Joshua M. Rosenberg

Curriculum Vitae

Assistant Professor, STEM Education
Department of Theory and Practice in Teacher Education
The University of Tennessee, Knoxville
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Education

2018, PhD, Educational Psychology & Educational Technology
Michigan State University

2016, Graduate Certificate, Science Education
Michigan State University

2012, MA, Education
Michigan State University

2010, BS, Biology
University of North Carolina, Asheville

2010, Teacher Licensure Program
University of North Carolina, Asheville

Professional Experience

2018-present, Assistant Professor, STEM Education
University of Tennessee, Knoxville

Related (K-12 Teaching) Experience

2010-2012, Science Teacher (Biology and Earth Science)
Shelby High School, Shelby, NC

2009-2010, Science Teacher Intern (Biology and Chemistry)
C.D. Owen High School, Swannanoa, NC

Publications

Peer-Reviewed Journal Articles

Henriksen, D., Mehta, R., & Rosenberg, J. M. (in press). Supporting a creatively focused technology fluent mindset among educators: Survey results from a five-year inquiry into teachers' confidence in using technology. *Journal of Technology and Teacher Education*

Xu, R., Frank, K. A., Maroulis, S., & Rosenberg, J. M. (in press). Konfound: A Stata module to quantify robustness of causal inferences. *The Stata Journal.* https://www.stata-journal.com/ (*Nb. Software-related publication*)

Rosenberg, J. M., & Lawson, M. J. (2019). An investigation of students' use of a computational science simulation in an online high school physics class, *Education Sciences, 9*(49), 1-19. https://www.mdpi.com/2227-7102/9/1/49

Rosenberg, J. M., Beymer, P. N., Anderson, D. J., & Schmidt, J. A. (2018). tidyLPA: An R package to easily carry out Latent Profile Analysis (LPA) using open-source or commercial software. *Journal of Open Source Software, 3*(30), 978. https://doi.org/10.21105/joss.00978 (*Nb. Software-related publication*)

Greenhalgh, S. P., Staudt Willet, K. B., Rosenberg, J. M., & Koehler, M. J. (2018). Tweet, and we shall find: Using digital methods to locate participants in educational hashtags. *TechTrends, 62*(5), 501-508. https://doi.org/10.1007/s11528-018-0313-6

Beymer, P. N., Rosenberg, J. M., Schmidt, J. A., & Naftzger, N. (2018). Examining relationships between choice, affect, and engagement in out-of-school time STEM programs. *Journal of Youth and Adolescence, 47*(6), 1178-1191. https://doi.org/10.1007/s10964-018-0814-9

Akcaoglu, M., Rosenberg, J. M., Ranellucci, J., & Schwarz, C. V. (2018). Outcomes from a self-generated utility value intervention on fifth and sixth-grade students' value and interest in science. *International Journal of Educational Research, 87*, 67-77. https://www.sciencedirect.com/science/article/pii/S0883035517308492

Schmidt, J. A., Rosenberg, J. M., & Beymer, P. (2018). A person-in-context approach to student engagement in science: Examining learning activities and choice. *Journal of Research in Science Teaching, 55*(1), 19-43. https://dx.doi.org/10.1002/tea.21409 (*Nb. This article was recognized as one of the 20 most-downloaded articles in JRST between June, 2016 and June, 2018*)

Rosenberg, J.M., Greenhalgh, S.P., Graves Wolf, L. & Koehler, M.J. (2017). Strategies, use, and impact of social media for supporting teacher community within professional development: The case of one urban STEM program. *Journal of Computers in Mathematics and Science Teaching, 36*(3), 255-267. https://www.learntechlib.org/primary/p/180387/

Koehler, M. J., Greenhalgh, S. P., Rosenberg, M. J., & Keenan, S. (2017). What the tech is going on with digital teaching portfolios? Using the TPACK framework to analyze teachers' technological understanding. *Journal of Technology and Teacher Education, 25*, 31-59. http://www.learntechlib.org/p/173346/

Rosenberg, J. M., Greenhalgh, S. P., Koehler, M. J., Hamilton, E., & Akcaoglu, M. (2016). An investigation of State Educational Twitter Hashtags (SETHs) as affinity spaces. *E-Learning and Digital Media, 13*(1-2), 24-44. http://dx.doi.org/10.1177/2042753016672351

Greenhalgh, S. P., Rosenberg, J. M., & Wolf, L. G. (2016). For all intents and purposes: Twitter as a foundational technology for teachers. *E-Learning and Digital Media, 13*(1-2), 81-98. http://dx.doi.org/10.1177/2042753016672131

Hamilton, E., Rosenberg, J. M., & Akcaoglu, M. (2016). Examining the Substitution Augmentation Modification Redefinition (SAMR) model for technology integration. *Tech Trends, 60*, 433-441. http://dx.doi.org/10.1007/s11528-016-0091-y

Rosenberg, J. M., Terry, C. A., Bell, J., Hiltz, V., & Russo, T. (2016). Design guidelines for graduate program social media use. *Tech Trends, 2*, 167-175. http://dx.doi.org/10.1007/s11528-016-0023-x

Rosenberg, J. M., & Koehler, M. J. (2015). Context and Technological Pedagogical Content Knowledge (TPACK): A systematic review. *Journal of Research on Technology in Education, 47*, 186-210. http://dx.doi.org/10.1080/15391523.2015.1052663

Other Publications

Mehta, R., Henriksen, D., & Rosenberg, J. M. (2019). It's not about the tools. *Educational Leadership, 76*(5), 64-69. Retrieved from http://www.ascd.org/publications/educational-leadership/feb19/vol76/num05/It's-Not-About-the-Tools.aspx

Vo, T., & Rosenberg, J. M. (2018). Posts for the NARST Graduate Student Resources blog [four blog posts]. *NARST Graduate Student Resources Blog.* Linked through this page: https://joshuamrosenberg.com/job-market-resources.html

Rosenberg, J. M. (2018). Opportunities for engaging students in "data practices" in online science classes. *Michigan Virtual Learning Research Institute Blog: Research, Policy, Innovation & Networks.* https://mvlri.org/blog/opportunities-engaging-students-data-practices-online-science-classes/

Rosenberg, J. M., & Logan, C. W. (2017). Review of the book What's Worth Teaching: Rethinking Curriculum in the Age of Technology, by A. Collins. *Teachers College Record.* http://www.tcrecord.org/Content.asp?ContentID=22173

Phillips, M., Harris, J., Rosenberg, J. M., & Koehler, M. J. (2017). TPCK/TPACK research and development: Past, present, and future directions. *Australasian Journal of Educational Technology.* https://doi.org/10.14742/ajet.3907

Rosenberg, J. M., & Ranellucci, J. (2017). Student motivation in online science courses: A path to spending more time on course and higher achievement. *Michigan Virtual Learning Research Institute Blog: Research, Policy, Innovation & Networks.* https://mvlri.org/blog/student-motivation-in-online-science-courses-a-path-to-spending-more-time-on-course-and-higher-achievement/

Book Chapters

Rosenberg, J. M., Lawson, M. A., Anderson, D. J., & Rutherford, T. (forthcoming). In E. Romero-Hall (Ed.), *Research Methods in Learning Design & Technology.*, Data science dilemmas for teaching research methods in learning design and technology. Routledge: New York, NY.

Greenhalgh, S. P., Staudt Willet, B., Rosenberg, J. M., & Koehler, M. J. (forthcoming). In E. Romero-Hall (Ed.), *Research Methods in Learning Design & Technology.*, Lessons learned from applying Twitter research methods to educational technology phenomena. Routledge: New York, NY.

Dai, T., Rosenberg, J. M., & Lawson, M. A. (forthcoming). Data representation. In T. L. Good & M. McCaslin (*Eds.*), Educational Psychology Section; D. Fisher (*Ed.*), Routledge Encyclopedia of Education (Online). Taylor & Francis: New York, NY.

Eidelman, R., Rosenberg, J. M. ,& Shwartz, Y. (in press). E-Learning in chemistry education: Self-regulated learning in a virtual classroom. In D. Ifenthaler, M. Spector, P. Isafas, & S. Sergis (Eds), *Learning technologies for transforming teaching, learning and assessment at large scale.* Berlin, Germany: Springer.

Herring, M., Koehler, M. J., Mishra, P., Rosenberg, J. M., & Teske, J. (2016). Introduction to the 2nd edition of the TPACK handbook. In M. Herring, M. J. Koehler, & P. Mishra (Eds.), *Handbook of Technological Pedagogical Content Knowledge (TPACK) for educators* (2nd ed., pp. 1-8). New York, NY: Routledge.

Keenan, S, Rosenberg, J. M., Greenhalgh, S. P. & Koehler, M. J. (2016). Examining teachers' technology use through digital portfolios. In L. Liu & D. C. Gibson (Eds.), *Research highlights in technology and teacher education 2016* (pp. 53-60). Chesapeake, VA: Association for the Advancement of Computing in Education. [Invited reprint of conference presentation in edited book]

Phillips, M., Koehler, M. J. & Rosenberg, J. M. (2016). Considering context: Teachers' TPACK development and enactment. In L. Liu & D. C. Gibson (Eds.), *Research highlights in technology and teacher education* (pp. 197-204). Chesapeake, VA: Association for the Advancement of Computing in Education. [Invited reprint of conference presentation in edited book]

Rosenberg, J. M., & Koehler, M. J. (2015). *Context and teaching with technology in the digital age.* In M.L. Niess & H. Gillow-Wiles (Eds.), Handbook of research on teacher education in the digital age (pp. 440-465). Hershey, PA: IGI Global.

Rosenberg, J. M., Greenhalgh, S. P., & Koehler, M. J. (2015). A performance assessment of teachers' TPACK using artifacts from digital portfolios. In L. Liu & D. C. Gibson, *Research highlights in technology and*

teacher education 2015. Waynesville, NC: Association for the Advancement of Computing in Education (AACE). [Invited reprint of conference presentation in edited book]

Koehler, M. J., Mishra, P., Akcaoglu, M., & Rosenberg, J. M. (2013). Technological pedagogical content knowledge for teachers and teacher educators. In N. Bharati and S. Mishra (Eds.), *ICT integrated teacher education: A resource book* (pp. 1-8). Commonwealth Educational Media Center for Asia, New Delhi, India.

Conference Proceedings Papers

Peterson, A., Freer, D., & Rosenberg, J. M. (2017). Interacting with purpose: What is the difference between face-to-face and online student relationships in a combined program? In Proceedings of Society for Information Technology & Teacher Education International Conference 2016 (pp. 3411-3414). Austin, TX: Association for the Advancement of Computing in Education. Retrieved from https://www.learntechlib.org/p/177955/

Krist, C., & Rosenberg, J. M. (2016). Finding patterns in and refining characterizations of students' epistemic cognition: A computational approach. In Looi, C.-K., Polman, J., Cress, U., & Reimann, P. (Eds.), *Transforming Learning, Empowering Learners: The International Conference of the Learning Sciences Proceedings* 2016 (Vol. 2, pp. 1223-1224). Singapore, Singapore: ICLS.

Phillips, M., Koehler, M. J. & Rosenberg, J. M. (2016). Looking outside the circles: Considering the contexts influencing TPACK development and enactment. In *Proceedings of Society for Information Technology & Teacher Education International Conference 2016* (pp. 3029-3036). Chesapeake, VA: Association for the Advancement of Computing in Education. Retrieved from http://www.editlib.org/p/172122

Rosenberg, J. M., Koehler, M. J., Akcaoglu, M., Greenhalgh, S. P. & Hamilton, E. (2016). State Educational Twitter Hashtags: An introduction and research agenda. In *Proceedings of Society for Information Technology & Teacher Education International Conference 2016* (pp. 355-360). Chesapeake, VA: Association for the Advancement of Computing in Education. Retrieved from http://www.editlib.org/p/171698

Greenhalgh, S. P., Rosenberg, J. M. & Wolf, L. G. (2016). For every tweet there is a purpose: Twitter within (and beyond) an online graduate program. In *Proceedings of Society for Information Technology & Teacher Education International Conference 2016* (pp. 2044-2049). Chesapeake, VA: Association for the Advancement of Computing in Education (AACE). Retrieved from http://www.editlib.org/p/171972

Keenan, S., Rosenberg, J. M., Greenhalgh, S. P. & Koehler, M. J. (2016). Examining teachers' technology use through digital portfolios. In *Proceedings of Society for Information Technology & Teacher Education International Conference 2016* (pp. 1084-1091). Chesapeake, VA: Association for the Advancement of Computing in Education (AACE). Retrieved from http://www.editlib.org/p/171824

Rosenberg, J. M., Greenhalgh, S. P. & Koehler, M. J. (2015). A performance assessment of teachers' TPACK using artifacts from digital portfolios. In D. Slykhuis & G. Marks (Eds.), *Proceedings of Society for Information Technology & Teacher Education International Conference 2015* (pp. 3390-3397). Chesapeake, VA: Association for the Advancement of Computing in Education (AACE). Retrieved from http://www.editlib.org/p/150472

Schwarz, C. V., Ke, L., Lee, M, & Rosenberg, J. M. (2014). Developing mechanistic explanations of phenomena: Case studies of two fifth grade students' epistemologies in practice over time. In J. L. Polman, E. A. Kyza, K. O'Neill, I. Tabak, W. R. Penuel, A. S. Jurow, . . . L. D'Amico (Eds.), *Learning and becoming in practice: The international conference of the learning sciences (ICLS) 2014* (Vol. 1, pp. 182-189). Boulder, CO: ISLS. http://www.isls.org/icls2014/Proceedings.html

Rosenberg, J. M., & Koehler, M. (2014). Context and Technological Pedagogical Content Knowledge: A content analysis. In M. Searson & M. Ochoa (Eds.), *Proceedings of Society for Information Technology & Teacher Education International Conference 2014* (pp. 2412-2417). Chesapeake, VA: AACE. Retrieved from http://www.editlib.org/p/131183

Greenhalgh, S. P., Rosenberg, J. M., Zellner, A. & Koehler, M. J. (2014). Zen and the art of portfolio maintenance: Best practices in course design for supporting long-lasting portfolios. In M. Searson & M. Ochoa (Eds.), *Proceedings of Society for Information Technology & Teacher Education International Conference 2014* (pp. 1604-1610). Chesapeake, VA: AACE. Retrieved from http://www.editlib.org/p/131027

Rosenberg, J., Terry, C., Bell, J., Hiltz, V., Russo, T. & The EPET Social Media Council (2014). What we've got here is failure to communicate: Social media best practices for graduate school programs. In M. Searson & M. Ochoa (Eds.), *Proceedings of Society for Information Technology & Teacher Education International Conference 2014* (pp. 1210-1215). Chesapeake, VA: AACE. Retrieved from http://www.editlib.org/p/130949

Rosenberg, J. (2013). Review of mobile device use policies in public high schools. In R. McBride & M. Searson (Eds.), *Proceedings of Society for Information Technology & Teacher Education International Conference 2013* (pp. 3774-3779). Chesapeake, VA: AACE. Retrieved from http://www.editlib.org/p/48698git

Journal Articles in Submission

Ranellucci, J., Rosenberg, J. M., & Poitras, E. (accepted registered report). Exploring pre-service teachers' use of technology: The technology acceptance model and expectancy-value theory. *Journal of Computer Assisted Learning.*

Blondel, D. V., Sansone, A., Rosenberg, J. M., Yang, B. W., Linennbrink-Garcia, L., Schwarz-Bloom, R. D. (revise and resubmit). Development of an online experiment platform (Rex) for high school biology.

Rosenberg, J. M., Schmidt, J. A., & Koehler, M. J. (under review). How youth experience work with data in summer STEM programs: Findings from an experience sampling approach.

Krist, S., & Rosenberg, J. M. (under review). Incremental refinement in learners' epistemic considerations of generality in science over three years: A computational grounded theory analysis.

Beymer, P. N., Rosenberg, J. M., & Schmidt, J. A. (under review). Investigating the effects of interest and choice in education: An experience sampling approach in high school science classes.

Carpenter, J., Rosenberg, J. M., (under review). Understanding teacher educator technology competencies: findings and perspectives from a cross-disciplinary sample.

Working papers

Rosenberg, J. M., Schwarz, C. V., & Akcaoglu, M. (in preparation). Learning to teach scientific modeling: A longitudinal case study of two teachers' instructional practice.

Rosenberg, J. M., Reid, J., Koehler, M. J., Fischer, C., & McKenna, T. J. (in preparation). The roles of the Twitter hashtag #NGSSchat in the context of science education reform efforts.

Schmidt, J. A., Beymer, P. N., & Rosenberg, J. M. (in preparation). Experiences, activities, and personal characteristics as predictors of engagement in STEM-focused summer programs.

Greenhalgh, S. P., Rosenberg, J. M., Staudt-Willet, B., Koehler, M. J., & Akcaoglu, M. (in preparation). Timing is everything: Comparing synchronous and asynchronous modes of Twitter for teacher professional learning.

Unpublished Manuscripts and Pre-Prints

Rosenberg, J. M. (2018). *Context and Technological Pedagogical Content Knowledge: An initial survey of teachers and validation data.*

Rosenberg, J. M. (2018). *Understanding work with data in summer STEM programs: An experience sampling method approach* (Doctoral dissertation). Retrieved from Proquest Dissertations and Theses. (Proquest No. 10747232)

Grants

2017-2020, Consultant and Significant Contributor (Method), Profiles of science engagement: Broadening participation by understanding individual and contextual influences ($499,927). National Science Foundation (PI: Jennifer Schmidt).

2019-2020, PI, Planting the seeds for computer science education in East Tennessee through a research-practice partnership. ($8,000). Community Engaged Research Seed Program, University of Tennessee, Knoxville.

2018-2019, Co-PI, Exploring how beginning elementary mathematics teachers seek out resources through social media ($8,820), Herman and Rasiej Math Initiative at the University of Southern California (PI: Stephen Aguilar)

2013, PI, Basic Biology for Everyone ($2,000), Versal Foundation Grant

Fellowships and Awards

2019, Open Publishing Support Fund, University of Tennessee Libraries and Office of Research and Engagement, University of Tennessee, Knoxville

2018, Foreign Travel Award, Office of Research and Engagement, University of Tennessee, Knoxville (UTK)

2017, Delia Koo Global Travel Fellowship, Michigan State University (MSU)

2017, Michigan Virtual Learning Research Institute Dissertation Fellowship ($1,500)

2017, Concord Consortium Data Science Educational Technology Fellowship ($1,000)

2017, Research Expenses Fellowship ($3,250), MSU

2016, College of Education Alumni Fellowship ($5,500), MSU

2015, Cotterman Family Endowment for Education Summer Research Fellowship ($6,000), MSU

2013, Massive Open Online Course Research and Development Fellowship ($1,000), MSU

Awards

2019, Finalist, Association for Science Teacher Education John C. Park National Technology Leadership Institute Fellowship

2017, Council of Graduate Students Disciplinary Leadership Award, Michigan State University

2016, Best Paper Award, TPACK SIG, SITE International Conference

2014, Outstanding Paper Award, Society for Information Technology and Teacher Education International Conference

Presentations

Peer-Reviewed Conference Presentations

Rosenberg, J. M, Beymer, P. N., Houslay, T. M., & Schmidt, J. A. (2019, April). Using a multivariate model to understand how youths' in-the-moment engagement predicts changes in youths' interest. In M. Bernacki, A. Kaplan, and L. Linnenbrink-Garcia (Chairs), *Embracing and modeling the complex dynamics of motivation and engagement: Contextual, temporal, dynamic, and systematic.* Symposium conducted at the Annual Meeting of the American Educational Research Association, New York, NY.

Beymer, P. N., Schell, M. J., Alberts, K. M., Rosenberg, J. M., & Schmidt, J. A. (2019, April). *Student engagement profiles in formal and informal STEM learning settings.* Paper to be presented at the Annual Meeting of the American Educational Research Association, New York, NY.

Schell, M. J., Beymer, P. N. Albert, K. M., Rosenberg, J. M., & Schmidt, J. A. (2019, April). *Predictors of momentary student engagement profiles in high school science classrooms.* Paper to be presented at the Annual Meeting of the American Educational Research Association, New York, NY.

Reid, J., Rosenberg, J. M., Koehler, M. J., Fischer, C., & McKenna, T. J. (2019, March). *An exploration of #NGSSchat through social network analysis.* Paper to be presented at the National Association for Research in Science Teaching Annual International Conference, Baltimore, MD.

Carpenter, J., Rosenberg, J. M., Dousay, T., Romero-Hall, E., Trust, T., Kessler, A., . . . & Krutka, D. (2019, March). *What do teacher educators think of teacher education technology competencies?* Paper to be presented at the Society for Information Technology and Teacher Education International Conference, Las Vegas, NV.

Rosenberg, J. M., Reid, J., Koehler, M. J., Fischer, C., & McKenna, T. J. (2019, January). *The roles of the Twitter hashtag #NGSSchat in the context of science education reform efforts.* Paper to be presented at the Association for Science Teacher Education International Meeting, Savannah, GA. (*Nb. This paper was nominated for the ASTE John C. Park National Technology Leadership Institute Fellowship*)

Akcaoglu, M., Hodges, C. B., Rosenberg, J. M., & Hilpert, J. (2018, October). *Factors impacting middle school students' interest, efficacy, and utility value of programming.* Paper presented at the Association for Educational Communications and Technology International Convention 2018. Kansas City, MO.

Staudt Willet, K. B., Greenhalgh, S. P., Rosenberg, J. M., Koehler, M. J. (2018, October). *Won't you be my neighbor? How education stakeholders use hyperlinks to build information neighborhoods on Twitter.* Paper to be presented at the Association for Educational Communications and Technology International Convention 2018. Kansas City, MO.

Beymer, P. N., Rosenberg, J.M., & Schmidt, J. A. (2018, April). *Investigating the effects of interest and choice: An experience sampling approach.* Paper presented at the Annual Meeting of the American Educational Research Association, New York, NY.

Greenhalgh, S. P., Staudt Willet, B., Rosenberg, J. M., Akcaoglu, M., & Koehler, M. J. (2018, April). *Timing is everything: Comparing synchronous and asynchronous modes of Twitter for teacher professional learning.* Paper presented at the Annual Meeting of the American Educational Research Association, New York, NY.

Rosenberg, J. M., Beymer, P. N., & Schmidt, J. A. (2018, April). *How engagement during out-of-school time STEM programs predicts changes in motivation in STEM.* In J. M. Rosenberg (Chair), Data-intensive approaches to studying engagement in education: Exploring their current potential. Paper presented at the Annual Meeting of the American Educational Research Association, New York, NY.

Rosenberg, J. M., Lee, Y., Robinson, K. A., Ranellucci, J., Roseth, C. J., & Linnenbrink-Garcia, L. (2018, April). *Patterns of engagement in a flipped undergraduate class: Antecedents and outcomes.* In L. Daniels & A. Frenzel (Chairs), New empirical insights on what energizes learners – A session on emotions and engagement. Paper presented at the Annual Meeting of the American Educational Research Association, New York, NY.

Schmidt, J. A., Rosenberg, J.M., & Beymer, P. N. (2018, April). *Experiences, activities, and personal characteristics as predictors of interest and engagement in STEM-focused summer programs.* Paper presented at the Annual Meeting of the American Educational Research Association, New York, NY.

Shwartz, Y., Bayer, I., Bielik, T., Kolonich, A., Eidelman, R., Shwartz, G., . . . Rosenberg, J. M. (2018, March). *Graduate student international collaboration for investigating science teachers' professional learning.* Paper presented at the meeting of the National Association for Research in Science Teaching, Atlanta, GA.

Yang, B. W., Blondel, D. V., Rosenberg, J. M., Sansone, A., Linennbrink-Garcia, L., Schwarz-Bloom, R. D. (2017, November). *The Rex virtual experiment platform: Design, implementation, and effects on situational interest.* Poster presented at the Annual Meeting of the Society for Neuroscience, Washington, DC.

Greenhalgh, S. P., Staudt Willet, K. B., Rosenberg, J. M., & Koehler, M. J. (2017, November). *No accounting for theory? The case for an affinity space approach to educational hashtag research.* Paper presented at the Association for Educational Communications and Technology International Convention 2017, Jacksonville, FL.

Greenhalgh, S. P., Rosenberg, J. M., & Koehler, M. J. (2017, November). *Hide and go tweet: Comparing methods for locating educational hashtag participants.* Paper presented at the Association for Educational Communications and Technology International Convention 2017, Jacksonville, FL.

Schmidt, J. A., Rosenberg, J. M., & Beymer, P. N. (2017, August). *Stability and variation in student engagement in science classes: A person-oriented approach.* Paper presented at the Annual Meeting of the American Psychological Association, Washington, DC.

Beymer, P. N., Rosenberg, J. M., Schmidt, J. A., Naftzger, N., Sniegowski, S., Shumow, L. (August, 2017). *Examining relationships between choice, affect, and engagement in informal STEM programs.* Paper presented at the Annual Meeting of the American Psychological Association, Washington, DC.

Greenhalgh, S. P., Rosenberg, J. M., & Koehler, M. J. (2017, April). *Combining data sets and methods to explore equity in teacher professional development. In D. G. Krutka (Chair), Data, big and small.* Symposium conducted at the meeting of the American Educational Research Association, San Antonio, TX.

Schmidt, J. A., Rosenberg, J. M., & Beymer, P. N. (2017, April). *Momentary engagement profiles: A person-in-context approach to studying student engagement using experience sampling data.* Paper presented at the Annual Meeting of the American Educational Research Association, San Antonio, TX.

Roseth, C. J., Linnenbrink-Garcia, L., Saltarelli, W., Lee, Y-K., Rosenberg, J. M. . . . & Beymer, P. N. (2017, April). *A design-based intervention on flipped instruction: Longitudinal effects on undergraduates' engagement and achievement.* Paper presented at the Annual Meeting of the American Educational Research Association, San Antonio, TX.

Galey, S., Ferrare, J., & Rosenberg, J. M. (2017, April). *Idea brokers, policy convergence, and paradigm shifts: The co-evolution of school choice and alternative certification issue networks in the national educational policy discourse, 2000-2015.* Paper presented at the Annual Meeting of the American Educational Research Association, San Antonio, TX.

Wright, E., Hao, Q., & Rosenberg, J. M. (2017, April). *What are the most important predictors of the earnings of college graduates? Data from the college scorecard.* Paper presented at the Annual Meeting of the American Educational Research Association, San Antonio, TX.

Mikeska, J. N., Rosenberg, J. M., Holtzman, S., & McCaffrey, D. (2017, April). *Comparing the alignment between two observational measures of science teachers' instructional practice.* Poster presented at the National Association for Research in Science Teaching Annual International Conference, San Antonio, TX.

Greenhalgh, S. P., Rosenberg, J. M., & Koehler, M. J. (2017, March). *Avoiding madness in our methods.* Paper presented at the Society for Information Technology and Teacher Education International

Conference 2017, Austin, TX.

Rosenberg, J. M., Akcaoglu, M., Staudt Willet, K. B., Greenhalgh, S. P., & Koehler, M. J. (2017, March). *A tale of two Twitters: Synchronous and asynchronous use of the same hashtag.* In P. Resta & S. Smith (Eds.), Proceedings of Society for Information Technology & Teacher Education International Conference 2017 (pp. 283-286). Waynesville, NC: Association for the Advancement of Computing in Education (AACE).

Phillips, M., Koehler, M. J., Rosenberg, J. M., & Zunica, B. (2017, March). *Unpacking TPACK: Reconsidering knowledge and context in teacher practice.* Paper presented at the Society for Information Technology and Teacher Education International Conference 2017, Austin, TX.

Kessler, A., & Rosenberg, J. M. (2017, March). *Considering how teachers' TPACK is leveraged during the mental engineering of instruction: A theory of action.* Paper presented at the Society for Information Technology and Teacher Education International Conference 2017, Austin, TX.

Nyland, R., Greenhalgh, S. P., Rosenberg, J. M., Koehler, M. J., Veletsianos, G., & Kimmons, R. (2016, October). *Public data mining methods, ethics, & legalities.* Panel presented at the Association for Educational Communications and Technology International Convention 2016, Las Vegas, NV.

Rosenberg, J. M., Greenhalgh, S. P., & Wolf, L. G. (2016, October). *Participating from near and far: Analyzing online graduate learning communities with social network analysis.* Paper presented at the Association for Educational Communications and Technology International Convention 2016, Las Vegas, NV.

Rosenberg, J. M. (2016, October). *Having agency in conditions that are not equitable: An examination of Donors Choose data.* Paper presented at the Association for Educational Communications and Technology International Convention 2016, Las Vegas, NV.

Phillips, M., Koehler, M. J., & Rosenberg, J. M. (2016, September). *Contextualising teachers' TPACK development and enactment.* Paper presented at the Australian Council for Computers in Education, Brisbane, Australia.

Rosenberg, J. M. & Schwarz, C. V. (2016, April). Examining fifth and sixth grade students' epistemic considerations through an automated analysis of embedded assessment items. In B. Reiser (Chair), *Longitudinal studies of elementary and middle school students' epistemic considerations through participation in scientific practice.* Related paper set presented at the National Association for Research in Science Teaching Annual International Conference, Baltimore, MD. (slides)

Rosenberg, J. M. & Krist, C. (2016, April). *Characterizing students' epistemic considerations: An automated computational approach for embedded assessment responses.* Poster presented at the National Association for Research in Science Teaching Annual International Conference, Baltimore, MD. (slides)

Ranellucci, J., Rosenberg, J. M., Klautke, H., Robinson, K. A., Saltarelli, W., Linnenbrink-Garcia, L., & Roseth, C. J. (2016, April). *Achievement goals, behavioral engagement, and achievement in a flipped undergraduate anatomy course.* Paper presented at the Annual Meeting of the American Educational Research Association, Washington, DC.

Lee, Y.-K., Rosenberg, J. M., Robinson, K. A., Klautke, H., Seals, C., Saltarelli, W., Linnenbrink-Garcia, L., & Roseth, C. J. (2016, April). *Comparing motivation and achievement in a flipped and traditional classroom.* Paper presented at the Annual Meeting of the American Educational Research Association, Washington, DC.

Wormington, S. V., Lee, Y.-K., Seals, C., Rosenberg, J. M., Saltarelli, W., Roseth, C. J., & Linnenbrink-Garcia, L. (2016, April). *Predicting profile permanence: When is motivation stable, why does it change, and what are the consequences?* Paper presented at the Annual Meeting of the American Educational Research Association, Washington, DC.

Ranellucci, J., Robinson, K. A., Rosenberg, J. M., Saltarelli, W., Roseth, C. J., & Linnenbrink-Garcia, L. (2016, April). *Comparing emotions in-class and during online video lectures in a flipped classroom.*

Paper presented at the Annual Meeting of the American Educational Research Association, Washington, DC.

Rosenberg, J. M., Ranellucci, J., Lee, Y.-K., Robinson, K., Saltarelli, W., Linnenbrink-Garcia, L., & Roseth, C. J. (2016, March). *Patterns of engagement in a flipped undergraduate anatomy class and their relations to achievement.* Paper presented at the Society for Information Technology & Teacher Education Annual Conference, Savannah, GA.

Rosenberg, J. M. (2015, November). *Examining what teachers and researchers discuss at science education conferences through a computational analysis of Twitter data.* Paper presented at the meeting of the Association for Educational Communications and Technology, Indianapolis, IN.

Rosenberg, J. M., Akcaoglu, M., Hamilton, E., Greenhalgh, S. P., & Koehler, M. J. (2015, November). *Tweeting U.S.A.: An examination of State Educational Twitter Hashtags (SETHs).* Paper presented at the meeting of the Association for Educational Communications and Technology, Indianapolis, IN.

Greenhalgh, S. P., Rosenberg, J. M., Keenan, S., & Koehler, M. J. (2015, November). *An investigation of the use of digital portfolios for understanding educators' technology knowledge.* Paper presented at the meeting of the Association for Educational Communications and Technology, Indianapolis, IN.

Hamilton, E., Rosenberg, J. M., & Akcaoglu, M. (2015, November). *Examining the Substitution Augmentation Modification Redefinition (SAMR) Model for instructional design and technology integration.* Paper presented at the meeting of the Association for Educational Communications and Technology, Indianapolis, IN.

Mehta, R., Rosenberg, J. M., Russo, T., Arnold, B., Marich, H., & Bell, J. (2015, November). *A survey of social media use and the effects of a social media initiative on graduate student engagement.* Paper presented at the meeting of the Association for Educational Communications and Technology, Indianapolis, IN.

Rosenberg, J. M., & Koehler, M. J. (2015, April). Context and Technological Pedagogical Content Knowledge: A content analysis. In J. M. Rosenberg & M. J. Koehler (Chairs), *Addressing the complexity of teaching with technology: Context and Technological Pedagogical Content Knowledge.* Symposium conducted at the American Educational Research Association Annual Meeting, Chicago, IL.

Hamilton, E., Rosenberg, J. M., & Akcaoglu, M. (2015, April). *The Substitution Augmentation Modification Redefinition (SAMR) framework for technology integration: Challenges to its use for guiding K-12 teacher's pedagogy and practice.* Paper presented at the American Educational Research Association Annual Meeting, Chicago, IL.

Rosenberg, J. M., Ervin, L., Harris, J., Greenhow, C., Kessler, A., & Tai, D. (2015, March). *How should educational technology researchers consider context? An interactive discussion on context and teaching and learning with technology.* Panel presented at the meeting of the Society for Information Technology and Teacher Education International Conference, Las Vegas, NV.

Akcaoglu, M., & Rosenberg, J. M. (2015, March). *Best practices for designing synchronous and asynchronous online teaching for adult learners.* Poster presented at the meeting of the Society for Information Technology and Teacher Education, Las Vegas, NV.

Rosenberg, J. M., Schwarz, C. V., & Lee, S. W.-Y., & Akcaoglu, M. (2015, April). A comparative longitudinal case study of the use of scientific modeling in the pedagogical practice of two fifth-grade science teachers. In A. Lo (Chair), *Leveraging the epistemic dimensions of scientific practice to support students' meaningful engagement in modeling.* Related paper set presented at the National Association for Research in Science Teaching Annual International Conference, Chicago, IL.

Rosenberg, J. M., Schwarz, C.V., Akcaoglu, M., & Lee, S.W-Y. (2014, October). *Comparative longitudinal case studies of two middle school teachers' use of scientific modeling.* Poster presented at the Advances in Educational Psychology Conference. Fairfax, VA.

Lee, M., Schwarz, C. V., Ke, L., & Rosenberg, J. M. (2014, April). *Analyzing fifth-grade students' engagement in scientific modeling: Changes in students' epistemologies-in-practice over time.* Paper presented at

the meeting of the National Association for Research in Science Teaching, Philadelphia, PA.

Ke, L., Schwarz, C. V., Lee, M. & Rosenberg, J. M. (2014, April). *Examining elementary students' attention to mechanism as they engage in scientific modeling across content areas.* Paper presented at the meeting of the National Association for Research in Science Teaching, Philadelphia, PA.

Koehler, M. J., Rosenberg, J. M., Greenhalgh, S., Zellner, A. L., & Mishra, P. (2014, March). Analyzing students' portfolios for the development of TPACK. In J. Voogt (Chair), *Artifacts demonstrating teachers' technology integration competencies.* Symposium presented at the meeting of the Society for Information Technology and Teacher Education, Jacksonville, FL.

Invited Talks

Rosenberg, J. M. (February, 2019). *Making sense of recent advances in the Technological Pedagogical Content Knowledge framework.* English International Congress at the Universidad Tecnical de Norte, Ibarra, Ecuador.

Rosenberg, J. M. (March, 2016). *An introduction to R for programming and statistical analysis in education.* Georgia Southern University College of Education, Statesboro, GA.

Other Presentations

Camponovo, M., Lawson, M. A., & Rosenberg, M. J. (July, 2019). Integrating geospatial tech with math and science pre-service teachers. 2019 Education Summit @ ESRI UC. San Diego, CA.

Jones, R. S., & Rosenberg, J. M. (February, 2019). Latent class modeling of whole class discussions about data, statistics, and probability. Presentation at the 13th Annual Tennessee STEM Education Research Conference. Murfreesboro, TN.

Lawson, M., Rosenberg, J. M., & Camponovo, M. (February, 2019). Better together? Findings from a combined, integrated STEM unit with pre-service mathematics and science teachers. Presentation at the 13th Annual Tennessee STEM Education Research Conference. Murfreesboro, TN.

Competitive Research Training

New Faculty Mentoring Program, AERA Division C, 2019

Graduate Student Seminar, AERA Division C, 2016

Early Career Seminar, National Science Foundation and AECT, 2015

Advanced Training Institute on Research Methods with Diverse Groups, American Psychological Association, 2014

Research Experience

Research Assistant, Profiles of Science Engagement, Jennifer Schmidt (PI), 2017-2018

Research Assistant, Self-Generated Research Experiences to Support Biomedical/Behavioral Research Careers, Lisa Linnenbrink-Garcia (PI), 2017

Research Assistant, STEM Interest and Engagement, Jennifer Schmidt (PI), 2016-2018

Research Assistant, Supporting scientific practices in elementary and middle school classrooms, Christina Schwarz (MSU PI), 2013-2017

Software Developed

R packages on Comprehensive R Archive Network (CRAN)

tidyLPA: Easily carry out Latent Profile Analysis (LPA) using open-source and commercial software (w/ J. Schmidt, P. Beymer, D. J. Anderson, and C. J. van Lissa). https://cran.r-project.org/web/packages/tidyLPA/index.html

KonFound-It! R package: Rosenberg, J. M., Xu, R., & Frank, K. A. (2018). Konfound-It!: Quantify the robustness of causal inferences (R package). https://jrosen48.github.io/konfound/

prcr: Person-centered analysis (w/ J. Schmidt, P. Beymer, & R. Steingut). CRAN: https://cran.r-project.org/web/packages/prcr/index.html

clustRcompaR: Easy interface for clustering a set of documents and exploring group-based patterns (w/ A. Lishinski). CRAN: https://cran.r-project.org/web/packages/clustRcompaR/index.html

Interactive Web Applications

KonFound-It! web application: Rosenberg, J. M., Xu, R., & Frank, K. A. (2018). Konfound-It!: Quantify the robustness of causal inferences (Web application software). http://konfound-it.com.

State Educational Twitter Hashtags (SETHs): https://jmichaelrosenberg.shinyapps.io/SETHs

Teaching

Teaching Awards

Michigan State University

MSU-AT&T Instructional Technology Award: Best Online Course, 2014

MSU-AT&T Instructional Technology Award (Honorable Mention): Best Online Course, 2013

Courses Taught

Instructor at the University of Tennessee, Knoxville

Nature of Mathematics and Science Education (SCED 572, M.A. and Ph.D. class) *Teaching Science in Grades 7-12* (TPTE 495, SCED 496, & SCED 543, B.S. & M.A. class)

Instructor at Michigan State University:

Psychology of Learning in School and Other Settings (CEP 800, M.A. class)
Approaches to Educational Research (CEP 822, M.A. class)
Technology and Leadership (CEP 815, M.A. class)

Teaching Assistant at Michigan State University:

Proseminar in Educational Psychology and Educational Technology (CEP 900, Ph.D. class)
Proseminar in Educational Technology (CEP 807 / ED 870, M.A. class)
Educational Inquiry (CEP 900, Ph.D. class)
Social-Emotional Development Across the Lifespan (CEP 904, Ph.D. class)

Service

Editorial Service

Special Issue Editor, Australasian Journal of Educational Technology, 2017

Editorial Review Board Member, Journal of Research on Technology in Education, 2016 - Present

Editorial Review Board Member, Science Education Section, Contemporary Issues in Technology and Teacher Education, 2019 - Present

Service to the Profession

Member, Technological Pedagogical Content Knowledge (TPACK) Special Interest Group (SIG) Award Committee, 2019

Co-chair, TPACK SIG, Society for Information Technology and Teacher Education , 2015-2017

Membership Committee, Division 15 (Educational Psychology), American Psychological Association (APA), 2014-2017

Communications Deputy, Division C, American Educational Research Association, 2015-2016

Associate Chair, TPACK SIG, Society for Information Technology and Teacher Education, 2014-2015

Conference Review Activity

Reviewer, National Association for Research in Science Teaching Annual Conference, 2019

Review Panel Member, American Educational Research Association (AERA) Annual Meeting, 2015-2019

Reviewer, Association for Science Teacher Education Annual Conference, 2019

Program Committee Member, International Conference on Computer-Supported Collaborative Learning, 2017

Graduate Student Reviewer, American Educational Research Association (AERA) Annual Meeting, 2014

Reviewer, Association for Educational Communications and Technology (AECT) International Convention, 2016

Reviewer, American Psychological Association (APA) Convention, 2015

Service to the Community

Reviewer, Proposals from Knox County Schools students to the NASA Student Spaceflight Experiment Program

Outreach, data science education workshops with two classes around Knoxville, TN

Ad-hoc Journal Article Reviews

Education Sciences (2), Journal of Research in Science Teaching, TechTrends, 2019

Contemporary Educational Psychology, Computers & Education, Australasian Journal of Educational Technology (2), Journal of Open Source Software, Asia-Pacific Education Researcher, 2018

Computers & Education, Journal of Educational Technology & Society, 2017

Computers & Education, British Journal of Educational Technology, E-Learning and Digital Media (2), 2016

Contemporary Issues in Technology and Teacher Education, 2015

Departmental Service

University of Tennessee, Knoxville

Committee member for one Ph.D student (2019)

Committee member for five Master's degree students (2019)

Michigan State University

Member of two practicum committees for Educational Psychology and Educational Technology program Ph.D. students, Michigan State University, 2014-2018

Search Committee Member, Program Specialist, Master of Arts in Educational Technology Program, Michigan State University, 2015

Service to the Community

Reviewer, Proposals from Knox County Schools students to the NASA Student Spaceflight Experiment Program, 2018

Provided enrichment activities related to data science to two classes, Knox County Schools, Private School in Knox County, 2018

Workshops and Outreach

Anderson, D. J., and Rosenberg, J. M. (2019, April). Transparent and reproducible research with R. Workshop to be carried out at the Annual Meeting of the American Educational Research Association, New York, NY.

Rosenberg, J. M. (2017, April). Introduction to R for Data Analysis. Presentation at the School of Criminal Justice, Michigan State University.

Ranellucci, J., & Rosenberg, J. M. (2016, February). Motivating our students: A partnership between Michigan Virtual Schools and Michigan State University. Workshop at Michigan Virtual University, East Lansing, MI.

Rosenberg, J. M. (2014, April). Action research with mobile devices and other "disruptive" technologies. Presentation at the Best of the Michigan Association for Computer Users in Learning Conference, Waterford, MI.

Rosenberg, J. M. (2014, February). Action research with mobile devices. Presentation at the Michigan Association for Computer Users in Learning Mobile Learning Conference, Kalamazoo, MI.

Sawaya, S., & Rosenberg, J. M (2014, February). Master of Arts in Educational Technology Mobile Learning Workshop. Workshop at Michigan State University, East Lansing, MI.

Campus and Departmental Presentations

Rutherford, T., & Rosenberg, J. M. (2019, February). *Motivational correlates of choice after failure within an elementary mathematics software.* Presentation at the NC State College of Education Celebration of Research.

Rosenberg, J. M. (2019, January). *Engaging students in science: Findings from an experience sampling method approach. Presentation at the East Tennessee STEM Hub Crossing Boundaries for STEM Teaching regional meeting and mini-conference. Knoxville, TN.

Rosenberg, J. M., Beymer, P. N., & Schmidt, J. A. (2017, February). Does choosing the problem or topic matter? Using a person-in-context approach to understand student engagement in science. Poster presented at the Create4Stem MiniConference 2017, East Lansing, MI.

Rosenberg, J. M. (2016, April). Momentary engagement profiles: An examination of student engagement in science settings using experience sampling methodology. Presentation at the Michigan State University Educational Psychology and Educational Technology Program Informal Colloquium, East Lansing, MI.

Rosenberg, J. M., & Schwarz, C. V. (2016, February). Examining the development of fifth and sixth grade students' epistemic considerations over time through an automated analysis of embedded assessment items. Poster presented at the Create4Stem MiniConference 2016, East Lansing, MI.

Rosenberg, J. M. (2015, September). Achievement goals, in- and out-of-class engagement, and students' achievement in a flipped undergraduate anatomy class. Presentation at the Michigan State University Educational Psychology and Educational Technology Program Informal Colloquium, East Lansing, MI.

Rosenberg, J. M., Akcaoglu, M., Schwarz, C.V., & Lee, S.W-Y. (2015, February). Comparative longitudinal case studies of two middle school teachers' use of scientific modeling. Poster presented at the Create4Stem MiniConference 2015, East Lansing, MI.

Lee, M., Schwarz, C.V., Ke, L., Rosenberg, J. M., Reiser, B., Berland, L., Kenyon, L., Wilson, M., Draney, K. (2015, February). Epistemic considerations in scientific practices for elementary & middle schools. Poster presented at the Create4Stem MiniConference 2015, East Lansing, MI.

Wolf, L. G., Henriksen, D., Sawaya, S., & Rosenberg, J. M. (2014, December). EdCamp with Team MAET. Presentation at the Michigan State University Master of Arts in Educational Technology Bridge Webinar Series, East Lansing, MI.

Rosenberg, J. M. (2014, November). Integrating "disruptive" technologies into teaching with action research and Technological Pedagogical Content Knowledge (TPACK). Presentation at the Michigan State University Educational Technology Conference, East Lansing, MI.

Wolf, L. G., Henriksen, D., Sawaya, S., & Rosenberg, J. M. (2014, March). Mobile learning for educators. Presentation at the Michigan State University Master of Arts in Educational Technology Bridge Webinar Series, East Lansing, MI.

Rosenberg, J. M. (2014, February). Context and Technological Pedagogical Content Knowledge: Preliminary results of a content analysis. Presentation at the Michigan State University Educational Psychology and Educational Technology Program Informal Colloquium, East Lansing, MI.

Ke, L., Lee, M., Rosenberg, J. M., & Schwarz, C.V. (2014, February). Modeling across content areas: Examining elementary students' attention to mechanism. Poster presented at the Create4Stem MiniConference 2014, East Lansing, MI.

Rosenberg, J. M., Rapa, L., & Wolf, L. G. (2013, February). CEP 815 and the transition from ANGEL to Desire2Learn. Poster presented at the 6th Annual Faculty Technology Showcase.

Rosenberg, J. M. (2012, November). Mobile learning for teachers. Presentation at the Michigan State University Educational Technology Conference, East Lansing, MI.

Consulting

2017-2018, Statistical software development (R package and web application)
Kenneth Frank, Michigan State University

2017, Statistical analysis
Yael Shwartz, Weizmann Institute

2016, Statistical analysis
Lara Kassab, San Jose State University

Professional Affiliations

American Educational Research Association, 2012 - Present
Association for the Advancement of Computing in Education, 2012 - Present
Association for Science Teacher Education, 2018 - Present
National Association for Research in Science Teaching, 2015 - Present