ernest Hauser

Board Member of IRIS (Incorporated Research Institutions for Seismology)

Dr. Robert W. Ritzi, Jr.

Chair of Hydrogeology Division of Geological Society of America
Management Board, Hydrogeology Division of Geological Society of America
Ohio Geology Advisory Council, Appointed by the Governor of Ohio

Dr. William Slattery

Treasurer, Geological Society of America, Geoscience Education Division
Management Board Member (Secretary-Treasurer) of the Geological Society
of America Geoscience Education Division

Organizing/Hosting Special Events, Symposia, Colloquia

Colloquium, *"Modeling as the Future of Geologic Mapping"*, Dr. Don Keefer, Illinois State Geological Survey, 101 Fawcett Hall, Department

Colloquium, *"The Use of a Shear-Wave Land-Streamer, Possible Future Applications in Hydrogeology"*, Dr. Andre Pugin, Illinois State Geological Survey, 101 Fawcett Hall, Department

Colloquium, *"Using GIS Tools for Site Evaluation; A Case Study in the Upper Mad River Watershed"*, Wayne Jones, Ohio Department of Natural Resources, 206 Fawcett Hall, Department

Colloquium, *"Emerging Issues in Risk Assessment"*, Dr. Bill Adams, Rio Tinto Inc. And US EPA Science Advisory Board, 206 Fawcett Hall, Department

Colloquium, *"Gastroliths and Hyperconcentrated Flows: Sedimentology of Diamictites and Wackes of the Upper Cloverly Formation, Wyoming"*, Dr. Michael Zaleha, Wittenberg University, 206 Fawcett Hall, Department

Colloquium, *"Remote Sensing and GIS as Counter-Terrorism Tools in the Afghanistan War: A Case Study of the Zhawar Kili Region"*, Dr. Richard Beck, University of Cincinnati, 101 Fawcett Hall, Ernest Hauser

JOI/USSAC Lecture, *"Extreme Climates, Frozen Methane and Exotic Microbes: A Global Carbon Cycle with Gas Hydrates"*, Dr. Jerry Dickens, Rice University, 101 Fawcett Hall, Ernest Hauser

Colloquium, *"The Use of Geophysics in Developing Brownfield Investigation and Remedial Strategies"*, John Mundell, Mundell and Associates, 206 Fawcett Hall, Ernest Hauser

Birdsall-Dreiss Distinguished Lecturer in Hydrogeology, *"Geochemical Heterogeneity of Groundwater in Uncontaminated and Contaminated Aquifers"*, Dr. Jean Bahr, University of Wisconsin – Madison, Student Union Multipurpose Room, Robert Ritzi

Colloquium, *"A Hydrogeochemist's Perspective on Organic Contaminant Transport in Ground Water"*, Prof. Richelle Allen-King, Washington State University, E163 Student Union, Robert Ritzi

Professional Development Leave

Dr. David F. Dominic

Winter 2003, Binghamton University, Relationship between the stratigraphic deposition of sedimentary rocks and their permeability.

Dr. Abinash Agrawal

Awarded leave for Winter 2004, John Hopkins University, Characterization of key processes and signatures that express geochemistry of soil particles in the presence of natural biomolecules.

Awards to Faculty, Staff, Students

Krishna Pallavi, MS Student Excellence Award, Outstanding MS Graduate Student

Francesca Niekamp, MST Student Excellence Award, Outstanding MST Graduate Student

Erika Josson, \$1000, Ohio Gem and Mineral Scholarship, Academic Excellence in Earth Science

Christy Jacobs, \$1000, Ohio Gem and Mineral Scholarship, Academic Excellence in Earth Science

Amity Tomoser, Shannon Gardner, Karly Howerton, Eric Gerding, \$500, Support for field camp, awards based on academic performance

Outreach Programs

GEO Program

The Geological Sciences Educational Outreach Program provides lessons for elementary, middle, and high school teachers in the Miami Valley. Students from the Geology Department visit the schools and present the material. Five students from the geology department taught sessions for approximately 500 children who participated in the program. Started by Dr. Roderic Brame.

Earth Science Week

Increases awareness of earth science by providing information on environmental issues both locally and globally and provides information about Ohio geology. Student members of AIPG and SGE participated.

Predator and Prey

Program designed for students in the Mini University. Dr. Roderic Brame introduced predation during the time of the dinosaurs. Two students participated from the geology department.

Geology Module: Discovering Earth's Mysteries

A program sponsored by the College of Science and Math for high school students to explore different programs offered within the College. Ten students from the department participated.

TechFest 2003

A program sponsored by Affiliate Societies Council of Dayton to introduce science and technology to school children, teachers, and parents. Held at Sinclair College, Dayton OH. Over 1000 people attended the event. Songlin Cheng organized the department's booth.

Dayton Children's Ground Water Festival

A program sponsored by the City of Dayton Environmental Advisory Board. Robert Ritzi participated in the appreciation luncheon for sponsors of the event.

Graduate Forum, Geological Society of America

The GSA sponsors a graduate recruitment forum for prospective MS and Ph.D students at the annual meeting. Dr. David Dominic designed the poster display and several faculty spent time talking to interested graduate students.

Science Education Council of Ohio (SECO)

The department supports an exhibit booth and MST student to give out information on department MST programs and recruit interested students.

2003 Student Clubs

American Institute of Professional Geologists – Faculty Advisor, Ernest Hauser

Adopt-a-highway program

Sponsored a meeting for the Ohio Section of AIPG

Co-sponsored the Geology Department's annual dinner

Participates in Earth Science Week activities

Sigma Gamma Epsilon – Faculty Advisor, Cindy Carney

Adopt-a-highway program

Co-sponsored the Geology Department's annual dinner

Offers programs for elementary, middle, and high school students

Participates in Earth Science Week activities

Undergraduate Honors Students

Brian Bayliss

Cindy Carney
Mapping of Geologically Significant Features in the Brassfield Quarry
Park, Fairborn, Ohio

Jeffery Bird

Roderic Brame
Devonian fossils reference collection

Eric Gerding

Ernest Hauser
Sedimentological Investigation at a Prospective Sand and Gravel
Operation near Dayton, Ohio

Gina Hayes

Ernest Hauser
Hydrological Investigation of a Prospective Sand and Gravel
Operation, Troy Street, Dayton, Ohio

Gregory Horch

Songlin Cheng
Analysis of Water Quality through Land Use: A GIS Approach

Karly Howerton

Cindy Carney
Depositional History and Diagenesis of a Pleistocene Core from
Andros Island, Bahamas

Erika Jossen

Ernest Hauser
Geophysical Investigations at a Prospective Sand and Gravel
Operation Near Dayton, Ohio

Amity Tomoser

Songlin Cheng
Bio-Chemistry Field Investigation on an Eutropic Lake, Crystal Lake,
Medway, Ohio

Off Campus or Special Interest Courses

Dr. Cindy K. Carney

One-day workshop at Ohio University, "An Island As An Environment".

Dr. William Slattery

Joint presenter of workshop at Science Education Council of Ohio
Conference, Dayton, Ohio, February 21, 2003.

Dr. Doyle R. Watts

Ohio View Polycom Colloquium, February 8, 2003, Remote Sensing Using
Sound and Light, Seismic and Satellite Images of Possible Impacts and
Ancient Topography in Ohio

Graduate Students Graduating

Anderson, Jeff

MST

The Northwest Local School District Intermediate Land Lab Project
Grades Fifth and Sixth
Cincinnati, OH
Pleasant Run Elementary

Bauer, Michelle

MST

Characterizing the Impact of Urban Sprawl on Surface Water Quality
in and Around the City of Dayton: Mad River Watershed in Fairborn
and Huber Heights
Beavercreek, OH
Mary, Help of Christians

Fielden, Torrie

MST

Recycling Waynesville
Waynesville, OH
Waynesville Middle School

Griffiths, Jennifer

MST

Curriculum Development: Land Lab Exploration: An Inquiry into
Earth Science
Bedford Heights, OH
Independence High School

Hurley, Angela

MS

Identification of Gypsy Moth Defoliation in Ohio Using Landsat Data
Cincinnati, OH
Payne Associates

Kunk, Kelly

MST

Madtodon Peat and Marl Exploration
St. Henry, OH
Moulton Elementary School

Martin, Jessica

MST

Characterizing the Impact of Urbanization on Surface Water Quality in
and Around the City of Dayton: Mad River Watershed
New Carlisle, OH
Nevin Coppock Elementary School

McCauley, Regina MST

How Can I Participate?

Xenia, OH

Central Middle School

O'Reilly, Brenda MST

Characterizing the Impact of Urban Sprawl on Surface Water Quality
in and Around the City of Dayton: Honey Creek Watershed

New Carlisle, OH

Subbing in the Tecumseh district

Pallavi, Krishna MS

Bench-Scale Investigation of Catalytic Reduction of Nitrate by Formic
Acid and Pd/ γ -Alumina Catalysts: Implications for Groundwater
Remediation

Herndon, VA

Seeking employment in Virginia

Rabanus, Patty MST

Earth System Science Education Through Inquiry and Problem Based-
Learning for the Fifth Grade Classroom

Dayton, OH

Mad River Middle School

Resendes, Nicole MST

The Northwest Local District Intermediate Land Lab Project

Cincinnati, OH

Taylor Elementary School

Riethman, Craig MST

Curriculum Development.

Maria Stein, OH

Ansonia Elementary School

Rogers, John MS

3D Resistivity Imaging of Lithological Variations within a Levee along
the Great Miami River near West Carrollton, Ohio

Knoxville, TN

Environmental Sciences, Shaw E & I

Scheersmidt, Julie MST

Coastal Field Study at Sandy Hook, New Jersey

Xenia, OH
Currently not Teaching

Shafer, Allison Wallace MST

The Weather Club.
Dayton, OH
New Carlisle Middle School

Smith, Tracy Holste MST

Characterizing the Impact of Urban Sprawl on Surface Water Quality
in and Around the City of Dayton: Wolfe Creek Area
Springboro, OH
Richard Allen Preparatory

Swayne, Karen MST

An Analysis of Teaching for Effectiveness Through the Study of the
Natural History of Adams County.
Peebles, OH
Peebles High School

Varuska, Cheryl MST

What is the Water Quality of the Ponds Where I Live?
St. Mary's, OH
Waynesfield Goshen High School

Walsh, Tracie MST

Discovering Peat and Marl in the 2 to 4 Grade Classroom
Kettering, OH
C.F. Holliday Elementary School

Wyckoff, Emory MST

The Conservation of Natural Resources and their Critical
Responsibility to Human Activity
Dayton, OH
Richard Allen Preparatory