

NIDAA MAKKI, Ph.D.

The University of Akron • (330) 972-6955 • email: nmakki@uakron.edu

CURRENT POSITION

Fall 2021- Present	Professor , The University of Akron Lebron James Family Foundation School of Education
Fall 2014- Spring 2021	Associate Professor , The University of Akron Curriculum and Instructional Studies Lebron James Family Foundation College of Education
Fall 2008-Spring 2014	Assistant Professor , The University of Akron Curriculum and Instructional Studies College of Education

Highlight of Responsibilities

- Director, Urban STEM Education Center (2019-present)
- Vice Chair, faculty senate (2018-2021)
- Secured over \$4,000,000 dollars in external funding for collaborative research.
- Taught graduate and undergraduate courses in pre-service science education, curriculum and instruction, and research methods.
- Designed and conducted teacher professional development in Engineering Education, Physics Education, and Inquiry instruction.
- Conducted evaluations of school and university programs in STEM education.
- Served on various university committees, such as Faculty Senate Executive Committee, Graduate Council, Honors Advisory Council, Academic Policies Committee, Curriculum Review Committee, and Buchtel College Council.
- Initiated and maintained collaborations with Akron Public Schools.
- Supervised dissertation research, masters' projects, and honors projects.

ACADEMIC BACKGROUND

August 2008	Ph.D. Curriculum and Instruction Emphasis: Science Education Advisors: Matthew Weinstein, and Wendy Sherman Heckler Kent State University, Kent, OH
August 2000	MA Curriculum and Instruction Emphasis: Science Education; Instructional Technology Kent State University, Kent, OH
July 1997	Teaching Diploma, Middle and Secondary Science Education Advisor: Saouma Boujaoude American University of Beirut, Beirut, Lebanon
July 1996	B.S. Physics American University of Beirut, Beirut, Lebanon

Courses Taught

Graduate (*indicates courses developed or major revisions)

- 5500:520* Advanced Instructional Techniques: Science
- 5500:619 Instructional and Management Practices
- 5500:617* Seminar: Licensure in Curriculum and Instruction
- 5500:539 Engineering for Educators
- 5500:530/531 Clinical Teaching I and II (School Based Practicum)
- 5500:760* Action Research (Woodrow Wilson Fellowship Program)
- 5500:651* Secondary Science Curriculum and Instruction
- 5500:550* Nature, History, Philosophy of Science

Undergraduate

- 5200:333* Science for Primary Teachers
- 5250:333 Teaching Science –Middle Level
- 5300:420/421* Instructional Techniques I & II: Science
- 5500:475/575 Instructional Technology Applications
- 5100:220 Educational Psychology
- Student teaching supervisor

Workshops (in-service teacher professional development):

- Teaching Science for ELL learners – Cleveland Schools (2018)
- Engineering for Educators- Elementary (Summer 2019, Summer 2021)
- Physics Modeling Summer Workshops (2015-2018)
- Integrating Engineering in the Science Curriculum - Teachers workshops (partnership with Akron Public Schools): Middle and High School (Summer 2012, Summer 2015, 2016, 2017).
- Problem Based Learning in Science: Watershed Dynamics (2009 -2011)

PROFESSIONAL EXPERIENCE

Project Coordinator – Operation Physics

Kent State University, Kent, OH 2007-2008

Graduate Assistant/Teaching Fellow

Kent State University, Kent, OH 2002 - 2007

Curriculum Developer,

Compliant Inc, Solon, OH, 2000- 2001

Upward Bound Instructor

Kent State University, Kent, OH, Summer 2000

Laboratory Instructor: Physics

American University of Beirut, Beirut, Lebanon 1997- 1999

Science and Technology Teacher

College Protestant Français, Beirut, Lebanon 1998-1999

Physics Teacher

Hariri High School, Beirut, Lebanon, 1997-1998

EXTERNAL FUNDED GRANTS

(4 millions in externally funded grant projects)

Makki, N. (PI), Evans, E, & Visco, D. Zips Rising STEM Scholars. Ohio Department of Education, Summer Create Grant. **(\$812,793)** – May 2022 - June 2024.

Cutright, T., Evans E., Carletta, J., Makki, N., & Nourhani, A. Increasing retention of part-time and full-time STEM students with scholarships, mentoring and mathematics tutoring. National Science Foundation S-STEM (NSF 2128897), **(\$1,499,239)**. May 2022 - April 2028.

Visco, D., **Makki, N.**, Subich, L, Kennedy, E., & Steer, D. Zip to Industry: A First-Year Corporate-STEM Connection Program. National Science Foundation IUSE Program (NSF 1726464), **(\$449,838)**. September 2017- August 2022.

Makki, N. & Plaster, K. Engineering for Educators. Award from the Martha Holden Jennings Foundation, **(\$13,000)**. August 2020-July 2021.

Makki, N. & Plaster, K. Engineering for Educators. Award from the Martha Holden Jennings Foundation, **(\$13,000)**. June 2019-May 2020.

Visco, D., **Makki, N.**, Garafolo, N., Ahmed, W., & Koskey, K. Zipping Towards STEM: Integrating Engineering Design into the Middle School Physical Science Curriculum. National Science Foundation ITEST Program (NSF 1513205), **(\$742,356)**. September 2015-August 2019.

Makki, N. & Mallik, R. (Co-PIs). Partnership to Improve Physics Instruction through Inquiry Learning. Award from the Ohio Department of Higher Education Improving Teacher Quality Program **(\$71,392)**. January 2017-May 2018

Makki, N. & Mallik, R. (Co-PIs). Partnership to Improve Physics Instruction through Inquiry Learning. Award from the Ohio Department of Higher Education Improving Teacher Quality Program **(\$71,904)**. January 2016-May 2017

Makki, N. & Mallik, R. (Co-PIs). Partnership to Improve Physics Instruction through Inquiry Learning. Award from the Ohio Board of Regents **(\$69,863)**. January 2015-May 2016

Pachnowski, L., Holliday, G., **Makki, N.**, and Plaster, K. (Co-PIs). Ohio STEM Learning Network (OSLN) – UA Woodrow Wilson Teaching Fellowship, Battelle/Ohio Department of Education, **\$10,500** (2014).

Makki, N., Duirk, S., Monty, C., Miller, C. & Donnelly, S., (Co-PIs). Integrating Engineering Design Challenges into Science. Award from the Ohio Board of Regents **(\$84,150)**. January 2012-May 2013

Pachnowski, L., Holliday, G., **Makki, N.**, and Plaster, K. (Co-PIs). Ohio STEM Learning Network (OSLN) – UA Woodrow Wilson Teaching Fellowship, Battelle/Ohio Department of Education, **\$90,000** (2012).

Makki, N., Hopkins, J., Miller, C., & Donnelly, S. (Co-PIs). “Drinking Water Issues as a Context for Problem-Based Science Instruction.” Award from the Ohio Board of Regents **(\$88,863)**. January 2010-May 2011.

Owens, K. **Makki, N.** and Helfer, C. (Project Investigators); "STEM Career Education in Middle School". Award from Department of Education (**\$143,000**). July 2009 – September 2011

Hopkins, J., **Makki, N.**, Miller, C. & Donnelly, S., (Co-PIs). University / K-12 partnerships to support implementation of problem-based STEM lessons. Subgrant from the Ohio STEM Learning Network (**\$32,755**). Summer 2010.

Hopkins, J., **Makki, N.**, Miller, C. & Donnelly, S. (Co-PIs). "Drinking Water Issues as a Context for Problem-Based Science Instruction." Award from the Ohio Board of Regents (**\$77,430**). January 2009-June 2010.

Woodrow Wilson Ohio Teaching Fellowship Grant. Ohio Board of Regents. (\$1,700,000).
Role: Co-PI, Proposal Writer, Program development and Program Faculty (2010-2016) {Award to Institution, amount not included in total awards above}

PUBLICATIONS (peer reviewed)

Makki, N., & Cutright, T., & Coats, L., & Willits, R., & Stone, T., & Williams, L., & Rodrigues, D. (2022), *Preparation of Female and Minority PhD and Post-Docs for Careers in Engineering Academia (Experience)*. Proceedings of 2022 ASEE Annual Conference & Exposition, Minneapolis, MN. <https://peer.asee.org/40880>

Plaster, K., & Makki, N. (2022), *Entrepreneurial Mindset integration in Pre-Service Engineering Education Course (Fundamental)*. Proceedings of the 2022 ASEE Annual Conference & Exposition, Minneapolis, MN. <https://peer.asee.org/40661>

Visco, D., & Makki, N., & Stevic, E., & Phillips, J., & Carey, L., & Bonnema, E. (2022), *Implementation of a Virtual Job Shadowing Experience for STEM Students Participating in a Corporate-STEM Connection Program*. Proceedings of the 2022 ASEE Annual Conference & Exposition, Minneapolis, MN. <https://peer.asee.org/40694>

Visco, D., & Makki, N., & Stevic, E., & Phillips, J., & Bonnema, E., & Dunn, D., & Carey, L. (2022), *Zip to Industry: A First-Year Corporate-STEM Connection Program*. Proceedings of the 2022 ASEE Annual Conference & Exposition, Minneapolis, MN. <https://peer.asee.org/41993>

Buo, C., Brookover, M., Decker, G., Kindig, R., Duff, R. J., & Makki, N. (2021). Camp Bioscience: Developing a Biology Summer Camp for Upper Elementary Students. *Journal of STEM Outreach*, 4(1), 1-14.

Koskey, K. L. K., Makki, N., Ahmed, W. Garafolo, N. G., Visco, D. (2020). Modification and Validation of the Mixed-Format Engineering Concept Assessment. *School Science and Mathematics*. 2020; 120: 309– 321. <https://doi.org/10.1111/ssm.12405>

Visco, D. P., & Makki, N., & Subich, L. M., & Steer, D., & Stevic, E. R. (2020, June), *Zip to Industry: A First-year Corporate-STEM Connection Program*. Proceedings of the 2020 American Society for Engineering Education (ASEE) Virtual Annual Conference.

Koskey, K. L. K., Makki, N., Ahmed, W., Garafolo, N. G., Visco, D., Kruggel, B. G., & Halasa, K. (2019). A validity study applying the Rasch model to the American Association for the Advancement of Science force and motion sub-topic assessment for middle school students. *Journal of Applied Measurement*, 20(3), pp. 243-258.

Koskey, K. L. K., Ahmed, W., Makki, N., Garafolo, N., Kruggel, B. G., Visco, D. P. (2018, June) *Zippping to STEM: Integrating Engineering Design in Middle School Science*. Proceedings of the 2018 American Society for Engineering Education Annual Conference & Exposition, Salt Lake City, Utah.

Visco, D. P., & Makki, N., & Wain-Weiss, E. R. (2018, June), *A Doctoral Teaching Program in Engineering*. Proceedings of the 2018 American Society for Engineering Education Annual Conference & Exposition, Salt Lake City, Utah.

Garafolo, N., Makki, N., Ahmed, W., Koskey, K, Halasa, K, & Visco, D. (2017). Exploring the Engineering Design Process through Computer Aided Design and 3D Printing. *Science Scope* 41(1), pp. 51-62.

Koskey, K. L. K., Garafolo, N. G., Makki, N., Ahmed, W., Visco, D. P., & Samreddy, U. R. (2017). *Evaluating students' understanding of an ability to transfer engineering design concepts: Engineering concept assessment modified for the eighth-grade level*. Proceedings of the 2017 Annual Conference of the American Society for Engineering Education, Educational Research and Methods Division, Columbus, Ohio.

Makki, N., & Holliday, G. (2016). Going beyond the status quo: A longitudinal self-study of a school based science teacher preparation program. In Akerson, V. & Buck, G. (Eds). *Allowing Our Professional Knowledge of Pre-Service Science Teacher Education to be Enhanced by Self-Study Research: Turning a Critical Eye on Our Practice*. (271-278). Springer International Publishing.

Maguth, B. & Makki, N. (2013). "We're in This Together": Preparing Science and Social Studies Pre-service Teachers to Incorporate Global Perspectives. *Global Education Journal*. 2013 (issue 2).

Hauenstein, C., & Makki, N. (2012). Just Me and You... And A Whole Community Down By The Stream. *Science & Children*, 49(8), 31-35.

Makki, N. (2012). Goals for science teaching: from global competition to engaging experiences. In J. Settlage & A. Johnston (Eds). *Proceedings of the 2012 Science Education at the Crossroads Conference* (pp. 44-45). Providence, RI.

Makki, N. & Weinstein, M. (2010). Anthrax and the Public Pedagogy of the Nation. In M. Weinstein, *Bodies out of Control: Rethinking Science Texts* (83-108). New York, NY: Peter Lang.

MANUSCRIPTS IN REVIEW:

Pachnowski, L., Plaster, K., Maguth, B., & Makki, N. (forthcoming). From Think Tank to Shark Tank: Engineer to Entrepreneur. In S. Kaya-Capocci & E. Peters (Eds.), *Enhancing Entrepreneurial Mindsets through STEM Education*. Springer.

CURRICULUM DEVELOPMENT

Zippping to STEM – Integrating Engineering Design in Middle School – 8th grade curriculum at APS (co-authored with Nicholas Garafolo).

PRESENTATIONS

Makki, N., Dani, D., & Anderson, A. (2021). Supporting Preservice Elementary Teachers' Development of Science Concepts and Practices in an Online Course. Paper presented at the 2021 meeting of the National Association of Research in Science Teaching. Virtual.

Liang, X., Makki, N., Subich, L., Visco, D. (2021). Influences of Social Cognitive Variables on STEM Retention for First Year College Students. Paper presented at the American Educational Research Association Annual Meeting – Virtual.

Dani, D. & Makki, N. (2021). Opportunities & Challenges of Online Elementary Science Methods. Paper Presented at the virtual meeting of the Association of Science Teacher Educators (ASTE).

Makki, N., Koskey, K., Ahmed, W, Garafolo, N. , & Visco, D. P. (2020). Integrating Engineering Design in Middle School: Impact of PD on Teacher Practices. Paper accepted for presentation at the meeting of the National Association for Research in Science Teaching. Portland, OR. (conference cancelled due to pandemic)

Makki, N., Visco, D. P, Garafolo, N., Koskey, K., Ahmed, W. Project Expo: Zippping Towards STEM: Integrating Engineering Design into the Middle School Physical Science Curriculum. NSF ITEST Summit 2019. June 13-14, Alexandria, Virginia.

Makki, N. & Koskey, K. (2019) Exploring Changes in Instructional Practices through Teacher Reflection. Paper presented at the meeting of the National Association for Research in Science Teaching. Blatimore, MD.

Koskey, K., Liang, X., Makki N., and Kushner Benson, S. (2018). Balancing Protection of Confidentiality, Truthfulness in Evaluation, and Maintaining Collaborative Relationships: A Discussion Centered Around Four Evaluation Scenarios. Presentation at the 2018 National Meeting of the American Evaluation Association, Cleveland, OH.

Ahmed, W., Makki, N., Koskey, K., Garafolo, N. G., & Visco, D. P. (2018). Middle School Students' Attitudes Toward Science, Technology, Engineering, and Math (S-STEM) Survey: Evaluation of Factor Structure and Measurement Invariance. Poster presented at the American Educational Research Association Annual Meeting, New York, NY.

Makki, N., & Koskey, K. (2018). Challenges to teachers' implementation of inquiry strategies in the physics classroom. Paper presented at the 2018 National Association for Research in Science Teaching annual conference, Atlanta, GA.

Ahmed, W. A., Makki, N., Koskey, K., Garafolo, N. G., & Visco, D. P. Impact of an integrated engineering curriculum on students' knowledge of and self-efficacy in engineering design. Paper presented at the 2018 National Association for Research in Science Teaching annual conference, Atlanta, GA

Makki, N., Garafolo, N. G., Ahmed, W., Koskey, K. L. K., & Visco, D. P. (2017). *Integrating Engineering Design with CAD Software into Middle School Science*. Proceedings of the 2017 Annual Conference of the American Society for Engineering Education, Educational Research and Methods Division, Columbus, Ohio.

Makki, N., Plaster, K., & Holliday, G. Shaping Teaching Practice through Action research. Presentation at the annual meeting of the National Science Teachers' Association Regional Conference in Columbus, OH. (December, 2016)

Johnson-Whitt, E., Leafgren, S., Broadway, F., & Makki, N. The Possibilities of (Multi)cultural Lived Experiences: A Educere Model. Presentation at the annual meeting of the National Association of Multicultural Education, Cleveland, Oh. November, 2016.

Makki, N., Plaster, K., & Evans, E. Teachers' Understandings and Perceptions in an Engineering Design Course for Educators. Paper presented at the annual meeting of National Association of Research in Science Teaching (NARST), Baltimore, MD. April 2016.

NARST Symposium: *Allowing Our Professional Knowledge of Pre-Service Science Teacher Education to be Enhanced by Self-Study Research: Turning a Critical Eye on Our Practice*. Paper presented at the annual meeting of National Association of Research in Science Teaching (NARST), Baltimore, MD. April 2016.

Makki, N., & Mallik, R. Inquiry through Simulations: Exploring Energy and Waves. Paper presented at the Science Education Council of Ohio, Columbus, OH. (January, 2016).

Makki, N., Duirk, S. Designing a bioretention basin. Paper presented at the annual meeting of the National Science Teachers' Association in Chicago, IL. (April 2015)

Holliday, G., Makki, N., Plaster, K., Anderson, S., Newton, J., York, J. & York, M. Shaping Teaching Practice through Action research. Paper presented at the annual meeting of the National Science Teachers' Association in Chicago, IL. (April 2015) [with students]

Makki, N., Duirk, S. Integrating Engineering Design Concepts in the Science Classroom using Local Problems. Paper presented at the Science Education Council of Ohio, Columbus, OH. (January, 2015)

Makki, N. Understanding Teachers' Practices in Implementing Community Based Science Inquiry. Paper presented at the AERA annual meeting in Philadelphia, PA. (April, 2014).

Makki, N., Plaster, K., Holliday, G., Young, D., Fennel, D., Benich, M. Shaping Teaching Practice through Action research. Paper presented at the annual meeting of the National Science Teachers' Association in Boston, MA. (April 2014) [with students]

Maguth, B., & Makki, N. (April, 2013). Preparing Pre-Service Social Studies and Science Teachers to Plan for Interdisciplinary Learning. Paper presented at the American Education Research Association's Annual Meeting in San Francisco, CA.

Makki, N. & Maguth, B. (January, 2013). Promoting Interdisciplinary Collaborations using science related global issues. Paper presented at the annual meeting of the Association of Science Teacher Educators (ASTE). Charleston, SC.

Holliday, G., Makki, N., Plaster, K., Rouse, S., & Ostrowski, C. (April, 2013). Shaping Teaching Practice through Action research. Paper presented at the 2013 meeting of the National Science Teachers' Association (NSTA). San Antonio, TX. [with students].

Makki, N. (2012). Goals for science teaching: from global competition to engaging experiences. Paper presented at the annual meeting of Science Education at the Crossroads, Provide, RI. September 6-8.

Bancroft, S. Broadway, F., & Makki, N. (2012). Currere as a tool for STEM McNair scholars construct of self. Paper presented at the meeting of the Central Region of the American Chemical Society. Dearborn, MI. June 5-9, 2012. [with student].

Broadway, F., Leagfren, S., and Makki, N. Urban STEM students: The cognitive ecologies of urban STEM graduate teacher candidates. Paper presented at the 2012 Association of Science Teacher Educators (ASTE meeting). Clearwater, FL, January 2012.

Makki, N. (October, 2011). Race and Biology: lessons from history of science to explore the social construction of race and implications for the science classroom. Paper presented at the 2011 annual meeting of the Curriculum and Pedagogy group, Akron, OH.

Makki, N. & Helfer, C. (2011). Project STEM Career Education in Middle School. Paper presented at the 2011 annual meeting of the Science Education Council of Ohio, Akron, OH.

Makki, N., Miller, C., Donnelly, S., & Hopkins, J. (2011). Connecting classroom science to real problems: investigating local water quality issues. Paper presented at the 2011 annual meeting of the Science Education Council of Ohio, Akron, OH

Makki, N. (October 2010). Exploring the meanings of scientific literacy: the science curriculum for social responsibility. Paper presented at the 2010 annual meeting of the Curriculum and Pedagogy group, Akron, Oh

Donnelly, S., Hopkins, J., Makki, N. & Miller, C. (2010). Drinking Water Quality and Its Relationship to a Distribution System and Watershed. Paper presented at the 2010 annual meeting of the Science Education Council of Ohio, Columbus, OH.

Brownstein, Kleeman, Harrington, Makki, MacDougal, Robinson, Wilkins, and Yoshioka (2010). The Good, the Bad and the Ugly: Surviving the NSTA/NCATE Process. Paper presented at the 2010 annual meeting of the Association of Science Teacher Educators, Sacramento, CA

Makki, N., Beese, J., Helfer, C., & Owens, K. (2010). Engaging teachers in professional development around STEM career education. Paper presented at the 2010 annual meeting of the Association of Science Teacher Educators, Sacramento, CA.

Makki, N. & Sherman Heckler, W. (2009). "Science, Technology, and Society: a Deweyan Perspective". Paper presented at the annual meeting of the National Association of Research in Science Teaching (NARST), Garden Grove, CA.

Makki, N. (2008) "Researching Teachers' Experiences with STS: A Deweyan Perspective". Paper presented at the Midwestern Educational Research Association (MWERA), Columbus, Oh, October, 2008.

Wendel, P., Heckler, W., Makki, N., Emch, R., Leafgren, S., and Wojnowski, D. (2008) "Data Therapy: Our Experiences in a Dissertation Study Group". Panel presentation at the Midwestern Educational Research Association (MWERA), Columbus, Oh, October, 2008.

Makki, N. (2007) "Preservice Teachers' Explorations in STS: Problems and Promises". Paper presented at the Annual Meeting of the National Association of Research in Science Teaching (NARST), New Orleans, LA. April 2007.

Sherman, W. & Makki, N.: "But how do we? Case Studies in Program Development". Paper presented for the Association for the Education of Teachers in Science (AETS) Conference in Colorado Springs, CO, January 2005.

Weinstein, W. & Makki, N. "Bringing Anthrax Home: Learning Nationalism Through Media at the Dawn of the New Security State." Paper presented at the Annual Meeting of the American Educational Research Association (AERA), Montreal, Canada, April 2005.

Sherman, W. & Makki, N. "The Worst Learning Activity Yet in my College Career: Teaching Teachers about Science and Society". Presentation at the National Science Teachers Association (NSTA) Conference in Philadelphia, PA, March 2003.

PRESENTATIONS (Invited)

Makki, N., Pachnowski, L, Sartor, V., & Zhang, W. Teaching Math and Science to English Language Learners. SIOP Strategies and Academic Language. Workshop presentation at CMSD. April, 2018.

Makki, N. Evidence and Explanations: Integrating Science Inquiry in the Elementary Classroom. Presentation at the Snowflake STEAM Conference at Malone University, Canton, Ohio. February 2017.

EXTERNAL GRANTS SUBMITTED

Lead PI: Ohio Department of Education, After School Create Grant – Akron ZIPS STEM Experience! (\$717,554) – Submitted February 2022.

Helfer, C., Cutright, T., Garafolo, N., & Makki, N. Real-world Engineering Design Experience (REDE) for the Future. Submitted to the National Science Foundation AISL Program (\$911,457). November, 2016. NOT FUNDED

Makki, N., Plaster, K, Evans, E., & Mitchell, R. SPARK: STEM Propels Akron's Remarkable Kids. Submitted to the Ohio Department of Higher Education Improving Teacher Quality Program. (\$88,464.96). November 2016. NOT FUNDED.

Helfer, C., Cavicchi, K., Cutright, T., Garafolo, N., & Makki, N. Bridging Engineering, Science, and Technology (BEST) Mentoring Program. Submitted to the National Science Foundation AISL Program (NSF **15-593**). November, 2016. NOT FUNDED.

Holliday, G., Evans E., Makki, N., and Pachnowski, L. *Reclaiming engineering and technology in STEM*. Submitted to the National Science Foundation NOYCE Program (12-526), \$ 1,199,941. NOT FUNDED

EVALUATION PROJECTS

- Lead Evaluator, *Graduate Traineeship on Advances in Materials Science using Machine Learning*, NSF NRT, (2022-2027)
- Project Evaluator, *REU Site: Polymer Science and Engineering*, NSF Funded, (2021-2023)
- Project Evaluator, *All Akron Student Engineering Program*, December 2020- November 2021 (local evaluation).
- Project Evaluator, *Professional Preparation of Underrepresented Minority PhD's and Post-Docs for a Career in Engineering Academia*; NSF Funded; multi-university project, (2017-2022).
- Project Evaluator, State Library of Ohio LSTA STEM Grant, Akron Public Schools (2021)
- Collaborative evaluation: Canton City Yearlong School. Co-evaluator: logic model development, qualitative data collection and analysis, report writing.
- Collaborative evaluation: Canton City Summer Program. Co-evaluator: qualitative data collection and analysis, report writing.
- Project Evaluator: Preserving the Past Program- Stan Hywet Hall and Gardens (with Akron Public Schools)- Summer/Fall 2017
- Project Evaluator: Camp What If summer program (TomTod) - Canton, OH – 2016

SUPERVISING STUDENTS RESEARCH

Dissertation Committee Member (in progress):

Cynthia Yoder – Integrated Bioscience PhD Program

Dissertation Chair:

Wesley Carpenter (Completed, 2016)

Senetta Bancroft (Completed, 2014)

Katie Cerrone (completed, 2012)

(PhD program in education suspended in 2014; no new students admitted)

Dissertation Committee Member (completed)

Carrie Buo – Integrated Bioscience (education advisor, completed, 2021)

Ebtesam M Alqahtani (dissertation committee member, completed, 2020)

Andrew Milks (dissertation committee member, completed, 2018)

Jeff McCausland – Chemistry (dissertation committee member, completed, 2017)

Abdulmonem Alghamdi (dissertation committee member, completed, 2017)

Pam Engerer (dissertation committee member, completed, 2017)

Diane Brown (dissertation committee member, completed, 2016)
Brigette Kaiser (dissertation committee member, completed, 2014)
Kathy Crooks (dissertation committee member, completed, 2012)
Kyle Gray (dissertation committee member, completed, 2009)

Advisor, Masters Research Projects (Woodrow Wilson Ohio Teaching Fellowship Program)

Advisor, Honors Projects

SERVICE

Editorial Activities

- NSF Proposal Reviewer – IUSE (panel) and DRL K-12 (ad-hoc)
- Strand 8 Coordinator – NARST Conference Program Committee (2019-2021)
- Manuscript Reviewer:
 - Journal of Research in Science Teaching
 - International Journal of Science Education
 - Journal of Science Education and Technology
 - Mid-Western Educational Researcher
 - Journal of the Research Center for Educational Technology
 - Contemporary Issues in Technology and Teacher Education
- Council for the Accreditation of Educator Preparation Program Reviewer, NSTA SPA Review (2013-2018)
- Reviewer: NARST Annual Meeting Proposals (2007 – 2021)

University Service

- Vice Provost and Dean of Honors College Search Committee (2022)
- Provost Search Committee (2019-2020)
- Faculty Senate-University (2014-Present)
 - Vice-Chair (2018-2021)
 - Academic Policies Committee of Faculty Senate (2015-2018)
- Honors Advisory Council (2017-2022)
- Graduate Council- University (2013-2016)
 - Membership Committee of Graduate Council: University (Chair)
- Provost Advisory Committee- University (2013-2014)

Department and College Service

- Buchtel College Council (BCC): 2021-present
- Ad Hoc Committee on Department Consolidation: Co-Chair (2019)
- Curriculum Review Committee- College (2009-2011; 2013-present)
- CAEP – College Mission Committee (2016-2017)
- CAEP - Curriculum Mapping Activities
- CAEP Alignment-Admission Committee Chair- College (2013-2014)
- Scholarship Review

- Technology Committee-College (2011-2013)
- Doctoral Program Revisions Committee-College (2010-2011)
- MA Program Revisions Committee (2012-2013)
- Search Committee Chair: STEM Education (2010-2011)
- Search Committee Member: Science Education (2011-2012)

Community Service

- International Soap Box Derby program committee member
- First Lego League Volunteer
- Science Fair judge - Akron Public School yearly science fair/STEM Expo
- Supported field trips for High School students to the Biology Field Studies Station
- APS Science Instructional Materials Adoption Steering Committee
- NIHF STEM middle school professional development school committee
- STEMM High School curriculum committee 2009-2013
- Conducted family science nights at Barberton middle schools and Springfield middle schools, as well as organized field trips for students to UA from these districts.
- Facilitate collaborations with physics faculty and Akron Public Schools for improving the laboratory experiences for high school students to get them college ready.

SYNERGETIC ACTIVITIES

- Collaborations with Akron Public Schools on STEM programming.
- Integrating Engineering: collaborating with several engineering faculty on developing engineering curricula for preservice and in-service teachers.
- Collaborations with A&S, Engineering and Education faculty on the Woodrow Wilson Ohio Teaching Fellowship Program.
- Collaboration with Physics faculty on teacher preparation and improving k-12 physics instruction
- Global Learning Scholars: collaborating with Brad Maguth to integrate global issues in science and social studies methods courses.
- Scaffolding Content Learning for English Language Learners: collaborating with ELL faculty on teaching science for ELL students.

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

- Current Membership:
 - National Association of Research in Science Teaching (NARST)
 - National Science Teacher Association (NSTA)
 - American Educational Research Association (AERA)
- Previous Membership:
 - American Modeling Teacher Association (AMTA)

- Science Education Council of Ohio
- Association for Science Teacher Education (ASTE)
- Midwestern Educational Research Association (MWERA)
- International Society for Technology in Education (ISTE)