

**William Romine, PhD**

2507 Greene Hills Dr.  
Beavercreek, OH 45431  
Phone: 573-305-4753  
E-mail: [romine.william@gmail.com](mailto:romine.william@gmail.com)

Researchgate Profile: [https://www.researchgate.net/profile/William\\_Romine](https://www.researchgate.net/profile/William_Romine)  
Wright State Profile: <https://people.wright.edu/william.romine>  
Google Profile: <https://scholar.google.com/citations?user=UUMbDekAAAAJ&hl=en>  
LinkedIn Profile: <https://www.linkedin.com/in/william-romine-947078139/>

**EDUCATION:**

University of Missouri, Columbia MO

- December, 2011—***Ph. D in Curriculum and Instruction: Science Education***
  - College Teaching Minor

*Dissertation: Development and validation of two influenza assessments: Exploring the impact of knowledge and social environment on health behaviors*

*Teaching Portfolio: My experience as a laboratory instructor for GEOL1100: Introduction to Geology*

- December, 2008—***Master of Science in Geology***

*Thesis: Rheology of Mono Craters rhyolites: Effects of temperature, water content, and crystallinity*

Truman State University, Kirksville MO

- August, 2004—***Master of Arts in Science Education***, Missouri Unified Science Teaching Certification: Unified Science with Physics endorsement

*Digital Portfolio: The potential for cooperative, laboratory-based instruction in a high school Physics class*

- August, 2003—***Bachelor of Arts in Physics***

United States Taekwon-do Federation (USTF)

- Class C Instructor, 2<sup>nd</sup> Degree Black Belt
- Certifications in basic self-defense, ground tactics
- Tournament Referee Certification Class B

**GRANTS:**

*Submitted*

- National Science Foundation. (2018). *Anchoring High School Students in Real-life Issues that Integrate STEM Content and Literacy*. Role: External Evaluator

- National Science Foundation IUSE. (2017). *Don't Blink: Investigating Optimal Segmentation of Instructional Animations for Undergraduate Biology*. Role: External Evaluator
- United States Air Force. (2018). *Context Aware App for Structuring and Transforming Informal Learning Experiences (CASTLE)* Role: PI and Project Manager
- National Science Foundation NOYCE Leadership Program at Wittenberg University (2017). Role: External Evaluator

*External Awarded:*

- National Institute of Health R25 SEPA (2017). *Strengthening Middle School Science and Health Education by Linking Grade Level Inquiry and Reading of Complex Tasks*. Role: Internal Evaluator (\$138,995)
- Institute of Educational Sciences. (2015). *Mission HydroSci: A Virtual Environment for Next Generation Science Learning*. Role: co-PI. (\$109,885)
- Department of Education I3. (2015). *Mission HydroScience*. Role: co-PI (\$119,884)
- Missouri Foundation for Health. (2012). *Promoting Health Careers in Grades 6-10 with Show Me-InABox Life Science Learning Materials*. (\$14,473) Role: External Evaluator
- USGS Jack Kleinman Foundation for Volcano Research. (2007). Field work at Mono Lake, CA (\$750)

*Internal Awarded:*

- Wright State University Applying Scientific Knowledge (ASK) program (2017). *Measuring Nomophobia and its Impact on Student Achievement in College* (\$1000)
- Wright State University Office of the Vice President of Research. Faculty Research Incentives Internal Support Program. (2015). (\$1000)

*Not Awarded*

- Ohio Department of Education Improving Teacher Quality (ITQ). (2016). *The Universal Use of Techniques for Dyslexic Learners to Improve Math and Science Achievement for All Elementary School Students*. Role: co-PI
- National Science Foundation EHR\_ECR. (2015). *Assessing Theory of Conceptual Change around Evolution (ACCEpT)*. Role: PI and Project Manager.

- National Science Foundation Cyberlearning. (2015). *Developing SIMPLE: A Modular Framework for Educational Games*. Role: co-PI.
- NIH Science Education Partnership (SEPA). (2014). *Measuring Transition and Integration of Crosscutting Concepts for Health (METRIC2Health)*.
- National Science Foundation Improving Undergraduate STEM Education (2014). *Examining Thinking about Evolution through Social Media*.
- National Science Foundation RAPID. (2014). *Measuring Mental Models about Students' Knowledge of Ebola*.

#### **AWARDS:**

- My doctoral student, Michele Miller, won 1<sup>st</sup> place (\$200) at the 2018 Center for Causal Discovery Hackathon for the data project: "Causal Analysis of Pain in Sickle Cell Disease" (teammate was Fan Yang)
- Won 2<sup>nd</sup> place (\$150) at the 2016 Center for Causal Discovery Hackathon for the data project: "A molecular genetics learning progression web" (teammates were Josefina Correa and Gretchen Haas)
- Selected as the University of Missouri Doctoral Commencement Marshal, December 17, 2011
- Outstanding Graduate Student in Educational Outreach (\$500 awarded by the University of Missouri Science Education Center in 2011)
- Departmental Scholarship (\$1500/year) for graduate studies with Geological Sciences at University of Missouri
- President's combined ability scholarship (\$1500/year) for undergraduate studies at Truman State University
- Eagle Scout (1998)

*Project: Construction of an outdoor classroom, native prairie, and recreation area at Lewis and Clark Middle School, Jefferson City, MO*

#### **PROFESSIONAL WORK EXPERIENCE:**

**July 2017-Present:** *Associate Professor of Biology at Wright State University*

Engage in scholarship related to educational measurement in biology learning contexts at the high school and college levels. Supervise undergraduate and graduate research students. Facilitate coursework related to biology and quantitative methods.

**Fall 2014-July 2017:** *Assistant Professor of Biology at Wright State University*

Engage in scholarship related to educational measurement in biology learning contexts at the high school and college levels. Supervise undergraduate and graduate research students. Facilitate coursework related to biology and quantitative methods.

**Fall 2012-Spring 2014:** *Assistant Professor of Physical Science at Missouri Valley College*

Taught classes in chemistry and environmental science to introductory undergraduate students, and geology, soil and water, and astronomy to pre-service secondary teachers. Advise students in biology and pre-nursing majors. Engage students in scientific inquiry inside and outside of class.

**Summer 2012:** *Instructor for Quantitative Analysis in Education Research I for graduate students*

Taught the first class in the Quantitative Research Methods sequence for graduate students in the Education and Counseling Psychology departments. Topics included using linear and logistic regression techniques for prediction and hypothesis testing. Helped students incorporate regression analysis into their research.

**Spring, 2011-Winter 2012:** *Graduate Assistant for College of Engineering International Student Program*

Worked with incoming undergraduate students from China to help them adapt to university life in the United States. Duties included organizing activities and advising program assessment.

**Autumn 2010-Winter 2012:** *Research Assistant for Literacy Education at University of Missouri*

Developed and validated a survey of teaching best practice for the Senior Year Onsite Program (SYOSP). Included use of methods from classical test theory, item response theory, and structural equation modeling.

**Autumn 2008-Summer 2010:** *Research Assistant for Maps in Medicine Program at University of Missouri*

Developed map-based lessons and assessments on disease spread for introductory science students at the high school level. Presented work to teachers and researchers throughout the year and at the 2008, 2009, and 2010 summer institutes, and at education research and practitioner conferences.

**Autumn 2006-Summer 2008:** *Teaching Assistant with Department of Geological Sciences at University of Missouri*

Organized and taught three Geology lab periods per week. Helped students interpret their lab and lecture throughout the semester.

**Autumn 2005-Summer 2006:** *Chemistry/Physics Teacher at Macon High School*

Taught four periods of Chemistry and two periods of dual enrollment [with Central Methodist College] Physics.

**Summer 2004-Winter 2005:** *English Teacher at Anhui University of Science and Technology—Huainan, China*

Worked with students of medicine, science, and economics in a classroom environment to improve their oral English.

**ADDITIONAL COLLEGE-LEVEL TEACHING EXPERIENCE:**

**2008-2012:**

University of Phoenix  
*Online Instructor*

*Principles of Geology*— undergraduate online classes

**2012, 2013**

William Woods University  
*Summer Evening College Instructor*

*Principles of Physical Science*—undergraduate course

**CURRENTLY ADVISING:**

**Doctoral Students:**

Dissertation director for Michele Miller— *Measuring Students' Understandings of Viruses of Current Concern*

Serving on doctoral committee of Donnie Peterson (Environmental Science)

Serving on doctoral committee of Susan Sipnewski (Education Doctorate)

Serving on doctoral committee of Robin Fisher (Education Doctorate)

**Master's Students:**

Serving on Master's committee of Jonathan Bowers (Biological Sciences)

Community Learning Project advisor for Sarah Fryman (Public Health)

Thesis Advisor for Rutuja Mahajan (Computer Science)

**Undergraduate Students:**

Supervising Karlei Wilms within the Applying Student Knowledge (ASK) program

**ALUMNI:**

**Post-doctoral Research Associate (August 2014-October 2016):**

Amber Todd—*Quantification of a Learning Progression around Molecular Genetics*

**Doctoral Students:**

Served on doctoral committee for Jeannette Manger (Biomedical Sciences)

**Masters Thesis Students:**

Hasan Iqbal—*Measurement of pre-medical students' understandings of traumatic brain injury.*

Michele Miller— *Development and validation of a virus and Ebola misconceptions assessment (VireMiA): Ebola virus misconceptions in college students.*

Served on master's committee for Matt Piekenbrock (Computer Science)  
Served on master's committee of Garrett Goodman (Computer Science)

**Masters Non-thesis Students:**

Kacey Adams— *Assessing, measuring, and improving patient understanding to increase adherence to medications and improve overall health outcomes*

Shawn Knese—*Doing Homeschooling Right: A Critical Review of the Literature*

Served on master's committee for Arony Muhit, Candase Garrett, and RJ Nogrady (Biological Sciences)

**Senior Capstone/Independent Study Students:**

Supervised senior capstone or independent study projects for the following students: Isaiah Jordan, Amber Khan, Haneen Salhieh, Tyler Dittmann, Majed Bahobail, Adam Pohl, and Ashlyn Roberts

**PEER-REVIEWED PUBLICATIONS:**

(Students and myself are in **bold**)

*Published Work*

**Romine, W.**, Todd, A. N., & Walter, E. M. (2018). A closer look at the items within three measures of evolution acceptance: analysis of the MATE, I-SEA, and GAENE as a single corpus of items. *Evolution: Education and Outreach*, 11(1), 17.

Tang, N. E., Tsai, C. L., Barrow, L., & **Romine, W.** (2018). Impacts of enquiry-based science teaching on achievement gap between high-and-low SES students: findings from PISA 2015. *International Journal of Science Education*, 1-23.

Kenyon, L., Walter, E., & **Romine, W.** (in Press). Transforming a college biology course to engage students in science and engineering practices: Exploring shifts in knowledge and mechanistic reasoning. In Reiss, M. & U. Harms, p. 84-93. *Evolution Education Reconsidered: Understanding What Works*. Springer, London.

Todd, A., & **Romine, W.** (2018). The Learning Loss Effect in Genetics: What Ideas Do Students Retain or Lose after Instruction? *CBE—Life Sciences Education*, 17(4), ar55.

Sadeghi, R., Banerjee, T., & **Romine, W.** (2018). Early hospital mortality prediction using vital signals. *Smart Health*. Online: <https://doi.org/10.1016/j.smhl.2018.07.001>.

Schroeder, N. L., Yang, F., Banerjee, T., **Romine, W.**, & Craig, S. D. (2018). The influence of learners' perceptions of virtual humans on learning transfer. *Computers & Education*, 126, 170-182.

Castro-Faix, M., Todd, A., **Romine, W.**, & Duncan, R. (June, 2018). Do alternative instructional approaches result in different learning progressions? *Proceeding from the International Conference on the Learning Sciences, London.*

Khedraki, A., Reed, E. J., Romer, S. H., Wang, Q., **Romine, W.**, Rich, M. M., ... & Voss, A. A. (2017). Depressed Synaptic Transmission and Reduced Vesicle Release Sites in Huntington's Disease Neuromuscular Junctions. *Journal of Neuroscience*, 0313-17.

Odom, A. L., Barrow, L. H., & **Romine, W.** (2017). Teaching Osmosis to Biology Students. *The American Biology Teacher*, 79(6), 473-479.

**Miller, M., Romine, W.**, & Rua, M. (July, 2017). What do undergraduates know about Zika, and what precautions are they willing to take to prevent its spread? *Proceeding from the International Conference on Health Informatics and Medical Systems, Las Vegas, NV, USA.*

**Muppalla, R., Miller, M., Banerjee, T., & Romine, W.** (July, 2017). Discovering explanatory models to identify relevant tweets on Zika. *Proceeding from the International Conference of the IEEE Engineering in Medicine and Biology Society, Jeju, Korea.*

**Romine, W.**, Sadler, T. D., & Wulff, E. P. (2017). Conceptualizing Student Affect for Science and Technology at the Middle School Level: Development and Implementation of a Measure of Affect in Science and Technology (MAST). *Journal of Science Education and Technology*, 1-12.

Jaimini, U., Banerjee, T., **Romine, W.**, Thirunarayan, K., Sheth, A., & Kalra, M. (2017). Investigation of an indoor air quality sensor for asthma management in children. *Sensors Letters*, 1(2), 1-4.

**Miller, M., Banerjee, T., Muppalla, R., Romine, W., & Sheth, A.** (2017). What are people tweeting about Zika? An exploratory study concerning symptoms, treatment, transmission, and prevention. *JMIR Public Health and Surveillance*, 3(2), e38.

**Todd, A., Romine, W. L., & Correa-Menendez, J.** (2017). Modeling the Transition from a Phenotypic to Genotypic Conceptualization of Genetics in a University-Level Introductory Biology Context. *Research in Science Education*, 1-21.

**Romine, W.**, Folk, W. R., & Barrow, L. H. (2017). How Does Knowledge of Influenza Reduce Flu-like Illness in High Schools? *Health Behavior & Policy Review*, 4(3), 224-234.

Schroeder, N., **Romine, W.** & Craig, S. (2017). Measuring Pedagogical Agent Persona and the Influence of Agent Persona on Learning. *Computers and Education*, 109, 176-186.

**Todd, A., & Romine, W. L.** (2017). Empirical validation of a modern genetics progression web for college biology students. *International Journal of Science Education*, 39(4), 488-505.

**Todd, A., Romine, W., & Cook-Whitt, K.** (2017). Development and Validation of the Learning Progression-based Assessment of Molecular Genetics (LPA-MG) in a High School Context. *Science Education*, 101(1), 32-65.

**Romine, W. L., & Todd, A.** (2017). Valuing Evidence over Authority: The Impact of a Short Course for Middle-Level Students Exploring the Evidence for Evolution. *The American Biology Teacher*, 79(2), 112-119.

- Received the NABT BioClub recommendation.

**Romine, W. L., Walter, E. M., Bosse, E., & Todd, A. N.** (2017). Understanding patterns of evolution acceptance—A new implementation of the Measure of Acceptance of the Theory of Evolution (MATE) with Midwestern university students. *Journal of Research in Science Teaching*, 54(5), 642-671.

**Romine, W. L., Sadler, T. D., & Kinslow, A. T.** (2017). Assessment of scientific literacy: Development and validation of the Quantitative Assessment of Socio-Scientific Reasoning (QuASSR). *Journal of Research in Science Teaching*, 54(2), 274-295.

- Selected as the NAGT Geoscience Education Research (GER) feature article for February 2017.

**Todd, A., & Romine, W. L.** (2016). Validation of the Learning Progression-based Assessment of Modern Genetics in a college context. *International Journal of Science Education*, 38(10), 1673-1698.

Sadler, T. D., **Romine, W. L.**, & Topçu, M. S. (2016). Learning science content through socio-scientific issues-based instruction: a multi-level assessment study. *International Journal of Science Education*, 1-14.

**Romine, W., Banerjee, T., Folk, W., & Barrow, L.** (July, 2016). *What motivates high school students to take precautions against the spread of influenza? A data science approach to latent modeling of compliance with preventative practice.* Proceeding from the International Conference on Health Informatics and Medical Systems, Las Vegas, NV.

(<http://worldcomp.ucmss.com/cr/main/papersNew/LFSCSREApapers/HIM3290.pdf>)

**Romine, W., Todd, A., & Clark, C.** (2016). How do undergraduate students conceptualize acid-base chemistry? Validation of a concept progression. *Science Education*, 100(6), 1150-1183.

**Romine, W., Miller, M. Knese, S. & Folk, W.** (2016). Multi-level assessment of middle school students' interest in the health sciences: Development and validation of a new measurement tool. *CBE: Life Sciences Education*, 15, 1-13.



**Romine, W.** & Sadler, T. (2016). Engaging learners in the analysis of scientific literature: A practical strategy for enhancing gifted students' interest in science. In Taber, K. & S. Manabu, p. 84-93. *International Perspectives on Science Education for the Gifted: Key issues and challenges*. Routledge, New York.

Banerjee, T., Anantharam, P., **Romine, W.**, Sheth, A., & Lawhorne, L. (July, 2015). *Evaluating a potential commercial tool for healthcare application for people with dementia*. Proceeding from the International Conference on Health Informatics and Medical Systems, Las Vegas, NV. ([http://works.bepress.com/william\\_romine/19/](http://works.bepress.com/william_romine/19/))

**Romine, W.**, & Whittington, A. G. (2015). A simple model for the viscosity of rhyolites as a function of temperature, pressure and water content. *Geochimica et Cosmochimica Acta*, 170, 281-300.

**Romine, W.**, Schaffer, D. L., & Barrow, L. (2015). Development and application of a novel Rasch-based methodology for evaluating multi-tiered assessment instruments: Validation and utilization of an undergraduate diagnostic test of the water cycle. *International Journal of Science Education*, 37(16), 2740-2768.

Sadler, T., **Romine, W.**, Menon, D., Ferdig, R., & Annetta, L. (2015). Learning biology through innovative curricula: A comparison of game- and nongame-based approaches. *Science Education*, 99(4), 696-720.

Kingsley, L. & **Romine, W.** (2014). Measuring teaching best practice in the induction years: Development and validation of an item-level assessment. *European Journal of Educational Research*, 3(2), 87-109.

**Romine, W.**, & Sadler, T. D. (2014). Measuring changes in interest in science and technology at the college level in response to two instructional interventions. *Research in Science Education*, 1-19.

**Romine, W.**, Barnett, E., Friedrichsen, P. J., & Sickel, A. J. (2014). Development and evaluation of a model for secondary evolution educators' professional development needs. *Evolution: Education and Outreach*, 7(1), 1-10.

Sadler, T. D., Eastwood, J. L., **Romine, W.** & Annetta, L. (2014). Mission Biotech: Using Technology to Support Learner Engagement in STEM. In Yager R. E. & Brunkhorst, H. *Exemplary STEM Programs: Designs for Success*. NSTA Press: Arlington, VA.

**Romine, W.** & Walter, E. M. (2014). Assessing the efficacy of the Measure of Understanding of Macroevolution as a valid tool for undergraduate non-science majors. *International Journal of Science Education*, 36(17), 2872-2891.

**Romine, W.**, Sadler, T. D., Presley, M., & Klosterman, M. L. (2014). Student Interest in Technology and Science (SITS) Survey: Development, Validation, and Use of a New

Instrument. *International Journal of Science and Mathematics Education*, 12(2), 261-283.

**Romine, W.**, Barrow, L., & Folk, W. (2013). Exploring secondary science students' knowledge and misconceptions about influenza: Development, validation, and implementation of a multiple choice influenza knowledge scale. *International Journal of Science Education*, 35(11), 1874-1901.

Sadler, T., **Romine, W.** Stewart, P., & Merle, D. (2013). Game-based curricula in biology classes: Differential effects among varying academic levels. *Journal of Research in Science Teaching*, 50(4), 479-499.

**Romine, W.**, Banerjee, T., Barrow, L., & Folk, W. (2012). Exploring the impact of knowledge and social environment on influenza prevention and transmission in Midwestern United States high school students. *European Journal of Health and Biology Education*, 1, 75-115.

**Romine, W.**, Whittington, A., Hofmeister, A., & Nabelek, P. (2012). Thermal diffusivity of rhyolitic glasses and melts: effects of temperature, crystals and dissolved water. *Bulletin of Volcanology*, 74, 2273-2287.

**Romine, W.** & Banerjee, T. (2012). Customization of curriculum materials in science: Motives, challenges, and opportunities. *Journal of Science Education and Technology*, 21(1), 38-45.

#### **TECHNICAL REPORTS:**

**Romine, W.**, Meyenberg, M., & Reid, T. (2014). *Predicting Student Retention at Missouri Valley College: Development and Validation of a Simple Model*. Final Report for the Missouri Valley College Retention Office.

**Romine, W.** & Banerjee, T. (2013). *Understanding Freshman Retention at Missouri Valley College*. Final Report for the Missouri Valley College Retention Office.

#### **CONFERENCE PRESENTATIONS:**

Schroeder, N., Yang, F., Banerjee, T., **Romine, W.**, & Craig, S. (October, 2018). *Learners' perceptions of pedagogical agents: a cluster analysis*. Paper presentation at the Association for Education and Communications Technology (AECT) International Convention, Kansas City, MO.

**Romine, W.**, Mahajan, R., & Todd, A. (September, 2018). *Measuring science teachers' emotions around evolution using real-world scenarios*. Presentation at the Three Rivers Evolution Event (TREE), University of Pittsburgh.

Castro-Faix, M., Todd, A., **Romine, W.**, & Duncan, R. (June, 2018). *Do alternative instructional approaches result in different learning progressions?* Paper presentation at the International Conference on the Learning Sciences, London.

**Miller, M., Romine, W.**, and Rua, M. (July, 2017). *What do undergraduates know about Zika, and what precautions are they willing to take to prevent its spread?* Paper presentation at the International Conference on Health Informatics and Medical Systems, Las Vegas, NV.

**Muppalla, R., Miller, M., Banerjee, T., & Romine, W.** (July, 2017). *Discovering explanatory models to identify relevant tweets on Zika.* Poster presentation at the International Conference of the IEEE Engineering in Medicine and Biology Society, Jeju, Korea.

**Todd, A. & Romine, W.** (April, 2017). *Difficulties in integrating the Genetic-Meiotic and Genetic-Molecular models of genetics.* Paper presentation at the National Association for Research in Science Teaching Annual Meeting, San Antonio, TX.

Correa-Menendez, J., **Todd, A., & Romine, W.** (April, 2017). *A molecular genetics learning progression web: Using model search to target hub ideas.* Poster presentation at the National Association for Research in Science Teaching Annual Meeting, San Antonio, TX.

Womack, A., Wulff, E., Sadler, T., & **Romine, W.** (April, 2017). *Assessment of Next Generation Science Learning.* Poster presentation at the National Association for Research in Science Teaching Annual Meeting, San Antonio, TX.

Wulff, E., **Romine, W.**, & Sadler, T. (April, 2017). *Measure of Affect in Science and Technology (MAST): Development and validation of a new instrument.* Poster presentation at the National Association for Research in Science Teaching Annual Meeting, San Antonio, TX.

**Todd, A., Romine, W., & Miller, M.** (April, 2017). *The learning loss effect in genetics: What ideas do students retain or lose after instruction?* Poster presentation at the National Association for Research in Science Teaching Annual Meeting, San Antonio, TX.

**Romine, W.**, Sadler, T., & Kinslow, A. (April, 2017). *Assessing Vision II literacy with socioscientific issues: A quantitative assessment of socioscientific reasoning.* Poster presentation at the National Association for Research in Science Teaching Annual Meeting, San Antonio, TX.

Walter, E., Bosse, E., & **Romine, W.** (April, 2017). *A mixed method exploration of evolution acceptance profiles as delineated by the Measure of Acceptance of the Theory of Evolution (MATE).* Paper presentation at the National Association for Research in Science Teaching Annual Meeting, San Antonio, TX.

**Romine, W.,** Banerjee, T., Folk, W., & Barrow, L. (July, 2016). *What motivates high school students to take precautions against the spread of influenza? A data science approach to latent modeling of compliance with preventative practice.* Paper presentation at the International Conference on Health Informatics and Medical Systems, Las Vegas, NV.

**Romine, W.** & Walter, E. (April, 2016). *Assessing, operationalizing, and profiling evolution acceptance in college students.* Paper presentation at the National Association for Research in Science Teaching Annual Meeting, Baltimore, MD.

**Miller, M., Romine, W., Todd, A.,** & Folk, W. (April, 2016). *Does knowledge and situational interest support personal interest? A health education study.* Poster presentation at the National Association for Research in Science Teaching Annual Meeting, Baltimore, MD.

**Todd, A. & Romine, W.** (April, 2016). *Development and validation of the Learning Progression-Based Assessment of Molecular Genetics (LPA-MG).* Paper presentation at the National Association for Research in Science Teaching Annual Meeting, Baltimore, MD.

**Romine, W., Todd, A.,** & Clark, T. (November, 2015). *How do undergraduate students conceptualize acid-base chemistry? Development, validation, and utilization of a learning progression-based measure.* Poster presentation at the Western Regional Conference of the American Chemical Society, San Marcos, CA.

Banerjee, T., Anantharam, P., **Romine, W.,** & Lawhorne, L. (July, 2015). *Evaluating a potential commercial tool for healthcare application for people with dementia.* Paper presentation at the International Conference on Health Informatics and Medical Systems, Las Vegas, NV.

**Romine, W., Todd, A.** & Folk, W. (April, 2015). *Multi-level assessment of middle school students' interest in health careers: Development and validation of a new measurement tool.* Paper presentation at the National Association for Research in Science Teaching Annual Meeting, Chicago, IL.

**Todd, A. & Romine, W.** (April, 2015). *How do undergraduate students conceptualize acid-base chemistry? Integrating continuous and categorical measurement frameworks to develop, validate, and utilize a learning progression-based measure.* Paper presentation at the National Association for Research in Science Teaching Annual Meeting, Chicago, IL.

Schaffer, D., **Romine, W.,** & Barrow, L. (April, 2015). *Development and validation of a three-tiered diagnostic test of the water cycle, and use of a probabilistic measurement framework to support multiple interpretations.* Paper presentation at the National Association for Research in Science Teaching Annual Meeting, Chicago, IL.

**Romine, W. & Sadler, T.** (April, 2015). *The effect of research on changes in interest in science and technology in college*. Paper presentation at the American Educational Research Association Annual Meeting, Chicago, IL.

**Todd, A. & Romine, W.** (January, 2015). *How does a Siamese cat get its color?* Presentation at the Science Education Council of Ohio annual meeting, Columbus, OH.

**Romine, W. & Todd, A.** (January, 2015). *Tossing the coin for halflife*. Presentation at the Science Education Council of Ohio annual meeting, Columbus, OH.

**Romine, W. & Todd, A.** (January, 2015). *Practical assessment of the NGSS and Ohio standards in time-constrained classroom settings*. Presentation at the Science Education Council of Ohio annual meeting, Columbus, OH.

**Romine, W. & Walter, E.** (March, 2014). *Assessing the efficacy of the MUM as a valid measure for understanding of macroevolution in college non-science majors*. Paper presentation at the National Association for Research in Science Teaching Annual Meeting, Pittsburgh, PA.

Sadler, T., **Romine, W.**, Menon, D., Annetta, L., & Klosterman, M. (March, 2014). *Impacts of gaming, teachers, and interest on student learning associated with innovative curricula*. Paper presentation at the National Association for Research in Science Teaching Annual Meeting, Pittsburgh, PA.

**Romine, W.** (October, 2013). *Tossing the Coin for Half Life*. Lesson presentation at the Science Teachers of Missouri Annual Meeting, Columbia, MO.

Sadler, T., **Romine, W.**, & Stewart, P. (April, 2013). *Game-based curricula in biology classes: Multilevel assessment of science learning*. Poster presentation at the American Educational Research Association annual meeting, San Francisco, CA.

Stuart, P., Sadler, T., **Romine, W.**, & Merle-Johnson, D. (April, 2013). *Multi-level assessment of science learning in the context of a game-based curriculum*. Paper presentation at the National Association for Research in Science Teaching annual meeting, Puerto Rico.

Presley, M., Sadler, T., **Romine, W.**, & Klosterman, M. (April, 2013). *Development, validation, and use of new instrumentation for assessing student interest in science*. Paper presentation at the National Association for Research in Science Teaching annual meeting, Puerto Rico.

**Romine, W.** (December, 2012). *Extracting Copper from its Ore*. Share-a-thon at the western regional National Earth Science Teachers Association annual meeting. Phoenix, AZ.

Whittington, A., Robert, G., Andrews, G., Avard, G., **Romine, W.**, & Ye, J. (December, 2012). *Thermo-Rheological Feedbacks in Silicic Lavas and Ignimbrites*. Presentation at the American Geophysical Union annual meeting. San Francisco, CA.

**Romine, W.**, Barrow, L., & Folk, W. (March, 2012). *Development and Validation of an Assessment of Understanding of Influenza for High School Students Using the Rasch Model, and Analysis of Students' Knowledge of Influenza*. Paper presentation at the National Association for Research in Science Teaching annual meeting, Indianapolis, IN.

Sadler, T. & **Romine, W.** (March, 2012). *Serious Educational Games: Research Experiences from National Science Foundation Funded Projects*. Paper presentation at the National Association for Research in Science Teaching annual meeting, Indianapolis, IN.

**Romine, W.** (October, 2010). *Evolution of a Superbug*. Share-a-thon at the regional National Earth Science Teachers Association annual meeting. Kansas City, MO.

Roberts, T., Siegel, M., & **Romine, W.** (March, 2010). *Teachers' Integration of Science and Social Issues Using an Avian Influenza Curriculum Module*. Paper presentation at the National Association for Research in Science Teaching annual meeting, Philadelphia, PA.

**Romine, W.** & Schaffer, D. (March, 2010). *Stokes Law: The Volcano Personality Indicator*. Share-a-thon at the National Earth Science Teachers Association annual meeting, Philadelphia, PA.

**Romine, W.** (March, 2010). *Everest Descent! A Google Earth Vertical Profiling Exercise*. Share-a-thon at the National Earth Science Teachers Association annual meeting, Philadelphia, PA.

**Romine, W.**, West, A. & Volkmann, M. (March, 2010). *Expectations to Success: The Contrasting Journeys of a Teacher and His Coach*. Paper presentation at the National Association for Research in Science Teaching annual meeting, Philadelphia, PA.

Merle, D., Schaffer, D., & **Romine, W.** (October, 2009). *Shake, Rattle, and Roll: Action-based Lessons on Plate Tectonics*. Short course at the Science Teachers of Missouri annual meeting, Jefferson City, MO.

**Romine, W.**, Siegel, M., & T. Roberts. (April, 2009). *Analyzing Secondary Science Teachers' Alternative Conceptions Related to Avian Influenza*. Paper presentation at the National Association for Research in Science Teaching annual meeting, Los Angeles, CA.

**Romine, W.**, Whittington, A., & Hofmeister, A. (April 2008). *Flow and Heat Transfer Properties of Mono Craters Rhyolites: Effects of Temperature, Water Content, and*

*Crystallinity*. Poster presentation at the North Central Geological Society of America annual meeting, Evansville, IN.

Whittington, A.G., Hofmeister, A.M., Nabelek, P.I., Galenas, M.G., & **Romine, W.** (2009). *Thermal Diffusivity of Magmas: Implications for Heat Transport in Partially Molten Zones*. AGU Fall meeting, San Francisco, CA.

Whittington, A.G., Hofmeister, A.M., Nabelek, P.I., & **Romine, W.** (2008). *Temperature-Dependent Thermal Diffusivity of Schist, Granite, and Mono Crater Rhyolite: Implications for Crustal Melting and Lithospheric Evolution*. IAVCEI 2008 General Assembly, Reykjavik, Iceland.

Whittington, A.G., Bouhifd, M.A., Hofmeister, A.M., Richet, P., & **Romine, W.** (2008). *Configurational Entropy Modeling of the Viscosity of Hydrous Albitic, Granitic and Rhyolitic Melts*. Presentation at the AGU Fall Meeting, San Francisco, CA.

#### **RESEARCH SYMPOSIUM/COLLOQUIUM PRESENTATIONS:**

**Miller, M.** (October, 2018). *Sentiment Analysis of Zika-related Tweets through the Rio de Janeiro Olympics*. Presentation at Wright State College of Science and Mathematics Festival of Research.

**Mahajan, R.** (October, 2018). *Measuring science teachers' emotions around evolution using real-world scenarios*. Presentation at Wright State College of Science and Mathematics Festival of Research.

**Miller, M.** (September, 2018). *A Causal Analysis of Pain in Sickle Cell Disease*. Presentation at EcoSeminar. Wright State University, Dayton, OH.

**Romine, W.** and Todd, A. (March, 2018). *What is Learning Analytics? Applications of learning analytics to explore students' understandings of genetics*. Presentation to the Biomedical Research and Technology Association. Wright State University, Dayton, OH.

**Miller, M.** (September, 2016). *Zika: What are people saying and doing about it?* Presentation at EcoSeminar. Wright State University, Dayton, OH.

**Romine, W.,** Walter, E., & **Todd, A.** (September, 2016). *Understanding Patterns of Evolution Acceptance —A New Implementation of the Measure of Acceptance of the Theory of Evolution (MATE) with Midwestern University Students*. Presentation at the Department of Biological Sciences Colloquium, Wright State University, Dayton, OH.

**Romine, W., Todd, A.,** & Clark, T. (November, 2015). *Development, validation, and utilization of a learning progression-based measure of acid-based chemistry*. Presentation at the Department of Chemistry Colloquium, Wright State University, Dayton, OH.

**Miller, M., Romine, W., Knese, S., & Folk, W.** (August, 2015). *Measurement of interest in science and health careers in conjunction with ShowMe InABox curriculum materials.* "Teaching for Student Success Symposium: Reducing the Achievement Gap." Wright State University, Dayton, OH.

**Romine, W., Todd, A. & Clark, T.** (August, 2015). *How do undergraduate students conceptualize acid-base chemistry? Development of a learning progression-based measure.* "Teaching for Student Success Symposium: Reducing the Achievement Gap." Wright State University, Dayton, OH.

**Romine, W.** (February, 2015). *Quantitative Assessment of Socioscientific Reasoning (QuASSR) using a Multifaceted Measurement Approach.* Presentation at the research symposium: "Assessing Stuff that Matters—Educationally Significant Outcomes that are Difficult to Assess," University of Missouri, Columbia, MO.

**Romine, W., Connell, C.R., & Folk, W.** (September, 2013). *Development and assessment of ShowMe-InABox middle school health science enrichment materials.* Poster presentation at the Career Symposium for Science Outreach and Communication. University of Missouri, Columbia, MO.

**Romine, W., Barrow, L., & Folk, W.** (April, 2012). *Exploring the Impact of Knowledge and Social Environment on Influenza Prevention and Transmission in Missouri High School Students.* Poster Presentation at Life Sciences Week, University of Missouri, Columbia, MO.

**Romine, W.** (March, 2011). *Assessment of High School Students' Understanding of Influenza and Practice of Mitigation Measures: Findings and Implications for School Intervention Programs.* Paper presentation at the University of Missouri Research and Creative Activities Forum, Columbia, MO.

Barrow, L., Lankford, D. & **Romine, W.** (October 2010). *Diabetes Education: A Curriculum Study and Textbook Evaluation.* Presentation at the University of Missouri Math and Science Education Colloquium, Columbia, MO.

**Romine, W., Whittington, A., & Hofmeister, A.** (April 2008). *Flow and Heat Transfer Properties of Mono Craters Rhyolites: Effects of Temperature, Water Content, and Crystallinity.* Presentation at the University of Missouri Geology Departmental Colloquium, Columbia, MO.

#### **INVITED PRESENTATIONS:**

**Romine, W.** (December, 2015-2017). *Multimodel inference using information criteria.* Presentation to Tanvi Banerjee's graduate-level machine learning class at Wright State University, Dayton, OH.



**Romine, W.** (November, 2014). *Applications of the Rasch model in development and validation of multi-tiered assessments*. Presentation to William Boone's graduate-level Rasch analysis class at Miami University, Oxford, OH.

**Romine, W.** (February, 2014). *Measuring the impact of socioscientific inquiry on college non-science majors' understanding of science-related social issues*. Presentation to the Department of Geological Sciences at Eastern Michigan University, Ypsilanti, MI.

**Romine, W.** (July 2013). *Assessment objectives for Show-Me In a Box curriculum materials*. Presentation at the AHEC/HOSA meeting, New Haven, MO.

**Romine, W.**, Parsons, M., & Leonard, J. (November, 2012). *Demonstration of chemistry experiments students do at Missouri Valley College*. Presentation for the science classes at Linn County R-1 High School, Purdin, MO.

**Romine, W.** & Spears, K. (October, 2011). *The Physics of Martial Arts*. LEAD Event Presentation at William Woods University, Fulton, MO.

**Romine, W.** (October, 2011). *The Potential for Artificial Intelligence in Education Research: An Overview of Neural Networks and their Applications*. Presentation at the University of Missouri Math and Science Education Colloquium, Columbia, MO.

**Romine, W.** (March, 2009). *How to identify rocks and minerals*. Columbia Center for Gifted Education, Columbia, MO.

**Romine, W.** (March, 2009). *Point sets in geometric spaces: an introduction to topology*. Columbia Center for Gifted Education, Columbia, MO.

#### **TEACHER PROFESSIONAL DEVELOPMENT PRESENTATIONS:**

**Romine, W.** (September, 2015). *Quality Assessment on a Shoestring Budget: Learning Progression and Misconception-based Assessments*. Presentation at the *Science on a Shoestring Budget* professional development day for Dayton Public Schools at Thurgood Marshall High School, Dayton, OH.

**Romine, W.** (November, 2010). *5E physics experiments demonstrating frictional forces and conservation of energy*. Teacher Workshop at Smithton Middle School, Columbia, MO.

**Romine, W.** and Folk, W. (August, 2010). *Developing your own inquiry-based labs using Google Earth mapping*. Maps in Medicine Summer Teachers' Institute, Columbia, MO.

**Romine, W.** and Folk, W. (August, 2009). *A summary of the Mapping Health curriculum module*. Maps in Medicine Summer Teachers' Institute, Columbia, MO.

**Romine, W.** and Folk, W. (August, 2009). *An introduction to Google Earth*. Maps in Medicine Summer Teachers' Institute, Columbia, MO.

**Romine, W.** (November, 2008). *How to assist students in identifying minerals and weathering processes*. Teacher Workshop at Smithton Middle School, Columbia, MO.

**Romine, W.** and Folk, W. (August, 2008). *An introduction to mapping disease with Google Earth*. Maps in Medicine Summer Teachers' Institute, Columbia, MO.

#### **PROFESSIONAL ORGANIZATIONS:**

- National Association of Biology Teachers (NABT)
- National Association for Research in Science Teaching (NARST)
- Science Education Council of Ohio (SECO)

#### **SERVICE ACTIVITIES:**

##### ***Reviewing***

- Reviewer for *Science Education* (2018-present)
- Reviewer for *Evolution: Education and Outreach* (2017-present)
- Reviewer for *International Journal of Science and Mathematics Education* (2017-present)
- Reviewer for *Journal of Biological Education* (2017-present)
- Reviewer for *EURASIA Journal of Mathematics, Science, and Technology Education* (2017-present)
- Reviewer for *Sensors* (2017-present)
- Reviewer for *CBE: Life Sciences Education* (2016-present)
- Reviewer for *Journal of Science Education and Technology* (2016-present)
- Reviewer for *Geoforum* (2016-present)
- Reviewer for *International Journal of Science Education* (2013-present)
- Reviewer for *WIREs Water* (2015-present)
- Reviewer for *South African Journal of Science Education* (2015-present)
- Reviewer for *Journal of Research in Science Teaching* (2015-present)
- Proposal reviewer for the NARST annual conference (2014, 2016, 2017)

##### ***Service at Conferences***

- Invited to serve as presider for the strand, **Curriculum Development and Implementation** at the 2016 NARST annual conference.

##### ***Community Education***

- Conduct Self Defense Courses for the Greene County Board of Developmental Disabilities (GCBDD) (2017-present)
- Taught a 2-week "STEMmersion" class at Dayton Regional STEM School on Evidence for Evolution (Grades 6-11, with Amber Todd) (Summer 2015)

- Founder and faculty supervisor for the Robotics Club at Missouri Valley College (2013-2014)
- Founder and sponsor of University of Missouri Homeschool Science Club (2007-2010)
- Science Olympiad Judge (2008-2009)

***University Committees***

- Member of the College of Science and Mathematics Student Appeals Committee (2018-present)
- Member of Wright State's International Student Services Committee (2018-present)
- Member of Wright State's Core Curriculum Assessment Committee (2017-present)
- Member of the Quantitative Methods Committee (2016-present)
- Member of the Department of Biological Sciences Petitions Committee (2016-present)
- Member of the Educational Research Action Committee at Wright State University (2014-2016)
- Member of the Assessment and Seminar Committees in Biological Sciences at Wright State University (2014-present)
- Member of the "Writing across the Curriculum" committee at Missouri Valley College (2013-2014)