

## CURRICULUM VITA

### **Lisa A. Borgerding (Donnelly)**

School of Teaching, Learning and Curriculum Studies  
Kent State University  
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### **EDUCATIONAL BACKGROUND**

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- Ph.D.      2007      Indiana University, Bloomington, IN  
Major: Science Education  
Minor: Biology  
Dissertation: *Indiana Secondary Students' Evolution Learning Experiences and Demarcations of Science from Non-Science*  
Dissertation Chairperson: Dr. Valarie L. Akerson
- M.A.T.    2000      Indiana University, Bloomington, IN  
Major: Biology
- B.S.      1998      Indiana University, Bloomington, IN  
Major: Biology

#### *Certification*

State of Indiana: Senior High-Junior/Middle School Teaching License  
Endorsements: Biology, Primary Area; Chemistry, Supporting Area

### **PROFESSIONAL EXPERIENCE**

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- 2020-present    **Full Professor, Science Education**  
**Kent State University, Kent, Ohio**  
Teach undergraduate and graduate level science education coursework, advise undergraduate and graduate students, develop and maintain active research agenda, secure and administer grant funds, and provide service to the local, university, and science education communities. Provide leadership for science education programs and Adolescent Education programs.
- 2013-2020      **Associate Professor, Science Education**  
**Kent State University, Kent, Ohio**  
Teach undergraduate and graduate level science education coursework, advise undergraduate and graduate students, develop and maintain active research agenda, secure and administer grant funds, and provide service to the local, university, and science education communities. Provide leadership for science education programs and Adolescent Education programs.

- 2007-2013     **Assistant Professor, Science Education**  
**Kent State University, Kent, Ohio**  
 Teach undergraduate and graduate level science education coursework, advise undergraduate and graduate students, develop and maintain active research agenda, and provide service to community, university, and science education community.
- 2008-2012     **External Evaluator**  
**National Science Foundation, University of Florida**  
 Serve as external evaluator for “Opportunities to Use immersive Technologies to Explore Biotechnology Resources, career Education And Knowledge (OUTBREAK)” Program.
- 2003-2007     **Science Education Graduate Research Assistant**  
**Indiana University Bloomington**  
 Conduct research about nature of science, socio-scientific issues, preservice and inservice science teacher education with Dr. Valarie L. Akerson, Dr. William Boone, and Dr. Troy Sadler. Duties include preparing data collection instruments, developing human subjects applications and consent forms, making classroom observations, collecting qualitative and quantitative data, analyzing quantitative and qualitative data, summarizing findings, conducting literature reviews, and co-authoring manuscripts.
- 2003-2006     **Associate Instructor**  
**Indiana University Department of Curriculum and Instruction**  
 Taught undergraduate and graduate secondary and elementary science methods and technology integration courses.
- 2003-2006     **Saturday Science Instructor**  
**Indiana University Science QUEST for Kids Program**  
 Co-taught and taught 6-week enrichment courses to elementary students. Designed and implemented 2.5-hour science learning lessons. Supervised pre-service elementary teachers assisting with instruction.
- 2000-2003     **High School Teacher**  
**Brown County High School, Nashville, IN**  
 Developed and implemented biology curricula for Biology I and Advanced Placement Biology. Designed activities and assessment plans. Managed classroom activities and field trips. Created instructional course web site that accompanied the daily lessons in class. Served as Co-Chair of the NCA School Improvement Committee and as a committee member of the School Assessment Committee. Coached Spell Bowl Team from Fall 2000-Fall 2003. Sponsored Brown County Key Club from Fall 2001-Spring 2003.
- 1998-1999     **Associate Instructor**  
**Indiana University Biology Department**

Taught upper-level genetics lab techniques and content to undergraduate biology majors.

## PUBLICATIONS

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\* indicates peer-reviewed

### *Journals*

#### *In Review*

\*Borgerding, L.A., & Kaya, F. (accepted with major revisions). Is knowledge of evolution useful? A Mixed methods examination of college biology students' views. *International Journal of Science Education*.

\*Borgerding, L.A., & Mulvey, B.K. (in review). Elementary teachers' trust in science and scientists throughout a COVID-19 SSI unit. *International Journal of Science Education*.

\*Green, K., & Borgerding, L.A. (in review). Scientists, Religious Experts, and other Sources of Knowledge: Non-Science Majors' Beliefs about Controversial and Noncontroversial Questions. *Electronic Journal of Science and Mathematics Research*.

#### *Published*

\*Librea-Carden, M.R., Mulvey, B.E., Borgerding, L.A., Wiley, A., & Ferdous, T. (in press). 'Science is Accessible for Everyone': Preservice Special Education (SPED) Teachers' nature of science (NOS) perceptions and instructional practices. *International Journal of Science Education*.

\*Kaya, F., Borgerding, L.A., & Ferdous, T. (2021). Secondary science teachers' self-efficacy beliefs and implementation of inquiry. *Journal of Science Teacher Education*, 32(1), 107-121.

\*Borgerding, L.A., & Kaya, F. (2019). Preschool children's ideas about biological adaptation during a science camp. *International Journal of Science Education*, 41(17), 2410-2429. (impact factor: 1.33; acceptance rate: 32%; my contribution: 60%)

\*Borgerding, L.A., & Deniz, H. (2019). Nature of science views and epistemological views of college biology students. *Canadian Journal of Science, Mathematics, and Technology Education*, 19, 290-303. (acceptance rate: unknown; my contribution: 60%)

\*Borgerding, L.A., & Kaya, F. (2019). Spinning a yarn about adaptations in different biomes: Stories and science for preschool learners. *Science Activities*, 55 (1-2): 75-87. (acceptance rate: 60%, my contribution: 80%)

\*Borgerding, L.A., Kaya, F., Librea-Carden, M., Pantuso, D., & Maybin, J. (2018). Sports experiences as funds of knowledge for science: College students' ideas about science in American football. *Electronic Journal of Science Education*. (acceptance rate: 20-22%; my contribution: 50%)

- \*Caniglia, J., Borgerding, L.A., Chaghervand, S.M. (2018). Give me a break! (A Winter break bag that is!): A Strategy to encourage home communication of STEM content for English language learners. *TESL Reporter*, 51(1), 122-128. (acceptance rate: 30%; my contribution: 25%)
- \*Testa, E., Borgerding, L., & Hawley, T. (2018). Coteaching partnerships during student teaching: Cooperating teachers' professional realizations and growth. *Ohio Journal of Teacher Education*, Spring 2018. (acceptance rate: unknown; my contribution: 33%)
- \*Borgerding, L.A., & Dagistan, M. (2018). Preservice science teachers' concerns and approaches for teaching socioscientific and controversial issues. *Journal of Science Teacher Education*, 29(4), 283-306. (acceptance rate: 25%; my contribution: 75%)
- \*Borgerding, L.A., & Raven, S. (2018). Children's ideas about fossils and foundational concepts related to fossils. *Science Education*, 102(2), 414-439. (acceptance rate: 11%; impact factor: 3.04; my contribution: 60%)
- \*Caniglia, J., Borgerding, L.A., & Meadows, M. (2017). Strengthening academic language skills in mathematics for English Language Learners through barrier games on Desmos® technology. *International Journal of Emerging Technologies in Learning* 12(5), 189-194. (acceptance rate: 21%; my contribution: 25%)
- \*Caniglia, J., Borgerding, L.A., & Courtney, S. (2017). AHA moments of science and mathematics pre-service teachers. *The Clearing House: A Journal of Educational Strategies, Issues and Ideas*, 90(2), 53-59. (acceptance rate: 30%; my contribution: 30%)
- \*Borgerding, L.A., & Caniglia, J. (2017). Service learning within a secondary math and science teacher education program: Preservice MAT teachers' perspectives. *School Science and Mathematics*, 117(1-2), 63-75. (acceptance rate: 20%; my contribution: 70%)
- \*Borgerding, L.A., Deniz, H., & Shevock Anderson, E. (2017). Evolution acceptance and epistemological views of college biology students. *Journal of Research in Science Teaching*, 54(4), 493-519. (acceptance rate: 10-15%; impact factor: 3.21; my contribution: 50%)
- \*Borgerding, L.A. (2017). High school biology evolution learning experiences in a rural context: A case of and for cultural border crossing. *Cultural Studies in Science Education*, 12(1), 53-79. (impact factor: .521 (SNIP, 2015))
- \*Borgerding, L.A. (2015). Dig into fossils! *Science and Children*, 52(9), 30-37. (acceptance rate: 50%)

- \*Borgerding, L.A., Klein, V.A., Ghosh, R., & Eibel, A. (2015). Student teachers' approaches to teaching biological evolution. *Journal of Science Teacher Education*, 26, 371-392. (acceptance rate: 25%; my contribution 50%)
- \*Borgerding, L.A. (2015). Recruitment of early STEM majors into possible secondary science teaching careers: The role of science education summer internships. *International Journal of Environmental and Science Education*, 10(2). 247-270. (acceptance rate: 41%)
- \*Borgerding, L.A., Sadler, T.D., & Koroly, M. (2013). Teachers' concerns about biotechnology education. *Journal of Science Education and Technology*, 22, 133-147.
- \*Borgerding, L.A. (2012). State standards for evolution: Views of Ohio high school biology teachers. *Science Educator*, 21, 19-28.
- \*Akerson, V.A., Donnelly, L.A., Riggs, M., & Eastwood, J. (2012). Developing a community of practice to support preservice elementary teachers' nature of science instruction. *International Journal of Science Education*, 9, 1371-1392.
- \*Akerson, V.A., Buck, G.A., Donnelly, L.A., Nargund, V., & Weiland, I.S. (2011). The importance of teaching and learning nature of science in the early childhood years. *Journal of Science Education and Technology*, 20, 537-549.
- \*Donnelly, L.A., & Argyle, S. (2011). Teachers' willingness to adopt nature of science activities following a physical science professional development. *Journal of Science Teacher Education*, 22, 475-490.
- \*Deniz, H. & Donnelly, L.A. (2011). Preservice secondary science teachers' acceptance of evolutionary theory and factors related to acceptance. *National Center for Science Education*, 31, 12-19.
- \*Akerson, V.L., Buzzelli, C., & Donnelly, L.A. (2010). On the nature of teaching nature of science: Preservice early childhood teachers' instruction in preschool and elementary settings. *Journal of Research in Science Teaching*, 47, 213-233.
- \*Akerson, V.L., & Donnelly, L.A. (2010). Teaching nature of science to K-2 students: What understandings can they attain? *International Journal of Science Education*, 32, 97-124.
- \*Donnelly, L.A., & Sadler, T.D. (2009). Indiana high school science teachers' views of standards and accountability. *Science Education*, 93, 1050-1075.
- \*Donnelly, L.A., Kazempour, M., & Amirshokoohi, A. (2009). High school students' perceptions of evolution instruction: Acceptance and evolution learning experiences. *Research in Science Education*, 39, 643-660.

- \*Akerson, V.L., Townsend, J.S., Donnelly, L.A., Hanson, D.L., Tira, P., & White, O. (2009). Scientific modeling for inquiring teachers network (SMIT’N): The influence on elementary teachers’ views of nature of science, inquiry, and modeling. *Journal of Science Teacher Education*, 20(1), p. 21-40.
- \*Akerson, V.L., & Donnelly, L.A. (2008). Relationships among learner characteristics and preservice elementary teachers’ views of nature of science. *Journal of Elementary Science Education*, 20, 45-58.
- \*Akerson, V.L., Buzzelli, C., & Donnelly, L.A. (2008). Early childhood teachers’ views of nature of science: The influence of intellectual levels, cultural values, and explicit reflective teaching. *Journal of Research in Science Teaching*, 45, 748-770.
- \*Deniz, H., Donnelly, L.A., & Yilmaz, I. (2008). Exploring the factors related to the acceptance of biological evolution among Turkish preservice biology teachers. *Journal of Research in Science Teaching*, 45, 420-443.
- \*Donnelly, L.A., & Boone, W.J. (2007). Biology teachers' attitudes toward and use of Indiana's evolution standards. *Journal of Research in Science Teaching*, 44, 236-257.
- \*Sadler, T.D., & Donnelly, L.A. (2006). Socioscientific argumentation: the effects of content knowledge and morality. *International Journal of Science Education*, 28, 1463-1488.

#### *Books*

- Deniz, H., & Borgerding, L.A. (2018). *Evolution Education around the Globe*. Cham, Switzerland: Springer.

#### *Invited Manuscripts*

- \*Donnelly, L.A., & Mikusa, M. (2010). Introduction to the special edition for science and mathematics education. *Research Center for Educational Technology Journal*, 6(2), 1-3.

#### *Book Chapters*

- Deniz, H., Borgerding, L.A., & Adibelli-Sahin, E. (in press). [Arguing to learn and learn to argue with nature of science](#). In McComas, W. (Ed.) *The Nature of science in science education: Rationales and strategies*, 2<sup>nd</sup> ed. Cham, Switzerland: Springer.
- Hawley, T.S., Borgerding, L.A., & Pytash, K.E. (in press). [Enacting social justice colloquia as a key component of transformative teacher education program](#). In Lopez, A.E., & Olan, E.R. (Ed.) *The Challenges of transformative change in teacher education*. Charlotte, NC: Information Age Publishing.
- Borgerding, L.A. (in press). [Science and religion in higher education](#). In J. Shane, et al. (Eds.) *Beyond evolution: Interactions between science and religion in science education*. Arlington, VA: National Science Teachers Association.

- Gilbert, A., & Borgerding, L. (2019). [STEM engagement in pre-school: Possibilities and potential with our youngest learners](#). In T. Barkatsas, et al. (Eds.) *STEM Education: An emerging field of inquiry*. Rotterdam, The Netherlands: Sense Publishers.
- Deniz, H., & Borgerding, L. (2018). [Evolutionary theory as a controversial topic in science curriculum around the globe](#). In H. Deniz & L. Borgerding (Eds.) *Evolution education around the globe*. Cham, Switzerland: Springer.
- Borgerding, L., & Deniz, H. (2018). [Evolution education around the globe: Conclusions and future directions](#). In H. Deniz & L. Borgerding (Eds.) *Evolution education around the globe*. Cham, Switzerland: Springer.
- Borgerding, L.A. (2018). [A Text set guided tour of biological evolution](#). In Dowdy, J. K., & Fleischaker, R. (Eds). *Text sets: Multimodal learning for multicultural students*. Boston, MA: Brill USA.
- Boone, W.J., & Donnelly, L.A. (2006). High-stakes science testing. In Tobin, K. (Ed.) *Teaching and Learning Science: A Handbook*. Westport, CT: Praeger Publishing.

## EXTERNAL FUNDING

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### *In Review*

- 2021-2025 Navy, S.L., Luft, J., Borgerding, L.A., & Idsardi, R. “Resources Accessed to Cultivate and Enhance Resilience (RACER).” National Science Foundation (NSF) Robert Noyce Teacher Scholarship Program (Track 4: Noyce Research Track). \$1,099,999.88.

### *Funded*

- 2017-2018 Caniglia, J., Borgerding, L.A., & Rozner, D. “[Engaging English Language Learners in STEM Classrooms](#)” Ohio Department of Higher Education, Improving Teacher Quality Grant. \$130,246.73.
- 2016-2017 Caniglia, J., Borgerding, L.A., & Judge, J. “[Engaging English Language Learners in STEM Classrooms](#)” Ohio Department of Higher Education, Improving Teacher Quality Grant. \$127,235.12.
- 2011-2018 Donnelly, L.A., Caniglia, J., Gleeson, J., Stalvey, J., & Tonge, A. “Kent State University Noyce Scholars Program.” National Science Foundation (NSF) Robert Noyce Scholarship Program. \$1,082,889. [No cost extension granted for 2017; 2018]
- 2012-2013 Donnelly, L.A., & Christensen, S. “OPERATION PHYSICS for Middle School Teachers.” Ohio Board of Regents Improving Teacher Quality Grant. \$111,264.
- 2012-2013 Donnelly, L.A., Mikusa, M., & Hutchison, J. “Kent State University Math and

Science MAT: Choose Ohio First Program of Innovation.” Ohio Board of Regents.

- 2011-2012 Donnelly, L.A., & Christensen, S. “OPERATION PHYSICS for Middle School Teachers.” Ohio Board of Regents Improving Teacher Quality Grant. \$121,779.
- 2010-2012 Donnelly, L.A. “Middle School Science and Evolution Learning.” Kent State University EHHS Internal Seed Grant Competition. \$5,000.
- 2010-2011 Donnelly, L.A., & Christensen, S. “OPERATION PHYSICS for Middle School Teachers.” Ohio Board of Regents Improving Teacher Quality Grant. \$110,565.
- 2009-2010 Donnelly, L.A. “High School Biology Teachers’ Evolution and Nature of Science Teaching Practices.” Kent State University, University Research Council Research and Creative Activity Half-Time Academic Year Appointment.
- 2009-2010 Donnelly, L.A., & Christensen, S. “OPERATION PHYSICS for Middle School Teachers.” Ohio Board of Regents Improving Teacher Quality Grant. \$120,003.
- 2008-2009 Donnelly, L.A., & Christensen, S. “OPERATION PHYSICS for Middle School Teachers.” Ohio Board of Regents Improving Teacher Quality Grant. \$135,900.
- 2008-2009 Smith, S. & Donnelly, L.A. “Instructional Games: A Novel Approach to Preparing Ohio Youth for science in the Third Frontier.” Ohio Board of Regents Research Grant. \$50,000.
- 2006 Donnelly, L.A. "Secondary Students' Demarcations of Science and Evolution Learning Experiences." Recruitment Admissions and Financial Aid Committee (RAFA). \$1,000.
- 2005-2008 Akerson, V.L., Bonner, J., Schick, J., and Q612 Graduate Students. "Scientific Modeling for Inquiring Teachers Network (SMIT'N)." Indiana State Department of Education Math and Science Partnership Program. \$290,399.
- 2004 Donnelly, L.A. "Student Perceptions of Evolution Instruction: Understanding, Acceptance, and Attitudes." E. Wayne Gross Grant, Indiana University. \$3,000.
- 2004 Donnelly, L.A. "Survey of Teacher Use of Standards and Evolution Teaching Practices." E. Wayne Gross Grant, Indiana University. \$3,000.

*Not Funded*



- 2019-2022 Ferdig, R.E., Borgerding, L.A., Lorch, P., & Lu, C. "Guardians of the Forest: Citizen science and education for the rapid detection and prevention of tree disease." National Science Foundation. \$1,523,534.
- 2018-2019 Caniglia, J.C., Borgerding, L.A., & Soprunova, E. "Engaging Families of English Language Learners (ELL) in STEM Education." National Science Foundation (NSF) Discovery Research PreK-12 (DRK-12) Program. \$99,473.85.
- 2018-2021 Liu, R., Mistur, M.S., & Borgerding, L.A. "Promoting High School STEM Education Through Holistic Architecture Design using Advanced Digital Design and Fabrication Technologies." National Science Foundation (NSF) Innovative Technology Experiences for Students and Teachers (ITEST) program. \$1,126,449.23.
- 2017-2019 Johnson, S., Borgerding, L.A., Courtney, S. "STEM Teacher Characteristics, Knowledge, and Skills." National Science Foundation (NSF) Discovery Research PreK-12 (DRK-12) Program.
- 2016-2017 Raven, S., & Borgerding, L.A. "Science Teaching Laboratory Supplies." Kent State University Foundation. \$14,050.
- 2016-2017 Hawley, T.H., Borgerding, L.A., & Levicky, M. "Bold Ideas for the Future: Exploring New Visions for Teacher Education." Spencer Foundation Conference Grant. \$50,000.
- 2014-2017 Gleeson, J., & Borgerding, L.A. "PhysTECH Recruiting Grant." Physics Teacher Education Coalition. \$30,000.
- 2014-2017 Borgerding, L.A., Lacueva, G., & Kulbago, L. "Impact of Content-Rich Problems in Physics Education of Pre-Health Undergraduates." National Science Foundation. Research on Education and Learning (REAL) Grant. \$446,833.
- 2014-2015 Morris, B., Was, C., Dunlosky, J.T., Rawson, K.A., Borgerding, L.A., Kratcoski, A., Almasan, C., & Marcinkiewicz, J. "Improving Teacher and Student Science Learning Using the Fab Four: Four Proven (but Underused) Learning Strategies." Ohio Board of Regents Improving Teacher Quality Grant. \$131,760.50.
- 2011-2013 Donnelly, L.A., & Hawley, T. "Education for Democracy: The Treatment of Religiously-Imbued Socioscientific Issues in Science and Social Studies Classrooms." Farris Family Fellowship. \$24,000.
- 2011-2013 Donnelly, L.A., & Hawley, T. "Education for Democracy: The Treatment of Religiously-Imbued Socioscientific Issues in Science and Social Studies Classrooms." Spencer Foundation. \$39,999.81.

- 2010-2015 Donnelly, L.A., Caniglia, J., Tonge, A., Tubergen, M., Witter, D. "Kent State University Noyce Scholars Program." National Science Foundation (NSF) Robert Noyce Scholarship Program (11040000 DUE). \$1,184,424.
- 2009-2011 Miller, S., Stull, J., & Donnelly, L.A. "Efficacy of Virtual Worlds for Learning" National Institute of Health (NIH) Challenge Grant (12) Science, Technology, Engineering and Math Education (STEM) (12-OD101). \$863,542.
- 2009-2010 Donnelly, L.A. "Improving Evolution Instruction: A Quasi-Experiment to Determine the Effectiveness of Nature of Science Approaches." Farris Family Fellowship. \$24,000.
- 2009-2010 Donnelly, L.A. "Nature of Science Approaches to Improve High School Evolution Instruction." Farris Family Fellowship. \$24,000.
- 2009-2010 Donnelly, L.A., & Gilbert, A. "Science Teaching Laboratory Update." Kent State University Foundation Annual Grant Program. \$19,020.

## **PRESENTATIONS AND WORKSHOPS**

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\* indicates peer-reviewed

*Italicized* indicates a Kent State University student co-presenter

### *International and National Professional Meetings*

- \*Mulvey, B., & Borgerding, L.A. (2021, August, accepted). Compassion, judgment, and decisions: Preservice teachers' perspective-taking and decisions in COVID-19 contexts. Paper proposed for the annual meeting of the European Science Education Research Association (ESERA), Virtual Conference.
- \*Mulvey, B., Borgerding, L.A. (2021, August, accepted). Teachers' socioscientific reasoning about COVID-19 SSIs in a science-social studies methods course. Poster proposed for the annual meeting of the European Science Education Research Association (ESERA), Virtual Conference.
- \*Borgerding, L.A., Mulvey, B., & Tinkler, G. (2021, August, accepted). Relationships between epistemological beliefs and trust in science among American biology majors. Paper proposed for the annual meeting of the European Science Education Research Association (ESERA), Virtual Conference.
- \*Borgerding, L.A., & Kaya, F. (2021, August, accepted). Preschool children's understandings of feeding relationships. Symposium Paper proposed for the annual meeting of the European Science Education Research Association (ESERA), Virtual Conference.
- \*Borgerding, L.A., & Mulvey, B. (2021, April). Influence of a COVID-19 SSI unit on elementary teachers' trust in science and scientists. Paper presented at the annual

meeting of the National Association for Research in Science Teaching (NARST), Virtual Conference.

- \*Borgerding, L.A., Papa, J., & Currey, B. (2021, April). Relationships between college Students' epistemological beliefs about climate science and attitudes toward climate change. Poster presented at the annual meeting of the National Association for Research in Science Teaching (NARST), Virtual Conference.
- \*Green, K., & Borgerding, L. (2021, January). Thinking about Thinking: College students' epistemological beliefs about sources of knowledge. Paper presented at the annual meeting of the Association for Science Teacher Education (ASTE), Virtual Conference.
- \*Borgerding, L.A., & Kaya, F. (2020, March). Preschool children's understandings of food webs throughout a summer camp experience. Paper accepted at the annual meeting of the National Association for Research in Science Teaching (NARST), Portland, OR. [CANCELED DUE TO COVID]
- \*Kaya, F., Borgerding, L.A., & Navy, S. (2020, March). Preservice teachers' self-efficacy beliefs about scientific practices: Validation of the Science and Engineering Self-efficacy Instrument. Paper accepted at the annual meeting of the National Association for Research in Science Teaching (NARST), Portland, OR. [CANCELED DUE TO COVID]
- \*Borgerding, L.A. (2020, January). Teaching about science-religion distinctions in the college science classroom. Paper presented at the annual meeting of the Association for Science Teacher Education (ASTE), San Antonio, TX.
- \*Kaya, F., Borgerding, L.A., & Ferdous, T. (2020, January). Secondary science teachers' self-efficacy beliefs and implementation of inquiry. Paper presented at the annual meeting of the Association for Science Teacher Education (ASTE), San Antonio, TX.
- \*Carden-Librea, M.R., Mulvey, B., & Borgerding, L.A. (2020, January). Nature of science in a special education context: Conceptions and instructional practices of preservice special education teachers. Paper presented at the annual meeting of the Association for Science Teacher Education (ASTE), San Antonio, TX.
- \*Borgerding, L.A., & Kaya, F. (2019, August). Preschool children's ideas about biological adaptation during a summer science camp. Paper presented at the annual meeting of the European Science Education Research Association (ESERA), Bologna, Italy.
- \*Green, K., & Borgerding, L.A. (2019, August). Students' epistemological thinking about sources of knowledge for controversial issues. Poster presented at the annual meeting of the European Science Education Research Association (ESERA), Bologna, Italy.
- \*Klein, V., & Borgerding, L.A. (2019, April). Biophilia connections: An Examination of connections between evolution acceptance and attitudes toward nature. Paper presented at

the annual meeting of the American Educational Research Association (AERA), Toronto, Canada.

- \*Borgerding, L.A., & *Kaya, F.* (2019, March). Is knowledge of evolution useful? A mixed methods examination of college biology students' views. Paper presented at the annual meeting of the National Association for Research in Science Teaching (NARST), Baltimore, MD.
- \*Shane, J., Meadows, L., Hermann, R., Binns, I., Borgerding, L.A., Pobiner, B., & Long, D. (2019, January). Addressing interactions between science and religion in science teacher education. Round table paper presented at the annual meeting of the Association for Science Teacher Education (ASTE), Savannah, G.A.
- \*Gilbert, A., & Borgerding, L.A. (2019, January). Enacting an integrated STEAM approach in a Reggio-Emilia preschool. Round table paper presented at the annual meeting of the Association for Science Teacher Education (ASTE), Savannah, GA.
- \*Borgerding, L.A. (2018, March). Role of service learning teaching events for fostering preservice science and math teacher development. Paper presented at the annual meeting of the National Association for Research in Science Teaching (NARST), Atlanta, GA.
- \*Borgerding, L.A., *Kaya, F., Librea, M.R., Buehler, D., & Maybin, J.* (2018, March). Sports experiences as funds of knowledge for science: College students' ideas about science in sports. Paper presented at the annual meeting of the National Association for Research in Science Teaching (NARST), Atlanta, GA.
- \*Deniz, H., Borgerding, L.A., BouJaoude, S., Friedrichsen, P.J., Fouad, K.E., Glaze, A.L., Kampourakis, K., Rachmatullah, A., & Sanders, M. (2018, March). Evolutionary theory as a controversial topic in science curriculum around the globe. Symposium presented at the annual meeting of the National Association for Research in Science Teaching (NARST), Atlanta, GA.
- \*Borgerding, L.A., & *Kaya, F.* (2018, January). Children's ideas about adaptation. Paper presented at the annual meeting of the Association for Science Teacher Education (ASTE), Baltimore, M.D.
- \*Borgerding, L.A., & Raven, S. (2017, August). Children's ideas about fossils and foundational concepts related to fossils. Paper presented at the annual meeting of the European Science Education Research Association (ESERA), Dublin, Ireland.
- \*Raven, S., & Borgerding, L.A. (2017, August). Preschool students' conceptions of human anatomy and physiology: Making the abstract concrete. Paper presented at the annual meeting of the European Science Education Research Association (ESERA), Dublin, Ireland.

- \*Borgerding, L.A., & Caniglia, J. (2017, July). Summer teaching internships for undergraduate STEM majors for teacher recruitment. Poster presented at the annual NSF Noyce Summit, Washington, D.C.
- \*Borgerding, L.A., & Deniz, H. (2017, April). NOS views and epistemological views of college biology students. Paper presented at the annual meeting of the National Association for Research in Science Teaching (NARST), San Antonio, TX.
- \*Borgerding, L.A., & *Dagistan, M.*, (2017, January). Preservice science teachers' concerns and approaches for teaching socio-scientific issues. Paper presented at the annual meeting of the Association for Science Teacher Education (ASTE), Des Moines, IA.
- Borgerding, L.A., & Caniglia, J. (2016, July). Service learning within a secondary math and science teacher education program: Preservice MAT teachers' perspectives. Poster presented at the annual NSF Noyce Summit, Washington, D.C.
- \*Borgerding, L.A., *Klein, V.*, & *Kulbago, L.* (2016, April). College students' ideas about antibiotics as an application of evolution. Paper presented at the annual meeting of the National Association for Research in Science Teaching (NARST), Baltimore, MD.
- \*Borgerding, L.A., & Raven, S. (2016, April). Children's ideas about fossils. Poster presented at the annual meeting of the National Association for Research in Science Teaching (NARST), Baltimore, MD.
- \*Testa, E., Borgerding, L.A., & Hawley, T. (2016, April). Co-teaching partnerships during student teaching: Cooperating teachers' professional realizations and growth. Paper presented at the annual meeting of the American Educational Research Association (AERA), Washington, D.C.
- \*Hawley, T., Pytash, K., Borgerding, L., Crowe, A., Gershon, W., *Levicky, M.*, & Tollafield, K. (2016, February). Enacting social justice colloquia as a key component of transformative teacher education programs. Paper presented at the annual meeting of the American Association for Colleges of Teacher Education (AACTE), Las Vegas, NV.
- \*Borgerding, L.A., *Ghosh, R.*, & *Klein, V.* (2016, January). College biology students: Age and contexts of first evolution learning experiences. Paper presented at the annual meeting of the Association for Science Teacher Education (ASTE), Reno, NV.
- \*Raven, S., & Borgerding, L.A. (2016, January). Multicultural competency and awareness in preservice science teacher education: A Tale of two cohorts. Paper presented at the annual meeting of the Association for Science Teacher Education (ASTE), Reno, NV.
- \*Raven, S., & Borgerding, L.A. (2015, November). Multicultural competency, awareness, and acceptance: Preparing preservice secondary science teachers for diversity in schools. Paper presented at the annual meeting of the American Educational Studies Association (AES), San Antonio, TX.

- \*Raven, S., & Borgerding, L.A. (2015, April). Preservice secondary science teachers' multicultural perspectives about students and subject matter. Paper presented at the annual meeting of the National Association for Research in Science Teaching (NARST), Chicago, IL.
- \**Ghosh, R.*, & Borgerding, L.A. (2015, April). Preservice special education teachers' views on scientific inquiry. Paper presented at the annual meeting of the National Association for Research in Science Teaching (NARST), Chicago, IL.
- \*Borgerding, L.A., & Caniglia, J. (2015, April). Science teaching service learning within a teacher education program: Preservice MAT teachers' perspectives. Paper presented at the annual meeting of the American Educational Research Association (AERA), Chicago, IL.
- \*Borgerding, L.A. (2015, January). Perspectives from college biology majors: Is knowledge of evolution useful? Paper presented at the annual meeting of the Association for Science Teacher Education (ASTE), Portland, OR.
- \**Ghosh, R.*, & Borgerding, L.A. (2015, January). How preservice special education teachers define and characterize scientific inquiry. Paper presented at the annual meeting of the Association for Science Teacher Education (ASTE), Portland, OR.
- \*Crowe, A.R., *Levicky, M.*, & Borgerding, L.A. (2014, November). Teaching for democratic life in a Science, Technology, and Society methods course. Paper presented at the annual meeting of College and University Faculty Assembly (CUFA) of National Council for the Social Studies (NCSS), Boston, MA.
- \*Borgerding, L.A., *Kulbago, L.*, & *Klein, V.* (2014, May). A Mixed methods view of evolution acceptance: Understandings gained from emic and etic perspectives. Paper presented at the annual meeting of the International Congress of Qualitative Inquiry, Champaign, IL.
- \*Borgerding, L.A., & Caniglia, J. (2014, April). Recruitment of early STEM majors into possible secondary science teaching careers: The role of science education summer internships. Paper presented at the annual meeting of the National Association for Research in Science Teaching (NARST), Philadelphia, PA.
- \*Borgerding, L.A. (2013, April). Middle school science teachers' evolution teaching: A description of practices, concerns, and possibilities. Paper presented at the annual meeting of the American Education Research Association, San Francisco, CA.
- \*Crowe, A., Hostetler, A., Borgerding, L.A., & Ghosh, R. (2013, April). Teaching for democratic education through a methods course focused on Science, Technology, and Society. Paper presented at the annual meeting of the American Education Research Association, San Francisco, CA

- \*Borgerding, L.A., Crowe, A., Hostetler, A., & Ghosh, R. (2013, April). Preservice science and social studies teachers' perspectives on science and society: An integrated methods course. Paper presented at the annual meeting of the National Association for Research in Science Teaching (NARST), Rio Grande, Puerto Rico.
  
- \*Borgerding, L.A., & Caniglia, J. (2013, April). Embedding science education service learning into a preservice MAT science teacher program: Candidates' reflections. Poster presented at the annual meeting of the National Association for Research in Science Teaching (NARST), Rio Grande, Puerto Rico.
  
- \*Borgerding, L.A., Crowe, A., Hostetler, A., & Ghosh, R. (2013, January). Preservice science and social studies teachers' approaches to teaching science in a social context throughout a specialized STS methods course. Paper presented at the annual meeting of the Association of Science Teacher Education (ASTE), Charleston, SC.
  
- \*Crowe, A., Borgerding, L.A., Hostetler, A., & Ghosh, R. (2012, November). Science-Technology-Society: Teaching for democratic citizenship with socioscientific issues. Paper presented at the annual meeting of the National Council of Social Studies, Seattle, Washington.
  
- \*Borgerding, L.A., Shevock, E., & Deniz, H. (2012, April). Evolution acceptance and epistemological views of college biology students. Paper presented at the annual meeting of the American Education Research Association, Vancouver, Canada.
  
- \*Donnelly, L.A. (2012, April). A comparative case study of two high school biology teachers' evolution and nature of science teaching practices. Paper presented at the annual meeting of the National Association for Research in Science Teaching (NARST), Indianapolis, IN.
  
- \*Borgerding, L.A., Crowe, A.R., Hostetler, A., Ghosh, R., Smith, D., & Fein, E. (2012, April). Situating science in a social context. Hands-on session presented at the National Science Teacher Association (Research Dissemination Conference), Indianapolis, IN.
  
- \*Donnelly, L.A., & Easter, E. (2012, April). Newton on the cheap. Hands-on session presented at the annual meeting of National Science Teachers Association, Indianapolis, IN.
  
- \*Klein, V., & Borgerding, L.A. (2012, April). Hands-on ecology. Hands-on session presented at the annual meeting of National Science Teachers Association, Indianapolis, IN.
  
- \*Akerson, V., Buck, G.A., Donnelly, L.A., Nargund-Joshi, V., & Weiland, I. (2012, April). The importance of teaching and learning nature of science in the early childhood years. Paper presented at the annual meeting of National Science Teachers Association, Indianapolis, IN.
  
- \*Borgerding, L.A., & Sadler, T.S. (2012, January). Teachers' concerns about biotechnology

education. Paper presented at the annual meeting of the Association for Science Teacher Education, Clearwater, FL.

- \*Borgerding, L.A., Klein, V., Ghosh, R., & Eibel, A. (2012, January). Student teachers' approaches to teaching biological evolution. Poster presented at the annual meeting of the Association for Science Teacher Education, Clearwater, FL.
- \*Donnelly, L.A., & Shevock, E. (2011, April). Evolution acceptance and epistemological views of college biology students. Paper presented at the annual meeting of the National Association for Research in Science Teaching, Orlando, FL.
- \*Donnelly, L.A., & Klein, V. (2011, April). Ohio biology teacher licensure requirements: Implications for evolution instruction. Poster presented at the annual meeting of the National Association for Research in Science Teaching, Orlando, FL.
- \*Donnelly, L.A., & Argyle, S. (2011, January). The influence of a physical science professional development on students' NOS views. Poster presented at the annual meeting of the Association for Science Teacher Education, Minneapolis, MN.
- \*Donnelly, L.A. (2011, January). High school biology teachers' evolution and nature of science teaching practices. Paper presented at the annual meeting of the Association for Science Teacher Education, Minneapolis, MN.
- \*Donnelly, L.A., & Choi, A. (2010, March). Teachers' approaches to teaching biological evolution and the nature of science. Paper presented at the annual meeting of the National Association for Research in Science Teaching, Philadelphia, PA.
- \*Donnelly, L.A., & Shevock, E. (2010, March). Evolution acceptance and epistemological views of college biology students. Poster presented at the annual meeting of the National Association for Research in Science Teaching, Philadelphia, PA.
- \*Donnelly, L.A., & Argyle, S. (2010, January). Teachers' willingness to adopt NOS instructional strategies and activities following a physical science professional development. Poster presented at the annual meeting of the Association for Science Teacher Education, Sacramento, CA.
- \*Donnelly, L.A. (2010, January). Student teachers' approaches to teaching biological evolution. Paper presented at the annual meeting of the Association for Science Teacher Education, Sacramento, CA.
- \*Akerson, V.L., Donnelly, L.A., Riggs, M.L., & Eastwood, J.L. (2009, April). Supporting preservice elementary teachers' nature of science instruction. Paper presented at the annual meeting of the National Association for Research in Science Teaching, Garden City, CA.



- \*Donnelly, L.A. (2009, January). State standards for evolution: Views of Ohio high school biology teachers. Paper presented at the annual meeting of the Association for Science Teacher Education, Hartford, CT.
- \*Donnelly, L.A., & Akerson, V.L. (2008, April). High school biology students' evolution learning experiences. Paper presented at the annual meeting of National Association for Research in Science Teaching, Baltimore, MD.
- \*Akerson, V.L., Buzzelli, C., & Donnelly, L.A. (2007, November). On the nature of teaching the nature of science: Preservice early childhood teachers' instruction in preschool and elementary settings. Poster presented at the annual meeting of National Association for Research in Science Teaching, Baltimore, MD.
- \*Akerson, V.L., & Donnelly, L.A. (2008, April). Teaching nature of science to K-2 students: What can they gain from instruction and what influences changes in their views? Paper presented at the annual meeting of National Association for Research in Science Teaching, Baltimore, MD.
- \*Donnelly, L.A., & Sadler, T.S. (2008, January). Indiana high school science teachers' views of standards and accountability: "Is it better to feed the hogs or to weigh 'em?" Paper presented at the annual meeting of Association for Science Teacher Education. St. Louis, MO.
- \*Oliveira, A. Donnelly, L.A., Akerson, V., Colak, H., & Pongsanon, K. (2008, January). Teacher-student interaction: Drawing connections among classroom discourse, scientific inquiry, modeling and explicit NOS instruction. Workshop presented at the annual meeting of Association for Science Teacher Education. St. Louis, MO.
- \*Deniz, H., Donnelly, L.A., & Phillipson-Mower, T.L. (2008, January). Relationships of preservice secondary science teachers' acceptance of evolutionary theory, personal epistemology, actively open-minded thinking, and understanding of evolutionary theory. Paper presented at the annual meeting of Association for Science Teacher Education. St. Louis, MO.
- \*Akerson, V.L., & Donnelly, L.A. (2008, January). Relationships among learner characteristics and preservice elementary teachers' views of nature of science. Paper presented at the annual meeting of Association for Science Teacher Education. St. Louis, MO.
- \*Akerson, V.L., Buzzelli, C., & Donnelly, L.A. (2007, November). On the nature of teaching the nature of science: Preservice early childhood teachers' instruction in preschool and elementary settings. Paper presented at the annual meeting of School Science and Mathematics Association, Indianapolis, IN.
- \*Donnelly, L.A., & Akerson, V.L. (2007, April). Intersections of evolution, NOS, and the demarcation of science from non-science: the views from a high school biology

classroom. Poster presented at the annual meeting of National Association for Research in Science Teaching, New Orleans, LA.

- \*Donnelly, L.A., Kazempour, M., & Amirshokoochi, A. (2007, April). Student perceptions of evolution instruction: interrelationships of understanding, acceptance, and learning experiences. Paper presented at the annual meeting of National Association for Research in Science Teaching, New Orleans, LA.
- \*Akerson, V.A., Buzzelli, C., & Donnelly, L.A. (2007, April). The relationship of cultural values, intellectual levels and preservice teachers' views of nature of science. Paper presented at the annual meeting of National Association for Research in Science Teaching, New Orleans, LA.
- \*Donnelly, L.A., & Caylor, E. (2007, January). Completion of a college-level evolution course: teacher preparation and practices, biology licensure requirements, and evolution course content. Paper presented at the annual meeting of Association of Science Teacher Education, Clearwater Beach, FL.
- \*Deniz, H., Donnelly, L.A., & Yilmaz, I. (2006, April). Acceptance of biological evolution among Turkish preservice biology teachers. Poster presented at the annual meeting of National Association for Research in Science Teaching, San Francisco, CA.
- \*Townsend, J.S., Akerson, V.L., White, O., Tira, P., Donnelly, L.A., & Hanson, D.L. (2006, April). Scientific Modeling for Inquiring Teachers Network (SMIT'N): The influence on elementary teachers' views of science content, nature of scientific inquiry, and modeling. Paper presented at the annual meeting of National Association for Research in Science Teaching, San Francisco, CA.
- \*Hanson, D.L., Akerson, V.L., Donnelly, L.A., Tira, P., Townsend, J.S., White, O. (2006, January). SMIT'N - A collaborative approach to grant writing and professional development. Paper presented at the annual meeting of Association of Science Teacher Education, Portland, OR.
- \*Donnelly, L.A. (2006, January). Completion of an evolution course: teacher practices and biology licensure requirements. Paper presented at the annual meeting of Association of Science Teacher Education, Portland, OR.
- \*Phillipson-Mower, T., Hanson, D.L., Simonelli, G., Deniz, H., Donnelly, L.A., White, O., Townsend, J.S. (2005, November). Get your hands-on science with Saturday Science QUEST for kids program. Paper presented at the annual regional meeting of National Science Teachers Association Convention, Chicago, IL.
- \*Donnelly, L.A., & Boone, W.J. (2005, April). Indiana biology teachers: standards use, evolution acceptance, and evolution teaching practices. Paper presented at the annual meeting of National Association for Research in Science Teaching, Dallas, TX.

- \*Sadler, T.D., & Donnelly, L.A. (2005, April). Socioscientific argumentation: the effects of content knowledge and morality. Paper presented at the annual meeting of National Association for Research in Science Teaching, Dallas, TX.
- \*Boone, W.J., Harber, J., & Donnelly, L.A. (2005, April). The National Aquarium, at-risk students, and science teaching. Poster presented at the annual meeting of National Association for Research in Science Teaching, Dallas, TX.
- \*Donnelly, L.A., & Hanson, D.L. (2005, April). The wonderful world of color. Paper presented at the annual meeting of National Science Teachers Association, Dallas, TX.
- \*Phillipson-Mower, T., Akerson, V. L., Donnelly, L., Deniz, H., & Hanson, D. L. (2005, April). Introducing nature of science into the science methods classroom. Paper presented at the annual meeting of National Science Teachers Association, Dallas, TX.
- \*Donnelly, L.A. (2004, January). Evolution teaching: the use of state standards. Paper presented at the annual meeting of the Association for the Education of Teachers of Science, Nashville, TN.

#### *Regional Professional Meetings*

- \*Borgerding, L.A., Perry, J., Schildhouse, T., Smith, T., Springer, P., Thistlewaite, T., Young, T. (2016, December). Tech tools for taking your secondary science class to the next level. ASTE Sponsored-session at the NSTA Regional Conference, Columbus, OH.
- \*Borgerding (Donnelly), L.A., Ghosh, R., Klein, V., & Kulbago, L. (2011, October). College biology students' early evolution learning experiences: A preliminary analysis. Paper presented at the regional meeting of the North East Association of Science Teacher Education, Cornwall, NY.
- \*Donnelly, L.A. (2008, December). Nature of science in hands-on physical science activities. Presentation at the National Science Teacher Association Regional Conference, Cincinnati, OH.
- \*Easter, G., Donnelly, L.A. (2008, December). Newton on the cheap. Presentation at the National Science Teacher Association Regional Conference, Cincinnati, OH.

#### *State/Local Professional Meetings*

- \*Borgerding, L.A., Hukkanen, D., & Barnett, O. (2019, January). Teaching socioscientific issues in middle and high school. Hands-on session presented at the Science Education Council of Ohio Conference, Lewis Center, OH.
- Rorapough, K., Viera, S., & Borgerding, L.A. (2018, February). What is PBL? Hands-on session presented at Cleveland Metropolitan School's 2018 Multilingual Conference, Cleveland, OH.

- \*Borgerding, L.A., *Mino, J., Budzik, M., Kruse, K., & Moran, M.* (2017, November). Sticky conversations: Teaching about controversial issues in middle and high school science. Hands-on session presented at the Cleveland Regional Council of Science Teachers 2017 Fall Conference. University Heights, OH.
- \*Borgerding, L.A., *O'Donnell, C., Miller, T., & Goodie, P.* (2016, November). Hands-on evolution: Activities, simulations, and resources. Hands-on session presented at the Cleveland Regional Council of Science Teachers 2016 Fall Conference. Willoughby, OH.
- \*Borgerding, L.A., Perry, J., Schildhouse, T., Smith, D., Smith, T., Springer, P., Thistlewaite, T., & Young, T. (2016, January). Tech tools for taking your science class to the next level. Hands-on session presented at the Science Education Council of Ohio Conference, Columbus, OH.
- \*Hawley, T., & Borgerding, L.A. (2015, October). Social justice colloquia as a key component of transformative teacher education. Workshop session presented at Ohio Confederation of Teacher Education Organizations (OCTEO) Conference, Dublin, OH.
- \*Borgerding, L.A., *Springer, P., Lundstrom, A., Larson, B., Farrell, D., & Smith, T.* (2015, January). Teaching about the cell: Using scientific practices. Hands-on session presented at the Science Education Council of Ohio Conference, Columbus, OH.
- \*Borgerding, L.A., Young, T., Perry, J., Schildhouse, T., & Smith, D. (2015, January). 20 ways to creatively check in on students' science understandings. Hands-on session presented at the Science Education Council of Ohio Conference, Columbus, OH.
- \*Borgerding, L.A., *Thi, B., Foster, D., Perry, J., Tilocco, E., & Young, T.* (2014, January). Grab your students' attention with biology discrepant events. Hands-on session presented at the Science Education Council of Ohio Conference, Columbus, OH.
- \**Beutel, B., & Borgerding, L.A.* (2014, January). Converting your cookbook labs to inquiry: Tips and examples. Hands-on session presented at the Science Education Council of Ohio Conference, Columbus, OH.
- \*Borgerding, L.A., Schildhouse, T., Zehnder, A., & Eickmeier, B. (2013, February). Hands-on nature of science. Hands-on session presented at the Science Education Council of Ohio State Conference, Dayton, OH.
- \*Klein, V. A., Johnson, J., Ghosh, R., Kulbago, L., Alamri, A. Z., Borgerding, L. (2013, February). Bringing environmental education strategies into the classroom. Hands-on session presented at the Science Education Council of Ohio State Conference, Dayton, OH.

- \*Easter, G., Borgerding, L.A., & Brubaker, D. (2013, February). Teaching measurement on the cheap. Hands-on session presented at the Science Education Council of Ohio State Conference, Dayton, OH.
- \*Sherman-Heckler, W., Donnelly, L.A., Easter, G., Reber, D., Richards, K., & Sell, B. (2011, February). Operation Physics. Hands-on session presented at the Science Education Council of Ohio State Conference, Akron, OH.
- \*Iannucci, M., & Donnelly, L.A. (2010, February). Teaching evolution: Strategies and activities. Hands-on session presented at the Science Education Council of Ohio State Conference, Columbus, OH.
- \*Easter, G., Donnelly, L.A., Christensen, S., & Reber, D. (2010, February). Newton on the cheap. Hands-on session presented at the Science Education Council of Ohio State Conference, Columbus, OH.
- Donnelly, L.A., & McCollum, D. (2009, March). Teaching secondary science: Hands-on inquiry into our natural world. Hands-on session presented at the Ohio Future Educators of America Conference, Kent, OH.
- \*Donnelly, L.A., Walker, A., Scharver, F., Klein, V., & Weber, O. (2008, February) Life science learning cycles: Genetics and DNA in a new way. Hands-on session presented at the Science Education Council of Ohio State Conference, Akron, OH.
- \*Phillipson-Mower, T., Sadler, T., Akerson, V. L., Hanuscin, D., Deniz, H., & Donnelly, L. A. (2004, February). Introducing the nature of science into the science methods classroom. Paper presented at the annual meeting of Hoosier Association of Science Teachers, Inc., Indianapolis, IN.

#### *Professional Development Workshops*

- Kent State University Center for Math and Science Education Institute. (June, 2018). Presented a two-day-workshop graduate course entitled, “Increasing Inquiry in Middle and High School Science” for secondary science teachers.
- Kenmore High School, Akron, OH. (November, 2013). Co-presented “Content-Specific Bullying” with Dr. Sara Raven about classroom examples where bullying arises within science, social studies, and language arts content areas and strategies for creating an equitable classroom environment.
- OPERATION PHYSICS for Middle School Teachers, Akron, OH. (August, 2008). Directed and presented physical science and nature of science lessons to in-service elementary, middle, and high school teachers.
- Porter Center for Science and Mathematics, Painesville, OH. (August 2008). Presented workshop entitled, “Ecology” for elementary science teachers.
- SMIT’N, Bloomington, IN. (June, 2007). Presented six life science learning cycle lessons

("Fungi," "DNA," "Heredity," "Enzymes," and "Discourse analysis: Hedging") to in-service elementary teachers.

SMIT'N, Bloomington, IN. (June, 2006). Served as Scientific Modeling for the Inquiring Teacher Network (SMIT'N) K-6 Professional Development Program Summer 2006 Coordinator. Developed 30 hours of inquiry lessons on "Local invasive plants."

SMIT'N, Bloomington, IN (June, 2005). Presented six life science learning cycle lessons ("Cells," "Endangered and extinct," Environment and adaptation," "Flower pollination," "Studying the past," and "Too many") to in-service elementary teachers.

Summer Korean Teacher Training Project, Bloomington, IN (June, 2005). Facilitated programs for Korean in-service elementary teachers.

#### *Invited Presentations*

Borgerding, L.A. (2019, April). Evolution education: Problems and promising directions. Keynote at the EHHS Research Gallery, Kent OH.

Borgerding, L.A. (2019, February). Secondary education. Cuyahoga Falls High School, National Honor Society, Cuyahoga Falls, OH.

Borgerding, L.A. (2018, July). STEM engineering activities. STEM Camp activities presented as a partnership of Kent State University Center for Math and Science Education and KSU Recreational Center's Summer PEAK Camp. Kent, OH.

Borgerding, L.A. (2018, June). Science education in the United States. Kent State University's Building Leadership for Change through School Immersion for Saudi Arabian Educators. Kent, OH.

Zeidler, D.L., Herman, B., Ruzek, M., Linder, A. Lin, S.S., Akerson, V. L., Buzzelli, C., & Borgerding, L. A., Waight, N., Abd-El-Khalick, F., Osborne, J., Simon, S., Christodoulou, A., Howell-Richardson, C., & Richardson, K. (2017, August). Epistemological inquiry from the *Journal of Research in Science Teaching*. Invited Symposium presented at the annual meeting of the European Science Education Research Association (ESERA), Dublin, Ireland.

Borgerding, L.A. (2017, March). Science education. Cuyahoga Falls High School, National Honor Society, Cuyahoga Falls, OH.

Borgerding, L.A. (2012, February). College biology students' first evolution learning experiences: A Preliminary analysis. Indiana University Science Education Research Symposium, Indiana University, Bloomington, IN

Donnelly, L.A. (2011, July). Nature of science and the road to DNA. Seminar presented in Early Childhood course, Kent State University, Kent, OH

Donnelly, L.A. (2010, July). Nature of science and the road to DNA. Seminar presented in

Early Childhood course, Kent State University, Kent, OH

Donnelly, L.A. (2010, April). Teaching evolution and academic freedom. Presentation at the Kent State University School of Teaching Learning and Curriculum Studies School Meeting.

Donnelly, L.A. (2010, April). Grant writing as a new faculty member. Presentation for Kent State University Doctoral Student Forum, Kent, OH.

Donnelly, L.A. (2010, January). Hands-on inquiry science. Session presented at Kent State Koleji, Istanbul, Turkey.

Donnelly, L.A. (2010, January). Science pedagogy, nature of science, and science safety. Session presented at Kent State Koleji, Istanbul, Turkey.

Donnelly, L.A. (2009, October). Funding and research. Presentation for HIED 66660 Faculty Roles and Responsibilities Class.

Donnelly, L.A. (2009, July) The Road to DNA. Seminar presented in Early Childhood course, Kent State University, Kent, OH

Donnelly, L.A., & Nelson, C. (2006, February) Evolution and Intelligent Design: Fundamentals and pedagogical strategies. Presentation for the Indiana University Progressive Faculty Forum, Bloomington, IN.

Donnelly, L.A. (2006, January). Exploring the nature of science. Seminar presented in G311 Introduction to Research Methods in Geography in the Department of Geography at Indiana University- Purdue University, Indianapolis (IUPUI), Indianapolis, IN.

Donnelly, L.A. (2005, March). Indiana biology teachers: standards use, evolution acceptance, and evolution teaching practices. Paper presented at annual Indiana University Science Education Symposium, Bloomington, IN.

Donnelly, L.A. (2005, June). Evolution and Creationism in the curriculum. Seminar presented in Curriculum and Instruction course, Indiana University, Bloomington, IN.

Donnelly, L.A. (2005, September-October). Teaching about evolution. Sequence of five seminars presented in M446 Secondary Science Methods, Indiana University Bloomington, IN.

Donnelly, L.A. (2004, September). Teaching about evolution. Seminar presented in M446 Secondary Science Methods, Indiana University Bloomington, IN.

## **TEACHING, ADVISING, AND SUPERVISION**

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*Dissertations/Doctoral Committees*

#### Advisory Committees:

Lisa Bircher (2008-2009)  
Elizabeth Shevock (2010-11)  
Sean Argyle (2010-11)  
Vanessa Klein (2010-13)  
Rajlakshmi Ghosh (2011-13)  
Al Eibel (2011-12)  
Lucy Kulbago (2011-14)  
Chris Luker (2012-2017)  
Aziz Alamri (2012-2016)  
Mila Rosa Librea (2016-2017)  
Davida Buehler (2016-2017)  
Fatma Kaya (2016-2019)  
Janis McTeer (2016-2017)  
Barb Currey (2019-2021)  
Bre Gwartz (2020-21)  
Jeff Papa (2021)  
Kimberly Cleveland (2021)

#### Dissertation Committees

Lisa Bircher (2009-2012)  
Sean Argyle, co-directed (2010-12)  
Elizabeth Shevock Anderson, directed (2012-2013)  
Beth Bilek-Golias (2011-2013)  
Peggy Slavik (2013-2015)  
Vanessa Klein, co-directed (2013-2015)  
James Nadeldinger (2013-2014)  
Rajlakshmi Ghosh, directed (2013-2015)  
Aziz Alamri (2016-2017)  
Mila Rosa Librea, co-directed (2017-2018)  
Ilfa Zhulamanova (2017-2019)  
Emtiaz Ahmed (2017-2018)  
Janis McTeer (2017-2020)  
Andrea Menger (2018-2020)  
Fatma Kaya, co-directed (2019-2020)  
Chelsey Kirkland (2020-2021)  
Stephanie Brown (2020-2021)

#### *Courses/Workshops Taught*

#### Kent State University

- ADED 32277 Teaching Science in Secondary Schools – **Spring 2008, Spring 2009, Spring 2010, Spring 2011, Spring 2012, Spring 2013, Spring 2014, Spring 2017, Spring 2018, Spring 2019, Spring 2020, Spring 2021**



- ADED 42277 Topics in Secondary Science Teaching – **Fall 2007, Fall 2009, Fall 2010, Fall 2015, Fall 2016, Fall 2017, Fall 2018, Fall 2019, Fall 2020**
- ADED 42292 Field Work Practicum – **Fall 2008, Fall 2012, Fall 2013, Fall 2018**
- ADED 49525 Inquiry into Professional Practice – **Spring 2013, Spring 2014, Spring 2021**
- ADED 62192 MAT Practicum – **Fall 2020**
- C&I 47502/57502 Teaching Science in Early and Middle Childhood – **Spring 2011**
- C&I 61133/71133 Issues and Trends in Science Education – **Fall 2007, Fall 2009, Fall 2011, Fall 2013, Fall 2015, Fall 2019**
- C&I 61140/71140 Culture and Multiculturalism in Science Education – **Fall 2010, Fall 2012, Fall 2014, Fall 2016, Fall 2018, Fall 2020**
- C&I 61141/71141 Nature of Science in Science Education - **Spring 2009**
- C&I 67095 Special Topics: Operation Physics –**Summer 2008-Spring 2009, Summer-Fall 2009, Summer-Fall 2010, Summer-Fall 2011, Summer 2012-Spring 2013**
- EVAL 88795 Special Topics: Mixed Methods – **Spring 2012, Spring 2013, Spring 2016, Spring 2020**
- MCED 4/57745 Critical Inquiry and Integration: Science and Social Studies, Grade 5 – **Summer 2015, Summer 2016, Summer 2017, Summer 2018, Summer 2019, Summer 2020**
- SEED/ADED 52277 Teaching Science in Secondary Schools – **Fall 2007, Fall 2008, Fall 2009, Fall 2010, Fall 2013, Fall 2014, Fall 2015, Fall 2016, Fall 2017, Fall 2018, Fall 2019**
- SEED 52277 Teaching Science in Secondary Schools/SEED 62195 ST: Social Studies for MAT - **Fall 2011**

#### Indiana University

Integrating Technology in Teaching - Part I - **Spring 2006**

Elementary Science Methods - **Fall 2005**

Secondary Science Methods - **Spring 2005, Spring 2004**

Secondary Laboratory/Field Experience - **Spring 2005, Spring 2004, Fall 2003**

Exploring Secondary Science Teaching - **Fall 2004, Spring 2004, Fall 2003**

Genetics Laboratory - **Fall 1999, Spring 1999, Fall 1998**

Evolution and Diversity - **Spring 1998, Fall 1997, Spring 1997** (undergraduate teaching intern)

#### *Student Projects Directed*

Honors Class Project Agreement (Honors Designated Course for ADED 32277) (2018), Megan Bidwell (undergraduate students)

Honors Class Project Agreement (Honors Designated Course for ADED 32277) (2018), Gabrielle Miller & Brendon Schrock (undergraduate students)

Summer Undergraduate Research Experience (SURE) Director (2017), Adam Salberg (undergraduate student)

Honors Project Committee Member (2014), Margaret Evans (undergraduate student)

Independent Research Advisor (2014), Brittany Beutel (graduate student)

Independent Research Advisor (2010), Elizabeth Shevock (graduate student)

Faculty Director for Honors Thesis (2010), Melissa Short (undergraduate student)

Honors Project Advisor (2010), Melinda Hake (undergraduate student)  
Faculty Mentor for University Research Council Undergraduate Research Scholar (2009),  
Maria Iannucci (undergraduate student)  
Independent Research Advisor (2008), Lisa Bircher (graduate student)  
Honors Project Advisor (2007), Valerie Pettigrew (undergraduate student)

## **SERVICE AND CITIZENSHIP**

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### *Service to Department/School*

Member, TLC Scholarship Committee, Fall 2019-Fall 2021.  
Peer Teaching Reviewer for TLC Pre-tenure faculty member, Spring 2021.  
Member, Faculty Advisory Committee, Fall 2018-Spring 2019.  
Mentor for TLC 2 Pre-tenure faculty members, Fall 2018-present.  
Peer Teaching Reviewer for 2 TLC Pre-tenure faculty members, Spring 2018.  
Mentor for TLC Pre-tenure faculty member, Fall 2017-Spring 2018.  
Member, Curriculum Committee, Spring 2018.  
Coordinator, Adolescent Education Program, Fall 2014-Summer 2018.  
Member, Faculty Advisory Committee, Fall 2013-Spring 2014.  
Peer Teaching Reviewer for 3 TLC Pre-tenure faculty members, Fall 2013-Spring 2014.  
Mentor for 2 TLC Pre-tenure faculty members, Fall 2013-Spring 2016.  
Member, Curriculum and Instruction Ad Hoc Committee for Doctoral Socialization  
Spring 2013-Fall 2013.  
Member, Curriculum and Instruction Doctoral Program Curriculum Review Committee,  
Spring 2010-Fall 2011.  
Member, Curriculum and Instruction Travel Awards Committee, Fall 2008-Spring 2010.  
Member, Curriculum and Instruction Doctoral Admissions Committee, Fall 2008-Spring  
2009.  
Member, Curriculum Committee, Fall 2008 – Spring 2009.  
Chair, ADED Selective Admissions Sub-Committee, Fall 2008.

### *Service to College and University*

Representative, AAUP, Spring 2021  
Member, Kent State University Social Justice Education Search Committee, Spring  
2021.  
Chair, Kent State University Literacy Education Search Committee, Fall 2019-Spring  
2020.  
Member, University Research Council Research Proposal Review Subcommittee, Fall  
2020.  
Reviewer, KSU Summer Undergraduate Research Experience proposals, Spring 2019.  
Graduate Faculty Representative, Kent State University for Kristin McCombs'  
dissertation, Spring 2019.  
Member, EHHS CAC, 2018-2019.  
Chair, EHHS Honors and Awards Committee, Fall 2018-Spring 2020.  
Member, EHHS Strategic Planning Committee, Strand 2b Research, Fall 2018.  
Reviewer, KSU Summer Undergraduate Research Experience proposals, Spring 2018.  
Peer Teaching Reviewer for Biological Science faculty member, Spring 2018.

Member, Ad Hoc Committee for Revision of the EHHS Student Teacher Evaluation, Fall 2017.

Graduate Faculty Representative, Kent State University for Anna Martin's dissertation, Fall 2017.

Member, EHHS Student Research Grants Committee, Spring 2018, Spring 2021.

Chair, Kent State University Science Education Search Committee, Fall 2016-Spring 2017.

Graduate Faculty Representative, Kent State University for Nick Morris' dissertation, Fall 2016.

Member, Kent State University College of Education Health and Human Services Vacca Office of Student Services Academic Advisor Search Committee, Summer 2016.

Faculty Mentor, KSU Summer KEEP Academy, Summer 2016.

Member, Kent State University College of Applied Engineering, Sustainability, and Technology (CAEST) Review Committee, Spring 2016.

Member, Kent State University College of Education Health and Human Services Dean Search Committee, Fall 2015-Spring 2016.

Graduate Faculty Representative, Kent State University for Patrick Cravalho's dissertation, Fall 2015.

Member, Education Health and Human Services Research Council, Fall 2015-Spring 2017.

Member, Kent State University Vice President of Research Search Committee, Fall 2014-Spring 2015.

Graduate Faculty Representative, Kent State University for Bryan Ashkettle's dissertation, Fall 2013.

Member, Kent State University STEM Center Steering Committee, Spring 2013-Spring 2014.

Chair, Kent State University Science Education Search Committee, Fall 2012-Spring 2013.

Chair, Kent State University Science Education Search Committee, Fall 2011-Spring 2012.

Member, Kent State University Science Education Outreach Coordinator Search Committee, Spring 2012.

Member, Kent State University Member, Kent State University Presidential Task Force on Women in STEM Education & Research, Spring 2012.

Member, University Research Council Research Proposal Review Subcommittee, Fall 2011.

Chair, Kent State University Science Education Search Committee, Fall 2010-Spring 2011.

Member, Kent State University Science Education Outreach Coordinator Search Committee, Fall 2010.

Guest Editor, *Research Center for Educational Technology Journal* Kent State University, Kent, Ohio.

Faculty Advisor, International Leaders in Education Program (ILEP), Spring 2010.

Member, Curriculum and Instruction Doctoral Program Curriculum Review Committee, Fall 2010-Spring 2011.

Member, Curriculum and Instruction Travel Awards Committee, Fall 2008-Spring 2010.

Member, University Research Council Research Proposal Review Subcommittee, Fall 2009.

Member, College Awards Committee, Fall 2008-Spring 2010.

Member, Kent State University College of EHHS Recruitment Team, Fall 2008.

Member, Kent State University Science Education Search Committee, Fall 2007.

Participant, Kent State University 2007-2008 KASADA Faculty Advising Workshop.

Invited speaker, Education Health and Human Services Doctoral Student Retreat, Fall 2007.

### *Service to Profession*

National Science Foundation, Panel Reviewer (January 2015, May 2015, January 2016, September 2016, September 2018, September 2019)

### National Association for Research in Science Teaching

Committee Member, Outstanding Dissertation Research Award Committee (2019-2022)

Strand 8 Co-Coordinator, National Association for Research in Science Teaching Program Committee (2015-2017)

Committee Member, National Association for Research in Science Teaching *Journal of Research in Science Teaching* Awards Committee (2012-2014)

Strand 2 Co-Coordinator, National Association for Research in Science Teaching Program Committee (2010-2012)

Committee Member, National Association for Research in Science Teaching *Journal of Research in Science Teaching* Awards Committee (2007-2010)

Reviewer, *Journal of Research in Science Teaching*. (2005-2007, 2016-2018, 2020-2021)

Reviewer for National Association for Research in Science Teaching conference Proposals (2005-2009, 2012-2014, 2016, 2017, 2018)

### Association for Science Teacher Education

ASTE Board Member (at large) (2017-2019)

Chair and Co-Chair, ASTE Awards Committee (2017-2019)

Editorial Board Member, *Journal of Science Teacher Education* (2014-2016)

Reviewer, *Journal of Science Teacher Education* (2020-2021)

Committee Member, Association for Science Teacher Education Publications Committee (2008-2011)

Presider for Association for Science Teacher Education (ASTE) conference (2018)

Reviewer for Association for Science Teacher Education (ASTE) conference proposals (2007-2009, 2016, 2017)

### National Science Teacher Association

Presider, National Science Teacher Association Regional Conference, (2008) December) Cincinnati, OH

Reviewer for regional National Science Teacher Association Assessment Strand (2004)

### Other Reviewing and Editorial Board Membership

Reviewer, *Science Education* journal (2009, 2010, 2012, 2016, 2017, 2018, 2019, 2020)

Reviewer, *Journal of Science Education and Technology* (2015)

Editorial Board Member *International Journal of Environmental and Science Education* (2008-16)  
 Reviewer, *International Journal of Science Education* (2010-17, 2019-2021)  
 Reviewer, *Evolution Education and Outreach* (2013-2014, 2018)  
 Editorial Board Member *Evolution Education and Outreach* (2020-2021)  
 Reviewer, SAGE Publishing Company (2010)  
 Reviewer, *High School Journal* (2016)  
 External Reviewer, tenure file, for two assistant professors (2016, 2018)  
 Reviewer, *School Science and Mathematics* (2016)  
 Reviewer, *Journal of Engineering Education* (2017)  
 Reviewer, *International Journal of Education in Mathematics, Science and Technology* (2018)  
 Reviewer, *Science and Education* (2019)

#### *Membership in Professional Organizations*

National Science Teachers Association (NSTA)  
 Science Education Council of Ohio (SECO)  
 Association for Science Teacher Education (ASTE)  
 National Association for Research in Science Teaching (NARST)  
 National Center for Science Education (NCSE)

## **AWARDS AND COMMENDATIONS**

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2018	College of EHHS Distinguished Faculty Researcher Award
2018	Burton W. Gorman Faculty Impact on Reality/Excellence in Teaching Award
2018	Kent State Faculty Excellence Award (teaching, research, and service)
2017	Elected to the Association for Science Teacher Education Board
2015	Honoree, Kent State University Showcase of Excellence in Action for Service Work with Campus Kitchen
2014	Kent State Faculty Excellence Award (teaching)
2013	Kent State Faculty Excellence Award (teaching)
2012	Kent State Faculty Excellence Award (teaching and research)
2010	Kent State Faculty Excellence Award (teaching and research)
2008	Kent State Faculty Excellence Award (teaching and research)
2006	Beechler Dissertation Proposal Award
2005	E. Wayne Gross Grant
2004	E. Wayne Gross Grant
2004	Top Ten Teacher Award at Brown County High School
2003	Top Ten Teacher Award at Brown County High School
2002	Brown County High School Teacher of the Month (October)
2000	Outstanding Associate Instructor Award, Indiana University Department of Biology