CURRICULUM VITAE (2023)

Darek W. Potter
685 Canter Lane
Cookeville, TN 38501
darekpotter@me.com
(931) 397-5001

EDUCATION:

May, 2019	Tennessee Technological University, Ph.D. in Exceptional Learning, Program Planning and Evaluation
December, 2017	Tennessee Technological University, M.A. in STEM Education
May, 1999	Vanderbilt University, M.S. in Civil and Environmental Engineering
December, 1994	Tennessee Technological University, B.S. in Civil Engineering

EDUCATIONAL WORK EXPERIENCE:

2021 – present
Tennessee Technological University – Cookeville, TN
Assistant Professor
Responsible for teaching classes and conducting research for the Department of Exercise Science in the College of Education.

2019 – present
Tennessee Technological University – Cookeville, TN
Director
Responsible for managing the daily operations of the Millard Oakley STEM Center.

2018 – 2019
Tennessee Technological University – Cookeville, TN
Interim Director
Responsible for managing the daily operations of the Millard Oakley STEM Center.

2012 – 2017
Jackson County High School – Gainesboro, TN
Teacher
Responsible for teaching mathematics, engineering, physics, and mechatronics classes. Classes taught include Algebra 1, Algebra 2, Advanced Algebra & Trigonometry, Pre-Calculus, Physics, PLTW Principles of Engineering, PLTW Civil Engineering & Architecture, and Mechatronics.

2011 – 2012
Smith County High School – Carthage, TN
Teacher
Responsible for teaching Principles of Technology. Also served as the school's head softball coach.

2009 – 2010 York College of Pennsylvania – York, PA
Adjunct Faculty
Responsible for teaching Engineering Statics (ME 250) to undergraduate students. I left this position when we moved from PA to TN.

2001 – 2002 The Pennsylvania State University at Harrisburg – Middletown, PA
Adjunct Faculty
Responsible for teaching "ENVE 415 – Hydrology" and "ENVE 417 - Hydraulic Design" to undergraduate and graduate level students. This position ended when a tenure-track faculty member was hired.

1997 – 1998 Vanderbilt University – Nashville, TN
Teaching/Research Assistant
Responsible for tutoring students and grading papers in the courses of "Soil Mechanics," "Foundation Design," "Structural Steel Design," and "Senior Design Project." Also responsible for assisting Professor Guillermo Hahn in theoretical calculations and the physical design of an innovative vibration isolation system, as well as assisting Professor Hahn in the study of earthquake induced torsion in symmetrical and unsymmetrical structures.

PROFESSIONAL WORK EXPERIENCE:

2017 – 2022 Matthew & Hockley Associates, Ltd. – Lebanon, PA
Civil Engineer
Responsible for the preparation of stormwater management plans, E&S control plans, environmental permitting, floodplain delineation studies, and opinions of probable cost for site construction.

2012 – 2017 DP Engineering, LLC – Gainesboro, TN
Civil Engineer
Responsible for the preparation of stormwater management plans, E&S control plans, environmental permitting, floodplain delineation studies, and opinions of probable cost for site construction.

2010 – 2012 Business Transition Period
In 2010 I sold Harbor Engineering, Inc. and spent the next two years transitioning out of company ownership.

2002 – 2010 Harbor Engineering, Inc. – Manheim, PA
President
Responsible for the daily operations of the company. Also responsible for participating in and overseeing site planning and design for new facilities and facility expansions; opportunity and constraints analysis; subdivision plans, land development plans, stormwater management plans, and erosion & sedimentation control plans; environmental permitting; floodplain

delineation studies; sanitary sewer and domestic water infrastructure design; site development permitting; preparation of construction specifications; preparation of opinions of probable cost for site construction; construction inspection services; and municipal project reviews for ordinance compliance.

1999 – 2002 RGS Associates, Inc. – Brownstown, PA
Project Manager
Responsible for engineering analysis and design of commercial, industrial, and residential land development projects. Duties included managing a design team, establishing and tracking project budgets, and coordinating with clients and municipalities for project approvals. Duties also included preparing subdivision plans, preparing stormwater management plans, preparing erosion controls plans, designing sanitary sewer facilities, designing waterline facilities, preparing cost opinions for project feasibility and municipal securities, writing technical specifications, and reviewing shop drawings for site construction.

1998 – 1999 USInfrastructure, Inc. – Tulsa, OK
Civil Engineer
Responsible for general design duties within the office. Participated in the design of an approximate 10-mile-long roadway project for the Oklahoma Department of Transportation. The project included grading, drainage, surfacing, and traffic controls necessary to improve US-59 from an existing two-lane facility to a four-lane facility with paved shoulders. Also participated in a Sanitary Sewer Evaluation Survey (SSES) for the city of Tulsa.

1997 David B. Smith Engineering, Inc. – Clarksville, TN
Project Engineer
Responsible for overseeing the transfer of jobs and client orientation from recently purchased company (The Right Angle Surveying Company, Inc.). Also responsible for general design duties within the office that included performing stormwater calculations and creating site grading plans.

1996 – 1997 The Right Angle Surveying Company, Inc. – Clarksville, TN
Co-Owner
Responsible for daily operations of the company. Duties included the marketing of new projects, management of existing projects, scheduling of field crew operations, working as a survey party chief for boundary surveys, topographic surveys, as-built surveys, and construction stakeout surveys, and performing data reduction analysis of field obtained survey data Duties also included performing deed research and preparing legal descriptions for property boundaries. Also responsible for consulting with clients on initial concepts for development projects and preparing preliminary concept plans to meet local regulations.

1994 – 1996 Patrick Engineering Inc. – Clarksville, TN
Project Engineer
Responsible for engineering analysis and design of commercial, industrial, and residential land development projects. Also responsible for overseeing the daily operations of the materials testing department. Duties included roadway design, waterline design, sanitary sewer design, and the design of stormwater management facilities. Duties also included performing site inspections for soil capacity and providing recommendations for unsuitable materials.

PUBLICATIONS:

Potter, D. W., Simone, K. B., Isbell, J. K., Hinkel, S. (2024). Understanding college path decisions of rural Tennesseans. (working paper)

Richards, J. R., Phillips, M. B., Severt, B., & Potter, D. W. (2024). An analysis of Protestant Christian leader perspectives: Church culture and health behaviors. *International Public Health Journal, 16*(1), ??-?? (accepted for publication).

Potter, D. W. (2019). *Integrated versus traditional curriculum: Moderating effects of gender and aptitude on high school ACT mathematics achievement* (Doctoral dissertation). Tennessee Tech University, Cookeville, TN. ProQuest Number: 13809953

Isbell, J. K., Baker, J. C., Potter, D. W., & Ezell, L. (2019). Rural working-class scholars' perspectives and experiences seeking post-secondary education. In *Adult Higher Education Alliance 43rd Annual Conference Proceedings*. Orlando, FL: AHEA.

Isbell, J. K., Baker, J. C., Potter, D., & Ezell, L. (2019, April). *Research to reconnect: Rural older adults' perspectives and experiences seeking post-secondary education*. Final report to the Tennessee Higher Education Commission.

Motevalli, V., Potter, D., Meadows, J., & Galindo, C. (2019). *STEM in motion at Tennessee Tech University*. Southeastern Transportation Research, Innovation, Development and Education Center (STRIDE). University of Florida, Gainesville, FL. https://trid.trb.org/view/1715626

Chitiyo, G., Potter, D. W., & Rezsnyak, C. (2018). Impact of an Atoms-First approach on student outcomes in a two-semester general chemistry course. *The Journal of Chemical Education, 95*(10), 1711–1716. doi:10.1021/acs.jchemed.8b00195

Gajendragadkar, G., Boyd, J. A., Potter, D. W., Mellen, B. G., Hahn, G. D., & Shenai, J. P. (2000). Mechanical vibration in neonatal transport: A randomized study of different mattresses. *Journal of Perinatology*, *20*(5), 307–310.

Potter, D.W. (1999). *A study of vibration in neonatal transport and torsion in structures under seismic excitation.* (Master's Thesis). Vanderbilt University, Nashville, TN.

CITED IN:

Baldock, B. L., Blanchard, J. D., & Fernandez, A. L. (2021). Student discovery of the relationship between molecular structure, solubility, and intermolecular forces. *Journal of Chemical Education, 98*(12), 4046–4053.

Bhagwan, R., & Ashokcoomar, P. (2021). Towards a safer and more efficient neonatal transfer system in South Africa: A qualitative inquiry with advanced life support paramedics. *Australasian Journal of Paramedicine, (18)*.

Fischer, C., Zhou, N., Rodriguez, F., Warschauer, M., & King, S. (2019). Improving college student success in organic chemistry: impact of an online preparatory course. *Journal of chemical education, 96*(5), 857–864.

McCallig, M., & Pakrashi, V. (2021). Whole-body vibration exposure from incubators in the neonatal care setting: A review. *Journal of Environmental and Occupational Health, 11*(2), 37–46.

Perry, S. E. (2021). Fifty years of progress in neonatal and maternal transport for specialty care. *Journal of Obstetric, Gynecologic & Neonatal Nursing, 50*(6), 774–788.

Provencher, B. A., Franco, J., Fernandez, A. L., Theberge, S., & Zwickau, B. (2020). Implementation of a 1–2–1 curriculum and its effect on organic chemistry I. *Journal of Chemical Education, 97*(5), 1303–1309.

Youssef, M. (2021). Assessing the use of Kahoot! in an undergraduate general chemistry classroom. *Journal of Chemical Education, 99*(2), 1118–1124.

Partridge, T. J., Morris, D. E., Light, R. A., Leslie, A., Sharkey, D., Crowe, J. A., & McNally, D. S. (2020, July). Finding comfortable routes for ambulance transfers of newborn infants. In *2020 42nd Annual International Conference of the IEEE Engineering in Medicine & Biology Society,* 5905–5908. IEEE.

Provencher, B. A., Franco, J., Fernandez, A. L., Theberge, S., & Zwickau, B. (2020). Implementation of a 1–2–1 curriculum and its effect on organic chemistry I. *Journal of Chemical Education*, *97*(5), 1303–1309.

Redpath, S., Shah, P. S., Moore, G. P., Yang, J., Toye, J., Perreault, T., & Lee, K. S. (2020). Do transport factors increase the risk of severe brain injury in outborn infants < 33 weeks gestational age? *Journal of Perinatology*, 40, 385–393. https://doi.org/10.1038/s41372-019-0447-1

Wang, Q., Zhou, J., Xu, D., & Ouyang, H. (2020). Design and experimental investigation of ultra-low frequency vibration isolation during neonatal transport. *Mechanical Systems and Signal Processing*, 139. https://doi.org/10.1016/j.ymssp.2020.106633

Zimmer, J., & Puri, P. (2020). Transport of sick infants and children. *Pediatric Surgery: General Principles and Newborn Surgery*, 167–179. https://doi.org/10.1007/978-3-662-43588-5_11

Fischer, C., Zhou, N., Rodriguez, F., Warschauer, M., & King, S. (2019). Improving college student success in organic chemistry: Impact of an online preparatory course. *Journal of Chemical Education*, *96*(5), 857–864. doi:10.1021/acs.jchemed.8b01008

Gupta, N., Shipley, L., Goel, N., Carmo, K. B., Leslie, A., & Sharkey, D. (2019). Neurocritical care of high-risk infants during inter-hospital transport. *Acta Paediatrica, 108*(11), 1965–1971. https://doi.org/10.1111/apa.14940

Hayes, R. T., & Randall, D. W. (2019). Low DWF rate reneral chemistry course: It is possible. In *From General to Organic Chemistry: Courses and Curricula to Enhance Student Retention* (pp. 33-46). American Chemical Society.

King, S. M., Zhou, N., Fischer, C., Rodriguez, F., & Warschauer, M. (2019). Enhancing student learning and retention in organic chemistry: Benefits of an online organic chemistry preparatory course. In *From General to Organic Chemistry: Courses and Curricula to Enhance Student Retention* (pp. 119-128). American Chemical Society.

Zwissig, M., Rio, L., Roth-Kleiner, M., & Ramelet, A. S. (2019). Measurement of stress in stable neonates during ambulance transportation: A feasibility study. *Australian Critical Care, 32*(1), 28–33.

Zhou, J., Wang, K., Xu, D., Ouyang, H., & Fu, Y. (2018). Vibration isolation in neonatal transport by using a quasi-zero-stiffness isolator. *Journal of Vibration and Control, 24*(15), 3278–3291.

Babajani, S. (2017). Medical care in air transport for traumatic infants. *Paramedical Sciences and Military Health, 12*(1), 50–56.

Sallee, W., Bentley, A., Walding, D., & Christofi, C. (2016). Neonatal Transport Incubator: Vibration Identification, Ranking, and Attenuation—A Novel Approach to Patient Tray Stabilization. *Journal of Clinical Engineering*, *41*(2), 101–105.

Prehn, J., McEwen, I., Jeffries, L., Jones, M., Daniels, T., Goshorn, E., & Marx, C. (2015). Decreasing sound and vibration during ground transport of infants with very low birth weight. *Journal of Perinatology*, *35*(2), 110–114.

Whyte, H. E., & Jefferies, A. L. (2014). The interfacility transport of critically ill newborns. *Pediatrics & child health*, *20*(5), 265–275.

Kaloutsakis, G., Reimer, A., Jeong, D., & Lee, K. (2013, November). Design and Evaluation of a Multi-Sensor Unit for Measuring Physiological Stressors of Medical Transport. In *ASME 2013 International Mechanical Engineering Congress and Exposition* (pp. V03BT03A054-V03BT03A054). American Society of Mechanical Engineers.

Harrison, C., & McKechnie, L. (2012). How comfortable is neonatal transport? *Acta paediatrica*, *101*(2), 143–147.

Karlsson, B. M., Lindkvist, M., Lindkvist, M., Karlsson, M., Lundström, R., Håkansson, S., Wikland, U., & Van Den Berg, J. (2012). Sound and vibration: effects on infants' heart rate and heart rate variability during neonatal transport. *Acta Paediatrica*, *101*(2), 148–154.

Shah, S., Hudak, J., Gad, A., Cohen, J. C., & Chander, A. (2010). Simulated transport alters surfactant homeostasis and causes dose-dependent changes in respiratory function in neonatal Sprague-Dawley rats. *Journal of perinatal medicine*, *38*(5), 535–543.

Jackson, L., & Skeoch, C. H. (2009). Setting up a neonatal transport service: Air transport. *Early human development*, *85*(8), 477–481.

Browning, J., Walding, D., Klasen, J., & David, Y. (2008). Vibration issues of neonatal incubators during In-hospital transport. *Journal of Clinical Engineering*, *33*(2), 74–77.

Teasdale, D., & Hamilton, C. (2008). Baby on the move: Issues in neonatal transport. *Paediatric nursing*, *20*(1), 20–25.

Watts, C., Trim, E., Metherall, J., & Lightfoot, E. (2008). Neonatal transport—The comfort zone. *Infant*, *4*(1), 27–30.

Skeoch, C. H., Jackson, L., Wilson, A. M., & Booth, P. (2005). Fit to fly: Practical challenges in neonatal transfers by air. *Archives of Disease in Childhood-Fetal and Neonatal Edition*, *90*(6), F456–F460.

Buckland, L., Austin, N., Jackson, A., & Inder, T. (2003). Excessive exposure of sick neonates to sound during transport. *Archives of Disease in Childhood-Fetal and Neonatal Edition*, *88*(6), F513–F516.

PRESENTATIONS:

Potter, D. W., Meadows, J. R. & Galindo, C. (May, 2023). *Upper Cumberland STEM.* Presentation made at the TSIN STEM Innovation Summit in Nashville, TN.

Potter, D. W. & Galindo, C. (May, 2022). *Regional STEM Support.* Presentation made at the TSIN STEM Innovation Summit in Nashville, TN.

Potter, D. W., Baker, J. C., & Sukowski, D. (November, 2021). *Ambassadors for Rural Innovation & STEM Education (ARISE)*. Presentation made at the 2021 Inaugural Tennessee Board of Regents Access & Diversity Grant Spotlight Series via Zoom.

Potter, D. W. & Simone, K. B. (November, 2021). *Understanding the college path decision process of rural Tennessee students*. Presentation made at the 2021 National Forum to Advance Rural Education in Indianapolis, IN.

Potter, D. W. & Galindo, C. (May, 2021). *Supporting STEM in the Upper Cumberland.* Virtual presentation made at the TSIN STEM Innovation Summit.

Potter, D. W. (September, 2019). *The status of STEM in the Upper Cumberland*. Keynote speech made at the inaugural EXCEED Conference in Celina, TN.

Arce-Trigatti, A., Potter D. W., Meadows, J., Moore K., Ablakwa, C. N., Sr., England, M., & Baker, J. C., (July, 2019). *Addressing the equity divide through diverse, educational opportunities in rural communities: A three-pronged qualitative study.* Presentation made at the TN NAME Conference in Cookeville, TN.

Potter, D. W. (June, 2019). *Rural STEM education outreach*. Presentation made at the ETSU STEM Education Conference and Action Workshop: Galvanizing Interdisciplinary STEM in Tennessee (GIST) in Johnson City, TN.

Potter, D. W. & Galindo, C. (May, 2019). *STEM Support in the Upper Cumberland Region of Tennessee.* Presentation made at the TSIN STEM Innovation Summit in Nashville, TN.

Isbell, J. K., Baker, J. C., Potter, D. W., & Ezell, L. (May, 2019). *Rural working-class scholars' perspectives and experiences seeking post-secondary education.* Presentation made at the International Congress of Qualitative Inquiry Conference in Urbana-Champaign, IL.

Meadows, J. R., Arce-Trigatti, A., Moore K., Ablakwa, C. N., Sr., England, M., Potter D. W., & Baker, J. C. (May, 2019). *Instructor perspectives on collaboratively teaching critical thinking and problem solving through integrated STEM content in a rural high school: A qualitative piece.* Presentation made at the International Congress of Qualitative Inquiry Conference in Urbana-Champaign, IL.

Ablakwa, C. N., Sr., Meadows, J., Moore, K., Arce-Trigatti A., Potter D. W., England, M., & Baker, J. C., (February, 2019). *Problem-solving through STEM applications at a rural and remote school: Observations of an ongoing research-driven project*. Presentation made at the TN STEM Education Research Conference in Murfreesboro, TN.

Akenson, A., Chitiyo, G., Garrett, R., Zagumny, L., Besnoy, K., Fidan, P., Ablakwa, C. N., Sr., Mathende, A., Potter, D. W., Davis, K. (November, 2018). *Chess in schools initiative: Evaluation design to inform evidence-based practice.* Presentation made at the 2018 American Evaluation Association (AEA) Annual Conference in Cleveland, OH.

Garrett, R., Chitiyo, G., Davis, K., Mathende, A., Fidan, I., Potter, D. W. (November, 2018). *Evaluation design to capture workshop participants' total learning experience.* Presentation made at the 2018 American Evaluation Association (AEA) Annual Conference in Cleveland, OH.

Potter, D. W., Chitiyo, G., Powell, E., Ingle, H. Littrell, M. (November, 2018). *Evaluation of a STEM Outreach Program for Middle and High School Students.* Presentation made at the American Evaluation Association Annual Conference in Cleveland, OH.

DOCTORAL COMMITTEE MEMBERSHIP:

Kudakwashe Mandebvu (Tennessee Tech): anticipated defense Spring 2026
Jasen Knight (Tennessee Tech), Committee Co-Chair: anticipated defense Spring 2025
Mary Ann Simcox (Tennessee Tech), Committee Chair: anticipated defense Fall 2025
Imon Uduehi (Tennessee Tech): anticipated defense Spring 2025
Shannon Railling (Tennessee Tech): anticipated defense Spring 2024
Nyasha Dzenga (Tennessee Tech): anticipated defense Fall 2024
Lelia F. Gibson (Tennessee Tech): anticipated defense Spring 2024
Kathryn L. Wisinger (Tennessee Tech): anticipated defense Summer 2023
Vincent Okot (Tennessee Tech): anticipated defense Spring 2023
Chaidamoyo G. Dzenga (Tennessee Tech): "Play Interventions for children with autism spectrum disorder involving typically-developing peers and adults: A systematic literature review," defended June 2022.
Marlana Rose Lastres (Tennessee Tech): "Moderating effects of sex, professional support, spiritual support, and social support on the relationship between childhood abuse and anger and irritability," defended June 2022.
Kenneth (Beau) L. Wynn Jr. (Tennessee Tech): "Acute effects of lacrosse ball self-myofascial release and static stretching on hamstring flexibility," defended June 2022.
Daniel Sukowski (Tennessee Tech): "Assessing construct validity of EdTPA's elementary education and early childhood assessment areas using mixed methodology," defended March 2022.
Allen M. Mathende (Tennessee Tech): "Preservice teacher perspectives on immersion in 360-degree video virtual reality: Using virtual reality video in preparing teachers for field experience," defended March 2021.
Michael C. N. Littrell (Tennessee Tech): "High school students' postsecondary pipeline outcomes predicted by experiential factors and moderated by first-generation status," defended in February 2021.

UNIVERSITY SERVICE:

University Institutional Review Board (Tennessee Tech)
University Faculty Development Steering Committee (Tennessee Tech)
University Chairs and Program Directors Academic Learning Community (Tennessee Tech)
College of Education Executive Leadership Council (Tennessee Tech)
Multiple Hiring Committees (Tennessee Tech)

UNIVERSITY COURSES TAUGHT:

EDU 7420: Quantitative Inquiry in Education I (Tennessee Tech, 2021–present)
EXPW 4900: Research Methods (Tennessee Tech, 2020–present)
EDUP 7810: Supervised Practicum in Program Planning and Evaluation (Tennessee Tech, 2020–2021; 2023–present)
ME 250: Engineering Statics (York College of Pennsylvania, 2009–2010)
ENVE 415: Hydrology (Penn State at Harrisburg, 2001–2002)
ENVE 417: Hydraulic Design (Penn State at Harrisburg, 2001–2002)

GRANTS:

Co-Principal Investigator. (2023). *Empower – Upper Cumberland.* Department of Education: Fund for the Improvement of Postsecondary Education. PI: Michael Aikens; Co-PIs: Dennis Tennant; Senior Personnel: Amanda Powell. (FUNDED: $1,000,000).

Co-Principal Investigator. (2023). *LEARN-TN: Leveraging Education to Advance Rural Needs-Tennessee.* Department of Education: Fund for the Improvement of Postsecondary Education. PI: Kumar Yelamarthi; Co-PIs: Indranil Bhattacharya; Senior Personnel: George Chitiyo, Kinsey Simone, Maanak Gupta, Tania Datta. (Pending: $1,825,860).

Co-Principal Investigator. (2023). *Reaching Nissan's Neighbors through Tennessee Tech's Freedom School and STEMobile*. Nissan Neighbors Grant. PI: Michelle Arbogast; Co-PIs: Lisa Zagumny, Amber Spears. (Pending; $58,866)

Principal Investigator. (2023). *Millard Oakley STEM Center Regional Programming.* FY2024 Federal Appropriation Request. NIST/Scientific and Technical Research. Funds requested to supplement lending library satellite hubs ($2,600,000), develop and distribute mobile maker spaces in the region ($1,200,000), and host all regional 5–8 students for a campus field trip ($725,000). Co-PI: Lisa Zagumny. (Pending: $4,525,000)

Co-Principal Investigator. (2022). *RET site: Addressing the Tennessee state computer science standards for K-12 through legitimate peripheral participation in data science research.* Research Experiences for Teachers (RET) in Engineering and Computer Science Grant Program from the National Science Foundation (NSF 21-606). PI: Gerald Gannod; Co-PIs: Cory Gleasman, Susmit Shannigrahi; Senior Personnel: Douglas Talbert, Alfred Kalyanapu, Bradley Cohen. (not funded: $599,996)

Principal Investigator. (2022). *STEM in the Upper Cumberland.* TSIN Hub Operations and Innovative Educator Workshops Grant. Co-PI: Carlos Galindo. (FUNDED: $35,000)

Co-Principal Investigator. (2022). *Transportation engineering in the middle school classroom.* Southeastern Transportation, Research, Innovation, Development, and Education Center (STRIDE). STRIDE Partner K–12 Grant. PI: Steven Click; Co-PI: Jennifer Meadows. (FUNDED: $27,000)

Principal Investigator. (2022). *Collaborative learning & investigating professions in STEM (CLIPS).* Innovative Technology Experiences for Students and Teachers (ITEST) Grant Program from the National Science Foundation (NSF 22-585). Co-PIs: Julie Baker, Mike Gotcher, Leslie Suters. Senior Personnel: Lisa Zagumny, Carlos Galindo. (not funded: $1,300,000)

Principal Investigator. (2022). *Educational Computing for All (EC4ALL).* TSIN Computer Science Grant. Co-PIs: Cory Gleasman, Susmit Shannigrahi, Jennifer Meadows, Carlos Galindo. (FUNDED: $50,000)

Principal Investigator. (2022). *STEM support in the Upper Cumberland.* FY2023 Federal Appropriation Request. Funds requested to establish 14 lending library satellite hubs ($700,000) and to fund STEMobile mobilization costs to over 40 schools ($100,000). Co-PI: Lisa Zagumny. (Committee approved in June, 2022. (FUNDED: $400,000)

Principal Investigator. (2022). *Improving Student Success through Teamwork, Engagement, Activities, and Mentorship (i-S^{2}TEAM)*. TBR: Student Engagement, Retention and Success Grant. Co-PIs: Christy Killman, Charria Campbell, Brittany Elmore, Carlos Galindo, Ajit Korgaokar, David Mann, Michael Phillips, Bobbi Severt, Christina Turnbow, Bradley Westrick. (not funded: $50,000)

Co-Principal Investigator. (2022). *Collaborative, Applied, and Sustainable STEM Education Research Opportunities (CASSERO)*. Science, Technology, Engineering and Mathematics (STEM) Education Postdoctoral Research Fellowships (STEM Ed PRF) from the National Science Foundation (NSF 22-531). PI: Holly Anthony; Co-PI: Ashley Akenson. (not funded: $1,249,959)

Senior Personnel. (2022). *DESTini-TN: Developing golden eagle scholars to enhance STEM education in rural under-developed communities of Tennessee (TN)*. NSF Scholarships in Science, Technology, Engineering, and Mathematics (S-STEM) from the National Science Foundation (NSF 22-527). PI: Syed Hasan; Co-PI: Ismail Fidan. (not funded: $1,500,000)

Principal Investigator. (2021). *Careers in STEM.* TSIN Hub Operations and Innovative Educator Workshops Grant. Co-PI: Carlos Galindo. (FUNDED; $35,000)

Principal Investigator. (2021). *GEAR UP TTU-UC*. Department of Education: Gaining Early Awareness and Readiness for Undergraduate Programs (Partnership Grants). Co-PI: Julie Baker. (not funded: ±$22,792,000)

Principal Investigator. (2021). *Ambassadors for designing and delivering virtual interactive instruction for STEM education (AD^{2}VI^{2}SE)*. TBR: Student Engagement, Retention and Success Grant. Co-PIs: Jennifer Meadows, Stephanie Wendt, Kelly Moore, Jane Baker, Holly Anthony, Carlos Galindo; Senior Personnel: Carey Wilson. (FUNDED; $50,000)

Co-Principal Investigator. (2021). *R.E.A.L.(S)^2: Retention through Engagement and Active Learning = Student Success*. TBR: Student Engagement, Retention and Success Grant. PI: Christy Killman; Co-PI: Julie Baker; Senior Personnel: David Mann, Brad Westrick, Christina Turnbow. (not funded; $49,975)

Principal Investigator. (2021). *Rural STEM league: Building confidence and success through informal stem learning.* Advancing Informal STEM Learning (AISL) Grant Program from the National Science Foundation (NSF 20-607). Co-PIs: Stephanie Wendt, Amy Callender, Jennifer Meadows, Kelly Moore. Senior Personnel: Jane Baker, Lisa Zagumny, George Chitiyo. (not funded; $2,907,967)

Co-Principal Investigator. (2021). *Integrating transportation engineering into the middle school classroom*. Southeastern Transportation, Research, Innovation, Development, and Education Center (STRIDE). STRIDE Partner K–12 Grant. PI: Steven Click. (FUNDED; $26,008)

Principal Investigator. (2020). *Virtual STEM: Supporting learning in a COVID world*. Toyota Foundation Grant. Co-PIs: Lisa Zagumny, Michelle Arbogast. (not funded; $62,998)

Co-Principal Investigator. (2020). *Change through open resources in education (CORE)*. TBR: Open Educational Resources and Low Costs/No Costs Educational Support Materials - LGI Grant. PI: Amber Spears; Co-PIs: Janet Isbell, Julie Stepp; Senior Personnel: Daniel Sukowski, Carlos Galindo. (not funded; $99,945)

Principal Investigator. (2020). *Aspects of Manufacturing.* TSIN Hub Operations and Innovative Educator Workshops Grant. Co-PI: Carlos Galindo. (FUNDED; $34,788)

Co-Principal Investigator. (2020). *One-Stop Youth Center (OYC) for the 21st Century Workforce*. Workforce Innovation and Opportunity Act, American Job Center, WIOA Title 1 Youth Services Grant. PI: Ismail Fidan. (not funded; $1,757,426)

Principal Investigator. (2020). *Ambassadors for Rural Innovation & STEM Education (ARISE)*. TBR: Student Engagement, Retention and Success Grant. Co-PIs: Julie Baker, Harry Ingle. (FUNDED; $49,875)

Co-Principal Investigator. (2020). *STEMobile for East Tennessee Counties*. Niswonger Foundation Grant. PI: Michelle Arbogast; Co-PIs: Lisa Zagumny. (not funded; $673,929)

Principal Investigator. (2020). *Girls Rule & Lead: Creative Opportunities to Develop and Empower Rural Success (GRL CODERS)*. American Honda Foundation Grant. Co-PIs: Cory Gleasman, Cale Koester, Carlos Galindo. (not funded; $38,984)

Co-Principal Investigator. (2020). *C2E2: Cross-Cultural Exchanges in Education.* U.S. Embassy and Consulate in Poland Grant Program. PI: Dorota Silber-Furman. (not funded; $25,253)

Co-Principal Investigator. (2020). *STEM in motion: Integrating transportation engineering into the high school classroom*. Southeastern Transportation, Research, Innovation, Development, and Education Center (STRIDE). STRIDE Partner K–12 Grant. PI: Vahid Motevalli. (FUNDED; $22,231)

Principal Investigator. (2019). *Oakley STEM center support.* TSIN Hub Operations and Innovative Educator Workshops Grant. Co-PIs: Jennifer Meadows, Carlos Galindo. (FUNDED; $29,678)

Senior Personnel. (2019). *Addressing issues of food insecurity through container gardening.* USDA | Women and Minorities in Science, Technology, Engineering, and Mathematics Fields Program (WAMS). PI: Cara Sisk; Co-PIs: Rufaro Chitiyo, Anthony Paradis. (not funded; $94,999)

Co-Principal Investigator. (2019). *STEM in Motion: Integrating Transportation Engineering into the Middle School Classroom*. Southeastern Transportation, Research, Innovation, Development, and Education Center (STRIDE). STRIDE Partner K–12 Grant. PI: Vahid Motevalli. (FUNDED; $24,000)

Co-Principal Investigator. (2019). *HIPSTERS: High impact practices in STEM targeting engagement, retention, & success*. TBR: Student Engagement, Retention and Success Grant. PI: Julie Baker; Co-PIs: Lisa Zagumny, Carlos Galindo, Harry Ingle, Robert Owens, Charria Campbell. (FUNDED; $24,092)

Co-Principal Investigator. (2019). *The STEM foundry heritage fellows program*. TBR: Student Engagement, Retention and Success Grant. PI: Andrea Arce-Trigatti; Co-PIs: Pedro Arce, Carlos Galindo, Stephanie Jorgensen, Robby Sanders. (FUNDED; $25,000)

Principal Investigator. (2018). *Progression of flight.* TSIN Hub Operations and Innovative Educator Workshops Grant. (FUNDED; $32,166)

Co-Principal Investigator. (2017). *Transforming recruitment: Engaging the pipeline and inspiring careers (EPIC)*. Improving Undergraduate STEM Education: Education and Human Resources (IUSE: EHR) Grant Program from the National Science Foundation (NSF 17-590). PI: Julie Baker; Co-PI: Lisa Zagumny. (not funded; $1,999,888)

Co-Principal Investigator. (2017). *Leaving the lecture behind: Teaching critical thinking skills & student engagement through contemporary issues*. Improving Teacher Quality (ITQ) Grant Program from the Tennessee Higher Education Commission (THEC). PI: Julie Baker; Co-PIs: Mike Gotcher, Cephas Ablakwa, Ginger Thomas, Tessa Bishop. (FUNDED; $74,833)

Co-Principal Investigator. (2017). *Teacher demand: Supporting add-on endorsements in high need subject areas*. Tennessee Innovation in Preparation grant, facilitated by the Tennessee State Department of Education. PI: Julie Baker; Co-PIs: Tessa Bishop, Jennifer Meadows, Dorota Silber-Furman, Stephanie Wendt, and Lisa Zagumny. (not funded; $48,240)

COURSES DEVELOPED:

2016 *Problem Solving Through Mathematical Application*, Jackson County High School, Gainesboro, TN.

LICENSURE:

Professional Engineer: Pennsylvania, Tennessee, Kentucky
Professional Engineer (inactive): Ohio, West Virginia
Leadership in Energy and Environmental Design Accredited Professional (LEED AP)
TN Apprentice Teacher, inactive (Highly Qualified: 413 Mathematics & 417 Physics)

HONORS/AWARDS:

Research Award, Department of Exercise Science, Tennessee Tech University, 4/2023

SERVICE:

ASEE-SE – Conference Proposal Reviewer (2022)
SAGE – Book Proposal Reviewer (2022)
E4usa School Liaison (Most Supportive University Liaison – 2022)
TSIN Statewide Design Challenge Reviewer
STRIDE, Proposal Reviewer
Southeastern STEM Education Research Conference Committee, Member
Southeastern STEM Education Research Conference Committee, Conference Proposal Reviewer
Jackson County GEAR UP Advisory Board, Member
Jackson County CTE Advisory Board, Member
Gainesboro Port Authority, Past Commissioner
Jackson County Interact Club, Past Faculty Sponsor
Manheim Borough Planning Commission, Past Board Member
Manheim Rotary Club, Past President
Chiques Creek Watershed Alliance, Past President / Founding President
Manheim Area Economic Development Corporation, Past Board Member