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EDUCATION:

Ph. D. 1988 **The Johns Hopkins University**, Baltimore, MD, Department of Earth and Planetary Sciences, Dissertation– Thrusting, Halotectonics, and Sedimentation in the External Sierra, Southern Pyrenees, Spain. First Reader, D. G. DePaor (deceased), Second Reader, J. R. Hossack.

M. A. 1984 **The Johns Hopkins University**, Baltimore, MD, Department of Earth and Planetary Sciences, Advisor, D. Elliott (deceased).

A. B. 1980 **Franklin and Marshall College**, Lancaster, PA, Biology Major, Thesis–Fluorescence Studies of Membrane Phospholipid Phase Separations in Warm and Cool Climate Plants Utilizing the Membrane Probe trans–Parinaric Acid. Advisor, C. Pike (retired). Geology Major completed 1981.

CURRENT POSITIONS:

Professor, Department of Earth and Environmental Sciences, Lehigh University, Bethlehem, PA (2007 - present).
Fulbright Specialist, June 6, 2019-June 6, 2023
National Geographic Explorer December, 2016-present

Current Research Activities:

Current projects focus on (1) the recovery of high-resolution deformation rates from folds, faults, and orogens. These data serve to inform evolving ideas as to what modulates Earth processes, (2) hominin migration in northern Africa and the Iberian Peninsula, and (3) science curriculum and educational technology in high school and college.

The geologic research is typically empirical and occurs mostly along plate boundaries. Recent projects have been in the Apennines, Italy; Pyrenees, Spain; and Betic Cordillera, Spain. Some projects involve paleomagnetic and cyclostratigraphic age models of synsedimentary structures and others involve landscape evolution or structural modeling. Current education projects focus on socio-environmental justice for high school students, immersive Virtual Reality in education, and tectonics and virtual field trips for college-aged learners; these education projects involve using Web-based GIS to promote geospatial thinking and reasoning.

Employment History:

- Visiting Professor, Centro Nacional De Investigación Sobre La Evolución Humana, CENIEH, Burgos, Spain. (Fall 2019).
- Chair, Department of Earth and Environmental Sciences, Lehigh University, Bethlehem, PA (2013 – 2019)
- Professional Geologist, Commonwealth of Pennsylvania, PG-002337-G (1995 - 2019)
- Visiting Professor, Departamento de Ciencias de la Terra, Universidad de Zaragoza (2010-2011).

- International Scholar, Instituto Geologico y Minero de España, Oficina de Zaragoza, Spain (2010-2011).
- Associate Professor, Department of Earth and Environmental Sciences, Lehigh University, Bethlehem, PA (1993 - 2007).
- Assistant Professor, Department of Geological Sciences, Lehigh University, Bethlehem, PA (1986 - 1993).
- Graduate Fellowship, Department of Earth and Planetary Sciences, Johns Hopkins University, Baltimore, MD (1983-1985).
- Summer Research Geologist, Tectonics and Basin Analysis Group, ARCO Oil and Gas Company, Plano, TX. (1983).

Honors And Awards

- Geologic Society of America Fellowship 2010
- Amoco Foundation Fellowship academic years 1982-1985
- Gilman Fellowship academic year 1981-82 Johns Hopkins University
- Dr. J. Brian Eby Fellowship academic year 1981-82 Johns Hopkins University
- Robert Balk Fellowship academic year 1981-82 Johns Hopkins University
- John C. Park National Technology Leadership Fellowship award 2017
- Editor's commendation1992 *Geological Society of American Bulletin.*
- "Top 10" Oral Presentation, AAPG Annual Convention April 2017, Houston, TX
- 2019 Award IV: Innovation in Teaching Science Teachers by Association for Science Teacher Education.

PUBLICATIONS (*denotes student advisee)

Book Chapters: *(3 total)*

Bodzin, A., **Anastasio, D.,** Sahagian, D. 2015. Using Web GIS to promote geospatial thinking and reasoning skills. Chapter 11 in K. Finson & J. Pedersen (Eds.) Application of Visual Data in K-16 Science Classrooms. Charlotte, NC: Information Age Publishing. Pp. 263-284.

Bodzin, A.M., **Anastasio, D.,** Kulo*, V. Designing Google Earth Activities for Learning Earth and Environmental Science. 2014. Chapter 13 pp. 213-232. In: MaKinster, J., Trautmann, N., and Barnett, M., Editors. Teaching Science and Investigating Environmental Issues with Geospatial Technology: Designing Effective Professional Development for Teachers. Dordrecht, Netherlands: Springer. 353 p. 46 illus. ISBN: 978-90-481-3930-9 (print) 978-90=-481-3931-6 (online).

Kulo*, V., Bodzin, A., McKeon, R., **Anastasio, D.**, Peffer, T., Sahagian, D. 2013. The Isle of Navitas: Towards a better understanding of energy and decision-making using GIS. In Learning Environments: Technologies, Challenges and Impact Assessment. (pp. 49-66). Hauppauge, NY: Nova Science Publishers.

Articles in preparation

Anastasio, D.J., Bodzin, A.M., Hammond, T., Farina*, W., Araujo* Junior, R. in prep. Interdisciplinary cap stone projects provide authenic career experience during socio-

environmental science investigations (SESI) using a geospatial curriculum approach. To be submitted to *Journal of Geography.*

Carrigan*, J., **Anastasio, D.,** Berti., C., Pazzaglia, F., in prep. Drainage Reorganization and Incision in an Active Orogen: Fragmentation of a Longitudinal Network into Transverse Drainages, Betic Cordillera. To be submitted to *Tectonics*.

Articles in Refereed Journals: *(51 total)*

Anastasio, D.J., Pazzaglia, F.J., Parés, J.M., Kodama, K.P., Berti, C., Fisher*, J., Montanari, A., Carnes*, L.K., 2021 Application of anisotropy of magnetic susceptibility (AMS) fabrics to active tectonics: Examples from the Betic Cordillera, Spain and the northern Apennines, Italy. *Solid Earth*. 12, 1125–1142, https://doi.org/10.5194/se-12-1125-2021.

Anastasio, D.J., Kodama, K.P., Pares, J.M., Hinnov, L.A., Idleman, B.D. 2021. Internal and external modulation of folding rates with 10^4 to 10^5 year time resolutions from growth strata, Pico del Aguila, Spain. *Geochemestry, Geophysics, Geosystems*, 22, e2021GC009828. https://doi.org/10.1029/2021GC009828

Bodzin, A., Araujo Junior, R., Schwartz, C., **Anastasio, D.,** Hammond, T., and Birchak, B. (in press). Learning about environmental issues with a desktop virtual reality field trip. *Innovations in Science Teacher Education*.

Bodzin, A., Araujo Junior, R., Hammond, T., and **Anastasio, D.** 2021. Investigating engagement and flow with a placed-based immersive virtual reality game. *Journal of Science Education and Technology.* 30 (3), 347-360. DOI: 10.1007/s10956-020-09870-4

Anastasio, D.J., Teletzke*, A.L., Kodama, K.P., Parés, J.M.C., Gunderson*, K.L. 2020. Geologic evolution of the Peña Flexure, Southwestern Pyrenees mountain front, Spain. Journal of Structural Geology. 12 journal pages, http://doi.org/10.1016/j.jsg.2019.103969.
Published online December 20, 2019
Published in print. Volume 131, Number 1, date January 2020, paper 103969

Hammond, T., Bodzin, A., Popejoy, K., **Anastasio, D.,** Holland, B., Sahagian, D. 2019. Shoulder-to-shoulder: Teacher professional development and curriculum design and development for geospatial technology integration with science and social studies teachers. Contemporary Issues in Technology and Teacher Education, 19(2). Retrieved from https://www.citejournal.org/volume-19/issue-2-19/current-practice/shoulder-to-shoulder-teacher-professional-development-and-curriculum-design-and-development-for-geospatial-technology-integration-with-science-and-social-studies-teachers

Parés, J.M., **Anastasio, D.** 2018. The extent of penetrative strain in the Ebro Foreland Basin: Magnetic fabric data from the eastern sector *Geologia Acta Hispañica* v. **16** (4) 375-390. DOI: 10.1344/GeologicaActa2018.16.4.3

Gunderson*, K. L., **Anastasio, D. J.,** Pazzaglia, F. J., & Kodama, K. P. 2018. Intrinsically variable

blind thrust faulting. *Tectonics*, *37* (4) 1454-1471. https://doi.org/10.1029/2017TC004917

Hammond, T.C., Bodzin, A, Popejoy, K., **Anastasio, D.,** Holland, B., and Sahagian, D. 2018. Socio-environmental science investigations (SESI) using mobile data collection for geospatial thinking and reasoning: Design process, pedagogy, and professional development. *Contemporary Issues in Technology Education*. 17.

Hammond, T.C., Bodzin, A., A**nastasio, D.,** Holland, B., Popejoy, K., Sahagian, D., Rutzmoser, S., Carrigan*, J., Farina*, W. 2018. "You know you can do this, right?": Developing geospatial technological pedagogical content knowledge (GS-TPACK) and enhancing teachers' cartographic behaviors with socio-environmental science investigations (SESI). Cartography and Geographic Information Science. Special Issue The Power of Mapping for Science in Primary and Secondary Education. v. **45** n. 4, 305-318. https://doi.org/10.1080/15230406.2017.1419440.

Carrigan*, J.H., **Anastasio, D.J.,** Kodama, K.P., Parés, J.M. 2016. Fault-related fold kinematics recorded by terrestrial growth strata, Sant Llorenç de Morunys, Pyrenees Mountains, NE Spain. *Journal of Structural Geology*, v. **91**, 161-176. http://dx.doi.org/10.1016/j.jsg.2016.09.003

Bodzin A.M., **Anastasio, D.J**., Sharif*, R., Rutzmoser, S. 2016. A Web GIS Plate Tectonics Simulation to Promote Geospatial Thinking. *Journal of Geologic Education.* 64, 279-291. DOI: 10.5408/15-122.1

Bodzin, A., **Anastasio, D.,** Sahagian, D., Henry*, J. B. (2016). A curriculum-linked professional development approach to support teachers' adoption of Web GIS tectonics investigations. CITE Journal: Contemporary Issues in Technology and Teacher Education, v. **16** n.3, 348-372.

Anastasio, D.J., Parés, J.M., Kodama, K.P., Troy*, J., Pueyo, E.M., 2015. Synsedimentary Deformation at Pico del Aguila, Spain, Recovered From AMS Data. In Palaeomagnetism in Fold and Thrust Belts: New Perspectives. Special Volume 425 Geological Society of London. Emilio L. Pueyo, Francesca Cifelli, Aviva J. Sussman and Belen Oliva-Urcia, Editors. http//doi.org/10.1144/SP425.8

Bodzin, A., **Anastasio, D.,** Sahagian, D., Peffer*, T., Dempsey*, C., and Steelman, R. (2014). Investigating climate change understandings of urban middle school students. *Journal of Geoscience Education*, v. **62** n. 3, 417-430.

Gunderson*, K.L., Pazzaglia, F.J., Picotti, V, **Anastasio, D.J.,** Kodama, K.P., Rittenour, T., Frankel, K.F., Ponza, A., Berti, C., Negri, A, Sabbatini, A., 2014. Unraveling tectonic and climatic controls on synorogenic stratigraphy. Geological Society of America Bulletin. Published online January 24 2014 as doi:10.1130/B30902.1 print v. **126** n. 3-4 (Mar 2014): 532-552.

Bodzin, A.M., **Anastasio, D.J.,** Sahagian, D., Peffer*, T., Dempsey*, D., Steelman-Couch, R. 2014. Investigating Climate Change Understandings of Urban Middle Level Students. *Journal of Geological Education*, Outcomes from Climate Literate Literacy Efforts theme issue.

Gunderson*, K.L., **Anastasio, D.J.,** Pazzaglia, F.J., Picotti, V. 2013. Fault slip rate variability on 10^4-10^5 yr timescales for the Salsomaggiore blind thrust fault, Northern Apennines, Italy.

Tectonophysics, http://dx.doi.org/10.1016/j.tecto.2013.09.01.

Gillette, B., Dempsey*, C., Bodzin, A., **Anastasio, D.**, Sahagian, D., Cirucci, L. 2013. Authors response to comments. Investigating Future Climate Scenarios: Who Will Be Affected By Sea Level Rise? *LETTERS Science Scop*e. [online serial] March 2013; v. **36** n.7, 6-7.

Hinnov, L.A., Kodama, K.P., **Anastasio, D**. Latta*, D.K., Elrick, M., 2013. Global Milankovitch Cycles Recorded by Rock Magnetism in the Shallow Marine Cretaceous Cupido Formation, NE Mexico. In: Magnetic methods and timing of Geologic Processes L. Jovane, E. Herrero-Berrera, L. Hinnov, B. Housen, editors. Geological Society of London Special Publication **373**; 325-340. http://dx.doi.org/10.1144/SP373.20.

Burrows*, J., Bodzin, A., **Anastasio, D**., Sahagian, D., Bressler*, D., Cirucci, L., Rutzmoser, S., Teletzke*, A. 2013. Using Web GIS to Enhance Tectonics Learning and Geospatial Thinking. *Science Scope*, v.**13**, n.12, 29-37.

Dempsey* C., Bodzin, A.M., **Anastasio, D.J.,** Sahagian, D., Cirucci, L., 2012. Investigating Future Climate Scenarios: Who Will Be Affected By Sea Level Rise? *Science Scope.* December, 2012, p. 44-53.

Gunderson*, K.L., Kodama, K.P., **Anastasio, D.J.,** Pazzaglia, F.J. 2012. New Rock Magnetic Cyclostratigraphy for Miocene-Quarternary Strata, Northern Apennine Thrust Front. In: Magnetic methods and timing of Geologic Processes. L. Jovane, E. Herrero-Berrera, L. Hinnov, B. Housen editors. Geological Society of London. Special Publication v. **373**; 309-323. http://dx.doi.org/10.1144/SP373.8.

Kulo*, V., Bodzin, A., McKeon*, R., Cirucci, L., **Anastasio, D.,** Sahagian, D. and Peffer*, T. 2012. The Isle of Navitas: Planning for energy use with Web GIS. *Science Scope* v. **36** n.20, 30-37.

Dempsey*, C., Bodzin, A., Cirruci, L., **Anastasio, D.** and Sahagian, D. 2012. Reconstructing environmental change using lake varves as a climate proxy. *Science Scope* v. **35**, n. 7, 42-47.

Anastasio, D.J., Pazzaglia, F.J., Majerowicz*, C.M., Regalla*, C.A., 2010. Late Pleistocene-Holocene ruptures of the Lima Reservoir fault, SW Montana. *Journal of Structural Geology,* v. 32, p. 1996-2008. DOI: 10.1016/j.jsg.2010.08.012.

Kodama, K.P., **Anastasio, D.J**., Newton*, M.L., Pares, J.M., Hinnov, L.A. 2010. High-resolution rock magnetic cyclostratigraphy in an Eocene flysch, Spanish Pyrenees. *Geochemistry, Geophysics, Geosystems,* v. **11** p. 1-22 QOAA07 doi: 10.1029/2010GC003069.

Wilson*, L.F., Pazzaglia, F.J., **Anastasio, D.J**. 2009. A fluvial record of active fault-propagation folding, Salsomaggiore anticline, northern Apennines, Italy. *Journal of Geophysical Research-Solid Earth* v. **114** p. 1-23, B08403, doi:10.1029/2008JB005984

Regalla*, C.A., **Anastasio, D.J.,** Pazzaglia, F.J. 2007, Characterization of the Monument Hill Fault System and implication for tectonics of the Red Rock Valley, Southwestern Montana. *Journal of*

Structural Geology, v. **29**, p. 1339-1352.

Latta*, D.K., and **Anastasio, D.J.,** 2007, Multiple scales of mechanical stratification And décollement fold kinematics, Sierra Madre Oriental foreland, northeast Mexico. *Journal of Structural Geology,* v. **29**, p. 1241-1255.

Anastasio, D.J. 2006 Web-Based Inquiry. In: Vignettes for a Design Guide for Undergraduate Earth System Science Education, editor M. Ruzik. A Design Guide for Undergraduate Earth System Science Education, Universities Space Research Association- National Aeronautics and Space Administration.
Volume: http://www.essedesignguide.org/.
Paper: http://esse21.usra.edu/designguide/finalvignettes/vig-anastasio.pdf

Rygel* A. C., **Anastasio, D.J.**, Bebout, G.E., 2006 Syntectonic fluid-rock interactions along the Sevier thrust Belt, Tendoy Mountains, Southwest Montana. *Geofluids,* v. **6** n.6, p. 1-14. Electronically published *Geofluids* May 24, 2006, doi: 10.1111/j.1468-8123.2006.00146.x. Print publication November 2006.

Bodzin, A.M., **Anastasio, D.J.,** 2006 Using Web-based GIS For Earth and Environmental Systems Education, *Journal of Geological Education*, In: Special Issue "Symphony of the Spheres: Recent Advances in Earth System Science Education", editors, Rankey, G. and Ruzek, M. v. **54**, n. 3, 295-300.

Latta* D. K., **Anastasio, D.J.,** Hinnov, L.A., Elrick, M., Kodama, K.P., 2006 A magnetic record of Milankovitch rhythms in lithologically noncyclic marine carbonates. *Geology* v. **34**, n. 1, p. 29-32.

Harkins*, N., **Anastasio, D.J.,** Pazzaglia, F.J., 2005 Tectonic geomorphology of the Red Rock fault, insights into segmentation and landscape evolution of a developing range front normal fault. *Journal of Structural Geology*, v. **27**, p. 1925-1939.

Anastasio, D.J., Bebout, G.E., Holl*, J.E., 2004 Extra-basinal fluid infiltration, mass transfer, and volume strain during folding; insights from the Idaho-Montana thrust belt. *American Journal of Science,* v. **304**, p. 333-369.

Bebout, G.E., **Anastasio, D.J.,** Holl*, J.E. 2001 Synorogenic Crustal Fluid Infiltration in the Idaho-Montana Thrust Belt. *Geophysical Research Letters*. November 15, 2001, v. **28** n. 22, p. 4293-4298.

Anastasio, D.J., Holl*, J.E. 2001 Transverse fold evolution in the External Sierra, southern Pyrenees, Spain. Paul Hancock Memorial Issue, *Journal of Structural Geology*, **23**, 379-392.

Anastasio, D.J., Latta*, D.K. 2000 Land-Use Debate. In: Great Ideas for Teaching Geoscience, *Journal of Geologic Education*, (S. Semkin, ed.) v. **48** p. 593. (5 websites including National Association of Geology Teachers, Digital Library of Earth Science Education, Teach the Earth SERC.Carleton.edu/introgeo/)

Davidson*, S., **Anastasio, D. J.,** Holl*, J. E., Bebout, G. E., 1998 Volume loss and Metasomatism

During Cleavage Formation in Carbonate Rocks. *Journal of Structural Geology*, v. **20**, no. 6, p. 707-727.

Anastasio, D. J., Fisher, D. M., Messina*, T. A., Holl*, J. E., 1997 Kinematics of Décollement folding in the Lost River Range, Idaho. *Journal of Structural Geology*, v. **19**, nos. 3/4. p. 355-368.
Holl*, J. E.,

Anastasio, D. J. 1995 Cleavage Development within a Foreland Fold and Thrust Belt, Southern Pyrenees, Spain. *Journal of Structural Geology*, v. **17** no. 3, p. 357-369.

Holl*, J.E., **Anastasio, D.J.** 1995 Kinematics around a large-scale oblique ramp, southern Pyrenees, Spain. *Tectonics* v. **14** no. 5. p. 1368-1379.

Hedlund, C. A. *, **Anastasio, D. J.,** Fisher, D. M., 1994 Kinematics of Fault-Related Folding in a Duplex, Lost River Range, Idaho, U.S.A. *Journal of Structural Geology* v. **16** no. 4, p.571-584.

Fisher, D. M., **Anastasio, D. J.,** 1994 Kinematic Analysis of a Large-Scale Leading Edge Fold, Lost River Range, Idaho *Journal of Structural Geology*, v. **16**, no. 3. p. 333-354.

Anastasio, D.J., Myers, P.B., Jr. 1993 The Great Valley to Valley and Ridge Transition in Lehigh Tunnel No. 2, Northeast Extension, Pennsylvania Turnpike. *Northeastern Geology* v. **15**. no. 1. p. 3-17.

Holl*, J.E. and **Anastasio, D.J.** 1993 Paleomagnetically Derived Folding Rates, Southern Pyrenees, Spain. *Geology,* v. **13**. no. 3. p. 271-274.

Holl*, J. E., **Anastasio, D.J.,** 1992 Deformation of a Foreland Carbonate Thrust System, Sawtooth Range, Montana. *Bulletin of the Geological Society of America*, v. **104**, p. 944-953.

Anastasio, D. J. 1992 Structural Evolution of the External Sierra, Spanish Pyrenees. In: *The Structural Geology of Fold and Thrust Belts.* Johns Hopkins University Press, S. Mitra and G.W. (eds.) p. 239-251.

Anastasio, D.J. 1988 Geometry of Emergent Thrust Faults, Southern Pyrenees, Spain. In: The Art of Geology, Moores, E.M. and Wahl, F.F. (eds.), *Geological Society of America, Special Paper* No. 225, p. 35.

DePaor, D.G., **Anastasio, D.J.** 1987 The External Sierra: A Case History in the Advance and Retreat of Mountains. *National Geographic Research* v. **3**. p. 199-209.

Refereed and Published Geologic Maps: *(6 total)*

Majerowicz*, C.N., Troy*, J.K., **Anastasio, D.J.,** Pazzaglia, F.J., 2010. Bedrock and Surficial Geologic Map of the Lima Dam 7.5' Quadrangle, Beaverhead County, Southwest Montana. *Montana Bureau of Mines and Geology* EDMAP 7, 17 p. 2 sheets, scale 1:24,000.
http://www.mbmg.mtech.edu/stmap_edmap.htm.

Majerowicz*, C.N., Anderson*, L.D., **Anastasio, D.J.,** Pazzaglia, F.J. in 2007. Bedrock and Surficial map of the Henry's Gulch 7.5' Quadrangle, Montana *Montana Bureau of Mines and Geology*. Open File Report 563, scale 1:24,000, text 20p. 1 pl. http://www.mbmg.mtech.edu/stmap_edmap.htm.

Regalla*, C.A., Reyman*, D., **Anastasio, D.J.,** Pazzaglia, F.J. 2006 Bedrock and Surficial map of the Red Rock 7.5' Quadrangle, Montana *Montana Bureau of Mines and Geology*, Open File Report 533, scale 1:24,000, text 20p. 1 pl. http://www.mbmg.mtech.edu/stmap_edmap.htm.

Newton*, M., Regalla*, C., **Anastasio, D.J.** 2005, Bedrock and Surficial Geologic Map of the Monument Hill 7.5' Quadrangle, Southwest Montana. *Montana Bureau of Mines and Geology*, Open File Report 517, scale 1:24,000, text 14p. 2pl. http://www.mbmg.mtech.edu/stmap_edmap.htm.

Harkins*, N., Newton*, M., **Anastasio, D.J.,** Pazzaglia, F.J., 2004. Bedrock and surficial Geologic Map of the Caboose Canyon 7.5 Minute Quadrangle, southwest Montana. *Montana Bureau of Mines and Geology* , Open File Report 494, scale 1:24,000 , Report 14p. 2pl. http://www.mbmg.mtech.edu/stmap_edmap.htm.

Harkins*, N., Latta*, D.K., **Anastasio, D.J.,** 2004. Surficial and Bedrock Geologic Map of the Dixon Mountain 7.5 Minute Quadrangle, Montana. *Montana Bureau of Mines and Geology*, Open File Report 495, scale 1:24,000, Report 12p. 2pl. http://www.mbmg.mtech.edu/stmap_edmap.htm.

Conference Proceedings

Bodzin, A., Araujo Junior*, R. M., **Anastasio**, **D.**, Hammond, T. Investigating Engagement and Flow During a Placed-based Immersive Virtual Reality Game. Annual meeting, American Educational and Research Association, January 2021.

Bodzin, A., Araujo Junior*, R. M., **Anastasio**, **D.**, Hammond, T., Kangas, S., Lindstrom, E., Rutzmoser, S., and Vallera, F. (June, 2019). A Virtual Reality Game to Identify Locations in the Lehigh River Watershed. In Beck, D., Peña-Rios, A., Ogle, T., Economou, D., Mentzelopoulos, M., Morgado, L., Eckhardt, C., Pirker, J., Koitz-Hristov, R., Richter, J., Gütl, C., Gardner, M. (Eds.), (pp.148-150). Proceedings from the Fifth Immersive Learning Research Network Conference (iLRN) London, UK. Graz University of Technology publishing house, Austria. ISSN 2415-1475 ISBN (e-book) 978-3-85125-657-4 DOI

Bodzin, A.M., Robson Araujo Junior, Hammond, T. **Anastasio, D.**, 2020. An Immersive Virtual Reality Game Designed to Promote Learning Engagement and Flow. Number 10, Track ST2: Immersive and Engaging Educational Experiences, submitted to iLRN 2020, 7 pages.

Araujo* Junior, R., Bodzin, A., Hammond, T., **Anastasio, D.,** Rutzmoser, S., Vallera, F., Sadat*, B., Yeung*, B., and Levy*, H. (June, 2019). Lehigh River Watershed VR: The Lehigh Gap immersive virtual field trip. In Beck, D., Peña-Rios, A., Ogle, T., Economou, D., Mentzelopoulos, M., Morgado, L., Eckhardt, C., Pirker, J., Koitz-Hristov, R., Richter, J., Gütl, C., Gardner, M. (Eds.), (pp.151-153). Proceedings from the Fifth Immersive Learning Research Network Conference (iLRN) London, UK. Graz University of Technology publishing house, Austria. ISSN 2415-1475 ISBN (e-book) 978-3-

85125-657-4 DOI

Anastasio, D.J., Kodama, K, Parés, J. 2018. Eposodic deformation rates recovered from growth strata, Pyrenees. Search and Discovery Article #30553 (2018), p.1-23. American Association of Petroleum Geologists.
http://www.searchanddiscovery.com/pdfz/documents/2018/30553anastasio/ndx_anastasio.pdf.html

Refereed and Published Abstracts: *(181 total)*

Bodzin, A., Araujo* Junior, R., Hammond, T., and **Anastasio, D.** (January, 2022). Learning About Environmental Issues With A Desktop Virtual Reality Field Trip. Paper presented at the 2021 Association for Science Teacher Education (ASTE) Annual Meeting

Anastasio, D.J., Kodama, K.P., Pares, J.M., Hinnov, L.A., Idleman, B.D. 2021. Internal and external modulation of folding rates with 10^4 to 10^5 year time resolutions from growth strata, Pico del Aguila, Spain. Abstract #xxxx, Session # xxxx, American Geophysical Union.

Anastasio, D.J., Parés, J. M., Teletzke*, A.L. Kodama, K. P.,2020. Geologic Evolution Of The Peña Flexure, Southwestern Pyrenees Mountain Front, Spain. Abstract # 698757, Session # T044, American Geophysical Union.

Bodzin, A., Araujo* Junior, R., Schwartz, C., **Anastasio, D**., Hammond, T., and Birchack, B. (May, 2021). The Lehigh Gap story: A design partnership for developing an immersive virtual reality field trip. Presentation presented at the 2021 Immersive Learning Research Network (iLRN) Conference online and in VR. Presentation video.

Araujo* Junior, R., Bodzin, A., Hammond, T., **Anastasio, D.,** Lam, B., Mack, J., Meyer, D., Neitz, R., Semmens, K., Schwartz, C., and Slipp, J. (May, 2021). Watershed explorers: Designing a virtual reality game to promote local watershed literacy. Poster presented at the 2021 Immersive Learning Research Network (iLRN) Conference online and in VR. Game advertisement video.

Bodzin, A., Araujo* Junior, R., Hammond, T., and **Anastasio, D.** (January, 2021). Investigating engagement and flow with a placed-based immersive virtual reality game. Paper presented at the 2021 Association for Science Teacher Education (ASTE) Annual Meeting online.

Anastasio, D.J., Bodzin, A., Hammond, T. Araujo, Jr., R., Lam, B. Immersive virtual reality (iVR) game of the lehigh river watershed, PA. 2020. Geological Society of America Abstracts with Programs. Vol 52, No. 6, 2020 doi: 10.1130/abs/2020AM-357435

Fisher*, J., Gallen, S., Gunderson, K., Pazzaglia, F.J. **Anastasio, D.J.** 2020. 144-9 A record of base level fall from data-driven linear inversion of fluvial topography and its comparison to fault slip at the mountain front, northern apennines, italy. Geological Society of America Abstracts with Programs. Vol 52, No. 6, 2020. doi: 10.1130/abs/2020AM-355319

Gonzales*, J. M., Pazzaglia, F. J., **Anastasio, D. J.,** Germanoski, D., Gallen, S., Corbett, L. B.,

Bierman, P. R., Caffee, M. W., 2020. 165-1 Crustal strain in the Pennsylvania Piedmont revealed by long profile modeling and its relation to active seismicity. Geological Society of America Abstracts with Programs. Vol 52, No. 6, 2020. doi: 10.1130/abs/2020AM-358491.

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Hammond, T.C., Popejoy, K., Salter, S., Hanson, I., Bodzin, A., **Anastasio, D.,** Holland, B., Sahagian, D., Rutzmoser, S., Carrigan*, J., Farina*, W. 2019. Promoting Geospatial Analysis in High School: Urban Heat Island Investigation. Presentation at the Esri Education Summit, San Diego, CA.

Salter, S., Bodzin, A., Hammond, T.C., Hanson, I., Farina*, W., Araujo Junior*, R. M. , Fu, Q., Popejoy, K., **Anastasio, D**., Holland, B., Sahagian, D., Rutzmoser, S. 2019. Promoting Geospatial Technologies with Socio-Environmental Science Investigations. Presentation at the Esri Education Summit, San Diego, CA.

Bodzin, A., Araujo Junior*, R. M., **Anastasio, D.,** Hammond, T., Kangas, S., Lindstrom, E., Rutzmoser, S., Vallera, F. 2019. A Virtual Reality Game to Identify Locations in the Lehigh River Watershed. Poster presented at the 5th Immersive Learning Research Network (iLRN) Conference at the University of Westminster in London, UK. 2019 Best Poster Award.

Araujo Junior*, R. M. , Bodzin, A., Hammond, T., **Anastasio, D**., Rutzmoser, S., Vallera, F., Sadat*, B., Yeung*, B., Levy*, H. 2019. Lehigh River Watershed VR: The Lehigh Gap immersive virtual field trip. Poster presented at the 5th Immersive Learning Research Network (iLRN) Conference at the University of Westminster in London, UK.

Bodzin, A., **Anastasio, D**., Hammond, T., Holland, B., Popejoy, K. 2019. Socio-environmental science investigations using the geospatial curriculum approach with Web Geographical Information Systems.Poster presented at the 2019 NSF ITEST Principal Investigator and Evaluator Summit in Alexandria, VA.

Araujo Junior*, R. M., Bodzin, A., Hammond, T., Popejoy, K., **Anastasio, D.**, Holland, B., Sahagian, D., Rutzmoser, S., Carrigan*, J., Farina*, W. 2019. Geospatial Inquiry & Civic buildup with SESI. Integrating Curricula With Geospatial Technologies. Presentation at the Pennsylvania Educational Technology Expo and Conference (PETE&C) annual meeting in Hershey,PA.

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Bodzin, A., **Anastasio, D.**, Hammond, T., Holland, B., Popejoy, K. 2019. Socio-environmental science investigations using the geospatial curriculum approach with Web Geographical Information Systems. Poster presented at the 2019 NSF ITEST Principal Investigator and Evaluator Summit in Alexandria, VA.

Bodzin, A., **Anastasio, D.,** Sahagian, D., Popejoy, K., Hammond, T., Holland, B., Rutzmoser, S. 2018. A Design Partnership for Socio-Environmental Science Investigations. 2018. American Geophysical Union (AGU) annual meeting in Washington, DC. Invited presentation.

Bodzin, A., **Anastasio, D.,** Vallera, F., Hammond, T., Rutzmoser, S., and Araujo Junior*, R. M. (2018). Developing an Immersive virtual reality environment to explore the Lehigh Gap. Presentation presented at the 2018 American Geophysical Union (AGU) annual meeting in Washington, DC.

Sahagian, D., Bodzin, A., **Anastasio, D.,** Popejoy, K., Hammond, T., Holland, B., Rutzmoser, S., Farina*, W., Salter, S., Hanson, I. (2018). Using geospatial technologies inside and outside the high school classroom to enhance understanding of socio-environmental concepts in an urban environment. Poster presented at the 2018 American Geophysical Union (AGU) annual meeting in Washington, DC.

Anastasio, D., Bodzin, A., Carrigan*, J., Farina*, W., Hammond, T., Holland, B., Araujo Junior*, R. M. Popejoy, K., Rutzmoser, S., and Sahagian, D. (2018). Interdisciplinary capstone projects provide authentic career experience during socio-environmental science investigations (SESI) using a geospatial curriculum approach. Poster presented at the 2018 American Geophysical Union (AGU) annual meeting in Washington, DC.

Bodzin, A., Popejoy, K., Hammond, T., **Anastasio, D.,** Holland, B., Sahagian, D., Rutzmoser, S., Carrigan*, J., Farina*, W. (2018). Socio-Environmental Science Investigations: Hands-on Active Learning with Geospatial Technologies. Paper presented at the 2018 Hands-on Science Conference (HSCI) in Barcelona, Spain.

Bodzin, A., **Anastasio, D.,** Hammond, T., Holland, B., Popejoy, K., Rutzmoser, S., Sahagian, D., Fu, Q. (2018). Socio-environmental science investigations using the geospatial curriculum approach with Web GIS. Poster presented at the 2018 NSF ITEST Principal Investigator and Evaluator Summit in Alexandria, VA.

Bodzin, A., Hammond, T., Popejoy, K., Farina*, W., **Anastasio, D.,** Holland, B., Carrigan*, J., Rutzmoser, S., Sahagian, D. (2018). A curriculum-linked professional development approach to support teachers' adoption of socio-environmental science investigations. John C. Park NTLI Fellowship award paper presented at the 2018 Society for Information Technology & Teacher Education (SITE) Annual Meeting in Washington, DC. Invited paper.

Bodzin, A., Popejoy, K., Carrigan, J., Rutzmoser, S., **Anastasio, D.,** Hammond, T., Holland, B., Sahagian, D., Farina*, W. (2018). Using Web GIS and iPads for Socio-Environmental Science

Investigations. ASTE sponsored session. Presentation presented at the 2018 National Science Teachers Association (NSTA) National Conference on Science Education in Atlanta, GA.

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Popejoy, K., Hammond, T., Bodzin, A., Farina*, W., **Anastasio, D.,** Holland, B., Carrigan*, J., Sahagian, D. (2018). Using GIS tools to investigate socio-environmental science in the secondary classroom: Exploring the urban heat island effect. Experiential session presented at the 2018 Association for Science Teacher Education (ASTE) Annual Meeting in Baltimore, MD.

Anastasio, D.J., Kodama, K.P., Parés, J.M. 2018. Episodic deformation rates recovered from growth strata, Pyrenees. *Geological Society of America, Abstracts with Programs, invited.* Indianapolis, IN

Powers*, M.C., **Anastasio, D.J.,** Parés, J.M., 2018. New chronology and paleoenvironmental interpretation of the hominin occupation site at Barranco León, Baza Basin, Spain. *Geological Society of America, Abstracts with Programs,* Indianapolis, IN

Carrigan*, J. H., **Anastasio, D. J.,** Berti, C., F. J. Pazzaglia 2018 Post-Messinian Drainage Reorganization in an Active Orogen, Betic Cordillera, Spain. GSA *Abstracts with Programs.*

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Anastasio, D., Bodzin, A., Farina, W., Robson, J., Hammond, T., Popejoy, K., Rutzmoser, S., Carrigan, J., Holland, B., Sahagian, D. 2018. Interdisciplinary Capstone Projects Provide Authentic Career Experience During Socio-Environmental Science Investigations (SESI) Using a Geospatial Curriculum Approach. *American Geophysical Union*

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Bodzin, A., Carrigan*, J.H., **Anastasio, D.J.,** Popejoy, K., Hammond, T., Holland, B., Rutzmoser, S., Farina*, W., Sahagian, D. 2017. 235-9: Socio-environmental science investigations that support NGSS teaching and learning. *Geologic Society of America Abstracts with Program*, Baltimore, MD. v. 49. n. 7. Seattle, WA.

Carrigan*, J.H., Bodzin, A., **Anastasio, D.,** Popejoy, K., Hammond, T., Sahagian, D., Holland, B., Rutzmoser, S., Farina*, W. 2017. 263-4. A professional development approach for teaching socio-environmental science investigations with mobile geospatial technologies. *Geologic Society of America Abstracts with Program*, Seattle, WA. v. 49. n. 7.

Bodzin, A., Hammond, T., Popejoy, K., Farina*, W., **Anastasio, D.,** Holland, B., Carrigan*, J., Rutzmoser, S., and Sahagian, D. 2018. A curriculum-linked professional development approach to support teachers' adoption of socio-environmental science investigations. Association for Science Teacher Education (ASTE) Annual Meeting in Baltimore, MD. Winner of the John C. Park National Technology Leadership Fellowship.

Anastasio, D.J., Gunderson*, K., Pazzaglia, F., Kodama, K. 2018. Intrinsic And Extrinsic Controls On Unsteady Deformation Rates, Northern Apennine Mountains, Italy. *EOS Transactions. Fall Meeting Supplement, American Geophysical Union. New Orleans, LA.*

Pritchard*, C.E., Berti, C., **Anastasio, D.,** 2017. 81-7: Creating a modular system to increase accessibility of digital educational assets at geological sites of interest. *Geologic Society of America Abstracts with Program*, Baltimore, MD. v. 49. n. 7Seattle, WA.

Carrigan*, J.H., **Anastasio, D.,** Berti, C. 2017. 388-20: Geomorphic evidence of transient fluvial landscape response in an active orogen, central Betic Cordillera, Spain. *Geologic Society of America Abstracts with Program*, Baltimore, MD. v. 49. n. 7.Seattle, WA.

Anastasio, D, Gunderson*, K., Pazzaglia, F., Kodama, K. 2017 Intrinsic versus extrinsic controls on deformation, Northern Apennines, Italy, *Feedbacks Among Climate, Erosion and Teconics, FACETII*, Corvallis, OR.

Anastasio, D., Kodama, K.P., Parés, J.M., 2017. Eposodic deformation rates recovered from growth strata, Pyrenees. *American Association of Petroleum Geologists Bulletin Annual Convention and Exhibition* Houston, TX. Republished 2018 Search and Discovery Article #30553.

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Anastasio, D., Kodama,K.P., Parés, J.M., Carrigan*, J.H., Teletzke*, A.L. 2016. Unsteady folding rates recovered at intermediate time scales, Spanish Pyrenees. *Geologic Society of America Abstracts with Program*, Baltimore, MD. v. 48. n. 6, T210, 53-14.

Bodzin, A., **Anastasio, D.** Berti, C., Sahagian, D. 2016. Using geospatial technologies to promote learning in the Earth sciences with preservice teachers. *Geologic Society of America Abstracts with Program*, Baltimore, MD. v. 48. n. 7, T76-5.

Bodzin, A., **Anastasio, D.,** Sharif*, R., Rutzmoser, S. 2016. Implementing a Web GIS plate tectonics simulation to promote spatial thinking and reasoning. *Geologic Society of America Abstracts with Program*, Baltimore, MD. v. 48. n. 7, 53-14.

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Anastasio, D. Kodama, K., Parés, J., Hinnov, L. 2015. Incremental folding rates determined with 10^{4-5} year time resolutions along the Pyrenean thrust front Spain. *EOS Transactions. Fall Meeting Supplement, American Geophysical Union.*

Carrigan*, J.H., **Anastasio, D.J.,** Parés, Kodama, K.P. 2015. Fault propagation fold kinematics recovered from terrestrial growth strata with 20-kyr time resolution, Sant Llorenç de Morunys, Pyrenees, Spain. *Geologic Society of America Abstracts with Program*, Baltimore, MD. v. 47. n. 6.

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Repasch, M., **Anastasio, D.J.**, Carrigan*, J., Parés, J.M. 2014. Fold kinematics resolved along the

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Bodzin, A., **Anastasio, D.,** Sahagian, D. 2014. Promoting spatial thinking with Web-based geospatial technologies. Poster presented at the 2014 NSF Discovery Research K12 Meeting in Washington, DC.

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Antonio, TX.

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Bodzin, A., Telezke*, A., Cirucci, L., Bressler*, D., **Anastasio, D.,** Sahagian, D., Rutzmoser, S., and Burrows*, J., (January, 2013). Using Web GIS to support the teaching and learning of tectonics. Experiential session to be presented at the 2013 Association for Science Teacher Education (ASTE) Annual Meeting in Charleston, SC.

Dempsey*, C., Bodzin, A., Peffer*, T., **Anastasio, D.,** Sahagian, D., Cirucci, L., and Bressler*, D. (January, 2013). Environmental Literacy and Inquiry: The climate change curriculum. Experiential session to be presented at the 2013 Association for Science Teacher Education (ASTE) Annual Meeting in Charleston, SC.

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Gunderson*, K., **Anastasio, D.,** Pazzaglia, F. 2012 Determining the causes of fault slip rate variability of Northern Apennine thrusts on intermediate timescales. *American Geophysical Union*, Fall Meeting Abstract: T41E-07.

Anastasio, D.J., Bodzin, A, Sahagian, D., Teletzke*, A., Rutzmoser, S., Cirruci, L., Bressler, D., Burrows*, J. 2012. Teaching and Learning Tectonics with Web-GIS. *American Geophysical Union*,

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Sahagian, D., **Anastasio, D.J.,** Bodzin, A, Cirucci, L., Bressler*, D., Dempsey*, C., Peffer*, T. 2012. Assessing Climate Misconceptions of Middle School Learners and Teachers. American Geophysical Union, Fall Meeting Abstract: ED13B-0779.Bodzin, A., Bressler*, D., Dempsey*, C., Sahagian, D.,

Anastasio, D.J., Cirucci, L. 2012. A Curriculum Approach Using Google Earth and Web-Based Interactivities to Promote Climate Change Understandings. *Geological Society of America, Abstracts with Programs*, **44**: (7) 208077.

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Remote Sensing. http://www.ei.lehigh.edu/esse/rs/. **Anastasio, D**., Bodzin, A., Ramage, J., Cascione*, J., Cascione*, J. & Heydenberk, E. (2007). Principal Investigator on this project and member of the instructional design team. External validation: NASA/USRA Earth System Science Education Design Guide for Undergraduate Earth System Science Education.

Pennsylvania Sprawl: Case study, introduces students to the application of remote sensing for the

study of changing landuse patterns using an example of farmland lost to urbanization. http://www.ei.lehigh.edu/esse/cases/llws.

Melting Glaciers: Case Study, introduces students to the application of remote sensing for the study of environmental change within a tropical alpine glacier. http://www.ei.lehigh.edu/esse/cases/peru.

Tectonics. http:// http://ei.lehigh.edu/eli/tectonics/. Bodzin, A., **Anastasio, D.J.,** Sahagian, D., 2010-2011. **Tectonics** is a collection of 7 middle school curricular enhancement activities that utilize web GIS.

Plate [Tectonics] Game. Authentic inquiry of the principal datasets scientists use to reconstruct past plate motions. Experiential laboratory for college level class which includes plate tectonics. Includes text and video supports for students. Free and available for dissemination at http://gisweb.cc.lehigh.edu/tectonics/. See Bodzin A.M., **An**astasio, D.J., Sharif, R., Rutzmoser, S. 2016. A Web GIS Plate Tectonics Simulation to Promote Geospatial Thinking. *Journal of Geologic Education.* 64, 279-291. DOI: 10.5408/15-122.1 for associated education research

Non-Refereed Publications: (4)

Anastasio, D.J., Erslev, E.A., Fisher, D.M. 1997 Preface, Special Issue Fault-Related Folding. *Journal of Structural Geology* v. **19**. no. 3/4. p. v-vi.

Anastasio, D.J., Erslev, E.A., Fisher, D.M. 1996. Penrose Conference Report: Fault-Related Folding, *GSA Today*, v. **6**. p. 14-15.

M. Withjack, R.W. Schlische, P.E. Olsen, M.L. Malinconico, V. Levin, **D. Anatasio,** C. Sequeira. 2011. Early Post-Rift Deformation on the Rifted Margin of Eastern North America: Relationship to Breakup and the Early Stages of Seafloor Spreading. EarthScope-GeoPRISMS Science Workshop for Eastern North America, Lehigh University, October 27-29, 2011. White Paper Volume http://www.geoprisms.org/index.php/pastmeetings/enam-oct2011.html?id=174

Thomas, **D. Anastasio**, C. Bailey, G. Blackmer, J. Crespi, A. Gates, P. Karabinos, K. Klepeis, N. McQuarrie, P. Sak, M. Williams, D. Wise, 2011. Evolution of continental crust through two Wilson cycles in ENAM. EarthScope-GeoPRISMS Science Workshop for Eastern North America, Lehigh University, October 27-29, 2011. White Paper Volume http://www.geoprisms.org/index.php/pastmeetings/enam-oct2011.html?id=174 W.

Unpublished Thesis, Dissertation, and Company Reports: (5 total)

Anastasio, D.J. 1998, The Jaca Basin, Spanish Pyrenees. Anschutz Overseas Petroleum Corp.

Anastasio, D.J., Myers, P.B., Jr. 1991. Summary Report: Geological Investigations Through Pennsylvania Lehigh Tunnel No. 2. Newburg, Walker, Rogers, Slatington, PA 16pp plus 326 page appendix.

Anastasio, D.J. 1987 Thrusting, Halotectonics, and Sedimentation in the External Sierra, Southern Pyrenees, Spain, [Ph.D. Dissertation] Johns Hopkins University, Baltimore, MD. 181p.

Anastasio, D.J. 1983 Deformation Features Associated with the Initiation and Propagation of Thrust Faults. ARCO Oil and Gas Company Research Report, No. RR83-74, 110pp.

Anastasio, D.J. 1980 Fluorescence Studies of Membrane Phospholipid Phase Separations in Warm and Cool Climate Plants Utilizing the Membrane Probe trans–Parinaric Acid [Baccalaureate Thesis] Franklin and Marshall College, Lancaster, PA 36p.

RESEARCH FUNDING AND TRAINING GRANTS at Lehigh University: (cumulative funding as of January 2018, ($3,175,172)

Pending Research Grants:

Learning about the watershed with immersive virtual reality games. **National Science Foundation**. AISL project. Lead PI.A. Bodzin, Co-PIs **D. Anastasio**, T. Hammond. in prep

Active Research Grant (external):

First Europeans: Timing and Causes of Biped Migrations out of Africa through Morocco and Spain Faculty Innovations Grant, **Lehigh University,** lead PI **Anastasio, D**. Berti, C., Wesson, C. June 1, 2018-December 31, 2020 ($26,845)

Expired Research Grants (external):

Socio-Environmental Science Investigations (SESI) Using the Geospatial Curriculum Approach with Web GIS. **National Science Foundation** Lead PI Alec Bodzin, CoPIs **D. Anastasio**, T. Hammond, B. Holland. July 2016-June 2020, 1-year no-cost extension ($1,199,794).

High-Resolution Dating of Paleoarcheological Sites in the Guadix-Baza Basin, Southern Spain. Committee for Research and Exploration, **National Geographic Society Waitt Grant Program**. PI **D. Anastasio,** December 2016-July 2018, 1-year no cost extension ($15,000).

Promoting Spatial Thinking with Web-based Geospatial Technologies **National Science Foundation,** Lead PI: Alec Bodzin, COPIs **D. Anastasio** and D. Sahagian, July 2011-June 2014, with 1 year no cost extension, ($438,161).

Understanding Continental Collision in the Betic Cordillera, Spain. **National Science Foundation,** September 2012-August 2014 with 1 year no cost extension. PI **D. Anastasio**. ($28,539).

Quantification of Unsteady Fault Slip and Fold Growth, Apennine Front, Italy. **National Science Foundation**. September 2008-August 2013, **Lead PI: D. Anastasio**, Co-PI F.J. Pazzaglia, K.P. Kodama ($302,551).

4D Geometry and Kinematics of Geological Structures: High-resolution Deformation Rates from

Climate Cycles in Syntectonic Strata. **Departmento Ciencia, Tecnologiy y Universidad, Gobierno de Aragon, Spain** Lead PI: **D. Anastasio** July 2010-December 2010 ($14,505).

Web-enhanced Environmental Literacy and Inquiry Modules (WELIM) for Middle School Learners **Toyota USA Foundation** June 2008-June 2011 Lead PI: A. Bodzin, CoPIs: **D. Anastasio** and D. Sahagian ($317,778).

Predicting Reservoir Properties in Carbonates, Sierra Madre Oriental, Mexico **Petroleum Industry Consortium** (**Doughtie Exploration Co., Anchutz Corporation, Gulf Coast Geological Societies**) (total $4,250).

Collaborative Research: High-Resolution Deformation Rates, Spain **National Science Foundation** EAR-0409077. **Lead PI: D. Anastasio**, Co-PI K. Kodama, August 2004-July 2008, ($152,052), Collaborative proposal ($42,589) from J. Pares (University of Michigan) and Sub-award UNAVCO, Inc. ($4,000). Supplement, to EAR-0409077 Amendment 003 June 2005-July 2007 ($12,765).

Centennial Tectonic Belt in Southwestern Montana, Lima Dam 7.5' Quadrangle **DOI-United States Geological Survey-EDMAP**. June 2007-July 2008, **Lead PI: D. Anastasio** CoPI F.J. Pazzaglia ($13,769).

Collaborative Research: Milankovitch-Scale Time Resolution in Growth Strata to Determine Rates and Kinematics of Folding **National Science Foundation** Grant EAR-0230053 **Lead PI: D. Anastasio**, Co-PI K. Kodama, January 2003-December 2006, ($143,450), Collaborative proposal $20,000 from M. Elrick (UNM).

Centennial Seismic Belt in Southwestern Montana, Henry Gulch 7.5' Quadrangle.**DOI-United States Geological Survey, EDMAP, Lead PI: D. Anastasio**, CoPI: F. Pazzaglia, June 2006-May 2007 ($14,729).

Where is the Missing Carbon? Multidisciplinary Web-Based-Inquiry Modules for Earth System Science Instruction. **Universities Space Research Association/National Aeronotics and Space Administration**. Prime Agency NASA, grant NNG04GA82G, USRA/ESSE21 sub-agreement 05121-16. Earth System Science Education for the 21st Centruy Program, **Lead PI: D, Anastasio**, Co-PIs: L. Windham, A. Bodzin, October 2004-July 2007 ($69,735). Supplement: Remote Sensing Educational Module, Web-Based-Inquiry Modules for Earth System Science Instruction., **Universities Space Research Association/National Aeronotics and Space Administration**. Prime Agency NASA, grant NNG04GA82G, USRA/ESSE21 sub-agreement 05121-16. Earth System Science Education for the 21st Centruy Program, Supplement **Lead PI: D, Anastasio**, Co-PIs:, A. Bodzin, Joan Ramage, Zicheng Yu, October 2005-July 2007 ($23,060).

Active Tectonics Along the Eastern Margin of the Red Rock Graben, Red Rock 7.5' Quadrangle, Montana. Contract Number 05HQAG0015. **DOI-United States Geological Survey, EDMAP, Lead PI: D. Anastasio**, CoPI: F. Pazzaglia June 2005-May 2006 ($14,987).

Quaternary History of the Monument Ridge Fault System, Monument Hill 7.5' Quadrangle,

Montana **DOI-United States Geological Survey, Lead PI: D. Anastasio**, CoPI: F. Pazzaglia **EDMAP,** 02HQAG0081, June 2004-May 2005 ($13,000).

Fluvial Response to Tectonism, Caboose Canyon Quadrangle, MT, **Lead PI: D. Anastasio**, CoPI: F. Pazzaglia (**DOI-United States Geological Survey, EDMAP,** Contract Number 02HQAG0081, June 2002-May 2003 ($14,973).

Synorogenic Fluid-Rock Interaction in the Dixon Mountain Quadrangle, Montana**, DOI-United States Geological Survey, EDMAP,** Contract Number 01HQAG0188, June 2001-May 2002 ($14,927).

Volume Strain, Mass Transfer, and Fabric Development in Carbonates (G.E. Bebout Co-P.I.) **- National Science Foundation**, grant no. EAR-9316809, July 1994 - June 1997 ($130,000).

Fold Kinematics in Thrust Belts -**UNOCAL Science & Technology Division**, June - August 1993, ($2,000).

Growth of Faults: Implications for Fold Development in Mountain Ranges Lead PI D. Anastasio D. Fisher Penn State Univ. -**National Geographic Society**, grant no. 4738-92, June 1992 - May 1993. ($12,770).

Collaborative Research: Folding Processes in Thrust Belts: Lost River Range, Idaho-**National Science Foundation**, grant no. EAR-9017334, January 1991 - December 1993, ($70,705). D. Fisher Penn State Univ. collaborative proposal for ($70,000).

Geologic Investigations through Pennsylvania Turnpike Lehigh Tunnel No. 2 Lead PI D. Anastasio, Co-PI P.B. Myers **Newburg, Walker, Rogers, joint venture contractors**, May 1989-May 1991, ($132,290).

Halotectonics and Thrusting Processes in the Spanish Pyrenees - **National Science Foundation**, grant no. EAR- 8816335, April 1989 - March 1991, ($80,580).

Conference Grants:

Conference Support: Continental Deformation and Mountain Building, Ullapool, Northwest Scotland, EES, CAS, **Lehigh University** May 2007 ($1,800).

Conference Support: Reinvention Center: Incorporating Research into Undergraduate Education: The Value Added. Washington, DC, CAS**, Lehigh University** November 2004 ($500).

Conference Support: RETREAT Meeting, Portnova, Italy March 2005 **NSF-EAR 0207980** ($1,000).

Field Conference Support: Tectono-stratigraphic evolution of northeast Mexico, **Gulf Coast Affiliated Geologic Societies**, October 2000 ($1,625).

Conference Support: Ray Price Symposium and Field Trip: Canadian Cordillera. **GeoCanada** 2000 Millennium Geoscience Summit, Calgary, Canada., May 2000. ($700C). and Travel Grant,

President and Provost's Faculty Development Fund **Lehigh University** ($1,300).

Conference Support for Penrose Conference on Fault-Related Folding**, National Science Foundation**, grant no. EAR-9508578, April 1995-March 1997 ($6,000).

Conference Support for Penrose Conference on Fault-Related Folding August 1995. (D. Fisher Co-P.I.**) GSA Penrose Foundation** ($4,000), **ARCO Exploration & Production Tech** ($1,000**), Chevron Corporation** ($1,000), **Exxon Production Research** ($1,000), **Husky Oil Operations** ($1,000), **Mobil Exploration & Producing Technical Center** ($1,000), **Mobil Oil Canada** ($1,000), **Morrison Petroleum** ($1,000), **Texaco E&P Technology Department** ($1,000), (Total $12,000).

Innovative Course Design in Geosciences, Williamsburg, VA, Faculty Development Office, **Lehigh University** April 1997 ($400).

Institutional / Equipment Grants:
Lehigh University

Start-Up Funds:
Research $15,000
Laboratory and Office Renovations $35,000

Administrative Grants:

Chair discretionary fund $20,000/year, 2013- 2019

Research Grants:

Lehigh watershed – iVR. Lehigh University, Mountain Top. lead PI Bodzin, A., **Anastasio, D.,** Mack, J., Hammond, T Summer 2020. ($11,000)

First Europeans: Timing and Causes of Biped Migrations out of Africa through Morocco and Spain Faculty Innovations Grant, Lehigh University, lead PI **Anastasio, D.** Co-PIs. Berti, C., Wesson, C. June 1, 2018-May 31, 2019 ($26,845). Extended until November 30, 2019, then December 31, 2020.

Collaborations in Paleoanthropology and Landscape Evolution (Spain). Faculty Grant for International Connections: **Lehigh University,** Office of International Affairs, ($5,000). March, 2017 Lead PI Anastasio, CoPI Wesson.

Backstop Funding: High-Resolution Thrust Front Reconstruction Using Terrestrial Growth Strata, Pyrenees, Spain. Faculty Research Grant**, Lehigh University** PI **Anastasio.** April 2012-November 2012 ($3,000)

High Resolution Dating to Reconstruct Climate Change and Tectonics. Faculty Innovation Grant**, Lehigh University** Lead PI: **D. Anastasio** CoPI: K. Kodama June 2010-November 2011

($17,625).

Research Planning Visit, Sierra Madre Oriental, Mexico, Faculty Research Grant, **Lehigh University**, October 2000 ($1,300)

Rocky Mountain Deformation, Idaho, Faculty Research Grant, **Lehigh University**, July 1997-June 1998 ($1,200).

Deformation Structures and Dynamics of Mountain Building, Faculty Research Grant, **Lehigh University** December 1992 - June 1993 ($1,000).

Partial (6.7%) cost-share of a research-grade petrographic microscope and photomicrographic system - Environmental Studies Center, **Lehigh University**, April 1990, ($1,000).

Processes of Fault Propagation and Folding within Blind Thrust Anticlines of the Lost River Range, Idaho - Faculty Research Grant, **Lehigh University**, June - August 1989, ($1,000).

Tectonics and Sedimentation in the Central Rocky Mountains, Idaho and Montana during the Antler and Sevier Orogenic -Faculty Research Grant, **Lehigh University,** June - August 1988 ($1,000).

Instructional Grants:

Experiential Learning and faculty-underclassmen interaction in EES 21 and EES 31. **Hewlett Foundation-CAS Lehigh University**, January 1998-May 1999 **Lead PI Anastasio**, CoPIs Kodama, Morris, Hargreaves ($11,000).

Predoctoral Student Research Grants External:

Geological Structure of an Emergent Thrust Front, Southern Pyrenees, Spain
PIs: D. Anastasio, D. DePaor, **National Geographic Society**, June 1985 - May 1986, ($5,016).

Thrusting, Diapirism and Synorogenic Sedimentation during the Tertiary of the Southern Pyrenees, Spain
May - August 1985
-**Chevron Overseas Petroleum Company** ($4,000).
-**BP Petroleum Development Limited** ($3,316).
-**American Association of Petroleum Geologists** ($800).
-**Sigma Xi** ($600).

Travel Support to Attend Thrusting and Deformation Conference, Toulouse, Fran**ce, French Research Council [CNRS]**, May 1984 ($200).

Finite Strain Along the Western Slope of the Blue Ridge Anticlinorium, Maryland and Virginia, **Geological Society of America**, 1984 ($800).

Predicting Three-Dimensional Geometries of Kink Bands and Relating this to the Mechanics of

Kink Fold Formation and Fracture Density **Geological Society of America**, 1982 ($800).

Predoctoral Research Grants, Institutional:

Johns Hopkins University

Thrusting, Diapirism and Synorogenic Sedimentation during the Tertiary of the Southern Pyrenees, Spain,

May - August 1985 ($500)

- **D. Elliott Field Grant, Johns Hopkins University** ($500).

May August 1984 ($1,250)

- **Chevron Field Grant, Johns Hopkins University** ($680).
- **Waters' Field Grant, Johns Hopkins University** ($269).
- **D. Elliott Field Grant, Johns Hopkins University** ($160).
- **Corning Fieldwork Grant, Johns Hopkins University** ($141).

CONTRACT / CONSULTING WORK:

Pompey Coal Company, Jessup, PA, 1998-1999, coal reserve assessment

Anschutz Overseas Company, Denver, CO, 1997-1999, petroleum reservoir analysis, structural and stratigraphic studies, Jaca Basin, Pyrenees field seminar.

Dames and Moore, Inc., Latham, NY, 1994, geologic study associated with ground-/surface water contamination project.

Newburg, Walker, Rogers, Joint Venture Contractors, Slatington, PA, 1989 – 1991, geologic and geotechnical studies associated with PA turnpike tunnel construction.

Dames and Moore, Inc., Willow Grove, PA, 1988-1989, fracture/discontinuity analyses associated with various groundwater development and contaminant mitigation projects.

Urwiler and Walter, Inc., Sumneytown, PA, 1988, above-ground fuel tank permitting project.

R.E. Wright Associates, Inc., Earth Resources Consultants, Harrisburg, PA. 1981, strip-mine reclamation and groundwater development projects completed as an undergraduate intern.

EDITOR FOR SCHOLARLY PUBLICATIONS:

Guest Editor, ***Journal of Structural Geology*** Special Issue: Fault-Related Folding, 1997 v. **19**. nos. 3/4, 602pp.

SCHOLARLY PRESENTATIONS:

Invited Presentations:

2021

2020

-Department of Atmospheric, Oceanic, and Earth Sciences, George Mason University, September 28, 2020, Fairfax, VA.

2018

-Invited talk, Geological Society of America, November 5, 2018, Indianapolis, IN

2017

-Invited talk, *Feedbacks Among Climate, Erosion and Teconics, FACETII*, Corvallis, OR.

2015

-La Importancia de les Serres de Busa-Bastets, I Santuari de Lord en el Mon Cientific, A La Biblioteca Municipal de St Llorenç de Mornuys, Spain, May 23, 2015.

2014

-Invited talk, Topical Session GP21B American Geophysical Union, San Francisco, CA

2013

-Geosciences Colloquium, Department of Geosciences, Penn State University, State College PA, November 12, 2013

2012

-Department of Earth and Environmental Sciences, University of Rochester, Rochester NY, February 3, 2012.

-2012 Internal Awards Symposium: Facilitating new research and collaborations, Lehigh University

2011

-Great Teaching, Great Learning Symposium. Department of Earth and Environment. Franklin and Marshall College, Lancaster, PA, March 4, 2011

-Botstiber Scholars Lecture, Lehigh University, Bethlehem, PA February 24, 2011.

2010

- Departmento Ciencias de la Tierra, Universidad de Granada, Granada, Spain, December 13, 2010. http://www.ugr.es/~agcasco/tierra/

-Departmento Ciencias de la Tierra, Universidad de Zaragoza, Zaragoza, Spain, November 15, 2010

-Departmento de Fisica, Universidad de Burgos, Escuela Politécnica Superior, and centro nacional de investigation sobre la evolution humana, (CENIEH), Burgos, Spain, October 27, 2010

-ENI, Milan, Italy May 17, 2010

-MARGINS Successor Program Planning Meeting, February 10, 2010, San Antonio, TX

2009

-Department of Geological Sciences, University of Iowa, November 5, 2009, Iowa City, IO

2008

- Department of Geological Sciences, Rutgers University, October 15, 2008, New Brunswick, NJ

2007

-Departmento Ciencias de la Tierra, Universidad de Zaragoza, Zaragoza, Spain, October 16, 2007

-Department of Geological Sciences, University of Wisconsin, Milwaukee, November 29, 2007

-Continental Dynamics RETREAT Workshop, Lehigh University, October 1, 2007

-Global Citizenship Seminar, Lehigh University, March 26, 2007

2006

-Geologic Systems Inc, Boulder, CO, July 10, 2006.

-Department of Earth & Environmental Sciences, Lehigh University, March 3, 2006.

-Department of Geosciences, Penn State University, April 14, 2006.

2005

-Department of Earth & Planetary Sciences, University of New Mexico, January 11, 2005.

-NSF Continental Dynamics RETREAT Workshop, Portnova, Italy March 2005

-Earth System Science Education for the 21st Century, Fairbanks, AK, August 3-8, 2005.

2004

-R.W. Bromery Lecture, Department of Earth & Planetary Sciences, Johns Hopkins University, October 11, 2004

-Whence the Mountains, Whence the Mountains, New Developments in the Tectonic Evolution of Orogenic Belts: Celebrating the Dynamic Career of Raymond A. Price at the 50-year Mark**,** Geological Society of America, Annual Meeting, Denver, CO, November 5, 2004.

-Friend of the Lehigh University Libraries, Lehigh University, October 2004.

-Earth System Science Education for the 21st Century, Monterrey, CA, July 20-25, 2004.

2003

-Friends of the Lehigh University Libraries, Lehigh University, October 21, 2003.

-Department of Geosciences, Franklin and Marshall College, Lancaster, PA, March 14, 2003.

-Department of Geological Sciences, University of Binghamton, Binghamton, NY, May 9, 2003.

2001

-Rheological Effects of Fluid-Rock Interactions at Depth: From Experimental Constraints to Interpretations of Field Observations, Theme Session, Geological Society of America, Annual Meeting, Boston, MA, November 5,2001.

-Department of Geology and Environmental Geosciences, Lafayette College, Easton, PA, January 31, 2001.

2000

-Ray Price Symposium and Field Trip: Canadian Cordillera, GeoCanada2000, Millennium Geoscience Summit, May 30, 2000, Calgary, Canada.

-Department of Geology and Environmental Geosciences, Lafayette College, Easton PA, March 8, 2000.

1999

-Department of Geosciences, Pennsylvania State University, University Park, PA, November 19, 1999.

1998

-Department of Earth Sciences, Montana State University, Bozeman, MT, February 12, 1998.

-Department of Geological Sciences and Environmental Studies, State University of New York at Binghamton, Binghamton, NY, April 17, 1998.

1997

-Exploration Research and Technical Services Division, ARCO Exploration and Production Technology, Plano, TX, August 19, 1997

-Departments of Geology and Environmental Studies, Dickinson College, Carlisle, PA, November 21, 1997

-Anschutz Overseas Company, Denver, CO, August 19, 1997

-Geodynamics Lecture Series, Department of Geosciences, Pennsylvania State University, University Park, PA, October 9, 1997

1996
-Department of Earth & Environmental Sciences, Rensselaer Polytechnic Institute
-Department of Geological Sciences, SUNY at Albany, Albany, New York, November 8, 1996
-Department of Geology, Lafayette College, Easton, PA, April 10, 1996
-Materials Research Forum, Lehigh University, Bethlehem, PA, February 16, 1996
-Earth & Environmental Sciences, Lehigh University, Bethlehem, PA, November 14, 1996
1995
-Department of Geological Sciences, Cornell University, Ithaca, NY, April, 1995
-Penrose Conference, Fault-Related Folding, Banff, Alberta, Canada, August 1995
-Department of Geology, Bucknell University, Lewisburg, PA, October, 1995
1993
-Department of Earth & Environmental Sciences, Lehigh University, Bethlehem, PA, February 1993
-Department of Geological Sciences, Cornell University, Ithaca, NY, March 1993
1992
-Penrose Conference: Application of Strain Analysis, from Microstructures to Orogenic Belts, Liscombe Harbour, Nova Scotia, Canada
1991
-Department of Earth & Space Sciences, State University of New York at Stoney Brook, Stoney Brook, NY
-Penrose Conference: Tectonics and Foreland Basin Sedimentation, Oliana Spain
-Department of Geological Sciences, Franklin and Marshall College, Lancaster, PA
1990
-Department of Geology, Colgate University, Hamilton, NY
-Department of Geosciences, Pennsylvania State University, University Park, PA
1989
-Geological Society of Washington, Washington, D.C.
1988
-Department of Geological Sciences, University of Rochester, Rochester, NY
-Department of Geology and Geophysics, University of Connecticut, Storrs, CT
-Department of Geological Sciences, Brown University, Providence, RI
-Department of Geological Sciences, Rutgers University, Newark, NJ
1987
-Chevron Overseas Petroleum Inc., San Ramon, CA
-Penrose Conference: Construction of Geological Cross Sections in Deformed Terranes, Rosendale, NY
-Department of Geology, Bucknell University, Lewisburg, PA
1986
-Penrose Conference: Synsedimentary Tectonics, Durango, CO
-Department of Geological Sciences, Lehigh University, Bethlehem, PA
-Shell Development Company, Houston, TX
-Amoco Production Research Company, Tulsa, OK
-Department of Earth & Planetary Sciences, Washington University, St. Louis, MO
-Mobil Research and Development Company, Dallas, TX
1985
-Geological Society of Washington, Washington, D.C.

-BP Petroleum Development of Spain, Ltd., Madrid, Spain
-Chevron Oil Company of Spain, Madrid, Spain
-ENIEPSA, Madrid, Spain
-Department of Geology, Franklin and Marshall College, Lancaster, PA

1984

-ARCO Oil and Gas Company, Dallas, TX

Volunteered Presentations

Referred Published Abstracts associated with each.

2021

-fall AGU-talk

2020

-National GSA–talk and poster, Virtual Meeting
-Fall AGU–talk, Virtual Meeting

2019

-Piali Conference, Perugia, Italy, invited talk
-Fall AGU- talk and poster, San Francisco, Ca

2018

-National GSA -invited talk, Indianapolis, IN
-Fall AGU -poster, Washington, DC

2017

-Annual AAPG Conference-talk, poster Houston, TX
-FACETII conference, invited talk, Corvalis, OR Participant in second US Taiwan conference and workshop on Feedbacks Among Climate Erosion and Tectonics (FACET) Oregon State University, July 22-26, 2017.
-Fall AGU-talk, New Orleans, LA

2016

-National GSA–2 talks, Denver, CO

2015

-National GSA–talk, Baltimore, MD
-Fall AGU–poster, San Francisco, CA

2014

-National GSA–talk, Vancouver, B.C. Canada
-Fall AGU–invited paper, San Francisco, CA

2013

-Fall AGU two posters, San Francisco, CA

2012

- Fall AGU–poster and paper, San Francisco, CA

2011

-Fall AGU–2 posters, San Francisco, CA

2009

-Fall AGU-poster, San Francisco, CA
-National GSA-poster, Portland, OR

2008

-Fall AGU-talk, San Francisco, CA

2007

-Fall AGU-poster, San Francisco, CA
-Aurthur Holmes Meeting, Geological Society of London-talk, Ullapool, Scotland
-Annual AAPG Convention-poster, invited, San Antonio, TX

2006

-National GSA-talk Philadelphia, PA
-Fall AGU-poster, San Francisco, CA

2005

-National GSA-talk Salt Lake City, UT
-Fall AGU-poster, San Francisco, CA

2004

-National GSA-talk, Denver, CO

2002

-National GSA-talk, Denver, CO
-Rocky Mountain GSA-poster, Cedar City, Utah

2001

-National GSA-talk, Boston, MA

1998

-National GSA-talk, Toronto, ON, Canada

1997

-National GSA-talk, Salt Lake City, UT

1996

-National GSA-talk
-Spring AGU-poster, Baltimore, MD

1994

-National GSA-talk, Seattle, WA

1993

-National GSA-talk, Boston, MA

1992

-National GSA-talk, Cincinnati, OH
-NE GSA-poster, Harrisburg, PA
-Spring AGU-talk, Montreal, Canada

1991

-National GSA-talk, San Diego, CA

1989

-Fall AGU-talk, San Francisco, CA

1988

-National GSA-talk, Denver, CO
-Spring AGU -talk, Baltimore, MD
-AAPG, Mediterranean Basins Conference-talk, Nice France

1986

-National GSA-poster, San Antonio, TX

1985

-National GSA-talk, Orlando, FL

1984

-Tectonic Studies Group, Geological Society of London, December meeting-poster

ORGANIZED OR CHAIRED SESSIONS / CONFERENCES:

2009
-Convener with F. Pazzaglia (Lehigh U.), Theme session for Geological Society of America Conference, Portland, OR. Steady and unsteady deformation of folds and faults: insights to tectonic, surficial, and coupled processes.
2003
-Convener with M. Fischer (U. Northern Illinois), Theme session for Geological Society of America Conference, Seattle, WA. Structure and Stratigraphy: New Perspectives on Lithotectonic Processes.
1996
-Session Chairperson: Geological Society of America: Structural Geology I: Faulting.
1995
-Convener with D. Fischer (Penn State) and E. Erslev (Colorado State), 5 day, Geological Society of America Penrose Conference on Fault-Related Folding, Banff, Alberta, Canada.
1991
-Session Chairperson National Geological Society of America Conference: Folds, Faults, and Fabrics.
1988
-Session Chairperson: American Association of Petroleum Geologists Western Mediterranean Basins Conference: Thrust and Foreland Tectonics and Traps, Nice France.
-Session Chairperson: National Geological Society of America Conference: Thin Skin and Accretionary Structures and Pluton Emplacement, Denver, CO.

TEACHING AND RESEARCH ADVISING:

List of Courses Taught at Lehigh University, (<u>Current Offerings</u> (number of times offered)**)**
Undergraduate Courses Taught at Lehigh University
ARTS 1 Choices and Decisions, 1 credit hour [First Year Advising] (2)
<u>EES 4 Science of Environmental Issues 1 credit hour</u> (7)
First Year Seminars:
<u>EES 80 Introduction to the Earth System, 4 credit hours</u> (6)
EES 90 Time Warp, 3 credit hours (1)
EES 90 Dynamic Earth, 3 credit hours (1)
EES 90 Shaping the Earth, 3 credit hours (1)
EES 90 Historic Stones of Bethlehem, PA, 3 credit hours (1)
EES095 <u>The Geology of National Parks</u> 3 credit hours (1)
EES 21 Introduction to Planet Earth 3 credit hours (28)
EES 22 Exploring Earth, 1 credit hour, (4)
<u>EES 223 (123) Structural Geology and Tectonics,</u> 4 credit hours (32)
EES 284 Research Seminar, 1 credit hour (2)
EES 310 Introduction to Plate Tectonics, 3 credit hours (1)
EES 318 Genesis of Carbonate Rocks, 3 credit hours (2)
EES 324 Structural Analysis, 3 credit hours (1)
EES 326 Geological Evolution of North America, 4 credit hours (13)

EES 334 Geosphere, Structure and Evolution 3,4 credit hours (1)
EES 341 Field Methods in EES, (Field Geology), 6 credit hours (29)
EES380 Senior Seminar in Earth & Environmental Sciences (Natural and Artificial Borders) (1)

TE 211 Integrated Product Development 3 credit hours (2) Project: Immersive virtual Reality Development of the Lehigh River Watershed
CINQ 389-017 1-6 credit hours (Creative Inquiry). Project: Immersive virtual Reality Development of the Lehigh River Watershed (2)

Graduate Courses Taught at Lehigh University
EES 426 Tectonic Processes, 3 credit hours (1)
EES 427 Orogenic Belts (Thrust Belts), 3 credit hours (15)
EES 428 Stress and Strain in Rocks, 3 credit hours (7)
EES 493 Advanced Topics in Tectonics:
Deformation of Sedimentary Rocks, 3 credit hours (1)
Tectonics and Erosion, 3 credit hours (1)
Geofluids, 3 credit hours (2)
EES 497 Petrology Seminar: Metamorphism in High Strain Zones, 3 credit hours (1)
EES 498 Thrust Belts (1)

Additional Education Activities
- Creative Inquiry and Mountain Top summer experience mentor 2018, 2019, 2020
- Teacher Professional Development Sessions, Allentown School District, Building 21 teachers 3 days June, 5 days July, 3 days August 2018.
- Teacher Professional Development Sessions, Bethlehem Area School District, Middle School Science Teachers, April 4 and September 23, 2012
- NSF Undergraduate faculty enhancement workshop on Innovative Teaching and Course Design in the Geosciences, Williamsburg, VA, June, 1997.
- Reinvention Conference, Integrating Research into Undergraduate Education: The value added, Washington, D.C. November, 2004. I subsequently moderated a well-attended Lehigh Faculty Development luncheon on the topic.
- NASA/USRA Conferences on Earth System Science Education, Monterrey, CA 2004, and Fairbanks, AK 2005
- Faculty mentor, Integrated Math And Science Teaching (IMAST); a 3-year Commonwealth Partnership program to develop curricular integration of math and science in primary and secondary schools (1995-1997).
- Lehigh University liaison Discovery Center of Science and Technology, Bethlehem, PA (2000-2002)
- Howard Hughes Bethlehem, PA Area School District-Lehigh University Science Advisor (1995-1998)

RESEARCH ADVISING:(Alumni's initial employer)

Baccalaureate Thesis Supervised (23, 9 completed for Honor's graduation):
Sarah Truxal in progress
Martha Vilages Soto 2018

Monica Powers 2017, EI/STEPS Fellowship, Honor's graduation, Hewett Award 2020
Caroline Pritchard 2017
Oliver Rye 2016
Raghida Sharif 2015
Marisa Repasch 2013-Honors thesis
Erin Lau 2013
Shayna Boulton 2012
Katherine Spevok 2012
Nick Gava 2009-Honors thesis
Greg Mortka 2009
Lauren Anderson 2008-Honors thesis
Christine Regalla 2004-Honors thesis, Presidential Fellowship, Hewlett Prize, Lemmon Prize.
Nicholas Castle 2004-Honors thesis.
Andrew Drabick 2002-ILE project.
Nathan Harkins 2000-Honors thesis, Hewlett Prize.
Lynda Lastowka 1998-Honors thesis.
Linda Molyneux 1998-Honors thesis.
James Schattin 1998.
Brandon Brown 1996.
Scott Davidson 1995-Honors thesis, Hewlett Prize.
John Nolte 1994.
James N. Miades 1988.

Post-Baccalaureate Research Supervised (1 total)

Christine Regalla 2005 (Boston University)

Masters Thesis Supervised (15 completed) (employer if known):

James Fisher, 2020
Adrienne Scott, 1 semester
James Carrigan, 2015 (Snohomish County Public Works | Engineering Services, Survey)
Allison Teletzke, 2012 (Chevron)
Kellen Gunderson, 2009 (Chevron)
Joanna Troy, 2008 (ExxonMobil Exploration Co.)
Christina Majerowicz, 2008 (Hatch Mott MacDonald)
Luke Wilson, 2008 (ExxonMobil Exploration Co.).
James Cascione, 2007 (Hovensa, St Croix).
Michael Newton 2006 (Secor International Inc.), Presidential Fellowship, Hewlett Prize
Larissa Powers-1 semester, withdrew 2004.
Nathan Harkins 2003 (ExxonMobil).
Adrienne Johnson 2002 (Department of Environmental Quality, Nebraska).
Scot Davidson 1996 (Advanced Thin Films, Denver, CO).
Eric Schleicher 1997 (O'Brien and Gere engineers, Inc.).
Theresa A. Messina, 1993 (Amerada Hess Co.).
Christopher A. Hedlund 1992 (Shell Exploration & Production Technology Co.).
James E. Holl 1990 (ExxonMobil Co.).

Doctoral Dissertations Supervised (3 completed):
Edward Zajac 1 semester
James Carrigan in progress
Kellen Gunderson 2013 (Zanskar Geothermal & Minerals)
Diana K. Latta 2005 (ExxonMobil Co.)
James E. Holl 1994 (ExxonMobil Co.).

Postdoctoral Mentoring/Visiting Scholar Host: (2 total)
Dr. Josep Parés 2013 (CENIEH)
Dr. James E. Holl 1995-1996 (ExxonMobil Co.).

Research Committees (not principal advisor)
PhD. Research Committees (26 total)
University of Granada, Spain
Idaira Santos Betancor, external examiner
University of Zaragoza, Spain
Tanya Mochelas 2011
University of Connecticut
Jonathon Lewis, 1998
Lehigh University-College of Education
Violet Aloo Kulo 2011
Lehigh University-College of Arts and Sciences
Mathew Podeneski, in progress
Zhongxiong Cui, 2019
Daniel Minguez 2014
Johanna Blake 2013
Nathan Collins-8 semesters
David Cuomo-4 semesters
Ryan McKeon 2012
Lucy Brown -14 semesters
Karl Wegmann 2009
Dario Billardello 2009
Amanda Ault-8 semesters
Long Li 2007
Robert King 2007
Frank (Yongxiang) Li 2005
Bang Yeon Kim 2002
Tan Xiaodong 2001
Sean Gulick 2000
Mohamad Riaz, 4 semesters
Mike Schoemann, 4 semesters
Jeffery Strasser 1996
Maria Cioppa 1996
David Winslow 1995
John Stamatakos 1990

MS Research Committee (23 total)
Frank Tetto 2020
Benjamin Bliss 2020
Joshua Gonzales 2019
Mathew McGavick 2016
Katherine Jaeckel 2016
Zheng Gong 2015
Zach Spahn 2011
Andrea Daman 2009
Mathew Wendell 2005
Christopher Call 2004
Carolyn Brown 2003
Sarah Gately, withdrew 2003
Nick Scala 2002
Jordan Vaughn 2002
Kurt Frankel 2002
Sarah Newland 2001
Jane Grimes 1999
Erica Hammer Klose 1998
Amy Ondrus 1997
Tan Xiaodong 1997
Brian Altheim 1995
Elizabeth Sherwood 1994
Christina Dietrich 1994
Matthew Podniesinski, time expired 1993
Jeffery Strasser 1989

BS Honor's Committee (not principal advisor) (14 total)
Lehigh University
Sam Marshall, in progress
Sarah Stankus 2019
Cora Summerfield, 2017
Nicole Edsel 2016
Andrew Moodie 2013
Kyle Davidson 2012
Meagan Patrick 2012
Michel M. Newton 2004
Andrew Drabick 2001
Lysa Chizmadia 1997
Alicia Stanfill 1997
Lori Warner 1993
Katrina M. Wroblewski 1989
University of Edinburgh
Neil McMahon 1991
Scott Patterson 1991

George Washington University
Angela Bee 1990

SERVICE:

Service to Lehigh University

–Chair's Executive Committee AY2016-2018, chair AY2018-19
–Research Internal Review
–Committee Panel Chair, Critical Research Equipment Fund
–Building Monitor S.T.E.P.S. Building
–Appointed member Lehigh Internal Review Committee–advises the VP and Associate Provost for Research on major or internal grant programs
–Appointed Chairperson Lehigh University Commencement Speaker Committee 2010-2016
–Elected member Lehigh University Honorary Degree Committee, 2008-10, chairman
–Elected member, Lehigh University Graduate and Research Committee 1990-1993.
–Environmental Education Certification Content Evaluator, Pennsylvania Department of Education, College of Education 2002-2009.
–Earth and Space Science Certification Content Evaluator, Pennsylvania Department of Education, College of Education 2002-2009.
–Curriculum Committee Member, BS Environmental Engineering 2001-present.
–Curriculum Committee Member, BA Environmental Studies 2004-2008.
–Taylor College Fellow 1992-93.

Service to College of Arts and Sciences

-Dean's Advisory Committee (2013-2019)
–Chair of Department (2013-2019)
-Elected College of Arts and Sciences Representative to the College of Education 2005-06.
–Natural Science Representative, Development Initiatives Panel for CAS 1998.
–Elected Chair, College Policy Committee 1996-1997, lead revision of CAS committee structure.
–Elected Member College Policy Committee1994-1995.

Service to Department

-PhD Qualifying Exam Committee (2020-2021)
-Career Events Coordinator (Career Expo, Networking Workshop, Resume Clinic)
–Chair of Department (2013- 2019)
-S.T.E.P.S. Building Committee (2013- 2019)
-EES Alumni Committee (2013- 2019)
–Temporary Chair Earth and Environmental Sciences 2007, 2008, 2012
Department Committees
–Co-Director Lehigh EES Field camp (2010-2012)
–Graduate Director 1993, 2006-2009
–Member Graduate Instruction Committee, 1987-1988, 1990-91, 1994, 2006-2009, 2020-2021.
–Chair, Undergraduate Instruction Committee, 1989-1990, 1991, 2000-2005.
–Member Undergraduate Instruction Committee 1998-1999, 2022.
–Member Field Committee 2004-2009.
–EES Computer Committee 1996-1997.
–Associate Graduate Coordinator 1991

–Seminar Series Coordinator 1990-1991.
Department Fieldtrip
–Leader Departmental Field Trip to the Canadian Rockies, 8 days 2014
–Leader Department Field Trip to the Pyrenees, Spain and France, 12 days 2013
–Co-leader Department Fieldtrip to Iceland 7 days 2002
–Co-Leader Department Fieldtrip to Death Valley 6 days 1999
–Co-Leader Department Fieldtrip to the Florida Keys and Everglades 12 days 1990
–Co-leader Department Fieldtrip to Newfoundland 12 days 1989
–Leader Department Fieldtrip Southern Appalachians 12 days 1987

Service to Interdisciplinary Programs
–Co-chair (w/Jerry Lennon) Earth and Environmental Science-Civil and Environmental Engineering Curriculum Development Committee 2001-2002.
–Affiliated faculty Environmental Initiative 2004-present
–Education Outreach Committee Environmental Initiative 2004-2010
–Member BA Environmental Studies Curricular committee

Professional Service
Panels:
–Review Department of Earth and Environmental Sciences, University of Toledo, Toledo, OH
–NSF Tectonics Research Grants Panel 2010
–NASA Earth System Science Education Research Grants Panel 2005.
–NSF Panel: Investigating Stress on Academic Research 1993.
–Lehigh Valley Watershed Conference, Organizing Committee, 2015
-Outstanding Poster Judge, 1st CRUST A ward Outstanding Poster Young Scientist (29 participants, 59 posters), Workshop: Tools, data and models for 3D seismotectonics: the Italian over time laboratory, 2019

Proposal referee:
–National Science Foundation, Division of Earth Sciences
•Tectonics Program, • Hydrologic Sciences Program, •Stratigraphy and Paleontology Program, •International Programs, •Experimental and Theoretical Geophysics Program, •Active Tectonics Program, •Instrumentation Program • Antarctic Geology and Geophysics Program •Collaborations in Mathematical Geosciences Program.
–National Aeronautics and Space Administration
•Global Climate Change Education
–U.S. Civilian Research and Development Foundation.
–American Chemical Society, Petroleum Research Fund.
–National Geographic Society.

Publication Referee:
–Journals
Frontiers, Geomagnetism and Paleomagnetism, American Geophysical Union, Editorial Board, Review Editor. Open-access academic journal.

• Geosphere • Journal of Structural Geology • American Journal of Science, • Tectonics •

Geological Society of America Bulletin, • Geology • Journal of Geological Society, London • Special Publications Geological Society, London • Pennsylvania Geology • National Geographic Research and Exploration • Journal of Geophysical Research, • Annales Tectonicae • Tectonophysics •The Open Geology Journal • Journal of Geology • Bulletin American Association of Petroleum Geologists •Geology Ecology Landscapes

–Books

•CRC Press, •Johns Hopkins University Press, •Wm. C. Brown Publishers, • John Wiley and Sons, Inc., •Prentice Hall •Cambridge University Press •Geological Society of America Special Papers •Blackwell Publishing • Pearson Higher Education • Oxford University Press, Inc. • Norton Publishing

PROFESSIONAL SOCIETY MEMBERSHIP:

–Geological Society of America, Member Northeastern section, Structural Geology and Tectonics Division, International Division 1986-present.
–American Geophysical Union, Tectonophysics Division 1986- present.
–25-year Member American Geophysical Union 2011
–Appalachian Tectonic Studies Group 1984-, now disbanded.
–International Association of Structural/Tectonic Geologists 1992 – 2004, association disbanded in 2004.
–Sigma Xi Scientific Society 1999-present, Lehigh University Chapter.
–European Union of Geoscientists 2001-2002.
–Canadian Society of Exploration Geophysicists 2000-2001

ACTIVE RESEARCH COLLABORATORS:

Ken Kodama, paleomagnetist, Lehigh University
Frank Pazzaglia, geomorphologist, Lehigh University
Claudio Berti, geologist, Lehigh University
Josep Parés, structural geologist, paleomagnetist, CENIEH, Spain
Alec Bodzin, science education, Lehigh University
Tom Hammond, social studies education, Lehigh University
Cameron Wesson, anthropologist, Lehigh University