

MARK ALAN EVANS

Curriculum Vitae

PERSONAL

Born: September 3, 1956, Johnstown, PA
Home Address: 98 Walden Street
West Hartford, CT 06107
Business Address: Department of Physics and Earth Science
Central Connecticut State University
New Britain, CT 06050
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EDUCATION

1989 - Ph.D., Geology, University of Pittsburgh
1980 - M.S., Geology, West Virginia University
1978 - B.S., Geology, West Virginia University, Cum Laude

EXPERIENCE

2019 - Present Professor, Tenured, Department of Geological Sciences, Central Connecticut State University, New Britain, CT
2014-2019 Chair, Department of Geological Sciences, Central Connecticut State University, New Britain, CT
2012-2014 Chair, Physics and Earth Science Department, Central Connecticut State University, New Britain, CT
2012 Professor, Tenured, Central Connecticut State University, New Britain, CT
2006-2012 Associate Professor, Tenured, Central Connecticut State University, New Britain, CT
2004-2006 Assistant Professor, Central Connecticut State University, New Britain, CT
1996-2004 Research Associate Professor, Graduate Faculty, University of Pittsburgh, Pittsburgh, PA
1995-1996 Assistant Professor, Temporary, University of Pittsburgh at Johnstown, Johnstown, PA
1990-1995 Assistant Professor, Georgia Southern University, Statesboro, GA
1989-1990 Post-Doctoral Research Associate, U.S. Dept. of Energy, Morgantown Energy Technology Center, Morgantown, WV
1988 Instructor, Duquesne University, Pittsburgh, PA
1987 Instructor, Ohio University, Eastern Campus, St. Clairsville, OH
1984-1989 Graduate Research Assistant, University of Pittsburgh, Pittsburgh, PA
1983-1984 Exploration & Development Geologist, D'Appolonia Oil & Gas Company, Pittsburgh, PA
1980-1983 Exploration Geologist, ARCO Exploration Company, Dallas, TX, Houston, TX
1978-1980 Graduate Research Assistant, USDOE Devonian Shale Project, West Virginia University, Morgantown, WV
1977-1978 Assistant Geologist, West Virginia Geological Survey, Morgantown, WV

PROFESSIONAL AFFILIATIONS AND OFFICES

American Association of Petroleum Geologists, since 1974
American Geophysical Union, since 1985
European Geosciences Union, since 2010
Geochemical Society, since 2012
Geological Society of America, since 1974
Member of NE Section Geological Society of America Management Board, 2018-2021
Organizing Chair for the NE Section Meeting of the Geological Society of America, 2021
Geological Society of Connecticut – founding member, since 2009
Geological Society of London, since 2011

CITATION INDICES

H-Index

19 – Scopus
23 – Google Scholar

i10-Index

30 – Google Scholar

REGISTRATIONS

Pennsylvania Registered Professional Geologist: **PG-001146-G**

HONORS AND AWARDS

Honor Roll – CCSU Excellence in Teaching Award, 2005-2006
Finalist - CCSU Excellence in Teaching Award, 2006-2007
Featured on the CCSU homepage for most of 2008
Semi-Finalist - CCSU Excellence in Teaching Award, 2011-2012
Elected Fellow of the Geological Society of London - 2012
Honor Roll - CCSU Excellence in Teaching Award, 2012-2013
Honor Roll - CCSU Excellence in Teaching Award, 2015-2016
Semi-Finalist - CCSU Excellence in Teaching Award, 2016-2017
Elected Fellow of the Geological Society of America – May 2017
Honor Roll - CCSU Excellence in Teaching Award, 2017-2018
Best Presentation Award, 3rd Place, Gulf Coast Association of Geological Societies Convention, 2018
Honor Roll - CCSU Excellence in Teaching Award, 2021-2022
Geological Society of Connecticut Joe Webb Peoples Award for Service to Connecticut Geosciences, 2021

GRANTS AND AWARDS (over \$600,000 in funding)

Does not include unfunded proposals.

April 1985 **Geological Society of America Research Grant** for field work in Virginia \$700.
June 1986 **NSF Grant** "A study of the deformation history of a roof thrust sheet and underlying duplex: An example from northwestern Virginia, central Appalachians (Collaborative)," \$66,500.
Sept. 1989 **Appalachian Basin Industrial Associates** grant for field work \$500.
October 1991 **Georgia Southern University travel grant** to attend GSA Meeting in Dallas, TX, \$575.
June 1991 **Georgia Southern University Faculty Research Grant** to set up fluid inclusion lab, \$2100.
Nov. 1991 **ACS/PRF Grant** "The migration of fluids along décollement zones," \$18,000.
January 1992 **NSF RUI Grant** "Fluid migration pathways and fluid evolution in the central Appalachians: Implications for hydrodynamics within a foreland fold-thrust belt," \$54,443.
October 1992 **Georgia Southern University travel grant** to attend GSA Meeting in Cincinnati, OH, \$500.
June 1994 **Georgia southern University travel grant** to attend GSA Meeting in Seattle, WA, \$900.
June 1994 **US Department of Energy and Westinghouse Savannah River Company**, "Regional structural controls on the coastal plain hydrologic regime in west-central South Carolina and adjacent Georgia," \$33,618.
May 1995 **Pennsylvania Bureau of Topographic and Geologic Survey**, Investigation of mesoscale structures associated with cross-strike tear faults in south-central Pennsylvania," \$1092.
August 1996 **Pennsylvania Bureau of Topographic and Geologic Survey**, through Edinboro University: "Investigation of folds and faults, Erie area." \$500.
June 1997 **Pennsylvania Bureau of Topographic and Geologic Survey**, "Investigation of faults, southeastern Pennsylvania area." \$750.
Dec. 1998 **NSF Grant** "Collaborative Research: Remagnetization and Orogenic Fluids: Testing the Hypothesis in the central Appalachians" \$132,500
Nov. 1998 **ACS/PRF Grant** "Characterization of fluid evolution and fluid migration during the

- Late Paleozoic Alleghenian orogeny: Central Appalachian Plateau Province" \$60,000
- March 2002 **University of Pittsburgh Innovations in Teaching Grant.** "Development of a Regional Geologic Site Inventory for use in Undergraduate Curriculum" \$6934.
- February 2005 **CSU/AAUP Research Grant.** "Paleo-Hydrologic Structure of the Paleozoic – Mesozoic Section in the Sawtooth Range, Montana" \$4237.
- June 2005 **CSU Assessment Committee Grant.** "Critical Thinking for Civic Thinking" \$3000. Awarded to Stephen Adair PI, Tessier and Evans Co-PIs.
- January 2007 **NSF Grant** "Critical Thinking for Civic Thinking" Awarded to Stephen Adair PI, Tessier, Mulroney, and Evans Co-PIs. Grant is collaborative with University of Akron, Portland State University, and Wagner College. \$23,000
- March 2007 **CCSU Dean's Research Initiative:** Funds to take students to the meeting of the Northeastern Section of the Geological Society of America. \$500.
- February 2008 **CSU/AAUP Research Grant.** "Climate and vegetation changes in northern Connecticut recorded by pollen deposition at Lake Louise." \$5000.
- March 2009 **CCSU Dean's Research Initiative:** Funds to do field work in the Great Valley of Virginia. \$1454.
- April 2009 **CCSU/AAUP Curriculum Development Grant:** Michael Wizevich, Co-PI. Grant to develop a new Physical Geology Laboratory curriculum. \$3000.
- April 2009 **CSU Assessment Committee Grant:** Jennifer Piatek and Michael Wizevich, Co-PIs. "Developing a Capstone experience for Physical Geology" \$1800.
- January 2010 **USGS-EDMAP Grant:** "Bedrock Mapping and Analyses of the Eastern Half of the Luray 7.5' Quadrangle, Virginia" Awarded to Dr. Steven Whitmeyer, James Madison University. Mark A. Evans Co-PI. \$2295 – CCSU part.
- April 2010 **CCSU/AAUP Curriculum Development Grant:** Jennifer Piatek and Michael Wizevich, Co-PIs. Funds to do field work and collect sample suite for use in all geology courses. \$3650.
- April 2010 **CCSU/AAUP Curriculum Development Grant:** Clayton Penniman, Co-PI. Funds to develop course in Science of Sustainability. \$2950.
- May 2010 **Penn State's Appalachian Basin Black Shales Group (ABBSSG)** grant to investigate fluid inclusions in four Marcellus shale cores. \$5000.
- March 2011 **CCSU Dean's Research Initiative:** Funds to do field work in central Pennsylvania. \$1400.
- February 2011 **CCSU/AAUP Faculty Development Grant.** "Presentation of research at the European Geosciences Union General Assembly, Vienna, Austria" \$3200.
- February 2011 **CSU/AAUP Research Grant.** "Fluid evolution and changes in deformation conditions during formation of the central Appalachian fold-and-thrust belt of Pennsylvania." \$5000.
- April 2011 **CCSU/AAUP Curriculum Development Grant:** Jennifer Piatek and Michael Wizevich, Co-PIs. Funds to do develop historical geology labs. \$3650.
- November 2011 **CCSU Faculty Student Research Grant:** titled "Testing the Extent of Fluid Migration in the Marcellus shale, Central Pennsylvania" with Jeremy Leo. \$700.
- February 2012 **CCSU/AAUP Faculty Development Grant.** "Presentation of Research at the Geofluids VII 2012 International Conference, Institut Français du Pétrole, IFP (French Petroleum Institute), Rueil-Malmaison, France" \$3200.
- June 2012 **ACS/PRF Grant:** Fluid evolution and changes in deformation conditions during the formation of the central Appalachian fold-and-thrust belt of Pennsylvania. \$65,000.
- August 2012 **Grant from Southwest Research Institute,** San Antonio, TX to study of veins in the Eagle Ford Formation southwest Texas. \$15,000.
- April 2014 **CSU/AAUP Research Grant.** "Fluid evolution and changes in deformation conditions during the formation of the central Appalachian fold-and-thrust belt of Pennsylvania" \$4991.

- June 2014 **Summer Faculty-Student Research Grant** to **Nathan Pirovane** for “Examination of lead deposits in Central Connecticut.” \$1547
- July 2014 **NSF Grant:** Collaborative Research: Characterizing the Regional Fluid Flow System of the Wyoming Salient, Sevier Fold-Thrust Belt: Implications for Orogenic Wedge Deformation and Propagation. Collaborative with Weber State Univ. and Univ. of Rochester (Lead institution). (\$77,601- CCSU part)
- April 2015 **CSU/AAUP Research Grant.** “Continuation: Fluid evolution and changes in deformation conditions during the formation of the central Appalachian fold-and-thrust belt of Pennsylvania” \$1638.
- April 2016 **CSU/AAUP Research Grant.** Unraveling the structural history of the central Appalachians, Pennsylvania, \$3459.
- April 2018 **CSU/AAUP Research Grant.** Structural and Fluid History of the Anthracite Coal Basin in the Appalachian fold-and-thrust belt of Eastern Pennsylvania, \$2560.
- November 2018 **CCSU Faculty-Student Research Grant** with student Jake Weiss. “Paleo-Hydro stratigraphy of the Paleozoic – Mesozoic Stratigraphic Section in the Saw tooth Range, Montana.” \$470.
- November 2018 **CCSU Faculty-Student Research Grant with student Ben Bouge.** “Testing the relation between fluid flow and progressive deformation in the Whiskey Flats Anticline, Wyoming-Idaho” \$490.

PUBLICATIONS (bold indicates Evans’ students)

REFEREED PAPERS

- Evans, M.A., 1989a, Great Valley of northern Virginia: in N. B. Woodward ed., Geometry and deformation fabrics in the Central and Southern Appalachian Valley and Ridge and Blue Ridge, Field Trip Guidebook for International Geological Congress trip no. T357.
- Evans, M.A., 1989b, The structural geometry and evolution of foreland thrust systems, northern Virginia: Geological Society of America Bulletin, v. 101, p. 339-355.
- Evans, M.A., 1990, Reply to: The structural geometry and evolution of foreland thrust systems, northern Virginia: Alternative Interpretation: Geological Society of America Bulletin, v. 102, p. 1444-1445.
- Evans, M.A., and Dunne, W.M., 1991, Strain factorization and partitioning in a foreland thrust sheet, central Appalachians, U.S.A.: Journal of Structural Geology, v. 13, p. 21-36.
- Evans, M.A., and Groshong, R.H., Jr., 1994 A computer program for the Calcite Strain Gauge technique: Journal of Structural Geology, v. 16, p. 277-281.
- Evans, M.A., 1994, Joints and décollement zones in the Middle Devonian shales: Evidence for multiple deformation events in the central Appalachian Plateau: Geological Society of America Bulletin, v. 106, p.447-460.
- Evans, M.A., 1995, Fluid inclusions in veins from the Middle Devonian shales: A record of deformation conditions and fluid evolution in the Appalachian Plateau: Geological Society of America Bulletin, v. 107, p. 327-339.
- Evans, M.A. and Battles, D.A., 1997, Regional syn-orogenic fluid migration in the central Appalachians: Fluid geochemistry and fluid migration pathways *in* Hendry, J. P., Carey, P. F., Parnell, J., Ruffell, A. H., and Worden, R. H., eds., Contributions to the Second

- Evans, M.A., and Battles D.A., 1999, Fluid inclusion and stable isotope analysis of veins from the central Appalachian Valley and Ridge province: Implications for regional syn-orogenic hydrologic structure and fluid migration: Geological Society of America Bulletin, v. 111, p. 1841-1860.
- Evans, M.A., Elmore, R.D., and Lewchuk, M.T., 2000, Examining the relationship between remagnetization and orogenic fluids: central Appalachians: Journal of Geochemical Exploration, v. 69-70, p. 139-142.
- Elmore, R.D., Kelley, J., Evans, M., Lewchuk, M., 2001, Remagnetization and Orogenic Fluids: Testing the hypothesis in the central Appalachians: Geological Journal International, 144, 568-576.
- Lewchuk, M.T., Evans, M., and Elmore, R.D., 2002, Remagnetization signature of Paleozoic sediments from the Patterson Creek Anticline in West Virginia, Physics and Chemistry of the Earth, 27, 1141-1150.
- Evans, M.A., Lewchuk, M.T., and Elmore, R. D., 2003, Strain partitioning and deformation mechanisms in limestones: examining the relationship of strain and anisotropy of magnetic susceptibility (AMS): Journal of Structural Geology, v. 25, p. 1525-1549.
- Evans, M.A., and **Hobbs, G.C.**, 2003, Fate of 'warm' migrating fluids in the central Appalachians during the Late Paleozoic Alleghanian orogeny: Journal of Geochemical Exploration, v. 78-79, p. 327-331.
- Lewchuk, M.T., Evans, M., and Elmore, R.D., 2003, Synfolding remagnetization and deformation: results from the Paleozoic sedimentary rocks in West Virginia, Geophysical Journal International, 151, 1-15.
- Ferrill, D.A., Morris, A.P., Evans, M.A., Burkhard, M., Groshong, R.H., Jr., Onasch, C.M., 2004. Calcite twin morphology: A low temperature deformation geothermometer. Journal of Structural Geology 26, 1521-1529.
- Cox, E., Elmore, R.D., and Evans, M.A., 2005, Paleomagnetism of Devonian red beds in the Appalachian Plateau and Valley and Ridge Provinces: Journal of Geophysical Research, v. 110, B08102.
- Gray, M. B., Stamatakos, J. A., Ferrill, D.A., and Evans, M.A., 2005, Fault-zone deformation in welded tuffs at Yucca Mountain, Nevada. Journal of Structural Geology. v27, p. 1873-1891.
- Evans, M.A., and Elmore, R.D., 2006. Fluid control of localized mineral domains in limestone pressure solution structures: Journal of Structural Geology, v. 28, p. 284-301.
- Elmore, R.D., Foucher, J. L., Evans, M.A., Lewchuk, M., and Cox, E., 2006, Remagnetization of the Tonoloway Formation and the Helderberg Group in the Central Appalachians: testing the origin of syntilting magnetizations: Geophysical Journal International, v. 166, p. 1062-1076.

- O'Brien, V.J., Elmore, R.D., Engel, M.H., Evans, M.A., 2006, Timing and origin of orogenic remagnetizations in Mississippian carbonates, Sawtooth Range, Montana. *Journal of Geochemical Exploration*, 89, 297-301.
- O'Brien, V.J., Moreland, K.M., Elmore, R.D., Engel, M.H., and Evans, M.A., 2007, Origin of orogenic remagnetizations in Mississippian carbonates, Sawtooth Range, Montana: *Journal of Geophysical Research*, v. 112, p. B06103, 19 pages.
- Bartholomew, M.J., Evans, M.A., Rich, F.J., Brodie, B.M., and Heath, R.D., 2009, Rifting and drifting in South Carolina: Fracture history in Alleghenian granites and coastal plain strata, Field Trip – Annual Meeting Carolina Geological Society, Georgia Southern University Department of Geology and Geography Contribution Series, No. 2, 32p.
- Fischer, M.P., Higuera-Diaz, I.C., Evans, M.A., Perry, E.C. and Leticariu, L., 2009, Fracture-controlled paleohydrology in a map-scale detachment fold: insights from the analysis of fluid inclusions in calcite and quartz veins: *Journal of Structural Geology*, v. 31, no. 12, p. 1490-1510.
- Evans, M.A., and Bartholomew, M. J., 2010, Crustal fluid evolution and changes in deformation conditions during regional syn- to post-orogenic unroofing: Southeastern Piedmont, southern Appalachians *in* Tollo, R., Bartholomew, M. J., Hibbard, J., and Karabinos, P., eds., *From Rodinia to Pangea: The Lithotectonic Record of the Appalachian Region*, Geological Society of America Memoir, p. 553-577.
- Evans, M.A., 2010, Temporal and spatial changes in deformation conditions during the formation of the Central Appalachian fold-and-thrust belt: Evidence from joints, vein mineral paragenesis, and fluid inclusions *in* Tollo, R., Bartholomew, M. J., Hibbard, J., and Karabinos, P., eds., *From Rodinia to Pangea: The Lithotectonic Record of the Appalachian Region*, Geological Society of America Memoir, p. 477-552.
- Smith, A.P., Fischer, M.P. and Evans, M.A., 2010, Fracture-controlled paleohydrology of a secondary salt weld, La Popa Basin, northeastern Mexico *in* Alsop, I., ed., *Salt Tectonics, Sediments and Productivity*, Geological Society of London Special Publication No. 363, p. 107 – 130.
- Evans, M.A., Bebout, G.E., and Brown, C.H., 2012, Changing fluid conditions during folding: An example from the central Appalachians, *Tectonophysics*, v. 576–577, p. 99-115.
- Evans, M.A., and Fischer, M.P., 2012, On the distribution of fluids in folds: A review of controlling factors and processes. *Journal of Structural Geology*, v., 44, p. 2-24. Invited Paper.
- Evans, M.A., Leo, J., and Burruss, R., 2012, Spatial and temporal variation of fluids in the Devonian Marcellus shale during deformation of the central Appalachian fold-and-thrust belt. *PROCEEDINGS, GEOFLUIDS VII – International Conference IFP Energies nouvelles, Rueil-Malmaison (France), June 6-8, 2012.*
- Song, S-R., Chou, Y-M., Aubourg, C., Song, Y-F., Boullier, A-M., Lee, -Q., Evans, M., Yeh, E-C., and Chen, Y-M., 2012, Pyrite alteration and neofomed magnetic minerals in the fault zone of the Chi-Chi earthquake (Mw 7.6, 1999): Evidence for frictional heating and co-seismic fluids. *G-Cubed*.

- Manning, E.B.**, Evans, M.A., and Elmore, R.,D., 2012, Origin and timing of diagenetic events in the Marcellus subgroup in the Appalachians. PROCEEDINGS, GEOFLUIDS VII – International Conference IFP Energies nouvelles, Rueil-Malmaison (France), June 6-8, 2012.
- Smith, A.P., Fischer, M.P. and Evans, M.A., 2012, The fluid-rock system for bedding-parallel veins: implications for sampling bias in paleohydrological studies: PROCEEDINGS, GEOFLUIDS VII – International Conference IFP Energies nouvelles, Rueil-Malmaison (France), June 6-8, 2012.
- Smith, A.P., Fischer, M.P. and Evans, M.A., 2013, On the heterogeneity of fluids forming bedding-parallel veins: *Geofluids*, v. 14 n. 1.
- Evans, M.A., **Delisle, A.**, **Leo, J.**, and **Lafonte, C.J.**, 2014, Deformation conditions for fracturing in the Middle Devonian sequence of the central Appalachians during the Late Paleozoic Alleghenian orogeny, *American Association of Petroleum Geologists Bulletin*, v. 98, p. 2263-2299.
- Ferrill, D.A., McGinnis, R.N, Morris, A.P., Smart, K. J., Sickmann, Z., Bentz, M., Lehrmann, D., and Evans, M. A., 2014, Control of Mechanical Stratigraphy on Bed-Restricted Jointing and Normal Faulting: Eagle Ford Formation, South-Central Texas, U.S.A., *AAPG Bulletin*. V. 98, p. 2477-2506.
- Crespi, J., Farrell, J. A., Evans, M.A., Smith, M.R., and **Pirovane, N.**, 2015, Faulting in the Hartford basin and its relation to magmatic activity, intrabasinal fluid flow, and mineralization. In Gilmore, M., ed., 107th New England Intercollegiate Geological Conference Field Trip Guidebook, Trip B-1.
- Ferrill, D.A., Evans, M.A., McGinnis, R.N., Morris, A.P., Smart, K.J., Wigginton, S.S., Gulliver, K. D., Lehrmann, D., de Zoeten, E., and Sickmann, Z., 2017, Fault zone processes in mechanically layered mudrock and chalk: *Journal of Structural Geology*, v. 97, p. 118-143.
- Ferrill, D.A., McGinnis, R.N., Morris, A.P., Smart, K.J., Gulliver, K.D., Lehrmann, D., Evans, M. A., 2017. Mechanical stratigraphic and tectonic controls on natural fracturing in the Eagle Ford Formation, south-central and West Texas. *Gulf Coast Association of Geological Societies Transactions*, v. 67, p. 121–131.
- Gryta, J.J., and Evans, M.A., 2017, Bedrock geology of the Albion, Fairview, and Fairview 7-1/2' quadrangles, Erie County, Pennsylvania: *Pennsylvania Geological Survey Atlas 17-003.0*, 37p.
- Ferrill, D.A., Evans, M.A., McGinnis, R.N., Morris, A.P., Smart, K.J., Lehrmann, D., Gulliver, K. D., and Sickmann, Z., 2020, Fault zone processes and fluid history in Austin Chalk, southwest Texas: *AAPG Bulletin*, v. 104, p. 245-283 DOI:10.1306/04241918168.
- Ferrill, D.A., Smart, K J., Evans, M.A., Cawood, A.J., Morris, A.P., Lehrmann, D.J., McGinnis, R.N., 2022, Contractional fold amplification through bed-parallel gypsum vein (“beef”) formation: *Journal of Structural Geology*, v. 156. <https://doi.org/10.1016/j.jsg.2022.104532>

Ferrill, D.A., Smart, K.J., Evans, M.A., Cawood, A. J., Bellow, H. B., Morris, A. P., and McGinnis, R.N., 2022, Laramide contractional folding in the Devils River Uplift, west Texas, U.S.A.: *Journal of Structural Geology*, v. , p. .

Evans, M.A., 2023, Syntectonic sediment loading and fold-thrust belt structural architecture: An example from the central Appalachians (USA): *Geosphere*, doi: <https://doi.org/10.1130/GES02573.1>.

BOOK CHAPTERS

Evans, M.A., Orndorff, R.C., and Henika, W., 2016, Chapter 3: Structural Geometry of the Valley and Ridge and Plateau Provinces: in Bailey, C.M., Sherwood, W.C., Eaton, L.S., and Powars, D.S., eds., *The Geology of Virginia*, Virginia Museum of Natural History, p. 55- 86.

PAPERS IN PREPARATION/REVISION (Bold indicates Evans' students)

Evans, M. A., Structural geometry and evolution of the Pennsylvania Salient

Evans, M. A., Structure of the Blue Ridge to Great Valley transition of Virginia: Evidence for late Alleghenian brittle out-of-sequence thrusting in the central Appalachians.

Evans, M. A., **Manning, E. B.**, and **Pirovane, N.**, Paleohydrologic structure of the Hartford Basin: Evidence from fluid inclusions.

Evans, M. A., and **Martin, T.**, Brittle structures in the Holyoke basalt of the Hartford basin.

UNREVIEWED COMMUNICATIONS

Evans, M. A., 1979, Fracture density and orientation in the Reel Energy #3 D/K core from Mason County, West Virginia: USDOE/METC Open-File Report No. 52, 48 p.

Negus-De Wys, J, Dixon, J. M., Evans, M. A., Lee, K. D., Shumaker, R. C., Rauch, H. W., Ruotsala, J. E., Wilson, T. H., Williams, R. T., 1979, An analysis of the structural parameters that influence gas production from the Devonian shale. Annual Progress Report, 1978-1979 for U.S. Department of Energy. Work Performed Under Contract No. EY-76-C-05-5194, Department of Geology and Geography, West Virginia University, Morgantown, West Virginia.

Evans, M. A., 1979, Fracture density and orientation study of the MERC #1 core, Monongalia County, West Virginia: USDOE/METC Open-File Report No. 194, 38 p.

Evans, M. A., 1980, Fractures in Oriented Devonian shale cores from the Appalachian Basin: M.S. Thesis, West Virginia University, Morgantown, West Virginia, 276 p.

Evans, M. A., 1986, The structural Geometry of the Great Valley/Blue Ridge transition zone, northwestern Virginia: in R. C. Shumaker, compiler, *Appalachian Industrial Associates Program*, v. 11, p. 191-208.

Evans, M. A., 1989, Structure of foreland thrust systems, northern Virginia: Ph.D. dissertation, University of Pittsburgh, Pittsburgh, PA. 140 p.

- Bartholomew, M. J., Heath, R. D., Brodie, B. M., and Evans, M. A., 1995, Year One Progress Report, Task Order 169, Regional structural controls on the coastal plain hydrologic regime in west-central South Carolina and adjacent Georgia for Westinghouse Savannah River Company, 25 pages plus appendices.
- Bartholomew, M. J., Brodie, B. M., Lewis, S. E., Evans, M. A., and four others, 1996, Year Two Progress Report, Task Order 169, Regional structural controls on the coastal plain hydrologic regime in west-central South Carolina and adjacent Georgia for Westinghouse Savannah River Company, 27 pages plus appendices.
- Evans, M. A., 1999, Computer program and manual: The Calcite Strain Gauge Technique: A guide to sample preparation, data collection, and data analysis using the CSG computer program V 1.0, 1994.
- Evans, M. A., and Bartholomew, M. J., 2000, Crustal Fluid Evolution and Changes in Deformation Conditions during Regional Syn- to Post-Orogenic Exhumation: Southeastern Piedmont, Southern Appalachians, Report WSRC-MS-2000-00187 prepared for the U.S. DOE Westinghouse Savannah River Site.
<http://sti.srs.gov/fulltext/ms2000187/ms2000187.html>
- Evans, M. A., 2002, Pittsburgh's Changing Rivers: A Geomorphologic History of the Point. Website http://www.lc.pitt.edu/13.0_geology.html
- Evans, M. A., 2003. A Geological Site Inventory of the Pittsburgh Area. Website. www.geology.pitt.edu/GeoSites

INVITED TALKS

- Spring 2003, Bowling Green State University, Bowling Green, OH. Paleohydrostratigraphy of the Central Appalachian Valley and Ridge Province.
- Fall 2003, Northern Illinois University, DeKalb, IL. Paleohydrostratigraphy of the Central Appalachian Valley and Ridge Province.
- Spring 2006, University of Oklahoma, Norman, OK. Paleohydrologic Structure of Fold-and-thrust belts.
- Fall 2008, Wesleyan University, Middletown, CT. Paleohydrologic Structure of Fold-and-thrust belts.
- Fall 2010 Penn State University – Appalachian Basin Black Shale Group. Deformation and fluid history of the Marcellus shale in the Pennsylvania Valley and Ridge: Evidence from fluid inclusion microthermometry of vein minerals.
- Spring 2010, Institut Français du Pétrole, Paris, France. Temporal and spatial changes in deformation conditions during the formation of the Central Appalachian fold-and-thrust belt.
- Spring 2012, University of Rochester – Rochester, NY. Fluids in the Marcellus shale.

Summer 2012, Structural controls on fluid evolution in the Devonian Marcellus shale during deformation of the central Appalachians. Final Program, 22nd V.M. Goldschmidt Conference, Montreal, Canada, June 2012.

Winter 2013, University of Massachusetts - Changes in deformation conditions during the formation a fold-and-thrust belt: An example from the Central Appalachians

Winter 2014, Geological Society of Washington – Fractures and fluid evolution of the Marcellus shale, Pennsylvania.

Winter 2014, United States Geological Survey - Fractures and fluid evolution of the Marcellus shale, Pennsylvania.

Spring 2015, West Virginia University, Fractures in the Pennsylvania Valley and Ridge province.

ABSTRACTS (Bold indicates Evans' students)

Evans, M. A., 1983, Subsurface fracture systems in the Devonian shales of the Appalachian Basin: in 14th Annual Appalachian Basin Petroleum Geology Symposium Program and Abstracts, Appalachian Fractured Reservoirs, West Virginia Geological Survey, p. 20-26.

Evans, M. A., and Anderson, T. A., 1986a, Ductile and brittle deformation in the North Mountain thrust sheet, northwestern Virginia: Geological Society of America Abstracts with Programs, v. 18, n. 3, p. 219.

Evans, M. A., and Anderson, T. A., 1986b, The structural Geometry of the North Mountain Duplex, northwestern Virginia: Geological Society of America Abstracts with Programs, v. 18, p. 596.

Evans, M. A., 1987, The use of seismic reflection data in thrust terranes: An example from the North Mountain duplex: Paper presented at Penrose Conference on the Construction of Geologic Cross-sections: Techniques, Assumptions, and Methods, Geological Society of America Penrose Conference. May 3-8, 1987, Rosendale, New York.

Evans, M. A., 1988a, Cumulative strain patterns and kinematics of an imbricate thrust structure that has passed across a ramp: Geological Society of America Abstracts with Programs, v. 20, n. 7, p. A107.

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- Hughes, B., Landell, C.**, and Evans, M. A., 2018, An investigation into the mechanical stratigraphy of a portion of the Triassic new haven arkose, Simsbury, Connecticut: Geological Society of America Abstracts with Programs. Vol. 50, No. 2.

- Hulstein, N.**, and Evans, M. A., 2018, The fracture and fluid history of the big elk anticline in the Idaho portion of the northern Wyoming salient: Geological Society of America Abstracts with Programs. Vol. 50, No. 2.
- Murphy, I.**, Evans, M. A., and **Salg, H.**, 2018, The fracture and fluid history of two anticlines in the northern Wyoming salient: Geological Society of America Abstracts with Programs. Vol. 50, No. 2.
- Abbott, H.**, Evans, M. A., and Oyewumi, O., 2019, Characterizing and monitoring a highly productive aquifer in a teaching well field on the Central Connecticut State University's main campus: Geological Society of America Abstracts with Programs, ISSN 0016-7592 doi: 10.1130/abs/2019NE-328643
- Bartholomew, M. J., Kwon, Y., Stewart, K. G., Hill, J. S., Wooten, R. M., Witt, A. C., Prince, P., Evans, M. A., Jackson Jr., W. T. and Cook, B., 2019, Relic Appalachian uplands: landscapes that may have evolved from the front- and back-sides of rifting: Geological Society of America Abstracts with Programs, v. 51, ISSN 0016-7592 doi: 10.1130/abs/2019SE-327120
- Bogue, B.** and Evans, M. A., 2019, The fracture and fluid history of the Whiskey Flats anticline in the Crawford thrust sheet, central Wyoming salient: Geological Society of America Abstracts with Programs, ISSN 0016-7592 doi: 10.1130/abs/2019NE-328294
- Brink-Roby, D., Mitra, G., Yonkee, A., and Evans, M., 2019, Lateral variation of synorogenic fluids within the Wyoming Salient of the Sevier fold-thrust belt: Geological Society of America Abstracts with Programs.
- Christy, P.**, **Evans, R.**, and Evans, M. A., 2019, Developing undergraduate field methods class exercises utilizing ground penetrating radar: historic Wethersfield Cove area: Geological Society of America Abstracts with Programs, ISSN 0016-7592 doi: 10.1130/abs/2019NE-328527
- Duffy, K.**, and Evans, M. A., 2019, Fluid and fracture history of the Tuscarora Mountain anticline, central Valley and Ridge province: Geological Society of America Abstracts with Programs, ISSN 0016-7592 doi: 10.1130/abs/2019NE-328456
- Evans, M. A., and Bartholomew, 2019, Relict Appalachian uplands in the northern Virginia Blue Ridge: Geological Society of America Abstracts with Programs.
- Ferrill, D. A., Evans, M. A., McGinnis, R. N., Morris, A. P., Smart, K. J., Lehrmann, D., Gulliver, K. D. H., Sickmann, Z. T., 2019, Fault Zone Oil Migration Pathways in Austin Chalk, Southwest Texas: AAPG Annual Convention and Exhibition, Session 180 - Theme 4: Characterizing Brittle Deformation and Its Impact on Reservoirs.
- Kovaleski, A.**, and Evans, M. A., 2019, A comparison of the fracture and fluid history of four folds in the Idaho-Wyoming salient: Geological Society of America Abstracts with Programs, ISSN 0016-7592 doi: 10.1130/abs/2019NE-328315
- McMahon, R.**, and Evans, M. A., 2019, Fracture and burial history of the southern Anthracite Field, Pennsylvania: Geological Society of America Abstracts with Programs, v. 51, ISSN 0016-7592 doi: 10.1130/abs/2019NE-328409

- Muntz, A.,** and Evans, M. A., 2019, The fracture and fluid history of the Bear Creek anticline in the Idaho portion of the northern Wyoming salient: Geological Society of America Abstracts with Programs, ISSN 0016-7592 doi: 10.1130/abs/2019NE-328286
- Murphy, I.,** and Evans, M. A., 2019, Examining deformation conditions during the formation of the Shade Mountain anticline, central Pennsylvania salient: Geological Society of America Abstracts with Programs, ISSN 0016-7592 doi: 10.1130/abs/2019NE-328479
- Weiss, J. D.,** and Evans, M. A., 2019, Paleo-hydrostratigraphy of the Paleozoic – Mesozoic stratigraphic section in the Sawtooth Range, Montana: Geological Society of America Abstracts with Programs, ISSN 0016-7592 doi: 10.1130/abs/2019NE-328366
- Evans, M. A., 2020, Stratigraphic and spatial variation in paleofluid composition and trapping conditions in the Pennsylvania salient during the Alleghenian orogeny: Geological Society of America Abstracts with Programs. doi: 10.1130/abs/2020SE-345200
- Weiss, J.D.,** and Evans, M. A., 2020, Fracture and fluid history of the northern section of the North Mountain thrust sheet, southern Pennsylvania and Maryland, Geological Society of America Abstracts with Programs. v. 52, No. 6, doi: 10.1130/abs/2020AM-356532
- Muntz, A.,** Oyewumi, Y., and Evans, M. A., 2020, Geochemical assessment of legacy lead mining sites: Geological Society of America Abstracts with Programs. v. 52, No. 6, doi: 10.1130/abs/2020AM-355260
- Evans, M. A., 2020, The effect of syntectonic loading on the development and structural architecture of a fold-and-thrust belt: an example from the central Appalachians: Geological Society of America Abstracts with Programs. v. 52, No. 6, doi: 10.1130/abs/2020AM-356520
- Cope, J.,** and Evans, M. A., 2021, Fracture mineralization and paleofluid history of the Marcellus shale: West Virginia Appalachian plateau: Geological Society of America Abstracts with Programs. v. 53, doi: 10.1130/abs/2021NE-361708
- Enders, I., Magalhaes, K.,** Evans, M. A., and Oyewumi, O., 2021, Impact of land use activities on groundwater geochemistry and identification of aquifer parameters from a CCSU well field: Geological Society of America Abstracts with Programs. v. 53, doi: 10.1130/abs/2021NE-361906
- Evans, M. A., 2021, Spatial and stratigraphic characterization of paleofluid chemistry in the central Appalachian Valley & Ridge province during the Alleghenian orogeny: Geological Society of America Abstracts with Programs. v. 53, doi: 10.1130/abs/2021NE-361646
- Evans, M. A., 2022, The structural evolution of the Pennsylvania Salient: A new model: Geological Society of America Abstracts with Programs, v. 54, doi: 10.1130/abs/2022NE-374586
- Ferrill, D., Smart, K.J., Evans, M.A., Cawood, A.J., Bellow, H.B., Morris, A.P., and McGinnis, R.N., 2022, Laramide detachment folding in the Devils River Uplift, west Texas, USA: Geological Society of America Abstracts with Programs, v. 54, doi: 10.1130/abs/2022AM-376989

Evans, M.A., 2023, Deep burial of the Anthracite Belt: Evidence from fluid inclusion microthermometry: Geological Society of America Abstracts with Programs. Vol. 55, doi: 10.1130/abs/2023SE-385370.

Appelle, S., Hale, J., Evans, M.A., and Oyewumi, O., 2023, Geochemical assessment of soils around Cobalt legacy mine shaft in East Hampton, CT: Geological Society of America Abstracts with Programs, v. 55, doi: 10.1130/abs/2023SE-385975.

Hale, J., Appelle, S., Evans, M.A., and Oyewumi, O., 2023, Evaluating mobilization and transport of trace elements along Mine Brook sediments within Cobalt legacy mine watershed, East Hampton, CT, Geological Society of America Abstracts with Programs. v. 55, doi: 10.1130/abs/2023SE-386064.

UNDERGRADUATE STUDENTS SUPERVISED

University of Pittsburgh

- 2001 – 2002 **Brian Ruskin:** Fluid inclusion analysis of veins from the western margin of the Valley and Ridge province, northern West Virginia
- 2002 - 2003 **Chris London:** Geomorphic reconstruction of The Point in Pittsburgh prior to human intervention.

CCSU

- 2005 - 2006 **Daniel Brooks:** Analysis of the mineralization in the Balf-Salvin Field site, CCSU Campus
- 2007 - 2008 **Earl Manning:** Paleofluids in brittle faults from the western border fault zone of the Hartford basin: Evidence from fluid inclusions
- 2007 - 2008 **Michelle Tedone:** Lake water quality and lake geomorphology, central Connecticut.
- 2008 – 2009 **Daniel Dabrowski:** Fluid inclusion microthermometry of quartz veins from the Wepawaug schist, southern Connecticut. Poster by
- 2009 – 2010 **Tyson Martin:** Brittle structures in the Holyoke basalt of the Hartford basin: ground-truthing LiDAR linears.
- 2010 – 2011 **James Lacey:** Analysis of formation brine chemistry by stratigraphic horizon in the central Appalachians.
- 2010 - 2011 **Shannon Guerrera:** Depositional and paleoenvironmental study of a lake sediment core from northern Connecticut.
- 2010 - 2011 **David Cook:** Fluid inclusion analysis of Barite deposits in Cheshire, CT
- 2011 – 2012 **Scott Braddock:** Fracture patterns and paleo-overburden along a retrodeformed cross-section across the Pennsylvania salient.
- 2011 – 2012 **Shannon Guerrera:** Analysis of toxic metals in stream sediments along piper brook, park river watershed, Connecticut.
- 2011 – 2012 **Jeremy Leo:** Fluid inclusion study of veins in the Marcellus shale along the Appalachian structural front in central Pennsylvania: paleofluids and thermal maturity.
- 2011 – 2012 **Michael Redman:** Analysis of toxic metals in stream sediments in the bass brook watershed, New Britain, Connecticut.
- 2011 – 2012 **Charlene Singh:** Analysis of trace metals in stream sediments near an abandoned copper mine, Bristol, Connecticut.
- 2012 – 2013 **Amanda Delisle:** History of fracture opening, temperature, and fluid pressure in the Marcellus shale, west-central Pennsylvania valley and ridge.
- 2012 – 2013 **Ryan Lafleur:** Analysis of toxic metals in stream sediments in the Middletown pegmatite district, Connecticut.

- 2012 – 2013 **Chris Lafonte:** Fracture development, fluid history, and paleo-overburden of the Devonian shale sequence, southern Pennsylvania valley and ridge
- 2012 – 2013 **James Marino:** Structural and geochemical analysis of veins from limestones in south-central valley and ridge province of Pennsylvania.
- 2012 – 2013 **Alex O’Farrill:** Structural evolution of the Nittany anticlinorium thrust system: west central valley and ridge of Pennsylvania, Maryland, and West Virginia
- 2012 – 2013 **Chanel Perez:** Compilation of brittle fault data for Connecticut: relationships to e Earthquake distribution.
- 2013 – 2014 **James Marino:** Structural and geochemical analysis of veins from limestones in central valley and ridge province of Pennsylvania (continuation and expansion of previous project).
- 2013 – 2014 **Alex O’Farrill:** Structural evolution of the Nittany anticlinorium thrust system: western valley and ridge of Pennsylvania, Maryland, and West Virginia (continuation and expansion of previous project).
- 2013 – 2014 **Amanda Delisle:** History of fracture opening, temperature, and fluid pressure across the Pennsylvania valley and ridge. (Continuation and expansion of previous project).
- 2013 – 2014 **Glen Sale:** History of fracture opening, temperature, and fluid pressure across the eastern Pennsylvania valley and ridge.
- 2013 – 2014 **Heidi Berone:** Toxic metals in Piper Brook, Newington, CT.
- 2013 – 2015 **Nathan Pirovane:** Paleofluid flow and mineralization along fractures and faults in the Hartford Basin
- 2014 – 2015 **Shawn Mines:** Structural geometry of the Valley and Ridge province across a portion of the Pennsylvania salient.
- 2014 – 2015 **Costa, M.,** Structural geometry and deformation history of the eastern Valley and Ridge province, central Pennsylvania.
- 2014 – 2015 **Gajda, E.,** Stable isotope geochemistry of calcite and dolomite veins from Ordovician limestones from the Nittany anticline, Valley and Ridge province of Pennsylvania.
- 2014 – 2015 **Pietkevich, D.,** Stable isotope geochemistry of calcite and dolomite veins from Silurian and Devonian limestones in the western Valley and Ridge province of Pennsylvania.
- 2014 – 2015 **Swenton, V. M.,** Investigating the fluid history of quartz veins using petrography, SEM-CL, and fluid inclusion microthermometry: examples from the Pennsylvania Valley and Ridge province.
- 2015 – 2016 **Gajda, E. S.,** Paleo-fluid history and structural geometry of the central Jacks Mountain anticline, Valley and Ridge province of Pennsylvania
- 2015 – 2016 **Landry, K.,** A comparison of the fracture and fluid history of two anticlines, the Thomas Fork anticline in the Wyoming salient and the Berwick anticline in Pennsylvania Appalachians
- 2016 – 2017 **Gajda, E. S.,** Trace element analysis and environmental impacts of the Roxbury quarry, Roxbury, Connecticut
- 2016 – 2017 **MacDonald, C.,** Examination of crystal growth and fluid history in hydrothermal quartz veins using vein petrography, fluid inclusion microthermometry, and SEM-CL: Examples from the Pennsylvania Valley and Ridge province:
- 2016 – 2017 **Zygmunt, N.,** Fracture history of the Weir Mountain syncline and Lehigton anticline, eastern Valley and Ridge province, Pennsylvania
- 2017 – 2018 **Hughes, B.,** An investigation into the mechanical stratigraphy of a portion of the Triassic new haven arkose, Simsbury, Connecticut
- 2017 – 2018 **Hulstein, N.,** The fracture and fluid history of the big elk anticline in the Idaho portion of the northern Wyoming salient

- 2017 – 2018 **Murphy, I.**, The fracture and fluid history of two anticlines in the northern Wyoming salient
- 2018 – 2019 **Abbott, H.**, Characterizing and monitoring a highly productive aquifer in a teaching well field on the Central Connecticut State University's main campus
- 2018 – 2019 **Bogue, B.** The fracture and fluid history of the Whiskey Flats anticline in the Crawford thrust sheet, central Wyoming salient
- 2018 – 2019 **Christy, P.**, Developing undergraduate field methods class exercises utilizing ground penetrating radar: historic Wethersfield Cove area
- 2018 – 2019 **Duffy, K.**, Fluid and fracture history of the Tuscarora Mountain anticline, central Valley and Ridge province
- 2018 – 2019 **Kovaleski, A.**, 2019, A comparison of the fracture and fluid history of four folds in the Idaho-Wyoming salient
- 2018 – 2019 **McMahon, R.**, Fracture and burial history of the southern Anthracite Field, Pennsylvania
- 2018 – 2019 **Muntz, A.**, The fracture and fluid history of the Bear Creek anticline in the Idaho portion of the northern Wyoming salient
- 2018 – 2019 **Murphy, I.**, Examining deformation conditions during the formation of the Shade Mountain anticline, central Pennsylvania salient
- 2018 – 2019 **Weiss, J. D.**, Paleo-hydrostratigraphy of the Paleozoic – Mesozoic stratigraphic section in the Sawtooth Range, Montana
- 2019 – 2020 **Weiss, J. D.**, Fractures and Paleofluids in the northern terminus of the North Mountain thrust sheet, VA
- 2019 – 2020 **Muntz, A.**, Legacy lead contamination associated with historical lead mining sites in Connecticut and Massachusetts.
- 2019 – 2020 **Cope, J.**, Fractures and Paleofluids in the Marcellus shale of the central Appalachian Plateau Province.

HIGH SCHOOL STUDENTS SUPERVISED

Ann Alampi and **Anthony Bishop**, Glastonbury High School. Siemens Science Project Summers of 2008 and 2009. Fluid inclusions in fault rocks of the Hartford Basin. They were awarded Semi-Finalist standing in 2008.

GRADUATE STUDENTS SUPERVISED

Schools other than CCSU

Kristen Lydy (Primary M.S. advisor - University of Pittsburgh) graduated 2002

Adrienne Johnson (External M.S. committee member – Lehigh University) graduated 2002

Gina Hobbs (Primary M.S. advisor - University of Pittsburgh) graduated 2002

Carolyn Brown (External M.S. committee member- Lehigh University) graduated 2003

Paul Coyle (M.S. Committee Member - University of Pittsburgh) graduated 2003

Danielle Deemer (M.S. Committee Member - University of Pittsburgh) graduated 2003

Paula Grgich (M.S. Committee Member - University of Pittsburgh) graduated 2003

Erica Love (M.S. Committee Member - University of Pittsburgh) graduated 2003

Scott Mest (Ph.D. Committee member - University of Pittsburgh) graduated 2004

Sherry Stafford (Ph.D. Committee member - University of Pittsburgh) graduated 2005

Vanessa J. O'Brian (External M.S. Committee Member - University of Oklahoma) graduated 2006

Barbara Osgood (M.S. Committee Member - University of Pittsburgh) graduated 2006

Khalid Amrouch (External (External Ph.D. Committee member - Universite Pierre et Marie Curie), Paris, France, graduated 2011

Earl Manning (External M.S. Committee member – University of Oklahoma), graduated 2012

Ali Steullet (External M.S. Committee member – University of Oklahoma), 2014 graduation

David Brink-Roby (External Ph.D. Committee member – University of Rochester), 2019 graduation

CCSU

Kimberly Libera (M.S. Committee member – CCSU), graduated 2010

Martin Edgar (M.S. Committee member – CCSU), graduated 2010

Troy Schinkel, (M.S. Committee member – CCSU), graduated 2012

Dan O’Dea (M.S. Committee Member – CCSU), graduated 2012

UNDERGRADUATE COURSES TAUGHT (* = non-majors course)

Georgia Southern University

Historical Geology*
Historical Geology Lab*
Introduction to Research
Physical Geology*
Physical Geology Lab*
Structural Geology
Structural Geology Lab
Tectonics

University of Pittsburgh

Environmental Geology
Environmental Geochemistry
Geology of National Parks*
Groundwater Geology (Hydrogeology)
Historical Geology*
Mineralogy
Mineralogy Lab
Oceanography*
Physical Geology*
Physical Geology Lab*
Structural Geology
Structural Geology Lab
The Restless Earth*
World Physical Geography (Geosystems)*

University of Pittsburgh at Johnstown

Igneous and Metamorphic Petrology
Igneous and Metamorphic Petrology Lab
Mineralogy
Mineralogy Lab
Optical Mineralogy
Physical Geology*
Physical Geology Lab*
Planetary Geology*
Structural Geology
Structural Geology Lab

Duquesne University

Geological America*

Ohio University (Eastern Campus)

Earth and Life History*
The Mobile Earth*

Central Connecticut State University

Climate Change*
Earth Science*
Environmental Geology
Field Methods
Geohazards/Natural Disasters*
Groundwater Geology (Hydrogeology)
Historical Geology/Earth and Life History*

Historical Geology/Earth and Life History Lab*
Honors Class – Hazards*
Honors Class – Water*
Honors Class – Science and Society*
Igneous and Metamorphic Petrology
Igneous and Metamorphic Petrology Lab
Research Methods
Mineralogy
Mineralogy Lab
Petrology
Petrology Lab
Physical Geology/Dynamic Earth*
Physical Geology/Dynamic Earth Lab*
Stratigraphy and Sedimentology
Stratigraphy and Sedimentology Lab
Structural Geology
Structural Geology Lab

GRADUATE COURSES

University of Pittsburgh

GeoFluids

Environmental Geochemistry (cross-listed with undergraduate course)

Central Connecticut State University

ESCI 519 Environmental Geology of Connecticut

ESCI 431 Hydrogeology (cross-listed with undergraduate course)

SUST 502 Science for Sustainability