DAVID B. HACKER

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EDUCATION

PH.D. - DECEMBER 1998 **- KENT STATE UNIVERSITY**

Dissertation: Catastrophic Gravity Sliding and Volcanism Associated with the Growth of Laccoliths: Examples from Early Miocene Hypabyssal Intrusions of the Iron Axis Magmatic Province, Pine Valley Mountains, Southwest Utah.
Major: Applied Geology
Award: Department of Geology Outstanding Ph.D. Student

M.S. - AUGUST 1985 - **MIAMI UNIVERSITY**

Thesis: Structural Geology of the Southwest Flank of the Gros Ventre Uplift, Upper Shoal Creek Area, Teton and Sublette Counties, Wyoming.
Major: Geology

A.B. - AUGUST 1982 - **MIAMI UNIVERSITY**

Major: Geology

PROFESSIONAL EXPERIENCE AND EMPLOYMENT: TEACHING

Academic Appointments

2018-present	Professor of Geology, Kent State University at Trumbull Director: Geology Summer Field Camp (2003, 2006, 2008 to present)
2006-2018	Associate Professor of Geology, Kent State University at Trumbull
2000-2006	Assistant Professor of Geology, Kent State University at Trumbull
1989-1996	Acting Director and Field Instructor, Miami University Geology Field Station; Dubois, Wyoming
1987-1989	Adjunct Professor, Youngstown State University

KENT STATE UNIVERSITY

Professor and Associate Professor: Trumbull Campus (August 2006 to present). With excellence in teaching emphasized at the regional campus, the course load includes five geology courses per semester. Responsibilities include teaching principles of geology to undergraduate non-majors and majors (undergraduate and graduate) with enrollment of up to 60 students per class. Courses include: *All about the Oceans* (formerly titled *Oceanography), Environmental Geology, How the Earth Works (Earth Dynamics), How the Earth Works Lab (Earth Dynamics Lab), Earth and Life through Time (Earth History), Earth and Life through Time (Earth History Lab),* and *Geology of National Parks.* In addition, courses in *Individual Honors Work/Individual Investigations in Geology* (Undergrad research projects at Trumbull and Kent Campuses), *Geology Summer Field Camp* (Black Hills, South Dakota), *Volcanology, Introductory Hydrogeology, Contaminant Hydrogeology and Hydrology, Geology of the Western US, and Field Methods and Techniques* (Kent Campus).

Director of KSU Geology Summer Field Camp Program (Summers 2003, 2006, 2008 to present). Courses: *Geology Summer Field Camp*. Responsible for overseeing, coordinating, developing, and teaching the Department of Geology six credit hour upper division capstone experiential learning and graduate level course taught in South Dakota, Wyoming, and Idaho. This geology field methods course

is the capstone course for all geology majors nationwide; however, not all geology departments offer their own field camp and must apply to Universities like Kent State to fulfill their requirement. Therefore, we have many non-KSU students attending our field camp each year. As director, I am responsible for all logistical planning, budgeting, reservations, student application review and acceptance, accounting, and hiring of additional faculty and graduate student teaching assistants during the Fall and Spring Semesters.

Assistant Professor: Trumbull Campus (August 2000 to 2006). (See courses above)

Teaching Fellow: Kent Campus (1989-1993). Courses: *Physical Geology*. Responsible for teaching principles of physical geology to undergraduate non-majors and geology majors in a large lecture hall setting with enrollment of 60-110 students per class.

MIAMI UNIVERSITY

Acting Director and Instructor: Miami University Geology Field Station, Wyoming (Summers, 1990, 1993-1996). Courses: *Field Geology*. Responsible for teaching and supervising upper level undergraduate and graduate geology majors (usually 40 students per class) in geology field methods within the Wind River Range and Basin near Dubois, Wyoming. Emphasis was placed on teaching observational skills and techniques needed to make detailed descriptions of rock units, produce detailed geologic maps and cross sections, interpret the geological history of a large complex area, and prepare geologic reports based on field data. Conducted geologic field trip to Grand Teton National Park as part of course curriculum.

Instructor of Field Geology for Teachers: Miami University Geology Field Station, Wyoming (Summers, 1989, 1991-1992). Courses: *Field Geology for Teachers*. Responsible for teaching elementary, middle, and high school teachers (usually 40 teachers per class) in the principles of geology and how to develop hands-on, observation-based projects for classroom teaching. Instructed teachers on how to identify minerals and rocks in the field, how to interpret geologic structures, geomorphic features, and geologic history through field observations, and how to use and interpret topographic and geologic maps. Conducted geologic field trips to Yellowstone and Grand Teton National Parks as part of the course curriculum.

Assistant Instructor: Miami University Geology Field Station, Wyoming (Summer 1985). Courses: *Field Geology*. Responsible for assisting in the instruction of upper level undergraduate and graduate geology majors in field methods and geologic mapping techniques.

Teaching Assistant: Oxford Campus (1982-1984). Courses: *Structural Geology Lab* and *Physical Geology Lab*. Responsible for teaching undergraduate level geology majors in laboratory principles of structural geology and map reading. Instructed undergraduate non-majors in the principles of introductory geology through laboratory exercises.

YOUNGSTOWN STATE UNIVERSITY

Adjunct Professor: Youngstown Campus (1987-1989). Courses: *Physical Geology*, *Historical Geology*, and *Geology of National Parks*. Responsible for teaching undergraduate students in geological concepts through informative lectures, slide and film presentations, and hands-on laboratory exercises.

PROFESSIONAL EXPERIENCE AND EMPLOYMENT: BUSINESS/INDUSTRY

Industry Employment

1996-2000	Senior Geologist, Hydrogeologist and Risk Assessor, BJAAM Environmental, Inc.
1989-2000	Petroleum Consulting Geologist, Independent Consulting Business
1985-1989	Exploration Manager/Chief Geologist, Cascade Petroleum, Inc.

BJAAM ENVIRONMENTAL, INC.

Senior Geologist/Hydrogeologist and Risk Assessor (1996-2000). Responsible for the evaluation of subsurface geology and hydrogeology at sanitary landfills in Ohio and conducting necessary numerical and/or analytical ground water flow and contaminant migration modeling studies. Also responsible for the management and evaluation of air, soil, and ground water contaminant fate and transport models used in quantitative human health risk assessments. Conducted research on exposure assessment data for quantitative evaluation of exposure levels and doses through various exposure pathways; developed site-specific cleanup levels using USEPA risk assessment protocols to aid in the design of Remedial or Corrective Action Plans; and prepared Ground Water Quality Assessment Reports, Risk Assessment Reports, and Corrective Action Plans.

INDEPENDENT CONSULTING

Petroleum Consulting Geologist (1989 -2000). Responsible for directing and/or assisting in the exploration and drilling programs for independent petroleum companies in northeast Ohio. Focused on locating deep wildcat prospects on lesser known structural and stratigraphic traps in various horizons of the Cambrian-Ordovician Knox Dolomite. Project activities include: constructing subsurface structure maps and cross sections, developing seismic programs, interpreting seismic reflection data, supervising mud logging and geophysical logging operations, evaluating reservoir characteristics, and report writing.

CASCADE PETROLEUM, INC.

Exploration Manager and Chief Geologist (1985-1989). Responsible for petroleum exploration activities in the Ohio portion of the Appalachian Basin. Developed and implemented subsurface mapping projects and seismic programs to evaluate deep wildcat and shallow development drilling prospects. Produced subsurface structure maps and cross sections from geophysical logs and seismic reflection lines to aid in prospect evaluations. Coordinated all drilling activities and subsurface geophysical logging operations. Was company spokesperson at private and public meetings with investors, landowners, and public officials.

AWARDS AND HONORS

National and Regional

2016

- **Charles J. Mankin Memorial Award**, Association of American State Geologists
  Award given each year to a nominated publication consisting of a geological map, compilation, or report on regional, energy, or mineral resource geology published by a state geological survey. Awarded publication is a geological map or a report that elegantly, thoroughly, and innovatively provides sound and influential information on regional geology, or an energy or mineral resource topic. Award for: **Geologic Map of the Panguitch 30'x60' Quadrangle, Garfield, Iron, and Kane Counties, Utah** (2015) by Robert F. Biek, Peter D. Rowley, John J. Anderson, Florian Maldonado, David W. Moore, David B. Hacker, Jeffrey G. Eaton, Richard Hereford, Edward G. Sable, Harry F. Filkorn, and Basia Matyjasik.
- **Excellence in Education Award,** Ohio Magazine

University

2019

- Research/Scholarly Activity Support Award, Kent State University Research Council

2018

- Research/Scholarly Activity Support Award, Kent State University Research Council

2017
- **President's Faculty Excellence Award,** Kent State University (Recognizes exceptional performance that leads to the achievement of national or international recognition in the faculty member's discipline)

2016
- **Glenn W. Frank Distinguished Teacher Award,** Department of Geology
- Faculty Professional Improvement Leave (Sabbatical) Fall 2016
- Research/Scholarly Activity Support Award, Kent State University Research Council

2015
- **Distinguished Teaching Award,** Kent State University, (KSU's most prestigious teaching award sponsored by the KSU Alumni Association)
- **Scholar of the Month**, Kent State University (Highlighted on KSU webpage for month of August)
- **Glenn W. Frank Distinguished Teacher Award,** Department of Geology
- Research/Scholarly Activity Support Award, Kent State University Research Council

2014
- Research/Scholarly Activity Support Award, Kent State University Research Council

2011
- **Letter of acknowledgement of positive impact that a professor had on student experiences at Kent State,** KSU Office of Quality Initiatives and Curriculum, 2011: (Survey of alumni from the class of 2010)

2010
- Research/Scholarly Activity Support Award, Kent State University Research Council

2008
- Faculty Professional Improvement Leave (Sabbatical), Spring 2008
- Research/Scholarly Activity Support Award, Kent State University Research Council

2007
- Research/Scholarly Activity Support Award, Kent State University Research Council

2005
- **Outstanding Service Award for Full-Time Faculty**, Kent State University at Trumbull
- Teaching Development Award, Kent State University Regional Campuses, Summer
- Research/Scholarly Activity Support Award, Kent State University Research Council

2004
- Research/Scholarly Activity Support Award, Kent State University Research Council
- Kent State University Research Council Summer Research Appointment Award
- **Outstanding Service Award for Full-Time Faculty**, award nominee, Kent State University at Trumbull

2003
- Kent State University Teaching Council Travel and Learning Support Award
- Research/Scholarly Activity Support Award, Kent State University Research Council

2002

- Kent State University Teaching Council Summer Teaching Development Award

2001

- Research/Scholarly Activity Support Award, Kent State University Research Council

2000

- Kent State University Research Council Summer Research Appointment Award

MENTORING EXPERIENCE

Undergraduate Independent Studies and Honors Advisees

Plock, Madison, 2020. Individual Honors Work: "Effects of natural climate change vs. current unnatural climate change."

Slechta, Maggie, 2019-2020. Individual Investigation: "a petrographic and geochemical study of the breccia pipe intrusions, Black Hills, South Dakota."

Hall, Taylor, 2019. Individual Honors Work: "Does climate change affect polar bears?"

Galbreath, Bre-Onia, 2019. Individual Honors Work: "The Cambrian Explosion"

Connell, Katherine, 2018-2019. Individual Investigation: "A petrologic and geochemical study of the Forest Service intrusion, Black Hills, South Dakota."

Falo, Kristina, 2016. Individual Investigation: "Geologic and glacial history of Northeast Ohio: Perspectives from Ohio's State Parks."

Timko, Samuel B. C., 2016. Individual Investigation: "Geologic and glacial history of Northeast Ohio: Perspectives from Ohio's State Parks." (Team project with Kristina Falo)

Hunter, Shannon, 2016. Individual Investigation: "SEM-EDX analysis of garnets and their inclusions from the lower-most layer of the Woodville Hill laccolith rhyolite in northern Black Hills, South Dakota." (co-advisor)

Sounik, Jake, 2016. Individual Investigation: "Almandine garnet bearing rhyolites from Woodville Hill laccolith, SD: evidences of rapid magma injection and mixing in a laccolith." (co-advisor)

Hardin, Krista, 2015. Individual Honors Work: "Investigation of the shallow groundwater system of near Dix Stadium, Kent, Ohio."

Amerin, Nicholas, 2015. Individual Investigation: "Geology of part of Pymatuning State Park, Ohio."

Timko, Samuel B. C., 2015. Individual Investigation: "Geology of part of Pymatuning State Park, Ohio." (Team project with Nicholas Amerin)

Hickin, Jack, 2014-2015. Individual Investigation: "Geology of Portage County, Ohio, as seen through the county parks system."

Timko, Samuel B. C., 2014-2015. Individual Investigation: "Geology of West Branch State Park."

Schuster, Kelsey M, 2014-2015. Individual Investigation: "Geology of Mosquito Lake State Park."

Harris, Stephanie, 2014. Individual Honors Work: "Ground water recharge of the Sharon aquifer near Dix Stadium, Kent, Ohio."

Stinedurf, Stacee, 2013-2014. Individual Investigation: "Geology of Punderson State Park."

Jensen, Owen, 2013-2014. Independent Investigation: "Garnets in rhyolite: Evidence of fast magma ascent from the lower Crust?"

Miller, Heather, 2013-2014. Individual Investigation: "Shallow level intrusion in Black Hills, South Dakota."

DiBell, Stacee, 2013. Individual Investigation: "Field Guide to the Geology of Punderson State Park."

Holsinger, John, 2012. Individual Investigation: "Analysis of erosion and deposition patterns on the slope above a bank stabilization construct: Bosaton Mills, Cuyahoga Valley National Park." (**Project supported by the National Park Service**)

Tizzano, Ashley, 2010. Individual Investigation in Utah: "Magnetic susceptibility study of laccoliths in southwest Utah using a field-portable Bartington MS2 system." **(Project funded by KSU Research Council and US Forest Service)**

Logan, Jr., Gregory, 2010. Individual Investigation in Utah: "Magnetic susceptibility study of laccoliths in southwest Utah using a field-portable Bartington MS2 system." **(Project funded by KSU Research Council and US Forest Service)**

Jonell, Tara, 2009/10. Senior Honors Thesis research: "The eruptive history of the Cenozoic St. George volcanic field, Southwest Utah." (**Project funded by the Honors College**)

Vincourt, Jill, 2009/10. Individual Investigation: "Field Guide to the Geology of Nelson Ledges State Park." (**Project supported by the Ohio Geological Survey and Ohio State Parks, both divisions of the Ohio Department of Natural Resources**)

Weeder, Bethany, 2007. Individual Investigation in Utah: "Chemical variations in vertical sections of the laccoliths in southwest Utah using a field-portable X-ray fluorescence (FPXRF) instrument." **(Project funded by KSU Reseach Council)**

Mikolaj, Marcia, 2005/2006. Individual Investigation: "Surface water and ground water interactions in wetlands: a geologic study from West Farmington, Trumbull County, Ohio." **(Project funded by KSU Trumbull Campus Undergraduate Research Program)**

Chermansky, Joseph, Spring and Summer 2005. Individual Investigation: "Geologic mapping of hiking trails within Cuyahoga Valley National Park using GPS navigation." **(Project funded by KSU Trumbull Campus Undergraduate Research Program)**

Macali, Ginger, Spring and Summer 2005. Individual Investigation: "Geologic mapping of hiking trails within Cuyahoga Valley National Park using GPS navigation." **(Project funded by KSU Trumbull Campus Undergraduate Research Program)**

Wojnarski, Danielle, Spring 2005. Individual Honors Work: Research on Meteorites for Earth History Lab course.

Macali, Ginger, Summer 2004. Individual Investigation in Utah: "Internal structure and stratigraphy of volcanic flow domes of the Eight Mile Dacite, Pine Valley Mountains, southwest Utah." **(Project funded by KSU Reseach Council and US Forest Service)**

Chermansky, Joseph, Summer 2004 Individual Investigation in Utah: "Internal structure and stratigraphy of volcanic flow domes of the Eight Mile Dacite, Pine Valley Mountains, southwest Utah." **(Project funded by KSU Reseach Council and US Forest Service)**

Stonier, Peggy, Spring 2004. Individual Investigation: "Geology of Cuyahoga Valley National Park with emphasis on describing geology along public hiking trails."

Wojnarski, Danielle, Fall 2003. Individual Honors Work: Research on landslides for Earth Dynamics course.

Rider, Kristi, Spring 2003. Individual Investigation: "Geology of Cuyahoga Valley National Park with emphasis on describing geology along public hiking trails."

Scott, Nichole, Summer 2002. Individual Investigation: "Geology of Cuyahoga Valley National Park with emphasis on using GPS unit on trails."

Johnson, Ray, Spring 2002. Individual Investigation: "Geology of Ohio with emphasis on the Cuyahoga Valley National Park."

Rose, Shellie, Summer 2001. Individual Investigation in Utah: "The structure and stratigraphy of volcanic flow domes within the Pine Valley Latite, Pine Valley Mountains, southwest Utah." **(Project funded by KSU Reseach Council and US Forest Service)**

Stahlman, Robert, Summer 2001. Individual Investigation in Utah: "The structure and stratigraphy of volcanic flow domes within the Pine Valley Latite, Pine Valley Mountains, southwest Utah." **(Project funded by KSU Reseach Council and US Forest Service)**

Undergraduate Senior Honors Theses Directed

Jonell, Tara, (2010), "The eruptive history of the Cenozoic St. George volcanic field, Southwest Utah." Senior Honors Thesis, Kent State University, Kent.

Undergraduate University Research Symposia Presentations

(*Denotes student researcher)

*Plock, Madison, and Hacker, David B. (advisor), 2020, Effects of natural climate change vs. current unnatural climate change: *Student Showcase for Research, Scholarship & Creativity (Trumbull Campus).* (**2nd place award winner**)

*Hall, Taylor, and Hacker, David B. (advisor), 2020, Does climate change affect polar bears? *Student Showcase for Research, Scholarship & Creativity (Trumbull Campus).*

*Connell, Katherine, and Hacker, David B. (advisor), 2019, Geology of a Paleogene Garnet Bearing Rhyolite Intrusion, Northern Black Hills Igneous Province, South Dakota: *Sixth annual Undergraduate Symposium on Research, Scholarship, and Creative Activities (Kent Campus).* (**2nd place award winner**)

*Galbreath, Bre-Onia, and Hacker, David B. (advisor), 2019, The Cambrian Explosion: *Student Showcase for Research, Scholarship & Creativity (Trumbull Campus).*

*Timko, Samuel B. C., *Falo, Kristina M., and Hacker, David B. (advisor), 2017, Geologic and glacial history of Northeast Ohio: Perspectives from Ohio's State Parks: *Fourth annual Undergraduate Symposium on Research, Scholarship, and Creative Activities (Kent Campus).*

*Schuster, Kelsey M, *Timko, Samuel B. C., and Hacker, David B. (advisor), 2016, Unravelling the geologic history of Mosquito Lake State Park, Ohio: *Student Showcase for Research, Scholarship & Creativity (Trumbull Campus).*

*Timko, Samuel B. C., *Amerin, Nicholas W. and Hacker, David B. (advisor), 2016, Discovering the Bedrock and Glacial Geologic History of Pymatuning Lake State Park, Ohio: *Student Showcase for Research, Scholarship & Creativity (Trumbull Campus).*

*Schuster, Kelsey M, *Timko, Samuel B. C., and Hacker, David B. (advisor), 2015, Unravelling the geologic history of Mosquito Lake State Park, Ohio: *Second annual Undergraduate Symposium on Research, Scholarship, and Creative Activities (Kent Campus).* (**2nd place award winner**)

*Hickin, Jack, and Hacker, David B. (advisor), 2015, Geology of Portage County as found in the Portage County Park District: *Second annual Undergraduate Symposium on Research, Scholarship, and Creative Activities (Kent Campus).* (**3rd place award winner**)

*Timko, Samuel B. C., *Schuster, Kelsey M, and Hacker, David B. (advisor), 2015, Discovering the bedrock and glacial geologic history of West Branch State Park, Ohio: *Second annual Undergraduate Symposium on Research, Scholarship, and Creative Activities (Kent Campus).*

*Schuster, Kelsey M, *Timko, Samuel B. C., and Hacker, David B. (advisor), 2015, Unravelling the geologic gistory of Mosquito Lake State Park, Ohio: *First annual Research, Scholarship & Creativity Day (Trumbull Campus).* (**2nd place award winner**)

*Timko, Samuel B. C., *Schuster, Kelsey M, and Hacker, David B. (advisor), 2015, Discovering the bedrock and glacial geologic history of West Branch State Park, Ohio: *First annual Research, Scholarship & Creativity Day (Trumbull Campus).* (**2nd place award winner**)

*Jensen, O., Dasgupta, T., and Hacker, David B. (co-advisor), 2014. Garnets in rhyolite: Evidence of fast magma ascent from the lower Crust?: *First annual Undergraduate Symposium on Research, Scholarship, and Creative Activities (Kent Campus).*

*Miller, H., Dasgupta, T., and Hacker, David B. (co-advisor), 2014. Shallow level intrusion in Black Hills, South Dakota: *First annual Undergraduate Symposium on Research, Scholarship, and Creative Activities (Kent Campus).*

*Stinedurf, S. and Hacker, David B. (advisor), 2014. Geology of Punderson State Park: *First annual Undergraduate Symposium on Research, Scholarship, and Creative Activities (Kent Campus).*

Graduate Student Advisees

Kale, Cody, (MS Candidate, 2019-present), Understanding the Structural and Deformational History of a Portion of the Gigantic Markagunt Gravity Slide, Utah.

Connell, Katherine, (MS Candidate, 2019-present), Geology of rhyolite intrusions in northern Black Hill, South Dakota.

Loffer, Zachary, (MS Candidate, 2018-present), Understanding the Structural and Deformational History of a Portion of the Gigantic Sevier Gravity Slide.

Wilsbacher, Catherine, (MS Graduate, 2019), Geology of the garnet bearing Custer Peak intrusion, Black Hill, South Dakota.

Hunter, Shannon, (MS Graduate, 2018), Geology and Paleomagnetic study of the Haycock Mountain Tuff, Iron and Garfield Counties, Utah.

Stinedurf, Stacee, (MS Candidate, 2015-present), Geology of the Red Creek Reservoir 7.5-Minute Quadrangle, Iron and Garfield Counties, Utah: Understanding the Structural and Deformational History of a Portion of the Gigantic Markagunt Gravity Slide.

Graduate Student Committees

Rahman, FM Arifur, (MS Candidate, 2020-present), "Using satellite observations to assess the water quality of Lake Ontario"

Tomin, Marissa, (MS Candidate, 2019-present), "Hydroclimatic study of Plio-Pleistocene aquatic sites in Meade County, Kansas."

Surdel, Theodore, (MS Candidate, 2017-present), "Biogeographic and Paleohydroclimatic study of Quaternary ostracodes from Walker Lake, Nevada."

Lokre, Chinmay, (MS Graduate, 2019), "Effect of density, initial water content, drying temperature and plasticity characteristics on shrinkage crack development in clay soils."

Brown, Krista, (MS Graduate, 2019), "Groundwater-stream interactions and water quality characteristics of former reservoirs in northeastern Ohio."

Harris, Catherine, (MS Graduate, 2019), "The permeability effects of gravel clasts in fine granular soils."

Poluga, S. Lindsay, (MS Graduate, 2017), "Rock mass characterization and stability evaluation of Mount Rushmore National Memorial, Keystone, South Dakota."

Harding, Matthew, (MS Graduate, 2017), "A geophysical study of Upper Silurian Salina Group in northeastern Pennsylvania."

Jacklitch, Carl, (MS Graduate, 2016), "A geotechnical investigation of the 2013 fatal rockfall in Rockville, Utah."

Dirringer, Sebastian, (MS Graduate, 2015), "Landslide inventory mapping of the Drift creek watershed, Oregon, using LiDAR data."

Harrison, Jeff, (MS Graduate, 2013), "A comparison of terrestrial and marine paleo-climate records from the Arctic region to determine a possible correlation of climate variability between environments in northern Alaska."

Tizzano, Ashley, (MS Graduate, 2014), "A geotechnical investigation of the October 2011 Cedar City landslide."

Glassmeyer, Michael, (MS Graduate, 2014), "Geological and geotechnical factors responsible for the landslide susceptibility of the Kope Formation in Cincinnati, Ohio."

Onur, Emine Mercan, (MS Graduate, 2013), "The effects of grain size distribution on permeability on granular soils."

Bonini, Nick, (MS Graduate, 2013), "Comparison of VNIR derivative and VIS fluorescence spectroscopy methods for pigment estimation in an estuarine ecosystem: Old Women Creek, Huron, Ohio."

Aaron, Gregory, (MS Graduate, 2012), "A geochemical and hydrologic assessment of acid mine drainage in glaciated and unglaciated eastern Ohio."

Scheiner, Scott, (MS Graduate, 2012), "Refining Paleoproterozoic Sedimentary Sequence Boundaries in East-Central Minnesota, Carlton County: Implications for Source, Age, Correlations, and Tectonic Histories."

Butler, Thomas, (MS Candidate), "Geologic mapping and remote sensing analysis in the Pinto Quadrangle, Basin and Range-Colorado Plateau Transition Zone, southwest Utah."

Arnold, Billie J., (MS Graduate, 2005), "Paleomagnetic study of Miocene vertical axis rotations in the Pine Valley Mountains, southwestern Utah."

Cornell, Donald A., (MS Graduate, 2005), "Structure, stratigraphy, and geologic history of the southwest portion of the Pinto 1:24,000 Quadrangle, southwest Utah."

O'Boyle, Christie, (MS Graduate, 2002), "Age pattern and nature of metamorphism of subterranes along the deformed Penokean continental margin, northwest Wisconsin."

Graduate Student Professional Competitions

American Association of Professional Geologists (AAPG) Imperial Barrel Award Competition (2014, 2017, 2018): Mentor for KSU graduate students who participated in the AAPG International Imperial Barrel Award Program (IBA) (students belong to the *KSU student chapter of American Association of Petroleum Geologists*). Five KSU geology students (per competition year) competed in the IBA competition that attracts teams annually from over 100 schools in 36 countries, involving nearly 1,000 participants. The KSU team (aka: Black Squirrel Energy) competed at the AAPG Eastern Section in Pittsburgh where each team was allowed 25 minutes to give a professional presentation on the interpretation and assessment of an exploration data package (geology, geophysics, land, production infra-structure, and other relevant materials) that they analyzed for eight weeks prior to the competition. KSU teams earned **Honorable Mention** for the competitions.

RESEARCH AND EDUCATION GRANTS/FUNDING ACTIVITY

National Science Foundation (Hacker, $210,394, 2 years) – Submitted in December 2020. (Pending). Title: "Moving mountains: timing and emplacement of the Marysvale gravity slide complex." (Collaborative research with Ohio State University, Illinois State University, and Westminster College)

U.S. Geological Survey EDMAP Program ($33,334, 1 year) – March, 2020. Title: "Geologic mapping of the spry intrusion and associated volcanic rocks within the Markagunt mega-scale gravity slide, Utah." Includes KSU matching funds.

National Science Foundation (Hacker, $192,715, 2 years) – Submitted in November 2019. (Not Funded). Title: "Initiation and mobility of the Marysvale Gravity Slide Complex: Hypothesis testing mechanical models with geological field constraints." (Collaborative research with Ohio State University, University of Texas at Arlington, and Westminster College)

Kent State University Research Council Research/Scholarly Activity Support ($2500) – December, 2019. Title: "Geochronology of volcanic mega-landslides, southwest Utah: implications for understanding sector collapses of the Marysvale volcanic field."

U.S. Geological Survey EDMAP Program ($29,724, 1 year) – March, 2019. Title: "Geology of Parts of the Cow Creek and Deep Creek 7.5-Minute Quadrangles, Garfield County, Utah: Structural and Deformational History of the Mega-Scale Sevier Gravity Slide." Includes KSU matching funds.

Kent State University Research Council Research/Scholarly Activity Support ($2500) – May, 2018. Title: "Geologic study of the Sevier volcanic mega-landslide, southwest Utah: implications for timing of volcanic field collapses."

U.S. Geological Survey EDMAP Program ($28,282, 1 year) – March, 2017. Title: "Geology of the Red Creek Reservoir 7.5-Minute Quadrangle, Iron and Garfield Counties, Utah: Deciphering the Structural and Deformational History of the Mega-Scale Markagunt Gravity Slide." Includes KSU matching funds.

Kent State University Research Council Research/Scholarly Activity Support ($3500) – May, 2016. Title: "Catastrophic Landslides in Volcanic Terrains: the Link to Subvolcanic Intrusions and Volcanism."

Geological Society of America ($10,000) – April, 2016. Title: "Recognizing catastrophic structural failure of large volcanic fields." Funding used to support "Thompson Field Forum" in Utah scheduled for fall 2017.

U.S. Geological Survey EDMAP Program ($46,532, 1 year) – November, 2015. (Not Funded). Title: "Geology of the Red Creek Reservoir 7.5-Minute Quadrangle, Iron and Garfield Counties, Utah: Understanding the Structural and Deformational History of a Portion of the Gigantic Markagunt Gravity Slide." Included KSU matching funds.

Kent State University Research Council Research/Scholarly Activity Support ($2500) – May, 2015. Title: "Geologic study of the world's largest landslide, Markagunt gravity slide of southwest Utah."

Kent State University Research Council Research/Scholarly Activity Support ($2500) – May, 2014. Title: "Documenting structures and internal rock fabrics of the gigantic Markagunt gravity slide,

southwest Utah."

Utah Geological Survey ($2000) – Summer 2014. Funding for Ar/Ar dating and thin sections of volcanic rocks of the Markagunt Plateau area of Southwest to determine geologic age on the newly discovered Markagunt Gravity Slide.

U.S.D.A. Forest Service, Dixie National Forest and Volunteer Service Program ($13,230 total monetary value) – Summers 2006-2012. Provided full lodging and utilities in the Pine Valley Bunkhouse for my students and me for conducting geologic research and mapping in the Pine Valley Mountains of Southwest Utah. Also provided horses and a Forest Service guide for several daylong horseback trips into the Pine Valley Wilderness area to gather geologic field data. (6 weeks/ summer).

Kent State University Research Council Research/Scholarly Activity Support ($3500) – May, 2010. Title: "Study of Catastrophic Landslide Hazards Associated with Emplacement Doming of Laccoliths." *Grant included travel support for undergraduate geology students to conduct independent research in southwest Utah.*

Kent State University Research Foundation ($1885) – Fall 2008. (Not Funded)
Title: "Improving the LER Learning Experience in Geology Labs."

National Science Foundation (Hacker, $108,357, 2 years) – Submitted in June 2008. (Not Funded).
Title: "Assessing magnitude of heterogeneous extensional strain in the southern Great Basin – constraints from AMS fabrics in ash-flow tuffs of the Caliente caldera." (Collaborative research with New Mexico Highlands University)

Kent State University Research Council Research/Scholarly Activity Support ($2500) – February, 2008. Title: "Relationships between intrusive igneous laccoliths and volcanic calderas of southwest Utah and southeast Nevada."

National Science Foundation (Hacker, $133,684, 3 years) – Submitted in December 2007. (Not Funded). Title: "Controls on shallow level magma emplacement mechanism." (Collaborative research with New Mexico Highlands University)

Kent State University Research Council Research/Scholarly Activity Support ($3500) – April 11, 2007. Title: "Study of Catastrophic Hazards Associated with Shallow-Level Emplacement of Laccoliths." *Grant included travel support for undergraduate geology students to conduct independent research in southwest Utah.*

National Science Foundation (Holm and Hacker, $185,430, 3 years) – Submitted in 2005. (Not Funded). Title: "Controls and mode of laccolith emplacement: an integrated structural and AMS study, southwest Utah and central Montana." (Collaborative research with University of New Mexico)

National Science Foundation (Ortiz and Leff, $159,467) - Submitted in 2005. (Not Funded).
Title: "REU Site: Integrated Approaches to Aquatic System Science, the Kent State University Water Resources Research Institute REU Site." Co-Mentor on project: Hacker**.**

Kent State University Regional Campuses Teaching Development Award, summer 2005 ($6500) – March 9, 2005. Title: "Virtural Tours of the Grand Staircase Region of Southern Utah and Northern Arizona: Development of Innovative Visual Geologic Instructional Material."

Kent State University Research Council Research/Scholarly Activity Support ($2500) – January 20, 2005. Title: "Documenting structures & flow fabrics of laccolithic complexes in Utah and Montana." *Collaborative research project with Daniel Holm of the Kent Campus who also received a $2500 award from the Research Council.*

National Science Foundation (Holm and Hacker, $169,205) – Submitted May 26, 2004. (Not Funded). Title: "Controls and mode of laccolith emplacement: an integrated structural and AMS study, southwest Utah and central Montana." (Collaborative research with University of New Mexico)

Utah Geological Survey ($10,000 grant) - Summer 2004. "Geochemical analyses and Ar/Ar dating of volcanic rocks of the Iron Axis Region, southwest Utah."

U.S.D.A. Forest Service, Volunteer Service Program ($2,200 monetary value) – Summer 2004. Provided full lodging and utilities in the Pine Valley Bunkhouse for my students and me for conducting geologic research and mapping in the Pine Valley Mountains of Southwest Utah. (8 weeks)

Kent State University Research Council Research/Scholarly Activity Support ($3500) – April 16, 2004. Title: "Recognition of a new laccolithic group west of the Colorado Plateau, southwest Utah." *Grant included travel support for undergraduate geology students to conduct independent research in southwest Utah.*

U.S.D.A. Forest Service, Dixie National Forest ($400 monetary value) – Spring 2003. Provided full lodging and utilities for five people in the Pine Valley Bunkhouse during data collection of core samples for paleomagnetic studies in the Pine Valley Mountains of southwest Utah. (10 days)

Kent State University Research Council Summer Research Appointment, summer 2004 ($6500) – November 18, 2003. Title: "Study and recognition of a new laccolithic complex on the west side of the Colorado Plateau, southwest Utah."

Kent State University Teaching Council Travel and Learning Support ($500) – June 2, 2003. Title: "Field Geology Studies in Northwestern Wyoming and Southwestern Idaho." *Collaborative teaching project with Andrew Moore of the Kent Campus who also received a $500 award from the Teaching Council.*

Kent State University Research Council Research/Scholarly Activity Support ($2500) – February 13, 2003. Title: "Role of magmatism in the initiation of a major Miocene transfer zone, southwest Utah." *Collaborative research project with Daniel Holm of the Kent Campus who also received a $2500 award from the Research Council.*

Ohio Third Frontier Action Plan (TFAF) (collaborator with Real Time Boss, Inc., request of $70,000 over two years) – Submitted in 2003. (not funded due to non-funding of program after defeat of tax issue by Ohio voters). Project to fund two graduate student researchers to use and test newly developed (by Real Time Boss, Inc.) Interactive Geographic Information Systems (iGIS) software in the student's research projects

Kent State University Teaching Council Summer Teaching Development Award, summer 2002 ($6500) – March 4, 2002. Title: "Developing Innovative Visual Instructional Materials for Geology of National Parks."

U.S. Geological Survey, Volunteer for Science Program ($3,000 monetary value) – Summer 2001. Provided a four-wheel drive vehicle for my students and me in order to traverse rugged areas of field study area in the Pine Valley Mountains of southwest Utah (10 weeks).

U.S.D.A. Forest Service, Volunteer Service Program ($2,800 monetary value) – Summer 2001. Provided full lodging and utilities in the Pine Valley Bunkhouse for my students and me for conducting geologic mapping in the Pine Valley Mountains of Southwest Utah. Also provided horses and a Forest Service guide for two daylong horseback trips into the Pine Valley Wilderness area to gather geologic field data (10 weeks).

Kent State University Research Council Research/Scholarly Activity Support ($3500) – March 20, 2001. Title: "Gravity sliding and volcanism associated with the growth of laccoliths of the Pine Valley Mountains, southwest Utah." Grant included travel support for undergraduate geology students to conduct independent research in southwest Utah.

Kent State University Research Council Summer Research Appointment, summer 2001 ($6500) – December 1, 2000. Title: "Study of gravity sliding and volcanism associated with the growth of laccoliths of the Pine Valley Mountains, southwest Utah."

PUBLICATIONS

Teaching and Education: Books/Chapters in Books

Hacker, D.B., Foster, D., and Harris, A.G., (2019), "Geology of National Parks" 7th ed, Kendall Hunt Publishing Co., Dubuque Iowa (**College Textbook**).

Hacker, D.B., Rowley, P.D., and Biek, R.F., (2017), Catastrophic Collapse Features in Volcanic Terrains: Styles and Links to Subvolcanic Magma Systems: *in* Breitkreuz, Christoph and Rocchi, Sergio eds., Physical Geology of Shallow Magmatic Systems: Advances in Volcanology Series. Springer International Publishing, 400 p. (Chapter in a Book).

Best, D.M. and **Hacker, D.B.,** 2010, "Earth's Natural Hazards: Understanding Natural Disasters and Catastrophes," Kendall Hunt Publishing Co., Dubuque Iowa, 500p. (**College Textbook, ISBN:**

9780757576195).

Hacker, D.B., Petronis, M.S., Holm, D.K., and Geissman, J.W., 2007, Shallow level emplacement mechanisms of the Miocene Iron Axis laccolith group, southwestern Utah, *in* Lund, W.R., editor, Field guide to geologic excursions in southern Utah, Geological Society of America, Rocky Mountain Section 2007 Annual Meeting: Utah Geological Association Publication 35, 49p. (Field Guide Chapter in a Book)

Hacker, D.B., 2003, Geology of "Cuyahoga Valley National Park," chapter 13, in Harris, A.G., Tuttle, E., and Tuttle, S.D., eds., Geology of National Parks 6th ed, Kendall Hunt Publishing Co., Dubuque Iowa p. 157-182. (Chapter in a Book).

Hacker, D.B. and Hacker, J.J, 2003, "Digital Images of the National Parks of the United States," Geology of National Parks photo CD-ROM, in Harris, A.G., Tuttle, E., and Tuttle, S.D., eds., Geology of National Parks 6th ed, Kendall Hunt Publishing Co., Dubuque Iowa, 882p. (DVD in a Book)

Hacker, D.B., Holm,D.K., Rowley, P.D., and Blank, H.R., 2002, Associated Miocene laccoliths, gravity slides, and volcanic rocks, Pine Valley Mountains and Iron Axis region, southwestern Utah, in Lund, W.R., ed., Field guide to geologic excursions in southwestern Utah and adjacent areas of Arizona and Nevada, U.S. Geological Survey Open-File Report 02-172, p. 236-283. (Field Guide Chapter in a Book)

Teaching and Education: Abstracts/Conference Papers

(*Denotes student collaborator)

*Timko, S. B.C., *Falo, K.M. and **Hacker, D.B.**, 2016, Geologic and glacial history of Northeast Ohio: perspectives from Ohio's State Parks: Geological Society of America Abstracts with Programs, v. 48, no. 7, September 2016.

*Stinedurf, S.K., and **Hacker, D.B.**, 2014, Educational brochure on the geology of Punderson State Park, Geauga County, Ohio: Geological Society of America Abstracts with Programs, v. 46, no. 6, p.312, October 2014.

Hacker, D.B., 2011, Geologic education through the state parks of Ohio: Geological Society of America Abstracts with Programs, v. 43, no. 1, p. 56, March 2011.

*Vinecourt, J.R., *Dawaher, A., and **Hacker, D.B.**, 2011, Educational brochure of the geology of Nelson-Kennedy Ledges State Park, Ohio: Geological Society of America Abstracts with Programs, v. 43, no. 1, p. 112, March 2011.

Hacker, D.B., 2007, Virtual tours of the Grand Staircase region of southern Utah and northern Arizona: use of visual geologic instructional material in undergraduate education: Geological Society of America Abstracts with Programs, v. 39, no. 6, p. 459, October 2007.

Hacker, D.B., 2004, A Tourist's guide to the geology of Dixie National Forest, Pine Valley Ranger District, southwest Utah: Geological Society of America Abstracts with Programs, v. 36, no. 5, p. 412, November 2004.

Holm, D.K., Moore, A., and **Hacker, D.B.,** 2004, Integrating geology courses and labs with geologic mapping in the field: Geological Society of America Abstracts with Programs, v. 36, no. 5, p. 160, November 2004.

Moore, A., **Hacker, D.B.,** and Holm, D.K., 2004, Role of geology road logs in teaching field geology: Geological Society of America Abstracts with Programs, v. 36, no. 5, p. 154, November 2004.

Hacker, D.B., 2002, Use of visual images from U.S. National Parks in undergraduate education: Geological Society of America Abstracts with Programs, v. 34, no. 6, September 2002.

Hacker, D.B., 2002, Use of pictures from U.S. National Parks in undergraduate education: Presented at the Kent State University Teaching Council Ninth Annual Conference Celebrating Teaching, Kent, Ohio (October 24-25, 2002).

Research: Journal Articles/Geologic Maps/Chapters in Books

(*Denotes student collaborator)

Biek, R.F., Rowley, P.D., and **Hacker, D.B**., 2019, The gigantic Markagunt and Sevier gravity slides resulting from mid-Cenozoic catastrophic mega-scale failure of the Marysvale volcanic field, Utah, USA: Geological Society of America Field Guide 56, 108 p.

Rowley, P.D., Biek, R.F., **Hacker, D.B.**, Vice, G.S., McDonald, R.E., Maxwell, D.J., Smith, Z.D., Cunningham, C.G., Steven, T.A., Anderson, J.J., Ekren, E.B., Machette, M.N., and Wardlaw, B.R., 2019, Interim geologic map of the southwestern quarter of the Beaver 30' x 60' quadrangle, Beaver, Iron, and Garfield Counties, Utah: Utah Geological Survey, geologic map with text, 1 sheet. OFR-686, scale 1:100,000.

Hacker, D.B., Rowley, P.D., and Biek, R.F., 2017, Catastrophic Collapse Features in Volcanic Terrains: Styles and Links to Subvolcanic Magma Systems: *in* Breitkreuz, Christoph and Rocchi, Sergio eds., Physical Geology of Shallow Magmatic Systems: Advances in Volcanology Series. Springer International Publishing, p. 1-34. DOI: 10.1007/11157_2017_1001

Biek, R.F., **Hacker, D.B.**, and Rowley, P.D., 2017, Catastrophic mega-scale landslide failure of large volcanic fields: *GSA Today*, v. 27, no. 12, p. 30-31.

Biek, R.F., **Hacker, D.B.**, and Rowley, P.D., 2016, Update on the Markagunt Gravity slide – Utah's largest landslide just got bigger, a lot bigger: Utah Geological Survey, Survey Notes, v. 48, no. 1, p.5.

Biek, R.F., Rowley, P.D., Anderson, J.J., Maldonado, F., Moore, D.W., **Hacker, D.B.**, Eaton, J.G., Hereford, R., Sable,E.G., Filkorn, H.F., and Matyjasik, B., 2015, Geologic map of the Panguitch 30' x 60' quadrangle, Garfield, Iron, and Kane Counties, Utah: Utah Geological Survey Map 270DM, 162 p., 3 plates, scale 1:62,500. DVD contains GIS and ESRI files. (ISBN: 9781557919038) **(Winner of 2016 Charles J. Mankin Memorial Award, Association of American State Geologists, Best Map Publication of the Year)**

Biek, R.F., **Hacker, D.B**., and Rowley, P.D., 2014, New constraints on the extent, age, and emplacement history of the early Miocene Markagunt Megabreccia, southwest Utah—the deposit of one of the world's largest subaerial gravity slides, *in* MacLean, John S., Biek, Robert F., and Huntoon, Jacqueline E., editors, Geology of Utah's far south: Utah Geological Association Publication 43, 44 p.

Hacker, D.B., Biek, R.F., and Rowley, P.D., 2014, Catastrophic emplacement of the gigantic Miocene Markagunt gravity slide, southwest Utah (USA): Implications for hazards associated with sector collapse of volcanic fields: Geology, 42, no.11 p. 943-946.

Petronis, M.S., Holm, D.K., Geissman J.W., **Hacker, D.B.,** and *Arnold, B.J., 2014, Paleomagnetic results from the eastern Caliente - Enterprise Zone, southwestern Utah: Implications for initiation of a major Miocene transfer zone: Geosphere, v.10, p. 534-563.

*Aaron, G.L., Griffith, E.M., and **Hacker, D.B.,** 2014, Geochemical and Hydrologic Assessment of Drainage from Cherry Valley Coal Mine, Ohio: Environmental and Engineering Geoscience Journal, v.20, p. 257-272.

Biek, R.F., Rowley, **Hacker, D.B.,** P.D., Hayden, J.M., Willis, G.C., Hintze, L.F., Anderson, R.E., and Brown, K.D., 2010, Geologic Map of the St. George and East Part of the Clover Mountains 30 x 60 Quadrangles, Washington and Iron Counties, Utah, Washington and Iron Counties, Utah. Utah Geological Survey Map 242DM, 108 p., 2 pl., scale 1:100,000, DVD contains GIS and ESRI files. (ISBN: 9781557918437)

Biek, R.F., Rowley, P.D., Hayden, J.M., **Hacker, D.B.,** Willis, G.C., Hintze, L.F., Anderson, R.E., and Brown, K.D., 2009, Geologic Map of the St. George and East Part of the Clover Mountains 30 x 60 Quadrangles, Washington and Iron Counties, Utah, Washington and Iron Counties, Utah. Utah Geological Survey, 108 p., 2 pl., scale 1:100,000, M-242. (ISBN: 1557918163)

Rowley, P.D., **Hacker, D.B.,** Maxwell, D.J., Maxwell, J.D., Boswell, J.T., Cox, D.P., 2008, Interim Geologic Map of the Utah portions of the Deer Lodge Canyon, Prohibition Flat, Uvada, and Pine Park quadrangles, (east part of the Caliente 30 x 60' Quadrangle), Iron and Washington Counties, Utah. Utah Geological Survey, geologic map with text, 20 p., 1 pl. OFR-530, scale 1:24,000.

Rowley, P.D., Anderson, R.E., **Hacker, D.B.,** Boswell, J.T., Maxwell, D.J., Cox, D.P., Willden, R., and Adair, D.H., 2007, Interim Geologic Map of the Goldstrike quadrangle and east part of the Docs Pass quadrangle, Washington County, Utah. Utah Geological Survey, geologic map with text, 27 p., 1 pl. OFR-510, scale 1:24,000.

Hacker, D.B., Petronis, M.S., Holm, D.K., and Geissman, J.W., 2007, Shallow level emplacement mechanisms of the Miocene Iron Axis laccolith group, southwestern Utah, *in* Lund, W.R., editor,

Field guide to geologic excursions in southern Utah, Geological Society of America, Rocky Mountain Section 2007 Annual Meeting: Utah Geological Association Publication 35, 49p.

Rowley, P.D., Williams, V.S., Vice, G.S., Maxwell, D.J., **Hacker, D.B.,** Snee, L.W., and Makin J.H., 2006, Interim Geologic Map of the Cedar City 30' x 60' Quadrangle, Iron and Washington Counties, Utah. Utah Geological Survey, geologic map with text, 2 sheets. OFR-476DM, scale 1:100,000.

Petronis, M.S., **Hacker, D.B.**, Holm, D.K., Geissman, J.W., and Harlan, S.S., 2004, Magmatic flow paths and paleomagnetism of the Miocene Stoddard Mountain Laccolith, Iron Axis region, southwest Utah, USA: in Martin-Hernandez, F., Luneburg, C.M., Aubourg, C. & Jackson, M., eds., Magnetic Fabric: Methods and Applications. The Geological Society of London, Special Publications 238, p.251-283.

Hacker, D.B., *Rose, S., and *Stahlman, R., 2004, Recognition of multiple volcanic flows and source areas of the early Miocene Pine Valley Latite, Pine Valley Mountains, southwest Utah: The Compass Journal of Earth Sciences,p.46-58.

Hacker, D.B., Holm,D.K., Rowley, P.D., and Blank, H.R., 2002, Associated Miocene laccoliths, gravity slides, and volcanic rocks, Pine Valley Mountains and Iron Axis region, southwestern Utah, in Lund, W.R., ed., Field guide to geologic excursions in southwestern Utah and adjacent areas of Arizona and Nevada, U.S. Geological Survey Open-File Report 02-172, p. 236-283.

Hacker, D.B., 1999, Geology of Pine Valley Mountain, in Bridget McColville, Loving the Laccolith: a Hiking Guide to Pine Valley Mountain. Published by the Dixie Interpretive Association and Dixie National Forest, p. 100-101.

Hacker, D.B., 1998, Catastrophic gravity sliding and volcanism associated with the growth of laccoliths: examples from early Miocene hypabyssal intrusions of the Iron Axis magmatic province, southwest Utah: Kent, Ohio, Kent State University Ph.D. dissertation, p. 240.

Blank, H.R., Rowley, P.D., and **Hacker, D.B.**, 1992, Miocene monzonite intrusions and associated megabreccias of the Iron Axis region, southwestern Utah, in Wilson, J.R., ed., Field Guide to Geologic Excursions in Utah and Adjacent Areas of Nevada, Idaho, and Wyoming, Rocky Mountain Section, Geological Society of America Guidebook: Utah Geological Survey Miscellaneous Publication 92-3, p. 399-420.

Hacker, D.B., 1985, Structural geology of the southwest flank of the Gros Ventre uplift, upper Shoal Creek area, Teton and Sublette Counties, Wyoming: Oxford, Ohio, Miami University M.S. thesis, p. 93.

Research: Abstracts/Conference Papers

(*Denotes student collaborator)

Hacker, D.B., Biek, R.F., and Rowley, P.D., 2020, Catastrophic gravity sliding of volcanic fields during rapid growth of batholiths: insights from the Cenozoic Marysvale gravity slide complex, southwest Utah: Geological Society of America Abstracts with Programs, v. 52, no. 6., October 2020. **(Invited)**

Braunagel, M., Griffith, W.A., Biek, R.F., and **Hacker, D.B.,** 2020, Evidence for catastrophic emplacement of the Marysvale gravity slide complex aided by thermal pressurization of shear zone fluids: Geological Society of America Abstracts with Programs, v. 52, no. 6., October 2020.

*Loffer, Z.J., **Hacker, D.B.**, Malone, D.H., Biek, R.F., and Rowley, P.D. 2020, Timing and initiation of the Sevier gravity slide, Marysvale gravity slide complex, Garfield Co. Utah; implications from zircon geochronology of the basal layer: Geological Society of America Abstracts with Programs, v. 52, no. 6., October 2020.

*Loffer, Z.J., **Hacker, D.B.**, Malone, D.H., Biek, R.F., and Rowley, P.D. 2020, Zircon geochronology of the basal layer of the Sevier gravity slide, Marysvale volcanic field, Utah, USA: Geological Society of America Abstracts with Programs, v. 52, no. 3., May 2020.

Hacker, D.B., Biek, R.F., and Rowley, P.D., 2019, Dynamic deformation of catastrophic long run-out gravity slides: examples from the Cenozoic Maryvale volcanic field slide complex, southwest Utah: American Geophysical Union, Fall Meeting, San Francisco, CA.

*Wilsbacher, C.M., *Connell, K., Nash, B., and **Hacker, D.B.**, 2019, Geology of the Custer Peak

almandine garnet-bearing rhyolite intrusion, northern Black Hills igneous province, South Dakota: Geological Society of America Abstracts with Programs, v. 51, no. 5., September 2019.

*Connell, K., *Wilsbacher, C.M., Nash, B., and **Hacker, D.B.**, 2019, Geology of a Paleogene almandine garnet-bearing rhyolite intrusion, northern Black Hills igneous province, South Dakota: Geological Society of America Abstracts with Programs, v. 51, no. 5., September 2019.

*Mayback, D., Malone, D.H., Biek, R.F., **Hacker, D.B.**, and Rowley, P.D., 2019, Zircon geochronology of the basal layer of the Markagunt gravity slide, Marysvale volcanic field, Utah, USA: Geological Society of America Abstracts with Programs, v. 51, no. 5., September 2019.

Ferre, E.C., Biek, R.F., Biedermann, A., **Hacker, D.B.**, and Takagi, H., 2019, Fast and furious ultracataclasites and pseudotachylytes from catastrophic landslides: Geological Society of America Abstracts with Programs, v. 51, no. 5., September 2019.

Hacker, D.B., Biek, R.F., and Rowley, P.D., 2018, World's Largest Subaerial Catastrophic Landslides were produced by Magma-Tectonic Induced Collapse of Volcanic Fields: American Geophysical Union, Fall Meeting, Washington D.C., https://agu.confex.com/agu/fm18/meetingapp.cgi/Paper/377885

Biek, R.F., Rowley, P.D., and **Hacker, D.B.,** 2018, Implications of the Newly Discovered Markagunt and Sevier Gravity Slides, Marysvale Volcanic Field, Utah USA: American Geophysical Union, Fall Meeting, Washington D.C., https://agu.confex.com/agu/fm18/meetingapp.cgi/Paper/381607

*Richards, R., *Williams, T., **Hacker**, **D.B.**, and Giorgis, S., 2018, Anisotropy of magnetic susceptibility analysis samples from the Pine Valley mountain laccolith, southwestern Utah: Geological Society of America Abstracts with Programs, v. 50, no. 6., November 2018.

*Williams, T., *Richards, R., **Hacker**, **D.B.**, and Giorgis, S., 2018, Paleomagnetic constraints on the rate of emplacement of the Pine Valley mountains laccolith, southwestern Utah: Geological Society of America Abstracts with Programs, v. 50, no. 6., November 2018.

*Kindred, T., Keith, J., Stearns, M.A., *Harris, R., Biek, R.F., *Martin, S.G., *Jordan, L., *Chadburn, R., *Martin, A.J., and **Hacker, D.B.,** 2018, Pseudotachylyte--cataclasite in the damage zone located north of Box Elder Peak, Wasatch Mountains, Utah, associated with the 57 km^2 Traverse Mountain landslide: Geological Society of America Abstracts with Programs, v. 50, no. 6., November 2018.

Hacker, D.B., Biek, R.F., and Rowley, P.D., 2018, Anatomy and characteristics of mega-scale volcanic landslides of the Maryvale volcanic field, southwestern Utah: Geological Society of America Abstracts with Programs, v. 50, no. 5., May 2018.

Biek, R.F., **Hacker, D.B.**, and Rowley, P.D., 2018, Basal layers, injectites, deformed blocks, and implications of the newly discovered Sevier gravity slide, Maryvale volcanic field, southwestern Utah: Geological Society of America Abstracts with Programs, v. 50, no. 5., May 2018.

Hacker, D.B. and Dasgupta, T., 2017, Rapid ascent of rhyolitic magmas within the Black Hills igneous province, South Dakota: implications for extension within a Laramide transverse structural zone: Geological Society of America Abstracts with Programs, v. 49, no. 4.

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Biek, R.F., **Hacker, D.B.**, and Rowley, P.D., 2016, Discovery and distinguishing characteristics of the Markagunt gravity slide, southwest Utah: Geological Society of America Abstracts with Programs, v. 48, no. 7.

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*Hunter, S.K., *Sounik, J, Dasgupta, T., and **Hacker, D.B.,** 2016, SEM-EDX analysis of garnets and their inclusions from the lower-most layer of the Woodville Hill laccolith rhyolite in northern Black Hills, South Dakota: Geological Society of America Abstracts with Programs, v. 48, no. 7, September 2016.

*Sounik, J, *Hunter, S.K., Dasgupta, T., and **Hacker, D.B.,** 2016, Almandine garnet bearing rhyolites from Woodville Hill laccolith, SD: evidences of rapid magma injection and mixing in a laccolith:

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Dasgupta, T. and **Hacker, D.B.**, 2015, Almandine garnet bearing rhyolite of the Woodville Hill laccolith, northern Black Hills Igneous Province, South Dakota: Rapid ascent of magma from lower crustal level: Geological Society of America Abstracts with Programs, v. 47, no. 7, p.580, November 2015.

*Stinedurf, Stacee K., **Hacker, D.B.,** *Schuster, Kelsey M. and *Timko, Samuel B., 2015, Geology of Mosquito Lake State Park, Trumbull County, Ohio and West Branch State Park, Portage County, Ohio: Geological Society of America Abstracts with Programs, v. 47, no. 7, p.116, November 2015.

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*Jensen, O.F., Dasgupta, T., and **Hacker, D.B.**, 2014, Garnet-bearing rhyolites of the Woodville laccolith, northern Black Hills igneous province, South Dakota: Geological Society of America Abstracts with Programs, v. 46, no. 6, p.552, October 2014.

*Harris, C., Shakoor, A., and **Hacker, D.B.**, 2014, The effect of gravel content on the permeability of sandy soil: Association of Environmental and Engineering Geologists annual meeting.

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*Harrison, J.M., Ortiz, J. D., Abbott, M.B., Bird, B.W., **Hacker, D. B.,** Griffith, E. M., and Darby, D.A., 2013, Linking 2,000 years of sedimentation in the western Arctic Ocean to an atmospheric temperature proxy record from a glacial lake in the Brooks Range, AK: Geological Society of America Abstracts with Programs, v. 45, no. 4, p. 0, May 2013.

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*Tizzano, A.S., *Logan, G., and **Hacker, D.B.**, 2011, Magnetic susceptibility field study of the Pinto Peak intrusion, southwest Utah: Geological Society of America Abstracts with Programs, v. 43, no. 1, p. 92, March 2011.

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Hacker, D.B., Petronis, M.S., and O'Driscoll, B., 2008, Emplacement of the early Miocene Pinto Peak intrusion, SW Utah, USA, based on Anisotropy of Magnetic Susceptibility Data: LASI III Conference, Physical Geology of Subvolcanic systems: Laccoliths, Sills and Dykes. Elba Island,

Italy, September 2008. **(Invited)**

Hacker, D.B., Holm, D.K., Rowley, P.D., and Petronis, M.S., 2007, Rapid emplacements of Miocene Iron Axis laccoliths, SW Utah: Geological Society of America Abstracts with Programs, v. 39, no. 5, p. 4, May 2007.

Petronis, M.S., **Hacker, D.B.,** Holm, D.K., and Geissman, J.W., 2007, Emplacement of the Miocene Iron Axis laccoliths, SW Utah: results from magnetic fabric, paleomagnetic, and field mapping studies: Geological Society of America Abstracts with Programs, v. 39, no. 5, p. 5, May 2007.

*Peacock, G.W., *Arnold, B.J., Petronis, M.S., **Hacker, D.B.,** Holm, D.K., and Geissman, J. W., 2007, Anisotropy of magnetic susceptibility and paleomagnetism of the Mid-Tertiary Granite Mountain and Three Peaks laccoliths, Iron Axis province, SW Utah: Geological Society of America Abstracts with Programs, v. 39, no. 5, p. 5, May 2007.

Biek, R.F., Rowley, P.D., **Hacker, D.B.,** Hayden, J.M., Willis, G.C., Hintze, L.F., Anderson, R.E., and Brown, K.D., 2007, Save the detail-creating a seamless geologic map of the St. George 30' X 60' quadrangle, southwest Utah: Geological Society of America Abstracts with Programs, v. 39, no. 5, p. 37, May 2007.

Hacker, D.B. and Holm, Daniel K., 2006, Volcanic hazards related to the growth of laccoliths: examples from Miocene Iron Axis laccoliths, southwest Utah: Geological Society of America Abstracts with Programs, v. 38, no. 4, April 2006.

Holm, Daniel K., *Arnold, Billie Jo, and **Hacker, D.B.,**, 2006, Cenozoic crustal processes in southwest Utah; interaction of magmatism and deformation along a long-lived boundary zone: Geological Society of America Abstracts with Programs, v. 38, no. 4, April 2006.

*Mikolaj, Macia, **Hacker, D.B.,**, and Svoboda, James 2006, Preliminary study of ground and surface water interactions in wetland environments of a portion of the Grand River watershed, northeast Ohio: Geological Society of America Abstracts with Programs, v. 38, no. 4, April 2006.

Hacker, D.B., Holm, Daniel K., Petronis, Michael S., Rowley, Peter D., and *Arnold, B.J., 2005, Relation between Miocene volcanism and Iron-Axis laccolith emplacement, southwest Utah: Geological Society of America Abstracts with Programs, v. 37, no. 7, p. 72, October 2005.

*Chermansky Joseph V., *Macalli Ginger K., and **Hacker, D.B.,** 2005, The Eight Mile Dacite, Pine Valley Mountains, southwest Utah: emplacement of lava domes along a fissure system: Geological Society of America Abstracts with Programs, v. 37, no. 7, p. 299, October 2005.

*Arnold, B.J., Petronis, M., Holm, D.K., **Hacker, D.B.,** and Geissman, J., 2004, Paleomagnetic results from the eastern Caliente-Enterprise zone, southwest Utah: implications for initiation of a major Miocene transfer zone: Geological Society of America Abstracts with Programs, v. 36, no. 5, p. 501, November 2004.

Hacker, D.B., 2004, Volcanic stratigraphy and structures associated with the eruption of the early Miocene Pinto Peak laccolith, Iron Axis Magmatic Province, southwest Utah: Geological Society of America Abstracts with Programs, v. 36, no. 4, p. 40, May 2004.

Petronis, M.S., **Hacker, D.B.,** Holm, D.K., Harlan, S.S. and Geissman, J, 2003, Anisotropy of Magnetic Susceptibility and Paleomagnetic data bearing on Magma Emplacement of the Stoddard Mountain Laccolith, Iron Axis Magmatic Province, southwest Utah: Geological Society of America Abstracts with Programs, v. 34, p. 320, November 2003.

Hacker, D.B., 2002, Results of geologic mapping of the Pine Valley Mountains, southwest Utah: Geological Society of America Abstracts with Programs, v. 33, no. 4, April 2002.

*Rose, S., *Stahlman, R., and **Hacker, D.B.,** 2002, Recognition of a large volcanic lava dome within the early Miocene Pine Valley Latite, Pine Valley Mountains, southwest Utah: Geological Society of America Abstracts with Programs, v. 33, no. 4, April 2002.

Hacker, D.B., 2001, Geologic evolution of the Pine Valley Mountains, Basin and Range-Colorado Plateau Transition Zone, southwest Utah: in Erskine, M.C., Faulds, J.E., Bartly, J.M., and Rowley, P.D., eds., The geologic transition, High Plateaus to Great Basin – A symposium and field guide (The Makin Volume): Utah Geological Association and Pacific section of the American Association of Petroleum Geologist: Utah Geological Association, Publication 30, p.422. **(Invited)**

*Cornell, D., *Butler, T., Holm,D., **Hacker, D.B.,** and Spell, T., 2001, Stratigraphy and $^{40}Ar/^{39}Ar$ ages of

volcanic rocks of the Pinto Quadrangle, Colorado Plateau Transition Zone, SW Utah: in Erskine, M.C., Faulds, J.E., Bartly, J.M., and Rowley, P.D., eds., The geologic transition, High Plateaus to Great Basin – A symposium and field guide (The Makin Volume): Utah Geological Association and Pacific section of the American Association of Petroleum Geologist: Utah Geological Association, Publication 30, p.420.

*Butler, T., *Cornell, D., **Hacker, D.B.,** and Holm,D., 2001, Progress report of geologic mapping and remote sensing analysis of the Pinto Quadrangle, Colorado Plateau Transition Zone, SW Utah: in Erskine, M.C., Faulds, J.E., Bartly, J.M., and Rowley, P.D., eds., The geologic transition, High Plateaus to Great Basin – A symposium and field guide (The Makin Volume): Utah Geological Association and Pacific section of the American Association of Petroleum Geologist: Utah Geological Association, Publication 30, p.420.

Hacker, D.B., Rowley, P.D., and Holm, D.K., 1999, Shallow intrusive, structural, and eruptive evolution of the gigantic Pine Valley laccolith, Pine Valley Mountains, southwest Utah: Geological Society of America Abstracts with Programs, v. 31, no. 7.

Hacker, D.B., P.D., Blank, H.R., and Snee, L.W., 1996, Early Miocene catastrophic gravity sliding and volcanism associated with intrusions of the southern Iron Axis region, southwest Utah: Geological Society of America Abstracts with Programs, v. 29, p. 511.

Hacker, D.B., 1995, Deformational structures related to the emplacement and growth of the Pine Valley laccolith, southern Iron Axis region, Washington County, Utah: (abs.): Eos, Transactions, American Geophysical Union, v. 76, no. 46, p. 625.

PROFESSIONAL AFFILIATIONS

- Geological Society of America (GSA)
- American Association of Petroleum Geologists (AAPG)
- American Geophysical Union (AGU)
- Structural Geology and Tectonics Division of the Geological Society of America

KENT STATE UNIVERSITY SERVICE

Trumbull Campus Service

- Academic Affairs Committee: **Chair**- 2010, 2011; Member-2012, 2013, 2014, 2015, 2017, 2018, 2019, 2020, 2021
- Educational Resources Committee: **Chair**- 2005, 2006, 2007; Member -2003, 2004, 2008, 2009, 2010, 2014, 2015, 2016
- Faculty Council: Member-2000 to present
- Undergraduate Student Research (Independent Investigations): **Advisor**-2001 to present
- Student Showcase for Research, Scholarship & Creativity: **Judge and Faculty Mentor**-2016, 2019, 2020
- Personnel Action Committee for RTP (reappointment, tenure, and promotion): **Appointed Member**-2006, 2007, 2009, 2010, 2012, 2013, 2016, 2017, 2018, 2019, 2020
- KSU Trumbull Retention Committee: Member-2010, 2011
- KSU Trumbull Marketing Task Force Committee: Member-2005, 2006
- Search Committee for Trumbull Campus Dean position: **Appointed Member**-2019, 2020
- Search Committee for tenure track Biology Faculty position: **Appointed Member**-2014-2015, 2019-2020
- Search Committee for non-tenure track Chemistry Faculty position: **Appointed Member**-2009-2010
- Search Committee for tenure track Spanish Faculty position: **Appointed Member**-2004-2005
- Search Committee for tenure track BMRT (Business Management and Related Technologies) Faculty position: **Appointed Member**-2003-2004
- Merit Tabulation Committee for Faculty Excellence Awards: 2002, 2003, 2012, 2013, 2014, 2018

- Ad-hoc committee to develop procedures for use of video recording equipment: 2002, 2003
- Faculty Lecture Series, sponsored by Alumni Association: Featured Speaker-2017

Department of Geology Service

- Geology Summer Field Camp: **Director**-2003, 2006, 2008, 2009-present
- Senior Honors Thesis Committee: **Advisor**-2009, 2010
- Curriculum Committee: **Appointed Member**-2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2015, 2016, 2017
- Graduate Studies Committee: **Appointed Member**-2016, 2017
- Faculty Advisory Committee: **Elected Member**-2005, 2006, 2007, 2008, 2009, 2013-present
- Student Academic Complaint Committee: **Appointed Member**-2001, 2002, 2007, 2008
- Master's Student Committees: Member-2002 to present
- Master's Student Advisor: 2015 to present
- Undergraduate Student Research (Independent Investigations): **Advisor**-2001 to present
- Kent State University chapter of American Association of Petroleum Geologists (geology student organization): **Faculty Advisor**-2012-present
- Speakers Program Committee: Member-2002, 2003, 2004
- Department Chair Review Committee: **Elected Member**-2014-2015, 2018-19
- Department Program Review Committee: **Appointed Member**-2020
- Ad-hoc Committee to establish Online Field Camp course: **Appointed Member**-2021
- RPT Committee for TT Faculty: **Appointed Member**-2014-15, 2017, 2018, 2019, 2020
- RPT Committee for NTT Faculty: **Appointed Member**-2014-2015, 2017, 2018, 2019, 2020
- Peer reviewer: Dr. Ted Dasgupta-2014, Beth Herdon-2018, Jeremy Williams-2019
- Faculty Search Committee for Hydrology: Member: 2000-2001
- Faculty Search Committee for Stratigraphy: Member: 2000-2001
- Faculty Search Committee for Environmental Mineralogy: Member: 2011-2012
- Faculty Search Committee for Urban Hydrology: Member: 2011-2012
- Faculty Search Committee for Low Temperature Aqueous Geochemistry: Member-2000-2001, 2008-2009, 2012-2013, 2018-2019
- Faculty Search Committee for Hydrogeology: Member: 2016-2017

Regional Campus System Service

Teaching Development Summer Awards Committee: **Chair**-2006, 2007; Member-2005, 2006

Kent Campus Service

- Honors College: **Faculty Member**, Undergraduate Independent Study Advisor, Course Instructor-2003-present
- Kent State University chapter of American Association of Petroleum Geologists (student organization under Center for Student Involvement**): Faculty Advisor**-2012-present
- Provost Innovative Curriculum Summit Participant: 2010
- University Teaching Council Conference Committee: Member-2005, 2006, 2007
- Collage of Public Health – Continuing Education, HAZWOPER Training Course: **Co-instructor** – 2013
- Undergraduate Symposium on Research, Scholarship, and Creative Activities: **Judge and Faculty Mentor**-2014, 2015, 2017, 2019

PROFESSIONAL AND PUBLIC SERVICE

Editorial Boards

Journal of Maps: Associate Editor, 2016 to 2019

Reviews

Geology: Peer reviewer, 2016.
Journal of Geology: Peer reviewer, 2016.
Journal of Structural Geology, 2021.
Geosphere: Peer reviewer, 2015, 2016, and 2017.
The Mountain Geologist, 2020
National Geographic: Grant reviewer, 2014.
Environmental and Engineering Geoscience Journal: Peer reviewer, 2013, 2016, 2017, and 2019.
Utah Geological Survey: Reviewer of the *Panguitch 30' x 60'* quadrangle. (**Field reviewed in southwest Utah, summer 2012**)
Utah Geological Survey: Reviewer of four 7.5' quadrangles: *Fish Lake, Forsyth Reservoir, Hilgard Mountain,* and *Mount Terrill* quadrangles. (**Field reviewed in central Utah summer 2012**)
National Park Service: Reviewer of geology web pages for Cuyahoga Valley National Park (2003-2007).
Kendall Hunt Publishing Co. (2004) Reviewed distance learning Physical and Historical geology lab text book with video tapes, Kendall Hunt Publishing Co., Dubuque Iowa.
Kendall Hunt Publishing Co. (2001) Harris, Ann "Black Canyon of the Gunnison National Park" in Harris, A.G., Tuttle, E., and Tuttle, S.D., eds., Geology of National Parks 6th ed, Kendall Hunt Publishing Co., Dubuque Iowa, 882p.

Professional Field Trips Organized and conducted

GSA Rocky Mountain section meeting, Provo, Utah, 2020: The gigantic Markagunt and Sevier gravity sides resulting from mid-Cenozoic catastrophic mega-scale failure of the Marysvale volcanic field. Three-day field trip. **(Co-leader of professional geology field trip).** (Canceled due to COVID-19)
GSA Thompson Field Forum, Cedar City, Utah, 2017 (fall): Catastrophic structural failure of large volcanic fields: distinguishing characteristics and geologic implications of the gigantic Markagunt gravity slide and Marysvale volcanic field, southwest Utah. (six day national and international forum that brings scientists together to capture the essence of exciting discoveries or controversial topics via forays into the field for on the spot discussions of a particular geologic feature or area. This is both an opportunity to get out into the field and to bring together experts on the topic at hand to exchange current knowledge, ideas, and theories. **(Co-leader of professional geology field trip).**
LASI IV Conference, Physical Geology of Subvolcanic Systems: Laccoliths, Sills and Dykes. Moab, Utah, September 27, 2010: Post-Meeting field trip to the laccoliths of the Iron Axis region, southwest Utah. One-day field trip. **(Leader of Invited professional geology field trip).**
GSA Rocky Mountain section meeting, St. George, Utah, 2007: Shallow level emplacement mechanisms of the Miocene Iron Axis laccolith group, southwestern Utah. One-day field trip. **(Leader of professional geology field trip). (Published Field Guidebook)**
GSA Northeast Section, Akron, Ohio, 2006: Geology of Cuyahoga Valley National Park, northeast Ohio. One-day field trip. **(Leader of professional geology field trip).**
Utah Geological Survey, Cedar City, Utah, 2004: Field review of new geologic mapping, Pine Valley Mountain Area, Washington and Iron Counties, Utah. Two-day field trip. **(Leader of field trip).**
GSA Rocky Mountain section meeting, Cedar City, Utah, 2002: Associated Miocene laccoliths, gravity slides, and volcanic rocks, Pine Valley Mountains and Iron Axis region, southwestern Utah. One-day field trip. **(Leader of Invited professional geology field trip). (Published Field Guidebook)**
GSA Rocky Mountain section meeting, Cedar City, Utah, 1992: Miocene monzonite intrusions and associated megabreccias of the Iron Axis region, southwestern Utah. Two-day field trip. **(Co-Leader of professional field trip).**

Professional Presentations (Invited Lectures and Colloquia)

Catastrophic gravity sliding of volcanic fields: insights from the Cenozoic Marysvale gravity slide complex, southwest Utah (2021). Palmer Geology Lecture Series, Kent State University, Spring 2021.

Catastrophic Landslides in Volcanic Terrains: Faculty Lecture Series, Kent State University at Trumbull, Spring 2017. (**Invited talk** open to the public and sponsored by the KSU Alumni Association)

Largest Landslides on Earth are Products of Volcanic Field Collapse: The University of Texas at Arlington, Spring 2017. **(Invited talk).**

Earth's largest terrestrial landslide (the Markagunt gravity slide of southwest Utah): insights from the catastrophic collapse of a volcanic field (2015): Presented at the AGU Annual Conference, San Francisco, California, Fall 2015. **(Invited talk).**

Unlocking the Secrets of Earth's Largest Continental Landslide: The Markagunt Gravity Slide of Southwest Utah (2015). Palmer Geology Lecture Series, Kent State University, Spring 2015.

From dikes to sills to laccoliths: a look at shallow level magmatic systems (2013). Kent State University, Geology Colloquium Series, Spring 2013. **(Invited talk).**

Catastrophic gravity sliding and volcanism associated with the growth of laccoliths of the Iron Axis magmatic province, Pine Valley Mountains, southwest Utah (2008). New Mexico Highlands University. **(Invited talk).**

Shallow level magma emplacement and associated extrusive deposits (2007). Chair of Technical Session for Geological Society of America, Rocky Mountain Section Meeting, May 7, 2007.

Laccoliths of southwest Utah and their relation to upper crustal magma emplacement and volcanism (2005). Northern Ohio Geological Society, Fall 2005. **(Invited talk).**

Laccoliths of SW Utah and their relation to upper crustal magma emplacement and volcanism (2005). Kent State University, Geology Colloquium Series, Fall 2005. **(Invited talk).**

Field review of new geologic mapping, Pine Valley Mountain Area, Washington and Iron Counties, Utah (2004). Utah Geological Survey, two-day field trip, Summer 2004. **(Leader of field trip).**

Laccoliths of the Iron Axis, southwest Utah (2003). Southern Utah University, Geology Club Colloquium Series, Fall 2003. **(Invited talk).**

Catastrophic events associated with laccoliths? Evidence of gravity sliding and volcanism associated with the growth of laccoliths in the Iron Axis region of southwest Utah (2002). University of Akron, Geology Colloquium Series, Spring 2002. **(Invited talk).**

Geology of the Pine Valley laccolith, Pine Valley Recreation Area, Utah (summer 2001). Talk was part of the Dixie Interpretive Association/Dixie National Forest Summer Program Series. **(Invited Talk).**

Ground Water Modeling, Contaminant Fate and Transport, Exposure Assessment (1999). Human Health Risk Assessment Seminar sponsored by BJAAM Environmental, Inc. and the Society of Professional Environmental Risk Assessors, Canal Fulton, Ohio. Two-day seminar. **(Co-Instructor).**

Exposure Assessment and Ground Water Modeling (1998). Human Health Risk Assessment Seminar, sponsored by BJAAM Environmental, Inc. and the Society of Professional Environmental Risk Assessors, Canal Fulton, Ohio. One-day seminar. **(Co-Instructor).**

Contaminant Fate and Transport, Exposure Assessment, and Risk Characterization (1997). Human Health Risk Assessment Seminar sponsored by BJAAM Environmental, Inc., Canal Fulton, Ohio. One-day seminar. **(Co-Instructor).**

Professional Society Service

(2015) Society for Science and the Public: **Grand Awards Judge for Environmental Engineering** at Intel International Science & Engineering Fair 2015, Pittsburg, Pennsylvania.

(2012) Society for Science and the Public: **Grand Awards Judge for Earth Science** at Intel International

Science & Engineering Fair 2012, Pittsburg, Pennsylvania.
(2010/11) Geological Society of America: **Chair** of Workshops for Northeastern Section and North-Central Section Joint Meeting, Pittsburgh, Pennsylvania.
(2011) Geological Society of America: **Judge** of student research posters for Northeastern Section and North-Central Section Joint Meeting, Pittsburgh, Pennsylvania.
(2007) Geological Society of America: **Chair** of Technical Session "***Shallow level magma emplacement and associated extrusive deposits",*** Rocky Mountain Section Meeting, St. George, Utah.
(2007) Geological Society of America: **Field Trip Leader** for professional one-day field trip-Rocky Mountain Section Meeting, St. George, Utah.
(2006) Geological Society of America: **Field Trip Leader** for professional one-day field trip- Northeast Section Meeting, Akron, Ohio.
(2003) Society for Science and the Public: **Grand Awards Judge for Earth Science** at Intel International Science & Engineering Fair 2003, Cleveland, Ohio.
(2002) Geological Society of America: **Field Trip Leader** for professional one-day field trip-Rocky Mountain Section Meeting, Cedar City, Utah.

Community Service

(2003-2006) Member of Village of Seville Comprehensive Development and Steering Committee.
(2004-2005) Senior Member (rank of Captain) Civil Air Patrol-USAF Auxiliary. Title: Aerospace Education Officer. Aerospace education of CAP cadets ages 12-21.

Community Outreach

I believe that the future of earth science depends on our young people. Therefore, I have taken every opportunity to give talks, lead field trips, and judge Science Fairs for various organizations, such as:

- Super Judge for the Western Reserve District 5 Science Day at University of Akron (2013, 2014, 2015, 2016).
- Science Judge for the District 15 Lake to River Science Day at Youngstown State University (2006).
- Science Judge for the Western Reserve District 5 Science Day at University of Akron (2006).
- Science Judge for Akron's Citywide Science and Technology EXPO 2006.
- Science Judge for the District 15 Lake to River Science Day at Youngstown State University (2005).
- Presentation on geology resources for 5th grade students at Seville Elementary School, Mrs. Thiele's class (2004).
- Science Judge for 8th Annual Science Fair, Cloverleaf Schools (2003).
- Science Judge for the District 15 Lake to River Science Day at Youngstown State University (2003).
- Presentation on geologic hazards for 150 students (8th grade) at Cloverleaf Middle School (2002).
- Presentation on geology for 3rd grade students at Seville Elementary School, Mrs. Ruprecht's class (2002).
- Presentation on geology for 3rd grade students at Seville Elementary School, Mrs. Albon"s class (2002).
- Presentation on geology for 3rd grade students at Seville Elementary School, Mrs. Regener"s class (2002).
- Presentation on rocks, minerals, and fossils for Westfield Cub Scout troop (2002).
- Science Judge for the District 15 Lake to River Science Day at Youngstown State University (2002).
- Presentation on geology for 1^{rst} grade students at Lodi Elementary School, Mrs. Martin's class (2002).
- Presentation on geology for 7th grade Cloverleaf students at Steamship William G. Mather Museum (2001).

- Program talk on the geology of the Pine Valley laccolith, Pine Valley Recreation Area, Utah (summer 2001). Talk was part of the Dixie Interpretive Association/Dixie National Forest Summer Program Series.
- Presentation on geology for 6th grade students at Medina Christian Academy (2001).
- Assisted in field trip to COSI Museum in Columbus to answer science questions for 6th grade students at Cloverleaf schools (2001).
- Lectures on geology as a profession and field trips with 7th and 8th grade students at Cloverleaf Junior High School (1997-1999).

SCHOLARSHIPS AND AWARDS

Sigma Xi

Sigma Gamma Epsilon, Honorary Geological Society

Wells Field Geology Scholarship (Miami University)

M.S. research partially funded by grants from Tenneco Oil and Geological Society of America

Ph.D. research funded by U.S. Geological Survey through the National Geologic Mapping Program

Outstanding Ph.D. Student Award (Kent State University, Department of Geology)

PROFESSIONAL TRAINING: COURSES AND SEMINARS

Modern digital geologic mapping techniques (2014). Short Course 514, Geological Society of America Annual Meeting, Denver Colorado.

Human Health and Ecological Risk Assessment in Ohio's Voluntary Action Program (2000). Ohio EPA short course regarding human and ecological risk analysis at contaminated sites under the Ohio Voluntary Action Program.

PC Applications in Risk Assessment, Remediation, Modeling, and GIS (1999). National Ground Water Association 4.5 day hands on short course on using major PC software packages (e.g., Visual MODFLOW, FLOWPATH, FLONET/TRANS, Visual HELP, etc.) that have applications in ground water pollution evaluation, hydrology, risk assessment, remediation, GIS, and geochemistry.

Natural Attenuation for Remediation of Contaminated Sites (1997). National Ground Water Association two day short course on recognizing natural attenuation processes in ground water and using natural attenuation as a remediation approach at contaminated sites.

Computer-Aided Cleanup for Risk-Based Soil and Ground Water Cleanup (1997). National Ground Water Association two day short course on using models to predict contaminant fate and transport and using RISKPRO's new SESOIL and AT123D leachate and ground water models.

Risk-Based Corrective Action Applied at Petroleum Release Sites (1996). ASTM two-day technical and professional training workshop on identifying the role of risk assessment and fate and transport modeling in the RBCA process as it relates to ASTM Standard E 1739.

Urban Storm Water Management (1992). Seminar by David Pyzoha, P.E., Shaw, Weiss & DeNaplos, Inc., on development and implementation of storm water management programs.

Well Log Interpretation (1987). Schlumberger Well Services short course on evaluating subsurface formation characteristics using downhole logging techniques.

Twinning as a Strain Gauge (1987). Short course at University of Cincinnati on the technique of using twinned calcite in strain calculations. Conducted by Dr. Richard H. Groshong, Jr.

PROFESSIONAL DEVELOPMENT: WORKSHOPS/CONFERENCES/FIELD TRIPS

- Geological Society of America National Meeting. Denver, Colorado (September, 2016).
- American Geophysical Union Annual Meeting: San Francisco, California, (December, 2015).
- NAGT/USGS (National Association of Geoscience Teachers/United States Geological Survey) Summer Field Training Program Annual Meeting: Vancouver, British Columbia (2014).
- Geological Society of America National Meeting. Vancouver, British Columbia (October, 2014).
- Short Course 514, Modern digital geologic mapping techniques: Geological Society of America Annual Meeting, Denver Colorado, (October, 2013).
- Geological Society of America National Meeting. Denver, Colorado (October, 2013).
- LASI V Conference, Physical Geology of Subvolcanic systems: Laccoliths, Sills and Dykes. Port Elizabeth, South Africa (September, 2012).
- Geological Society of America, Northeastern Section and North-Central Section Joint Meeting. Pittsburgh, Pennsylvania (May 2011).
- LASI IV Conference, Physical Geology of Subvolcanic systems: Laccoliths, Sills and Dykes. Moab, Utah (September, 2010).
- LASI III Conference, Physical Geology of Subvolcanic systems: Laccoliths, Sills and Dykes. Elba Island, Italy (September, 2008).
- Geological Society of America National Meeting. Denver, Colorado (October, 2007).
- Geological Society of America, Rocky Mountain Section Meeting. St. George, Utah (May, 2007).
- Geological Society of America, Eastern Section, Meeting. Akron, Ohio (April, 2006).
- Field trip on "Sheet-like emplacement of satellite laccoliths, sills, and bysmaliths of the Henry Mountains, southern Utah"
- Geological Society of America National Meeting (October, 2005).
- Geological Society of America National Meeting. Salt Lake City, Utah (October, 2005).
- University Research Council's Eleventh Annual Celebration of Scholarship. Kent, Ohio (April, 2005).
- Geological Society of America National Meeting. Denver, Colorado (November, 2004).
- Geological Society of America, Rocky Mountain Section Meeting. Boise, Idaho (May 3-5, 2004).
- Field trip on "Exploring the sedimentary features of hydrovolcanic tuffs and reconstructing the evolution of the emergent tuff cone at Sinker Butte, western Snake River Plain, Idaho" Geological Society of America Rocky Mountain Section Meeting (May 3-5, 2004).
- Field trip on " Craters of the Moon and 20 years after the Borah Peak earthquake: new perspectives on basaltic volcanism of the eastern Snake River Plain and a field guide to surface rupturing earthquakes along the Lost River fault, Idaho" Geological Society of America Rocky Mountain Section Meeting (May 3-5, 2004).
- University Research Council's Tenth Annual Celebration of Scholarship. Kent, Ohio (April 2004).
- Celebrating College Teaching. Kent State University Teaching Council Tenth Annual Conference. Kent, Ohio (October 23-24, 2003)
- Geological Society of America National Meeting. Denver, Colorado (October 27-31, 2002).
- Field trip on Laramide accommodation structures of the Colorado Front Range. Geological Society of America National Meeting (October 26, 2002).
- Celebrating College Teaching. Kent State University Teaching Council Ninth Annual Conference. Kent, Ohio (October 24-25, 2002)
- Geological Society of America, Rocky Mountain Section Meeting. Cedar City, Utah (May 7-9, 2002).
- Field trip on volcanology and mineral resources of the Marysvale Volcanic field, Southwestern Utah. Geological Society of America, Rocky Mountain Section Meeting. Cedar City, Utah (May

6, 2002).

- University Teaching Council Grant-Writing Workshop, Kent, Ohio (January 11, 2002).
- University Research Council's Eighth Annual Celebration of Scholarship. Kent, Ohio (April 8, 2002).
- The Mackin Conference, Cedar City, Utah (September 20-23, 2001).
- Field trip to the Caliente caldera complex, east-striking transverse zones, and nearby mining districts in Nevada-Utah: Implications for petroleum, ground-water, and mineral resources. The Mackin Conference, Cedar City, Utah (September 24, 2001).
- Celebrating College Teaching. Kent State University Teaching Council Eighth Annual Conference. Kent, Ohio (October 25-26, 2001)
- Geological Society of America, Rocky Mountain Section Meeting. Albuquerque, New Mexico (April 30-May 2, 2001).
- AAUP-KSU Reappointment, Tenure, & Promotion Workshops. Kent, Ohio (April 20, March 16, February 23, February 9, 2001, and November 3, 2000).
- Moulton Hall Multimedia Open House. Kent, Ohio (February 16, 2001).
- Celebrating College Teaching. Kent State University Teaching Council Seventh Annual Conference. Kent, Ohio (October 26-27, 2000).