

David Nathan Steer Ph.D.

Associate Dean for Natural Sciences
Buchtel College of Arts and Sciences
The University of Akron
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Education:

Ph.D.	1996	Geophysics, Cornell University.
M. Eng.	1990	Applied and Engineering Physics, Cornell University.
B.S.	1982	Engineering, USMA, West Point, NY.

Academic Positions:

2014 – Present	Associate Dean, Natural Sciences, The University of Akron, Akron, OH 44325-1901
2014 – 2017	Interim Chair Departments of Physics ('14-16), Computer Science ('16-'17), Statistics ('17) and Chair Department of Geosciences (appointed fall 2017), The University of Akron, Akron, OH 44325-1901
2014 – 2015	Associate Dean, Natural and Social Sciences, The University of Akron, Akron, OH 44325-1901
2010 – Present	Professor – Department of Geosciences, The University of Akron, Akron, OH 44325-4101
2004 – 2010	Associate Professor – Department of Geology and Environmental Science, The University of Akron, Akron, OH 44325-4101
1999 – 2004	Assistant Professor – Department of Geology, The University of Akron, Akron, OH 44325-4101

Publications:

- McConnell, D.A. and **Steer**, D.N., 2018 copyright. The Good Earth: An Introduction to Earth Science 4th ed., McGraw-Hill, Dubuque, IA., 17 chapters, 536 pp.
- Steer**, D. and Villarreal, 2016. Leadership Briefs: Recommendations to Engage Faculty in Student Success, Collaborating for Change series, Coalition of Urban Serving Universities, Washington D.C., 1-4.
- Steer**, D. and Villarreal, 2016. Leadership Briefs: Recommendations to Promote Technology Usage on Campus, Collaborating for Change series, Coalition of Urban Serving Universities, Washington D.C., 1-4.
- Steer**, D., 2013. Clickers in the Geoscience Classroom: Pedagogical and Practical Considerations, In R.E. Yager Editor, *Exemplary College Science Teaching* (119-136), Arlington, VA: NSTA Press.
- Gray, K and **Steer**, D., 2012. Personal response systems and learning: It is the pedagogy that matters, not the technology, *Jour. Coll. Sci. Teach.*, Vol. 41, No. 5, 80-88.
- Gray, K., Owens, K., Liang, Z. and **Steer**, D., 2012. Assessing Multimedia Influences on Student Responses Using a Personal Response System, *J. Sci. Educ. Technol.*, Vol. 21, No. 3, 392-402.

- Gray, K., Owens, K., **Steer**, D., McConnell, D. and Knight, C., 2011. An exploratory study using hands-on physical models in a large introductory, earth science classroom: Student attitudes and lessons learned, *Elec. Jour. Sci. Ed.*, Vol. 12, No. 2., 12 pp.
- Kortz K., Clark, S., Viveiros, B., Smay, J., Gray, K., and **Steer, D.**, 2011. Counting tectonic plates: A study of college student conceptions of plates and boundaries in Qualitative Inquiry in Geoscience Education Research, A. Feig, and A. Stokes, editors, Geological Society of America Special Paper, 171-188.
- Gray, K. (*student*), **Steer**, D., McConnell, D. and Owens, K., 2010. Using a Student-Manipulated Model to Enhance Student Learning in a Large Lecture Class, *Jour. Coll. Sci. Teach*, Vol. 40, No. 1, 86-95.
- Steer**, D., McConnell, D., Gray (*student*), K., Kortz, K. and Liang, L., 2009, Analysis of student responses to peer-instruction conceptual questions answered using an electronic response system: Trends by gender and ethnicity, *The Science Educator*, Vol. 18, No. 2, 30-38.
- Steer**, D.N., 2009. Book Review - Geology of Coal Fires: Case Studies from around the World, *Env. Eng. GeoSci.*, Vol. XV, No. 3. 213-214.
- Kashubin, S., Juhlin, C., Friberg, M., Rybalka, A., Petrov, G., Kashubin, A., Bliznetsov, M. and **Steer**, D., 2006. Crustal structure of the Middle Urals based on seismic reflection data, in European Lithosphere Dynamics (Eds. Gee, D.G. and Stephenson, R.A.), The Geological Society of London, London, England, 427-442.
- McConnell, D.A., **Steer**, D.N., Owens, K.D., Knott, J.R., Van Horn, S., Borowski, W., Dick, J., Foos, A., Malone, M., McGrew, H., Greer, L. and Heaney, P., 2006. Using Conceptests to assess and improve student conceptual understanding in introductory geoscience courses, *Jour. Geosci. Ed.*, **54**, 61-68.
- Owens, K., **Steer**, D. and McConnell, D., 2006. Researcher, Teacher, Education Researcher: The evolution of a university geoscience instructor, *School Sci. Math.*, **106**, 27-35.
- Steer**, D.N., Knight, C.C., Owens, K.D., and McConnell, D.A., 2005. Challenging student ideas about Earth's interior structure using a model-based, conceptual change approach in a large class setting, *Jour. Geosci. Ed.*, **53** (4), 415-421.
- McConnell, D.A., **Steer**, D.N., Owens, K.D., and Knight, C.C., 2005. How students think: Implications for learning in introductory geoscience courses, *Jour. Geosci. Ed.*, **53** (4), 462-470.
- Steer**, D.N., Fraser, L.H. and Seibert, B.A., 2005. Cell-to-cell pollution reduction effectiveness of subsurface domestic treatment wetlands, *Biores. Tech.*, **96**, 969-976.
- Picard, C.R.(*student*), Fraser, L.H., and **Steer**, D., 2005. The interacting effects of temperature and plant community type on nutrient removal in wetland microcosms, *Biores. Tech.*, **96**, 1039-1047.
- Fraser, L.H., Carty, S. (*student*), Picard, C. (*student*) and **Steer**, D., 2004. Phytoremediation: Wetland plants and their relative efficiency at treating agricultural runoff, *Rec. Dev. Crop. Sci.*, **1**, 379-391.

- Fraser, L.H., Carty, S.M. (*student*) and **Steer**, D., 2004. A test of four plant species to reduce total nitrogen and total phosphorus from soil leachate in subsurface wetland microcosms, *Biores. Tech.*, **94**, 184-192.
- Steer**, D., Aseltyne, T. and Fraser, L., 2003, Life-cycle economic model of small treatment wetlands for domestic wastewater disposal, *Ecol. Economics.*, **44**, 359-369.
- Fraser, L.H., Bradford, M.E. and **Steer**, D.N., 2003, Global supply of freshwater: The role of treatment wetlands, *Int. J. Environment and Sustainable Development*, **2**, 174-183.
- McConnell, D.A., **Steer**, D.N. and Owens, K.D., 2003, Assessment of active learning strategies for introductory geology courses, *J. GeoSci. Ed.*, **51**, No. 2, 205-215.
- Steer**, D., Fraser, L., Boddy, J. and Seibert, B., 2002, Efficiency of Small Constructed Wetlands for Subsurface Treatment of Single Family Domestic Effluent, *Ecol. Eng.*, **18**, 429-440.
- Brown, D., C. Juhlin, A. Tryggvason, D. **Steer**, P. Ayarza, M. Beckholmen, A. Rybalka and M. Bliznetsov, 2002. The crustal architecture of the Southern and Middle Urals from URSEIS, ESRU and Alapaev reflection seismic surveys. Brown, D., Juhlin, C. and Puchkov, A. (eds) in *Mountain Building in the Uralides: Pangea to Present*, Geophys. Mono. 132, Am. Geophys. Un., Washington DC, 33 – 48.
- Seber, D., **Steer**, D., Sandvol, E., Sandvol, C, Brindisi, C. and Barazangi, M., 2000, Design and Development of Information Systems for the Geosciences: An Application in the Middle East, *GeoArabia*, **5**, 269 – 296.
- Steer**, D., Seber, D., Sandvol, E., Sandvol, C., Brindisi, C., and Barazangi, M., 1999. Research and Development of a Geographical Information System (GIS) for Nuclear Treaty Monitoring, in *Proceedings of the 21st Annual Seismic Research on Monitoring a Comprehensive Test Ban Treaty (CTBT)*, US Gov. Prnt. Ofc., Washington DC, 399-405.
- Steer**, D.N., Knapp, J.H., Brown, L.D., R. Berzin, H. Echtler, and D. Brown, 1998. Deep structure of the continental lithosphere in an unextended orogen: An explosive-source seismic reflection profile in the Urals (Urals Seismic Experiment and Integrated Studies (URSEIS 1995)), *Tectonics*, **17**, 143-157.
- Steer**, D.N., Brown, L.D., and Knapp, J.H., 1998. Superdeep reflection profiling: Exploring the mantle lid, *Tectonophysics*, **286**, 111-121.
- Diaconescu, C.C., Knapp, J.H., Brown, L.D., **Steer**, D.N., Stiller, M., 1998. Precambrian Moho offset and tectonic stability of the East European platform from the URSEIS deep seismic profile, *Geology*, **26**, 211-214.
- Steer**, D.N., Brown, L.D., Knapp, J.H., and Baird, D.J., 1996. Comparison of explosive and vibroseis source energy penetration during COCORP deep seismic profiling in the Williston Basin, *Geophysics*, **61**, 211-221.
- Seber, D., Valve, M., Sandvol, E., **Steer**, D.N., and Barazangi, M., 1997. Middle East Tectonics: Applications of Geographical Information Systems (GIS), *GSA Today*, **7**, No. 2, 1-6.
- Knapp, J.H., **Steer**, D.N., Brown, L.D., Berzin, R., Suleimanov, A., Stiller, M., Lüschen, E., Brown, D.L., Bulgakov, R., Kashubin, S., and Rybalka, A.V.,

1996. Lithosphere-scale seismic image of the southern Urals from explosion-source reflection profiling, *Science*, **274**, 226-228.
- Steer**, D.N., Knapp, J.H., Brown, L.D., Sokolov, and V., Rybalka, A., 1995. Crustal structure of the middle Urals based upon reprocessing of Russian seismic reflection data, *Geophys. J. Int.*, **123**, 673-682.
- Baird, D.J., Knapp, J.H., **Steer**, D.N., Brown, L.D., and Nelson, K.D., 1995. Upper-mantle reflectivity beneath the Williston basin, phase-change Moho, and the origin of intracratonic basins, *Geology*, **23**, 431-434.

Awarded Research Grants:

- InTeGrate: Interdisciplinary Teaching of Geoscience for a Sustainable Future, NSF, \$10,000,000., **Senior Investigator in charge of assessment**, 11/2011-11/2017 (\$110k total to Akron over three years).
- Collaborative Research: Evaluating student learning in geoscience curricula that employ conceptests using electronic student response systems, NSF CCLI-Phase II Expansion grant, \$247,221 (total of \$472,247 granted to five institutions), **P.I. of Lead Institution**, 08/01/07 – 07/31/11.
- OBR Research Challenge Match (07-09 Biennium) for NSF Collaborative Research: Evaluating student learning in geoscience curricula that employ conceptests using electronic student response systems, NSF CCLI-Phase II Expansion grant, \$18,505, **P.I.**, 08/01/07 – 07/31/11.
- Collaborative Research: Critical Thinking for Civic Thinking in Science, NSF CCLI-Phase I, \$47,697, **Senior Personnel**, 01/01/07 – 12/01/08.
- Addressing student conceptions of plate tectonics using physical models, NSF Geoscience Education, \$167,727, **P.I.**, 08/01/05 – 08/01/08.
- Evaluating connections between logical thinking scores and first year experience student success, Univ. of Akron internal education grant, \$4,500; **P.I.**, 9/03 – 5/04.
- Renewal: Crustal and Upper Mantle Structure Beneath the Urals Affecting IMS Stations ARU and UFA; Preparatory Commission for the CTBTO; \$37,600; **P.I.**; 11/01/01 – 10/31/02.
- Fold and Thrust Belt Geometry of the Middle Urals, Russia, American Chemical Society – Petroleum Research Fund, \$35,000; **P.I.**; 6/01/02 – 8/31/03.
- Crustal and Upper Mantle Structure Beneath the Urals Affecting IMS Stations ARU and UFA; Preparatory Commission for the CTBTO; \$30,000; **P.I.**; 12/20/00 – 10/31/01.
- Crustal and Upper Mantle Structure Beneath the Urals Affecting IMS Stations ARU and UFA; OBR Research Challenge; \$7,500; **P.I.**; 12/20/00 – 10/31/01.
- Reinventing Introductory Geology Courses for Majors and Non-Majors Using Peer Instruction and Other Inquiry-based Learning Strategies; NSF CCLI; \$127,983; **co-P.I.**; 6/1/01 – 7/31/05.
- Evaluation of NPS Built Wetlands as a BMP for Septage and Acid Mine Drainage; Ohio and Federal EPA; \$227,574; **P.I.** 7/1/00 – 7/1/2003.

Published Abstracts: (past 10 years)

- Manduca, C., Blockstein, D., Bralower, T., Davis, F., Doser, D., Egger, A., Fox, S., Gilbert, L., Gosselin, D., Gragg, R., Kastens, K., McConnell, D., Nagy-Shadman, E., Orr, C., **Steer**, D. and Taber, J., 2018. InTeGrate: Interdisciplinary Teaching about the Earth for a Sustainable Future, *Geophysical Research Abstracts*, vol. 20, EGU2018-11029.
- Gilbert, L., Iverson, E., Kastens, K., Awad, A., McCauley, E., Caulkins, J., **Steer**, D., Czajka, C., McConnell, D. and Manduca, C., 2017. Explicit focus on systems thinking in InTeGrate materials yields improved student performance, *Geol. Soc. Am. Abs.* Vol. 49, No. 6, doi: 10.1130/abs/2017AM-304783.
- Awad, A., Gilbert, L., Iverson, E., Manduca, C. and **Steer**, D., 2017. Using InTeGrate materials to develop interdisciplinary thinking for a sustainable future, American Geophysical Union, Fall Meeting 2017, abstract #ED53E-0198.
- Steer**, D., Awad, A., Arthurs, L., Caulkins, J., Viscupic, K., Iverson, E., Baldassari, C. and Manduca, C., 2016. Lessons learned from the InTeGrate Project: Supporting postsecondary faculty in their design of curricular materials connecting geoscience and societal challenges, *Geol. Soc. Am. Abs.* Vol. 48, No. 7, doi: 10.1130/abs/2016AM-283477.
- Arthurs, L., Caulkins, J., Awad, A., **Steer**, D., Viscupic, K., Iverson, E. and Manduca, C., 2016. Lessons learned from the InTeGrate Project: The challenge of integrating systems thinking into college STEM curricula, *Geol. Soc. Am. Abs.* Vol. 48, No. 7, doi: 10.1130/abs/2016AM-284330.
- McConnell, D. A., Birnbaum, S. J., Chapman, L., Czajka, C. D., Iverson, E., Manduca, C., Nagy-Shadman, E., Pelch, M. A., Sheriff, K. and **Steer**, D. N., 2016. InTeGrate: Adapting customizable resources for introductory courses seeking to emphasize the link between science and society, *Geol. Soc. Am. Abs.* Vol. 48, No. 7, doi: 10.1130/abs/2016AM-282833.
- Egger, A., Baldassari, C., Doser, D., Herbstrith, K., Iverson, E., Lee, S., Manduca, C., McConnell, D., Pelch, M. and **Steer**, D., 2015. Taking a systems approach to supporting faculty in transforming teaching and learning, *Geol. Soc. Am. Abs.* Vol. 47, No. 7, p. 255.
- Manduca, C., Bralower, T., Egger, McConnell, D., Gosselin, D., Taber, J., and **Steer**, D., 2015. Developing capacity to address societal issues: Principles and examples from InTeGrate, *Geol. Soc. Am. Abs.* Vol. 47, No. 7, p. 688.
- Viskupic, K., **Steer**, D., Kortz, K., Perkins, D., Wirth, K., Herbert, B., and Singer, J., 2014. Monitoring undergraduate growth through the major using embedded assessment questions, *Geol. Soc. Am. Abs.* Vol. 46, No. 6, p. 599.
- McConnell, D., Manduca, C., Baldassari, C., Bralower, T., Egger, A., Gosselin, D., Iverson, E., Pech, M., **Steer**, D., and Taber, J., 2014. Professional development and implications for changing instructional practices and beliefs: Lessons learned in the InTeGrate program, *Geol. Soc. Am. Abs.* Vol. 46, No. 6, p. 599.
- Iverson, E., Kastens, K., Baldassari, C. and **Steer**, D., 2014. Fostering a systems approach to collaboration on curriculum and assessment research across institutional and disciplinary boundaries, *Geol. Soc. Am. Abs.* Vol. 46, No.

6, p. 646.

- Caulkins, J., **Steer**, D., Iverson, E., Manduca, C., Savina, M. and Awad, A., 2014. Student learning in geosciences courses incorporating societal issues and grand challenges facing society, *Geol. Soc. Am. Abs.* Vol. 46, No. 6, p. 50.
- Steer**, D.N., Iverson, E.A. and Manduca, C.A., 2013. Piloting a Geoscience Literacy Exam for Assessing Students' Understanding of Earth, Climate, Atmospheric and Ocean Science Concepts, Abstract ED32A-02 presented at 2013 Fall Meeting, AGU, San Francisco, Calif., 9-13 Dec.
- Eggar, A.E., Baldassari, C., Bruckner, M.Z., Iverson, E.A., Manduca, C.A., McConnell, D.A. and **Steer**, D.N., 2013. InTeGrate's model for developing innovative, adaptable, interdisciplinary curricular materials that reach beyond the geosciences, Abstract ED23E-08 presented at 2013 Fall Meeting, AGU, San Francisco, Calif., 9-13 Dec.
- McConnell, D.A., Egger, A.E., Fox, S.P., Iverson, A.E., Manduca, C. and **Steer**, D., 2013. InTeGrate: Rethinking geoscience instruction with the development of free customizable resources to address Earth's grand challenges in introductory courses, Geological Society of America Abstracts with Program, 45 (7), 733.
- Walker, B., Fadem, C.M., Shellito, C. and **Steer**, D.N., 2013. Climate of Change: Promoting climate literacy through development of data-driven instructional modules for undergraduates, Geological Society of America Abstracts with Program, 45 (7), 729.
- Steer**, D., Iverson, E. and Manduca, C., 2012. Developing a geoscience literacy exam for assessing students' earth, ocean, atmospheric and climate literacy, *Geol. Soc. Am. Abs.* Vol. 44, No. 7, p. 351.
- Manduca, C., Bralower, T., Egger, A., Iverson, E., McConnell, D., Mogk, D., **Steer**, D. and Weise, K., InTeGrate: An NSF STEP Center addressing climate literacy and sustainability, *Geol. Soc. Am. Abs.* Vol. 44, No. 7, p. 351.
- Steer**, D., 2012. Assessing geoscience students' response to short essay questions using computer grading algorithms, *Geol. Soc. Am. Abs.* Vol. 44, No. 5, p. 59.
- Iverson, E., **Steer**, D. and Manduca, C., 2012. Developing a Geoscience Literacy Exam: Pushing Geoscience Literacy Assessment to New Levels. AGU Annual Meeting, Control ID: 1488750.
- Steer**, D.N., 2010. Analysis of ConceptTest question data: Summary findings from large classes for non-science majors at an open enrollment university, *Geol. Soc. Am. Abs.* Vol. 42, No. 5, p. 555.
- Steer**, D.N. and Gray, K., 2009. Electronic student response systems and peer instruction: Who gains? Who loses?, *Geol. Soc. Am.* Vol. 41 (1), No. 18-7.
- McConnell, D., **Steer**, D. and Libarkin, J., 2009. Assessing learning in introductory geoscience courses using normalized gain scores and the geoscience concept inventory, *Geol. Soc. Am.* Vol. 41 (1), No. 18-6.
- Gray K. (student), **Steer**, D. and McConnell D., 2008. Evaluating Higher Order Thinking Skills in Large General Education Geology Courses for Non-Majors, *Geol. Soc. Am. Abs.* No. 175-9.
- Steer**, D., Gray K. (student), Owens K., McConnell D. and Knight C., 2008. Student Responses and Attitudes Concerning the Use of Physical Models in

- a Large Classroom Environment, *Geol. Soc. Am. Abs.* No. 221-4.
- Steer, D., McConnell, D., Gray, K. (student) and Owens, K., 2008.** Using student-manipulated models to demonstrate key concepts in plate tectonics, *Geol. Soc. Am. Abs.*, 40 No. 5.
- Steer, D., Gray, K. (student), McConnell, D., Owens, K., and Knight, C., 2007.** Using hands-on physical models to promote learning in large introductory earth science classes, *Geol. Soc. Am. Abs.*, 39 No. 6, p. 252.
- Gray, K., Steer, D., McConnell, D., Owens, K., 2007.** Evaluating the pedagogical value of using student-manipulated models in a large undergraduate earth science class, *Geol. Soc. Am. Abs.*, 39 No. 6, p. 554.
- Owens, K., Gray, K. (student), Steer, D., McConnell, D., 2007.** Using models to augment teaching and learning in introductory earth science, *Geol. Soc. Am. Abs.*, 39 No. 6, p. 252.
- Gray, K., Steer, D., McConnell, D., Owens, K., 2007.** Evaluating the pedagogical value of using student-manipulated models in a large undergraduate earth science class, *Geol. Soc. Am. Abs.*, 39 No. 6, p. 554.
- Owens, K., Gray, K. (student), Steer, D., McConnell, D., 2007.** Using models to augment teaching and learning in introductory earth science, *Geol. Soc. Am. Abs.*, 39 No. 6, p. 252.

Invited Presentations:

- Steer, D.N., 2112-2015.** Multiple semi-annual professional development workshops related to assessment associated with the Interdisciplinary Teaching About Earth for a Sustainable Future (InTeGrate) STEM Talent Expansion program for the Geosciences, Northfield, MN and various Geological Society of America (GSA) annual meetings.
- Steer, D.N. and Trujillo, A., 2008/2009.** *Developing Interactive Lectures*, invited presentation at NSF-sponsored Cutting Edge Workshop: Preparing for an Academic Career, National Weather Center, Norman, OK.
- Steer, D.N., 2008/2009.** *Researching Learning in the Geosciences*, invited presentation at NSF-sponsored Cutting Edge Workshop: Preparing for an Academic Career, National Weather Center, Norman, OK.
- Steer, D.N., 2008/2009.** *Improving Student Success by Scaffolding Learning*, invited presentation at NSF-sponsored Cutting Edge Workshop: Preparing for an Academic Career, National Weather Center, Norman, OK.
- Steer, D.N., 2008/2009.** *Assessing - How do we get beyond the final exam and effectively assess what our students are learning?*, invited presentation at NSF-sponsored Cutting Edge Workshop: Teaching Introductory Geoscience in the 21st Century, Northfield, MN.
- Steer, D.N., 2008.** *Assessing - How do we get beyond the final exam and effectively assess what our students are learning?*, invited presentation at NSF-sponsored Cutting Edge Workshop: Teaching Introductory Geoscience in the 21st Century, Northfield, MN.
- McConnell, D.A. and Steer, D.N., 2005-2008.** NAGT Distinguished Lectures: *The Tourist the Gunslinger and the Gardener: Rethinking Metaphors of Teaching and Learning to Enhance Student Reasoning; Technology in Support of Effective Pedagogy: Peer Instruction, Electronic Response*

Systems, and Good Practice in Undergraduate Education; Teaching for Understanding: Less Talk and More Action in Introductory Science Courses, presented at Florida State University, Kentucky State University, SW Section of NAGT, Western Michigan, Florida International University, and University of Florida.

Service

- 2016: Co-Chair University Learning Outcomes Committee; Interdisciplinary Teaching about Earth for a Sustainable Future (InTeGrate) Assessment Team Leader – NSF Science Talent Expansion Program; Dean Representative to the Buchtel College Council; Higher Learning Commission Accreditation writing team lead.
- 2015: Co-Chair University Learning Outcomes Committee; Interdisciplinary Teaching about Earth for a Sustainable Future (InTeGrate) Assessment Team Leader – NSF Science Talent Expansion Program; College of Engineering Search Committee; Dean Representative to Buchtel College Council.
- 2014: Co-Chair University Learning Outcomes Committee; Interdisciplinary Teaching about Earth for a Sustainable Future (InTeGrate) Assessment Team Leader – NSF Science Talent Expansion Program; APLU grant administrator.
- 2013: Faculty Senate; Member of Faculty Senate Executive Committee; Co-Chair University Learning Outcomes Committee; InTeGrate Assessment team leader; Assistant Provost on-line learning interviewer (University Committee); Clicker Working Group (University Committee); General Education Advisory Committee; On-line Committee (University Committee); Undergraduate Advisor Geology.
- 2012: Faculty Senate; Faculty Senate Executive Committee; University Council: Student Success and Engagement Committee member; On-line Learning Committee (College Committee), Ad hoc Committee “Interdisciplinary and Global Education” (College Committee), Elearning strategy committee (University Committee), GEAC; InTeGrate Assessment team leader.
- 2011: University Council – Student success and engagement committee (University Committee), Elearning strategy committee (University Committee), General Education Advisory Committee; InTeGrate Assessment team leader.
- 2010-2013: Editor: In The Trenches, an NAGT publication.
- 2010: Past President: National Association of Geoscience Teachers (NAGT). Chair, BCC Curriculum Committee, Faculty Senate.
- 2009: President: National Association of Geoscience Teachers (NAGT). Chair, BCC Curriculum Committee
- 2008: Vice President: National Association of Geoscience Teachers (NAGT); University Faculty Research Council, NAGT Distinguished Lecturer, NAGT representative to the American Geologic Institute, Graduate and Undergraduate Advisor for Geophysics, Graduate and Undergraduate Advisor for Engineering Geology.
- 2007: Vice-President: NAGT, Education Division representative - Joint Technical Program Planning Committee for 2007 Geological Society of America Annual Meeting, University Faculty Research Council, NAGT Distinguished Lecturer, NAGT representative to the American Geologic Institute, Graduate and Undergraduate Advisor for Geophysics, Graduate and Undergraduate Advisor for Engineering Geology.

- 2006: University Faculty Research Council; NAGT Distinguished Lecturer, NAGT representative to the American Geologic Institute.
- 2005: Planning Committee member: Digital Library for Earth System Education 2005 Annual Meeting, St. Petersburg, FL, College Hearing Board, Faculty Mentor, Graduate and Undergraduate Advisor for Geophysics, Graduate and Undergraduate Advisor for Engineering Geology.
- 2004: Chair of the Planning Committee: Digital Library for Earth System Education 2004 Annual Meeting, Madison, WI., Faculty Mentor, Graduate and Undergraduate Advisor for Geophysics, Graduate and Undergraduate Advisor for Engineering Geology.
- 2003: Member – College Hearing Board, Faculty Mentor, member of the 2003 NASA REASON grant review panel, Co-director of one week workshop “Rapid in-class Assessment Techniques for Introductory Courses, 200 Conceptest Questions in Five Days,” Presenter: Wright State University and Ohio University Colloquium series, Graduate and Undergraduate Advisor for Geophysics, Graduate and Undergraduate Advisor for Engineering Geology.
- 2002: Member – College Hearing Board, Faculty Mentor, Presenter at the “Celebrating Excellence in Teaching and Learning Conference,” 4/19/02, Panel Member at the “Celebrating Excellence in Teaching and Learning Conference,” 4/19/02, Presenter: Ottawa River Coalition meeting 01/23/02, Presenter: Dept. of Biology, Ecolunch, 03/20/02, Presenter: Akron Physics Club, 03/25/02, 2nd Akron Symposium on Teaching and Learning on 10/25/02, Graduate and Undergraduate Advisor for Geophysics, Graduate and Undergraduate Advisor for Engineering Geology.
- 2001: Chair – Geology Department Search Committee, Presenter at 2001 Teaching and Learning Day sponsored by Council for Teaching and Learning, Presenter at Project TIMMS Workshop, Graduate and Undergraduate Advisor for Geophysics, Graduate and Undergraduate Advisor for Engineering Geology.
- 2000: Chair - Graduate Student Guidelines Committee, Chair - Geology Department Search Committee, Faculty Mentor Program Representative, Presenter at meeting of Ohio Chpt. Am. Inst. Prof. Geologists., Participant at University Honors Colloquium.

Student Theses:

- Medvid, Carl, (MS), 2015. Analysis of Seismic Reflections of the Main Uralian Fault in the Southern Ural Mountains, Russia, 90 pp. (**Advisor**)
- Mezentseva, Karyna. (MS), 2015. Hydrology of The Tamarack Bog, Bath Nature Preserve, Bath Township, Ohio, 262 pp. (**Reader**)
- Mitchell, Stephanie. (MS), 2015. Sediment Dispersal Processes and Anthropogenic Impacts at Rex Lake, Summit County, Ohio, 275 pp. (**Reader**)
- Spurr, Charles, (MS), 2015. Seismic Analyses of the Crust and Upper Mantle in the Foreland Thrust and Fold Belt of the Southern Urals, Russia, 108 pp. (**Advisor**)
- Anderson, Michael, 2014. Analysis of Upper Mantle Reflections Beneath the Trans-Uralian and East-Uralian Zones of the Ural Mountains, Russia, 93 pp. (**Advisor**)
- Scaggs, Laura, (MS), 2014. A geophysical study of subsurface paleokarst features

- and voids at the Ohio Caverns, 176 pp. (**Advisor**)
- Filiano, Gina, (MS), 2014. Role of Joints and Rock Stresses in the Formation of Sandstone Caves in Northeastern Ohio, 200 pp. (**Reader**)
- Newman, Patrick, (MS). 2013. The Work Budget of Rough Faults, 343 pp. (**Reader**)
- Bates, Dustin, (MS), 2011. Characterizing River and Lake Sediments using Geophysical Methods in Urban Impacted Areas within Summit County Ohio, 230 pp. (**Reader**)
- Gray, Kyle. (Ph.D.) 2009. A study of student responses to text-only and illustrated concept questions related to plate tectonics: Differences by gender and prior achievement, 277 pp. (**Dissertation Advisor** who funded entire research program).
- Warino, Charlie, (MS) 2008. Resistivity and radar images of collapse features attributed to a previously undocumented mine in Summit County, Ohio, 41 pp. (**Advisor**)
- Atef, Ali, H., (MS) 2007. Analysis of URSEIS Moho reflections beneath the Pre-Uralian foredeep of the Ural Mountains Russia, M.S. Thesis, The University of Akron, 182 pp. (**Advisor**)
- Harbi, Hussein, M., (MS) 2005. 2-D modeling of southern Ohio based on magnetic field intensity, gravity field intensity and well logs, M.S. Thesis, The University of Akron, 115 pp. (**Advisor**)
- Loken, Mark, A., (MS) 2005. Tectonic implications of shallow reflections over the East Uralian Zone in the southern Ural mountain belt, M.S. Thesis, The Univ. Akron, 52 pp. (**Advisor**)
- Picard, Robert, P., (MS) 2004. Nutrient removal in treatment wetlands at two scales, M.S. Thesis, The Univ. Akron, 70 pp. (**Reader**)
- Aseltyne, T., 2002, The future of constructed wetlands for the on-site disposal of domestic wastewater, M.S. Thesis, The Univ. Akron, 59 pp. (**Advisor**)
- Gebrehewit, T., 2002, Modeling of the crustal and upper mantle velocity structure beneath Ohio based on explosions from mines in Ohio and neighboring states, M.S. Thesis, The Univ. Akron, 103 pp. (**Advisor**)
- Steigerwalt, R., 2002, New evidence for shallow lateral movement within the Grenville Province: Implications for basin development, M.S. Thesis, The Univ. Akron, 28 pp. (**Advisor**)
- Visocky, S., 2002, Comparison of flow-through and non-point source acid mine drainage (AMD) treatment wetlands, M.S. Thesis, The Univ. Akron, 144 pp. (**Advisor**)
- Carty, S. (2002), An experimental study of the effectiveness of four wetland plant species for wastewater treatment, M.S. Thesis, Univ. Akron, 103 pp. (**Reader**)
- Nandi, A. (2002), Evaluation of the cycloid as a function for describing longitudinal stream profiles, M.S. Thesis, Univ. Akron, 94 pp. (**Reader**)

Teaching: *Courses Taught:* Earth Science (F99-S16); Geophysics (Alternate years F00 - S16); Global Tectonics (S01; S03); Exploration Geophysics (alternate years F01 - F16); Environmental Geophysics (S06, S08, S10; F12); Field Studies (F08); Advanced Field Studies (F08); Military Geography (S12).