

## ADAM V. MALTESE

School of Education  
W. W. Wright Building, Room 3054  
Indiana University  
201 North Rose Avenue  
Bloomington, IN 47405

amaltese@indiana.edu  
Ph: 812.856.8059  
Fax: 812.856.8116  
Cell: 812.606.1829

### EDUCATION

UNIVERSITY OF VIRGINIA  
Ph.D. in Science Education  
Charlottesville, VA  
May 2008

*Dissertation Title:* Persistence in Science, Technology, Engineering & Mathematics (STEM):  
An Investigation of the Relationship between High School Experiences in Science and  
Mathematics and College Degree Completion in STEM Fields

UNIVERSITY OF CONNECTICUT  
M.S. in Geology  
Storrs, CT  
May 2003

HAMILTON COLLEGE  
B.A. in Geology, Minor in Anthropology  
Clinton, NY  
May 1997

### EMPLOYMENT EXPERIENCE

INDIANA UNIVERSITY  
Professor of Science Education  
Martha Lea and Bill Armstrong Chair for Teacher Education  
Director, Make Innovate Learn Lab Makerspace  
Adjunct Faculty in Geological Sciences  
Bloomington, IN  
July 2020-Present  
July 2020-Present  
August 2016-Present

#### Teaching Experience

- Exploring Secondary Science Teaching (Undergraduate/Graduate)
- Making for Learning (Undergraduate/Graduate)
- Demonstration and Field Strategies in Science (Graduate; online)
- University Science Teaching (Doctoral Seminar)
- Science Education Research Seminar – International STEM Education (Doctoral Seminar)
- Our Habitable Planet (Undergraduate – Geological Sciences)
- Introduction to Environmental Field Methods (*planned*; Undergraduate – Geological Sciences)
- Informal STEM Education (*planned*; Undergraduate)

Associate Professor of Science Education  
2014-2020

Assistant Professor of Science Education  
2008-2014

UNIVERSITY OF VIRGINIA  
Research Assistant for Robert H. Tai  
Charlottesville, VA  
Fall 2005-Spring 2008

- *Project Crossover* (NSF REC 0440002)
- *Accelerated Longitudinal Study for Learning & Youth Evaluation Center* (NSF DRL 0748041)

Teaching Experience

- Field Projects: Science/Math Spring 2007 & 2008
- Teaching of Elementary Science Fall 2005 & 2007

CAMP DRESSER & MCKEE

Cambridge, MA

Geologist

2003 - 2005

- Led numerous multi-day field assignments including drilling observation and well installation, groundwater and surface water sampling, and excavation oversight
- Worked with senior staff on development of remediation strategies for soil and water

BRUNSWICK SCHOOL

Greenwich, CT

Middle School Science Teacher

1999 - 2003

- Developed and taught 6<sup>th</sup> Grade earth science curriculum
- Updated and taught 8<sup>th</sup> Grade physical science curriculum
- Incorporated technology in teaching using SMART Board™, data probes, and online chat
- Co-leader in creation of Middle School Science Fair

## PUBLICATIONS

### JOURNAL PUBLICATIONS (PEER REVIEWED)

[**R** USED TO DESIGNATE PAPERS AS RESEARCH, **T** AS TEACHING, *STUDENT CO-AUTHORS*]

42) Knox, P., Simpson, A., Yang, J. & **Maltese, A. V.** (In Press). Exploring Caregiver Influence on Child Creativity and Innovation in an Out-of-School Engineering Program. *Thinking Skills and Creativity*. [**R**]

41) Tai, R., Ryoo, J., Skeeles-Worley, A., Dabney, K., Almarode, J. & **Maltese, A.V.** (In Press). (Re-)Designing a Measure of Student's Attitudes toward Science: A Longitudinal Psychometric Approach. *International Journal of STEM Education*. [**R**]

40) Simpson, A., Zhong, Q. & **Maltese, A. V.** (In Press) Spontaneous Mathematical Moments Between Caregiver and Child During an Engineering Design Project. *Early Childhood Education Journal*. [**R**]

39) Tai, R. H., Ryoo, J. H., Mitchell, C. E., Kong, X., Skeeles-Worley, A., Almarode, J. T., **Maltese, A.V.** & Dabney, K. P. (2021). Gauging Informal STEM Youth Program Impact: A Conceptual Framework and a Measurement Instrument. *Journal of Youth Development*, 16(4), 103-133. [**R**]

38) *Humburg, M.*, Tan, V., **Maltese, A. V.**, Simpson, A. & Danish, J. (2021). Making for Learning: A class designed for engaging educators in designing maker-focused activities. *Information and Learning Sciences*. 122(3/4), 147-170. [**T/R**]

37) Simpson, A., *Morales Collazo, J.*, Zilvinskis, J. & **Maltese, A. V.** (2021). Professionals' identification within and across science, technology, engineering, and mathematics (STEM) fields. *Journal of Career Development*, 48(6), 942-956. [**R**]

36) Sang, W. & **Maltese, A. V.** (2020). Latent class analysis of undergraduate students' motivation for science courses: A comparison between the United States and China. *International Research in Education*, 8(2), 97-113. [**R**]

- 35) Paul, K. M., **Maltese, A. V.**, & Valdivia, D. S. (2020). Development and validation of the role identity surveys in engineering (RIS-E) and STEM (RIS-STEM) for elementary students. *International Journal of STEM Education*, 7(1), 1-17. [R]
- 34) Anderson, A., Simpson, A. & **Maltese A. V.** (2019). Mosaic Youth Mindset. *Connected Science Learning* <http://csl.nsta.org/2019/11/where-should-learners-struggle/> [R]
- 33) Limeri, L., Asif, M., Bridges, B., Esparza, D., Tuma, T., Sanders, D., Morrison, A., Rao, P., Harsh, J., **Maltese, A. V.**, & Dolan, E. (2019). Where's my mentor?! A taxonomy of negative mentoring in undergraduate life science research. *CBE-Life Sciences Education*. <https://www.lifescied.org/doi/10.1187/cbe.19-02-0036> [R]
- 32) Harsh, J., Campillo, M., Murray, C., Myers, C., Nguyen, J., **Maltese, A. V.** (2019). "Seeing" Data like an Expert: An Eye Tracking Study Using Graphical Data Representations. *CBE-Life Sciences Education*. <https://doi.org/10.1187/cbe.18-06-0102> [R]
- 31) Simpson, A. & **Maltese, A. V.** (2019). Lessons Learned and Moving Forward: Development of Low-Cost MAKEngineering Kits. *Teacher Librarian* 46(5) 14-17. [R/T]
- 30) Simpson, A., Anderson, A. & **Maltese, A. V.** (2019). Caught on camera: Youth and educators' noticing of and responding to failure within making contexts. *Journal of Science Education and Technology*. <https://doi.org/10.1007/s10956-019-09780-0> [R]
- 29) Schwab, D. B., Cole, L., Desai, K., Hemann, J., Hummels, K. R., & **Maltese, A. V.** (2018). A summer STEM outreach program run by graduate students: successes, challenges, and recommendations for implementation. *Journal of Research in STEM Education* 4(2) 117-129. [R/T]
- 28) Lamichhane, R., Reck, C. & **Maltese, A. V.** (2018). Undergraduate chemistry students' misconceptions about bond strength and energy diagrams. *Chemistry Education Research & Practice* 19, 834-845. [R]
- 27) **Maltese, A. V.**, Simpson, A. & Anderson, A. (2018). Failing to learn: The impact of failures during making activities. *Thinking Skills & Creativity*. <https://doi.org/10.1016/j.tsc.2018.01.003> [R]
- 26) **Maltese, A. V.**, Harsh, J. & Jung, E. (2017). Evaluating Undergraduate Research Experiences - Development of a Self-Report Tool. *Education Sciences* 7(4): 87. [R]
- 25) Andrade, A., Danish, J. A. & **Maltese, A. V.** (2017) Analysis of Hands Data from an Embodied Learning Design: Accounting for Temporal Dependencies. *Journal of Learning Analytics* 4(3) 18-45. [R]
- 24) Simpson, A., Burriss, A. & **Maltese, A. V.** (2017). Youth's engagement as scientists and engineers in an afterschool making program. *Research in Science Education*. [R]
- 23) **Maltese, A. V.** & Cooper (Melki), C. S. (2017). STEM Pathways: Do men and women differ in why they enter and exit? *AERA Open* 3(3) 1-16. DOI: 10.1177/2332858417727276 [R]
- 22) Harsh, J., Esteb, J. J., & **Maltese, A. V.** (2017). Evaluating the Development of Chemistry Undergraduate Researchers' Scientific Thinking Skills Using Performance-Data: First Findings

from the Performance assessment of Undergraduate Research (PURE) Instrument. *Chemistry Education Research and Practice*. [R]

21) Simpson, A. & **Maltese, A.** (2017). “Failure is a major component of learning anything”: The Role of Failure in the Development of STEM Professionals. *Journal of Science Education and Technology* 26(2) 223-237. [R]

20) **Maltese, A. V.**, Harsh, J., & Svetina, D. (2015). Interpretation of graphical representations along the novice – expert continuum. *Journal of College Science Teaching* 45(1) 84-90. [R]

19) Börner, K., **Maltese, A. V.**, Balliet, R., & Heimlich, J. (2015). Data Visualization Literacy: Can 273 Science Museum Visitors Read 20 Information Visualizations? *Information Visualization*. DOI: 10.1177/1473871615594652 [R]

18) **Maltese, A. V.**, Danish, J., Bouldin, R., Harsh, J. & Bryan, B. (2015). What are students doing during lecture? Evidence from new technologies to capture student activity. *International Journal of Research and Method in Education*. DOI: 10.1080/1743727X.2015.1041492 [R]

17) Balliet, R., Riggs, E. M. & **Maltese, A. V.** (2015). Students’ problem solving approaches for developing geologic models in the field. *Journal of Research in Science Teaching*. DOI: 10.1002/tea.2123 [R]

16) **Maltese, A. V.**, Melki, C. S., & Wiebke, H. (2014). The nature of experiences responsible for the generation and maintenance of interest in STEM. *Science Education*, 98(6), 937–962. [R]

15) **Maltese, A. V.**, Ross, H. A., Wang, L. & Wang, Y. (2014). Assessing Multinational Interest in STEM: Implementing a comparative survey research study in China. *International Journal of Chinese Education*, 3(2014) 109-131. DOI 10.1163/22125868-12340032 [R]

14) Timme, N., Baird, M., Bennett, J., Fry, J., Garrison, L., & **Maltese, A. V.** (2013, May). A Summer Math and Physics Program for High School Students. *The Physics Teacher*, 51(5) 280-285. [R/T]

13) **Maltese, A. V.**, Balliet, R., & Riggs, E. M. (2013). Through their eyes: Tracking the gaze of students in a geology field course. *Journal of Geoscience Education*, 61(1) 81-88. [R]

12) **Maltese, A. V.**, Tai, R.H., & Fan, X. (2012). When is homework worth the time? Evaluating the association between homework and achievement in high school science and math. *The High School Journal*, 96(1) 52-72. [R]

11) Harsh, J., **Maltese, A. V.**, & Tai, R. H. (2012). A perspective of gender differences in chemistry and physics undergraduate research experiences. *Journal of Chemical Education*, 89, 1364-1370. dx.doi.org/10.1021/ed200581m [R]

10) **Maltese, A. V.** & Hochbein, C. (2012). The consequences of school improvement: Examination of the association between school improvement and student science achievement. *Journal of Research in Science Teaching*, 49(6) 804-830. [R]

9) Bennett, J., Fry, J. Timme, N., & **Maltese, A. V.** (2012, March/April). Lessons learned from a summer preparatory program on foundations in physics and calculus. *Journal of College Science Teaching*, 41(4), 52-56. [T]

- 8) **Maltese, A. V.** & Tai, R.H. (2011). Pipeline Persistence: The effects of school experiences on earning degrees in STEM. *Science Education*, 95(5) 877-907. [R]
- 7) Harsh, J., **Maltese, A. V.**, & Tai, R. H. (2011). Undergraduate Research Experiences from a longitudinal perspective. *Journal of College Science Teaching*, 41(1) 84-91. [R]
- 6) **Maltese, A. V.**, Tai, R. H., & Sadler, P. M. (2010). The effect of high school physics laboratories on performance in introductory college physics. *The Physics Teacher*, 48(5) 333-337. [R]
- 5) **Maltese, A. V.** & Tai, R. H. (2010). Eyeballs in the fridge: Sources of early interest in science. *International Journal of Science Education*, 32(5) 669-685. [R]
- 4) **Maltese, A. V.** (2009, April/May). Shake, rattle and hopefully not fall. *Science and Children*, 46(8), 40-43. [T]
- 3) **Maltese, A. V.**, Dexter, K. M., Tai, R. H., & Sadler, P. M. (2007). Breaking from tradition: Unfulfilled promises of block scheduling in science. *Science Educator*, 16(1), 1-7. [R]
- 2) Tai, R. H., Sadler, P. M., & **Maltese, A. V.** (2007). A study of the association of autonomy and achievement on performance. *Science Educator*, 16(1), 22-28. [R]
- 1) Tai, R. H., Liu, C. Q., **Maltese, A. V.**, & Fan, X. T. (2006, May 26). Planning early for careers in science. *Science*, 312 (5777), 1143-1144. [R]

#### **BOOK CHAPTERS OR MODULES (PEER REVIEWED)**

- 8) Yang, J. Tu, X., Kim, J. & **Maltese, A. V.** (2021). Children as Makers in Three Cultures: China, South Korea, and the U.S.A. In: McConnell-Farmer, J (ed) *World of Children: Perceptions and Connections in Sustainability with Reflections during the Pandemic*. Chicago: Linton Atlantic Books Ltd. [R]
- 7) Simpson A., **Maltese A.V.**, Anderson A., Sung E. (2020) Failures, Errors, and Mistakes: A Systematic Review of the Literature, pp 347-362. In: Vanderheiden E., Mayer CH. (eds) *Mistakes, Errors and Failures across Cultures*. Switzerland: Springer. [R]
- 6) Cross Francis, D., Wilkins-Yel, K. G., Paul, K., **Maltese, A. V.** (2019). Underrepresentation of Women and Students of Color in STEM. In A. Sahin & M. Mohr-Schroeder (Eds.), *STEM Education 2.0. Myths and Truths: What has years of K-12 STEM education research taught us?* Netherlands: Brill. [R]
- 5) Simpson, A., Barnes, J., & **Maltese, A. V.** (2019). A shared language: Two worlds speaking to one another through making and tinkering activities. In A. Sahin & M. Mohr-Schroeder (Eds.), *STEM Education 2.0. Myths and Truths: What has years of K-12 STEM education research taught us?* Netherlands: Brill. [R]
- 4) Zoss, A., **Maltese, A.**, Uzzo, S. & Borner, K. (2018). Network Visualization Literacy Novel Approaches to Measurement and Instruction. In C. Cramer et al. (Eds.) *Network Science in Education*. Switzerland: Springer [R/T]
- 3) Graham, J., Rupp, J. & **Maltese, A. V.** (2016). Shale gas development - An educational module using three case studies and three scientific concepts. Prepared for the Committee on Preparing the Next Generation of Policy Makers for Science-Based Decisions Committee on

Science, Technology, and Law. Washington, DC: The National Academies of Sciences - Engineering - Medicine. Available from:  
[http://sites.nationalacademies.org/PGA/SciPol\\_Ed\\_Modules/PGA\\_173007](http://sites.nationalacademies.org/PGA/SciPol_Ed_Modules/PGA_173007) [T]

2) **Maltese, A. V.** & Harsh, J. A. (2015). Pathways of entry into STEM across K–16. In K. A. Renninger, M. Nieswandt, & S. Hidi (Eds.), *Interest and the Self in K-16 Mathematics and Science Learning*. Washington, DC: American Educational Research Association. [R]

1) **Maltese, A. V.**, Lung, F., Potvin, G. & Hochbein, C. D. (2014). STEM Education in the United States. In B. Freeman, S. Marginson, & R. Tytler (Eds.), *The Age of STEM: Educational policy and practice across the world in Science, Technology, Engineering and Mathematics* (pp. 102-133). New York: Routledge. [R]

#### CONFERENCE PROCEEDINGS (PEER REVIEWED)

10) Simpson, A., **Maltese, A. V.**, Yang, J., Kim, J., Knox, P. N., Kim, S. H., Farfan D'Souza, N. (2021), Insights from Engineering a Community-Family Partnership Project. *Paper presented at 2021 ASEE Virtual Annual Conference Content Access, Virtual Conference*.  
<https://peer.asee.org/37344>

9) Simpson, A., Yang, J., Knox, P. N., & **Maltese, A. V.** (2021). Caregivers' Multiple Roles in Supporting their Child through an Engineering Design Project. *Paper presented at 2021 ASEE Virtual Annual Conference Content Access, Virtual Conference*. 10.18260/1-2--36786

8) Paul, K. Miel, K. Portsmore, M., Maltese, A. V. & Kim, J. (2021). Students' Perceptions of Engineering Educators: Building Relationships and Fostering Agency in Outreach. *Paper presented at 2021 ASEE Virtual Annual Conference Content Access, Virtual Online*.  
<https://peer.asee.org/37772>

7) Moison, E. A., Miel, K., Portsmore, M. D., Paul, K., **Maltese, A.**, & Kim, J. (2020, June), Characterizing Engineering Outreach Ambassadors' Teaching Moves during Engineering Design Activities (Fundamental) *Paper presented at 2020 ASEE Virtual Annual Conference Content Access, Virtual Online*. 10.18260/1-2--34275 [R]

6) Miel, K., Portsmore, M. D., Fuller, E., Paul, K., Sung, E., & **Maltese, A. V.** (2019, June). "Maybe If I Put My Mind To It": 5th Graders' Receptivity to Pursuing Engineering Careers (Fundamental). In *2019 ASEE Annual Conference & Exposition Tampa, FL*. [R]

5) Paul, K., **Maltese, A. V.**, Miel, K. & Portsmore, M. D., (2019, June). *Development of an Engineering Identity and Career Aspirations Survey for use with Elementary Students*. In *2019 ASEE Annual Conference & Exposition Tampa, FL*. [R]

4) Paul, K., **Maltese, A. V.**, Miel, K. & Portsmore, M. D., (2019, June). *Development of a Create-a-Lego-Engineer Activity to Examine Students' Engineering Identity* (Work in Progress Paper). In *2019 ASEE Annual Conference & Exposition Tampa, FL*. [R]

3) Simpson, A., Anderson, A., **Maltese, A. V.**, & Goeke, M. (2018). "I'm going to fail": How youth interpret failure across contextual boundaries. In J. Kay & R. Luckin (Eds.), *Proceedings of the 13<sup>th</sup> International Conference of the Learning Science* (Vol. 2, pp. 981-984). London, United Kingdom: University College London. [R]

2) Abrahamson, D., Andrade, A., Bakker, A., Nathan, M. J., Walkington, C., Lindgren, R., ... & **Maltese, A. V.** (2018, June). Moving forward: In search of synergy across diverse views on the role of physical movement in design for stem education. In *Proceedings of International*

*Conference of the Learning Sciences, ICLS* (Vol. 2, No. 2018-June, pp. 1243-1250).  
International Society of the Learning Sciences. [R]

1) Miel, K., Portsmore, M. D., **Maltese, A. V.**, & Paul, K. (2018, June). Board 126: Examining the Interactions Related to Role Modeling in an Elementary Outreach Program (Work in Progress Paper). In *2018 ASEE Annual Conference & Exposition* Salt Lake City, UT. [R]

*Manuscripts Under Review or In Preparation*

Wohlwend, K., Chen, Y. & **Maltese, A. V.** (In Review). Toddlers Tinkering with Toys: Unpacking Complex Action Texts in Doc McStuffins Play in *Postdevelopmental Approaches to Childhood Observation*. [R]

Simpson, A. & **Maltese, A. V.** (In Review). Pedagogical Progression of Maker Educators in a School Setting. *Teaching and Teacher Education*. [R]

Gao, Y. & **Maltese, A. V.** (In Review). Examining the understanding of STEM education in China: A co-word analysis and systematic review of the literature. [R]

Wilkins-Yel, K. G., Cross Francis, D., Paul, K., **Maltese, A. V.** (In Preparation). The (Under)Representation of Women in STEM. In C. Jones & J. Bainbridge (Eds.), *The Palgrave Handbook of Women and Science: History, Cultures and Practice since 1660*. [R]

**Maltese, A. V.** & Hochbein, C. (In Preparation). STEM Factories – A study of high school and community factors associated with producing STEM degrees. [R]

**REPORTS & REVIEWS**

5) Paul, K. & **Maltese, A. V.** (2021, Aug) Book review of Using and Developing Measurement Instruments in Science Education: A Rasch Modeling Approach. *Teachers College Record*. Available online: <https://www.tcrecord.org/Content.asp?ContentId=23820>

4) **Maltese, A. V.** & Zhong, Q. (2021, Aug) Book review of The Next Generation of STEM Teachers: An Interdisciplinary Approach to Meet the Needs of the Future. *Teachers College Record*. Available online: <https://www.tcrecord.org/Content.asp?ContentId=23800>

3) Pepler, K., **Maltese, A. V.**, Keune, A., Chang, S., Regalla, L. (2015). Survey of Makerspaces, Part II. Maker Education Initiative. Available online: <http://makered.org/open-portfolios-survey-of-makerspaces-part-ii/> [R]

2) **Maltese, A. V.**, Lung, F., Potvin, G., & Hochbein, C. (2013). STEM Education in the United States. Australian Council of Learned Academies for Securing Australia's Future. Available from: <http://www.acolasecretariat.org.au/ACOLA/PDF/SAF02Consultants/Consultant Report - US.pdf> [R]

1) **Maltese, A. V.** (2013). Book review of Is American Science in Decline? *Science Education*, 97(3), 494-496. [R]

**FUNDING****RESEARCH**

National Science Foundation (DRL 2005860) Collaborative Research: The Notion of Failure and Maker Programming for Youth: Supporting the Professional Development, Reflection, and Learning of Informal Educators. [IU PI]	2020-2024 \$1,600,00
National Science Foundation (DRL 2037983) Online Practice Suite: Practice Spaces, Simulations and Virtual Reality Environments for Preservice Teachers to Learn to Facilitate Argumentation Discussions in Math and Science. [IU Co-PI]	2020-2023 \$3,200,000
National Science Foundation (DRL 2027368) RAPID: Rapidly building a collaborative network of informal educators to address extended school closures related to the 2020 COVID-19 pandemic. [PI]	2020-2022 \$200,000
Institute for Advanced Study (IU Internal) Collaborative Research Award to study special education in India. [PI]	2020-2022 \$10,000
Faculty Research Support Program. (IU Internal) Using Virtual Reality as a Learning Space for Pre-service Teachers [PI]	2020-2021 \$27,195
National Science Foundation (DRL 1759259) Collaborative Research: Engineering a Community-Family Partnership: Developing a Program Aimed at Making and Design Practices in Home Environments. [PI]	2018-2021 \$1,200,000
Advanced Innovation Center for Future Education (Beijing Normal University) Does innovative teaching lead to teaching innovation? Collaboration with Victoria University (AUS) to investigate teaching practices in China and exchange ideas related to best practices in STEM education.	2018-2020 ¥52,400
National Science Foundation (DRL 1657519) Collaborative Research: Role Models in Elementary Engineering Education. [IU PI]	2017-2020 \$1,200,000
Institute for Museum and Library Services (LG-99-17-0025-17) MAKEngineering Bags: A library program to engage families in making activities. [PI]	2017-2018 \$24,999
Google Sponsorship MAKEval - Developing tools to measure key outcomes of making [PI]	2016-2019 \$100,000
Maris M. Proffitt and Mary Higgins Proffitt Endowment Grant (IU Internal) Examining Early Elementary Modeling of Complexity with High-Resolution Multimodal Learning Analytic Techniques. [Co-PI]	2015-2016 \$19000



National Science Foundation (DRL 1623452) EAGER: MAKER: Studying the Role of Failure in Design and Making [PI]	2016-2018 \$301,000
National Science Foundation (NCSE 1538763) Measuring and Visualizing STEM Pathways [PI]	2015-2017 \$149,000
Google Sponsorship “Making” STEM pathways [PI]	2015-2019 \$150,000
National Science Foundation (DUE 1140445, with supplement) US-MORE – research to investigate the variation in experiences and outcomes in undergraduate research in the fields of chemistry and physics. [PI]	2012-2016 \$238,000
National Science Foundation (DRL 223698) Informal Science Education Pathways: Sense-Making of Big Data – research to investigate how children and adults interact with visual representations of large data sets within various informal education setting. [Co-PI]	2012-2014 \$250,000
S. D. Bechtel Jr. Foundation Spark to Flame – research study to investigate student engagement in STEM longitudinally across grades 3 through 12. [Co-PI]	2011-2015 \$600,000
Faculty Research Support Program (IU Internal) Assessing Multinational Interest in STEM – funding to survey international sample of students regarding the development and maintenance of their interest in STEM. [PI]	2013 \$70,000
Maris M. Proffitt and Mary Higgins Proffitt Endowment Grant (IU Internal) Funding for research on student entry and persistence in STEM using multiple federal data sets. [PI]	2012-2013 \$19,000
U.S. Department of Education Chicago Public Schools - Science and Math Engagement Initiative. [Evaluator]	2010-2012 \$134,000
National Aeronautics and Space Administration Chicago Public Schools - Capstone Course for Space Science. [Evaluator]	2009-2012 \$107,000
Faculty Research Support Program (IU Internal) Getting to the CoRe of It! Transforming Preservice Teachers' Learning of Science – funding to investigate impact of synthesis strategies on content learning in geology. [Co-PI]	2010-2011 \$34,000
Indiana Education Database Grant Program (IU Internal) Funding for research to investigate the progression of students from high school to college and from college to graduate school in STEM disciplines. [PI]	2010-2011 \$15,000
Maris M. Proffitt and Mary Higgins Proffitt Endowment Grant (IU Internal) Funding for research investigating the understanding and creation of graphs and tables used to represent data in the Geosciences. [PI]	2009-2011 \$38,000

**TEACHING**

Course Material Fellowship Program	2021-2022
Funding to create an open educational resources (textbook) for Q205 STEM for Educators	\$5000
Tilaar Faculty Support Fund	2021
<i>Empowering Women in Families of North Korean Defectors and Southeast-Asian Brides in South Korea via a Workshop on STEM Activities</i> - Funding to work with Jungsun Kim to create and deliver virtual workshops with women in Korea to provide them with experiences to empower them as home educators for their children.	\$9000
Tilaar Faculty Support Fund	2019
<i>From Maker Space to Open Space: Designing a Low-Cost E-Textile Workshop for Migrant Girls in China</i> - Funding to work with graduate students to develop an outreach program with the goal of educating and empowering young women in China.	\$10000
Learning and Teaching with Technology Challenge Development Grant	2017
Development and evaluation of Making for Learning class	\$4000
Faculty Learning Community – Learning Analytics	2014-2016 \$4000
Faculty Learning Community – Transforming Undergraduate STEM Education	2013-2014 \$750
Faculty Learning Community – Second Life	2011-2012
Award from Learning Technologies group within University Information Technology Services to develop Second Life as part of online course for educators	\$750
Summer Instructional Development Fellowships	2011
Award from Center for Innovative Teaching & Learning to develop online Archaeology/geology course for educators	\$8000
Innovative Pedagogies Initiative – School of Education	2011
Award for exploring use of blogs, wikis and social media tools in classes	\$500
SmartBoards for Science and Art Education	2010
Award for the purchase and installation of SmartBoards to be used with pre-service teachers	\$5000
New IDEA Grant	2009
Award from School of Education to develop online course for teaching biology/geology/ecology outdoors	\$5000
<b>SERVICE</b>	
Regional Opportunity Initiative, Inc.	2020
Funding for creation and support of the Uplands Maker Mobile to serve Uplands Region	\$100,000

TIDES Foundation – Making Spaces Grant	2018
Funding for development and support of network of maker educators in rural IN	\$15000

**AWARDS**

Martha Lea and Bill Armstrong Chair for Teacher Education	July 2020-Present
ASEE Best Paper Award – Pre-College Engineering Education Division	2020
ASEE Best Paper Award – Pre-College Engineering Education Division	2019
American Educational Research Association Dissertation Grant	2007-2008
Funding for dissertation research using NELS:88 data set to investigate student persistence in STEM	\$13,790

**INVITED TALKS / WORKSHOPS / CONFERENCES**

<i>Inspiring STEM Interest</i> [Invited Panelist] <a href="#">STEM Briefing</a> - panel hosted by US Department of Education	February 2021
<i>Making the Future of Education</i> [Invited Talk] World Organization for Science Literacy Meeting – China Assoc. of Science & Tech.	November 2020
<i>Making the Future of Education?</i> [Keynote] NASA <a href="#">2020 Annual NIAC Annual Symposium</a>	September 2020
<i>Plan C: K-12 Maker Educators</i> [Invited Panelist] <a href="#">Virtual Panel</a> hosted by Maker Media/MakerEd	Summer 2020
<i>STEM Literacy for ALL</i> [Keynote] Drishti Symposium – Pune, India	February 2020
<i>Making in Education</i> [Invited Speaker] Global Leaders Forum 2018 – ChosunTV, Seoul, Korea	November 2018
<i>Infosys Crossroads 2018</i> [Invited Attendee] Invitation-only conference hosted by Infosys Foundation USA, Scotts Valley, CA	May 2018
<i>How do youth start on pathways toward Engineering?</i> Engineering Education Research Seminar at Purdue University - West Lafayette, IN	March 2018
<i>The Promise of Making to Engage all learners in STEM</i> Keynote speaker for 250 educators at STEAM Forum in Qingdao, China	November 2017
<i>Indiana Maker Educator Workshop</i> Coordinated workshop for 45 educators in Indianapolis, IN	September 28-29, 2017
<i>Using networks to analyze the academic persistence of undergraduates</i> Invited talk for NetSciEd6 Satellite Symposium, Indianapolis, IN	June 2017

- Infosys Crossroads 2017* [Invited Attendee] May 2017  
 Invitation-only conference hosted by Infosys Foundation USA, San Francisco, CA
- EdFoo* [Invited Attendee] April 2017  
 Invitation-only conference hosted by Google, Sesame Street Workshop and O'Reilly Media, Sunnyvale, CA
- EdFoo* [Invited Attendee] February 2016  
 Invitation-only conference hosted by US Department of Education, Google, Sesame Street Workshop and O'Reilly Media, Sunnyvale, CA
- The pathways towards STEM..... and the role of failure along the way* October 2015  
 Tufts University Center for Engineering Education and Outreach
- Symposium on STEM Education in Asia and the United States* [Organizer] October 2014  
 Beijing, China
- Big Data: What's In It For High School Students?* December 2013  
 Invited panelist for online conference for NSF's CS10K initiative  
 Session archived here: [http://bit.ly/big\\_data\\_event](http://bit.ly/big_data_event)
- Using Research Findings on Interest Generation to Help Us Provide Equal Access to Quality STEM Experiences* – NSF STEM Smart Conference, Baltimore, MD March 2013
- Assessing Data Interpretation Skills Using Multiple Methods* June 2012  
 Invited talk at NetSciEd Satellite Symposium, Northwestern University
- AERA Conference on Interest and Self-Concept of Ability in K-16 Mathematics and Science Learning* - Swarthmore College May 2012
- Before Proposing to 'Change the Equation' We Should Know All the Variables* March 2012  
 Oak Ridge Associated Universities
- The Paths Most Traveled: What transcript and survey data tell us about students entering and leaving the STEM pipeline* – Clemson University November 2011
- Methods for teaching content integrating mathematics and science* July 2010  
 Presentation to Korean teachers visiting Indiana University
- Riding the Geoscience Cyberinfrastructure Wave of Data: Real Time Data Use in Education* – 4<sup>th</sup> IEEE International Conference on e-Science, Indianapolis, IN December 2008

## PRESENTATIONS

Mayer, M., **Maltese, A. V.**, Martin, K., Spencer, J. & Wardrip, P. (2021). Finding benefit in Failure: Supporting Professional Development, Reflection, and Learning of Informal Educators. Annual Meeting of the Association of Science and Technology Centers, Virtual.

Paul, K., **Maltese, A. V.**, Portsmore, M., Miel, K. & Kim, J. (2021). Career Aspirations in Elementary Students: A Comparison of Three Measures. Annual Meeting of National Association of Research in Science Teaching; Virtual.

**Maltese, A. V.** (2021). CoBuild: Creating Online Supports for Making at Home. Annual Meeting of American Educational Research Association; Virtual.

Knox, P., Yang, J., Simpson, A. & **Maltese, A. V.** (2021). Familiar Faces and Places: Family and Community Impact on Ideation in the Engineering Design Process. Annual Meeting of American Educational Research Association; Virtual.

**Maltese, A. V.**, Simpson, A. & Anderson, A. (2019). Learning While Failing During Maker Activities. Annual Meeting of American Educational Research Association; Toronto, CAN.

**Maltese, A. V.**, Simpson, A. & Anderson, A., Ryoo, J., Qian, M., & Paul, K. (2019). MakEval: Mixed methods approaches to evaluating making in schools. Annual Meeting of American Educational Research Association; Toronto, CAN.

Anderson, A., **Maltese, A. V.** & Simpson, A. (2019). Are students emotional when they fail during making? Evidence from various settings. Annual Meeting of American Educational Research Association; Toronto, CAN.

Paul, K., **Maltese, A. V.**, *Miel, K.* & Portsmore, M. (2019). Development of a survey intended to measure engineering identity components in elementary students. Annual Meeting of American Educational Research Association; Toronto, CAN.

Morales, J., Simpson, A., Zilvinskis, J. & **Maltese, A. V.** (2019). A landscape of how professionals identify themselves in STEM fields. Annual Meeting of American Educational Research Association; Toronto, CAN.

**Maltese, A. V.**, Paul, K., Portsmore, M. & *Miel, K.* (2019). Development of a Survey to Measure Engineering Identity and Career Aspirations in Elementary Students. Annual Meeting of National Association of Research in Science Teaching; Baltimore, MD.

Simpson, A., & **Maltese A. V.** (2018). How to develop a low-cost MAKEngineering kit. Presentation presented at the How-to Festival of the annual meeting of the Public Library Association, Philadelphia, PA.

Simpson, A., *Burris, A.*, & **Maltese, A. V.** (2018). Youth's engagement as mathematicians in an afterschool making program. Poster presentation to be presented at the 40th annual meeting of PME-NA: Greenville, SC.

Simpson, A., Anderson, A., **Maltese, A. V.**, & Goeke, M. (2018). "I'm going to fail": How youth interpret failure across contextual boundaries. Short paper to be presented at the 13th annual meeting of the International Conference of the Learning Sciences: London, UK.

**Maltese, A. V.**, & Simpson, A. (2018). Ending the search for triggers of STEM interest. Poster presented at the annual research meeting of the American Educational Research Association, New York City, NY.

Simpson, A., Anderson, A., & **Maltese, A. V.** (2018). Caught on camera: Adolescent and educator's noticing of and response to failure within making contexts. Paper to be presented at

the annual research meeting of the American Educational Research Association, New York City, NY.

**Maltese, A. V.**, Simpson, A., Ryoo, J., Anderson, A., & Qian, M. (2018). MakEval: Developing a set of tools to evaluate the benefits of making. In structured poster presentation entitled “Measuring Making: Methods, Tools, and Strategies for Capturing Learning, Participation, and Engagement in Maker Activities” at the annual research meeting of the American Educational Research Association, New York City, NY.

Harsh, J., Miller, K., Hartley, F., Jones, E. & **Maltese, A. V.** (2018). Between Pre and Post: Using Weekly Prompts to Better Understand Student Outcomes from Undergraduate Research. Annual Meeting of National Association of Research in Science Teaching; Atlanta, GA.

*Andrade, A.*, Danish, J. & **Maltese, A. V.** (2017). Why Are You Gesturing? Elicited Gestures and Learning Gains in an Embodied Learning Environment. Annual Meeting of American Educational Research Association; San Antonio, TX.

**Maltese, A. V.** & Zych, A. (2017). Using Twitter data to understand participation in a science outreach campaign. Poster presented at the European Association for Research on Learning and Instruction; Tampere, Finland.

**Maltese, A. V.** & Simpson, A. (2017). The existence of Science and Engineering Practices in Making Activities. Paper presented at the European Association for Research on Learning and Instruction; Tampere, Finland.

**Maltese, A. V.**, Zych, A. & *Hong, K.* (2017). #CephalopodWeek - Tracking a social media campaign related to science. NetSciEd6 Satellite Symposium, Indianapolis, IN.

Simpson, A. & **Maltese, A. V.** (2017). STEM Identity: How Professionals in STEM Position Their Work. Annual Meeting of American Educational Research Association; San Antonio, TX.

**Maltese, A. V.**, Wohlwend, K., Simpson, A. & *McKeown, J.* (2017). Examining Portrayals of STEM in Early Childhood Television Programming. Annual Meeting of American Educational Research Association; San Antonio, TX.

Simpson, A., **Maltese, A. V.** & *Burriss, A.* (2017). Youth Engagement as Scientists and Engineers within a Making-related After-school Program. Annual Meeting of National Association of Research in Science Teaching; San Antonio, TX.

Simpson, A. & **Maltese, A. V.** (2017). The Role of Failure in the Development of STEM Professionals. Annual Meeting of National Association of Research in Science Teaching; San Antonio, TX.

Simpson, A., Ratliff, C. & **Maltese, A. V.** (2017). Maker Educators: Encouraging Active, Creative, and Self-Directed Students through Making in School Settings. Annual Meeting of National Association of Research in Science Teaching; San Antonio, TX.

Simpson, A. & **Maltese, A. V.** (2017). Youth and Educators' Response to FAILURES within STEM Activities. Purdue STEM Conference 2017; West Lafayette, IN.

**Maltese, A. V.** & Jung, E. (2016). Factors Related to Student Choice of Academic Major and Persistence in STEM. National Association for Research in Science Teaching, Baltimore, MD.

- Allen, J.*, Park Rogers, M. & **Maltese, A. V.** (2016) Factors Influencing Secondary Science Teachers Orientations for Teaching about STEM Careers National Association for Research in Science Teaching, Baltimore, MD.
- Ryoo, J., Tai, R., Mitchell, C., Shi, D., Almarode, J. & **Maltese, A. V.** (2016). Examination of Measurement Invariance on a Framework for Observing and Categorizing Instructional Strategies. Annual Meeting of American Educational Research Association, Washington, DC.
- Maltese, A. V.** & Jung, E. (2016). Measuring and Visualizing STEM Pathways. Annual Meeting of American Educational Research Association, Washington, DC.
- Maltese, A. V.** & Harsh, J. (2015). Students' Pathways of Entry into STEM. Annual Meeting of American Educational Research Association, Chicago, IL.
- de Leeuw, J.*, Motz, B., Eastwood, J., **Maltese, A. V.**, Goldstone, R. & Danish, J. (2015). Needle in the Neural Haystack: Electroencephalograph Signatures of Concept Learning While Viewing Naturalistic Educational Materials. Annual Meeting of American Educational Research Association, Chicago, IL.
- Dabney, K., **Maltese, A. V.**, Tai, R. & Almarode, J. (2015). Gender and Early Career Choice in STEM. Annual Meeting of American Educational Research Association, Chicago, IL.
- Börner, K., **Maltese, A. V.**, Balliet, R., & Uzzo, S. (2015). Data Visualization Literacy of Youth and Adult Science Museum Visitors. Annual Meeting of American Educational Research Association, Chicago, IL.
- Maltese, A. V.**, Ross, H. A. & *Dai, S.* (2015). Assessing Multinational Interest in STEM: Triggers of Interest. Annual Meeting of the National Association for Research in Science Teaching, Chicago, IL.
- Melki, C. S.*, Balliet, R., **Maltese, A. V.**, Tai, R. & Almarode, J. (2015). Spark to Flame: Factors Influencing Students' Interest in Science. Annual Meeting of the National Association for Research in Science Teaching, Chicago, IL.
- McCormack, S.* & **Maltese, A. V.** (2015). Lack of Opportunity, Achievement, and Choice? A Comparison of Math and Science Opportunity, Achievement, and Course Choice in Hispanic Males and Females. Annual Meeting of the National Association for Research in Science Teaching, Chicago, IL.
- Harsh, J. A., Balliet, R., **Maltese, A. V.** & Tai, R. (2015). Essential Features and Benefits of Undergraduate Research Experiences: Perspectives of Student Researchers and Practicing Scientists. Annual Meeting of the National Association for Research in Science Teaching, Chicago, IL.
- Burris, A.* & **Maltese, A. V.** (2015). A Kids'-Eye View of Interest in the Zoo. Annual Meeting of the National Association for Research in Science Teaching, Chicago, IL.
- Harsh, J. A., **Maltese, A. V.**, Esteb, J. & Schmitt-Harsh, M. (2015). Development of a Performance-Based Measure to Assess the Scientific Thinking Skills of Undergraduate Researchers. Annual Meeting of the National Association for Research in Science Teaching, Chicago, IL.

**Maltese, A. V., Ross, H. A. & Dai, S.** (2014). A comparison of STEM experiences in Australia, China and the United States. Panel at the Midwest Conference of the Comparative and International Education Society, Bloomington, IN.

**Maltese, A. V.** (2014). Using Multiple Measures to Identify the Experiences That Initiate and Maintain Interest in STEM. Annual Meeting of American Educational Research Association, Philadelphia, PA.

*Melki, C. S., Maltese, A. V. & Wiebke, H.* (2014). From Initial Interest to Persistence in STEM. Annual Meeting of American Educational Research Association, Philadelphia, PA.

Harsh, J. A., Balliet, R. & **Maltese, A. V.** (2014). Watching scientific expertise develop: Analysis of student practices in an authentic research setting using point-of-view video data. Annual Meeting of American Educational Research Association, Philadelphia, PA.

**Maltese, A. V.** (2014). Assessing Multinational Interest in STEM - First Findings. Annual Meeting of the National Association for Research in Science Teaching, Pittsburgh, PA.

*Melki, C. S., Maltese, A. V. & Wiebke, H.* (2014). The nature of experiences responsible for the generation and maintenance of interest in STEM. Annual Meeting of the National Association for Research in Science Teaching, Pittsburgh, PA.

Harsh, J. A., Esteb, J., Schmitt-Harsh, M. & **Maltese, A. V.** (2014). Assessing the development of undergraduate researchers' scientific thinking skills using performance data. Annual Meeting of the National Association for Research in Science Teaching, Pittsburgh, PA.

Harsh, J. A., Balliet, R. & **Maltese, A. V.** (2014). Using point-of-view video data to analyze the development of scientific expertise in undergraduate research. Annual Meeting of the National Association for Research in Science Teaching, Pittsburgh, PA.

Harsh, J. A., Balliet, R. & **Maltese, A. V.** (2014). Researching the development of scientific expertise: Analysis of student practices in the research setting using point-of-view data. American Association for the Advancement of Science National Meeting, Chicago, IL.

Balliet, R., Harsh, J. A. & **Maltese, A. V.** (2014). Preferred mentorship practices as reported by students in undergraduate research experiences. American Association for the Advancement of Science National Meeting, Chicago, IL.

**Maltese, A. V. & Ross, H. A.** (2013). Lessons from the Indiana University STEM survey: creating spaces for cross-cultural research. Paper presented at the International Conference on Higher Education Student Learning and Development in a Globalizing Time, Tsinghua University - Beijing, CHINA.

**Maltese, A. V.** (2013). Gaining access: The challenges of collecting survey data. Paper presented at the International Conference on Higher Education Student Learning and Development in a Globalizing Time, Tsinghua University - Beijing, CHINA.

**Maltese, A. V. & Harsh, J.** (2013). A Tale of Two Summers: Programs Designed to Improve Attitudes and Achievement of Underrepresented Students in Science and Math. Poster presented at the American Educational Research Association Annual Meeting, San Francisco, CA.

**Maltese, A. V. & Harsh, J.** (2013). Using Eye Tracking to Assess the Cognitive Processes of Graph Readers along the Expert-Novice Science Continuum. Paper presented at the American



Educational Research Association Annual Meeting, San Francisco, CA.

*Harsh, J., Maltese, A. V., & Danish, J. A. (2013). Learning from the Learner's Point of View: Using Cameras to Assess Undergraduate Science Educational Practices. Paper presented at the American Educational Research Association Annual Meeting, San Francisco, CA.*

*Harsh, J. & Maltese, A. V. (2013). Eye Tracking Assessment of the Cognitive Processes of Experts and Novice in Graph Reading. Paper presented at the National Association for Research in Science Teaching Annual Meeting, Puerto Rico.*

*Harsh, J., Maltese, A. V. & Danish, J. (2013). From Their Point of View: Assessing Undergraduate Educational Practices Using Point-of-View Cameras. Paper presented at the National Association for Research in Science Teaching Annual Meeting, Puerto Rico.*

**Maltese, A. V., Kuchment, A., Wiebke, H. & Melki, C. S. (2013). Triggering and Maintenance of Interest in Pursuing STEM Degrees and Careers. Poster presented at AAAS Annual Meeting, Boston, MA.**

*Bryan, B., Maltese, A. V., Danish, J., Liao, W., Bouldin, R. & Harsh, J. (2013). What Are Students Doing While You Are Trying to Teach? Poster presented at AAAS Annual Meeting, Boston, MA.*

*Harsh, J. & Maltese, A. V. (2013). Silver Bullet or Sampling Bias: The Effect of Undergraduate Research Experiences on Students' Career Intentions in Chemistry and Physics. Poster presented at AAAS Annual Meeting, Boston, MA.*

*Harsh, J., Maltese, A. V. & Warner, J. (2013). The Development of Expertise in Data Analysis Skills: An Exploration of the Cognitive and Metacognitive Processes by which Scientists and Students Construct Graphs. Poster presented at AAAS Annual Meeting, Boston, MA.*

**Maltese, A. V., Balliet, R. & Riggs, E. M. (2012). Using video to analyze how students make observations while in the field. Digital poster presented at the Geological Society of America Annual Meeting, Charlotte, NC.**

*Brown, C., Maltese, A. V. & Harsh, J. A. (2012). Undergraduate Research Experiences: Coming Up With a Universal Definition of Success and Assessment Instrument. Paper presented at meeting of the American Educational Research Association Annual Meeting, Vancouver, BC.*

*Park Rogers, M. A. & Maltese, A. V. (2012). Getting to the CoRe of It! Exploring Content Representations in the Context of Undergraduate Science. Paper presented at meeting of the American Educational Research Association Annual Meeting, Vancouver, BC.*

**Maltese, A. V. & Hochbein, C. (2012). Consequences of School Improvement: Examination of the Association between School Improvement and Student Science Achievement. Paper presented at the National Association for Research in Science Teaching Annual Meeting, Indianapolis, IN.**

*Harsh, J. A. & Maltese, A. V. (2012). Data Interpretation along the Novice-Expert Continuum. Paper presented at the National Association for Research in Science Teaching Annual Meeting, Indianapolis, IN.*

Park Rogers, M. A., *Wiebke, H. L., Maltese, A. V., Harsh, J. A., Weiland, I. S., Melki, C. S.* (2012). Getting to the CoRe of It! Scaffolding Undergraduates Understanding of Geology Using Content Representation Matrices. Paper presented at the National Association for Research in Science Teaching Annual Meeting, Indianapolis, IN.

**Maltese, A. V., Balliet, R. & Riggs, E. M.** (2011). Field learning: Are your students doing what you think they are while out mapping? Paper presented at the Geological Society of America Annual Meeting, Minneapolis, MN.

**Maltese, A. V. & Harsh, J.** (2011). Interpretation of graphical representations along the novice – expert continuum. Poster presented at the Geological Society of America Annual Meeting, Minneapolis, MN.

**Maltese, A. V. & Tai, R.H.** (2011). Stemming the dropping tide: Looking at decline in student interest in science during middle school. Paper presented at meeting of the American Educational Research Association Annual Meeting, New Orleans, LA.

*Harsh, J., Maltese, A. V. & Tai, R. H.* (2011). Gender Differences in the Participation of Undergraduate Research Experiences in Science, Technology, Engineering, and Mathematics (STEM). Poster presented at meeting of the American Educational Research Association Annual Meeting, New Orleans, LA.

Hochbein, C. & **Maltese, A. V.** (2011). Is there an opportunity cost associated with school improvement efforts? Poster presented at meeting of the American Educational Research Association Annual Meeting, New Orleans, LA.

**Maltese, A. V.** (2011). Triangulating America's science literacy. Poster presented at the National Association for Research in Science Teaching Annual Meeting, Orlando, FL.

*Harsh, J., Maltese, A. V. & Tai, R. H.* (2011). A longitudinal perspective of gender differences in STEM undergraduate research experiences. Poster presented at the National Association for Research in Science Teaching Annual Meeting, Orlando, FL.

Potvin, G., **Maltese, A. V., Harsh, J. & Tai, R. H.** (2011). What students and graduate programs can do to reduce doctoral completion times. Paper presented at the National Association for Research in Science Teaching Annual Meeting, Orlando, FL.

**Maltese, A. V. & Riggs, E. M.** (2010). Through Their Eyes: Tracking the Gaze of Students in a Geology Field Course. Paper presented at the National Association for Research in Science Teaching Annual Meeting, Philadelphia, PA.

*Harsh, J., Maltese, A. V. & Tai, R.* (2010) Undergraduate Research Experiences from a Longitudinal Perspective. Paper presented at the National Association for Research in Science Teaching Annual Meeting, Philadelphia, PA.

**Maltese, A. V. & Riggs, E. M.** (2009). *Seeing the field through the eyes of students.* Paper presented at the Geological Society of America Annual Meeting, Portland, OR.

**Maltese, A. V.** (2009). *Student persistence in science and mathematics from high school through college.* Paper presented at the National Association for Research in Science Teaching Annual Meeting, Garden Grove, CA.

Baker, P., Brown, C. & **Maltese, A. V.** (2008). An Educator's perspective on Cyberinfrastructure. Forum presented at the Fourth IEEE International Conference on eScience, Indianapolis, IN.

**Maltese, A. V.** (2008). *Persistence in STEM: An Investigation of the Relationship between High School Experiences in Science and Mathematics and College Degree Completion in STEM Fields*. Poster presented at meeting of the American Educational Research Association Annual Meeting, New York, NY.

**Maltese, A. V.** (2008, March). *Eyeballs in the Fridge: Sources of Early Interest in Science*. Paper presented at meeting of the American Educational Research Association Annual Meeting, New York, NY.

**Maltese, A. V.,** & Tai, R. H. (2007, August) *Project Crossover: Early interest in chemistry*. Paper presented at the American Chemical Society National Meeting, Boston, MA.

**Maltese, A. V.,** & Tai, R. H. (2007, April). *The role of high school laboratories in student performance in introductory college science*. Paper presented at the National Association for Research in Science Teaching Annual Meeting, New Orleans, LA.

Tai, R. H., Liu, C. Q., **Maltese, A. V.,** & Fan, X. T. (2006, April). *Planning early for careers in science*. Paper presented at meeting of the American Educational Research Association Annual Meeting, San Francisco, CA.

Tai, R. H., Sadler, P., Fan, X. T., Ward, B., & **Maltese, A. V.** (2006, April). *Instructional technology use in science education: Evidence of a findings gap between large-scale and small-scale studies*. Paper presented at the National Association for Research in Science Teaching Annual Meeting, San Francisco, CA.

## SERVICE

### LEADERSHIP

Fulbright Specialist (US Dept of State)	2020-2023
Uplands Maker Mobile – Director	2020-Present
School of Education MILL Makerspace – Director	2016-Present
Center for Research on Learning and Technology – Acting Director	Spring 2018 & 2019

### MENTORING

#### Postdoctoral Researchers

Lauren Penney	October 2022-Present
Kelli Paul	December 2017-Present
KIM Jungsun	November 2019-August 2022
SUNG Euisuk	September 2018-August 2019
Amber Simpson	August 2015-July 2017
JUNG Eunju	December 2015-February 2017
Russell Balliet	May 2013-December 2014

#### Graduate Students

	COMPLETION DATE
ZHONG Qiu (Program of Studies Committee Director)	2022
YANG Jing (Program of Studies Committee Director)	2022
CHEN Yanlin (Dissertation Committee)	2022

Branden Bryan (Dissertation Committee)	2022
Roshan Lamichhane (Dissertation Chair)	2019
Nandhini Ashok (Dissertation Committee, Biology)	2019
Katie Halpin (MS, Science Education)	2018
Benjamin Braude (MS, Science Education)	2018
Alexandra Burris (Dissertation Chair)	2017
Jessica Chamberlain (Dissertation Committee)	2017
Jared Allen (Dissertation Committee)	2017
Christina Cooper (Melki) (Dissertation Committee)	2015
Cindy Elbaz (Dissertation Committee, Geological Sciences)	2014
Joseph Harsh (Dissertation Director)	2014
Russell Balliet (Dissertation Committee, Purdue University - Geoscience Education)	2012
Polly Root (MS, Science Education)	2012

#### Visiting Scholars

XU Chang (Beijing Normal University, CHINA)	2019-2020
HAN Yunxia (Beijing Normal University, CHINA)	2017-2018
SUN Yanxia (Ocean University of China, CHINA)	2017

#### COMMITTEES

##### *Professional*

Tenure Review for Scholars from other universities	2018-Present
InventEd Research Group (Chair)	2022-2023
External dissertation review for Mohi-ud-Din Islamic University	2018
Research Advisory Committee – National Summer Learning Association	2015-Present
Advisory Panel Member – Various NSF grants	2014-Present
NARST Outstanding Paper Award	2009-2012
Review of Indiana Developmental & Content Standards for Educators	2010
Revision of Indiana's Academic Standards for Science (Earth Science)	2008-2009

##### *University*

General Education Committee – Natural & Mathematical Sciences	2016-Present
Advocates & Allies Program – CEWiT	2017-Present
Faculty Alliance – CEWiT	2017-Present
Scholarship of Teaching and Learning Advisory Board	2017-Present
Limited Submission Grant Reviewer	2018

##### *School of Education*

Science Education – MS Program Coordinator	2016-Present
SOE Policy Council	2016-2021
Learning and Teaching with Technology Committee	2012-2015; 2017-2020
Jacobs Educator Faculty Mentor	2018-2019
Fulbright Teacher Mentor	2014-2017
Afghan Junior Faculty Development Program	2016
Faculty Development Committee	2010-2016
South Sudan Higher Educ Init. for Equity & Leadership Development Mentor	2015
C & I Annual Review Committee	2015
Secondary Education Council (Chair)	2014-2015
MILL Makerspace Planning Committee	2015
CRLT Steering Committee	2015
Armstrong Teacher Educator Award Selection Panel	2009-2010

*Local Community*

Indiana Maker Educator Network – Founder/Director

Ready Schools Advisory Team (MCCSC)

2017-Present

2018-2020

## **REVIEWER**

### **GRANTS**

NASA Office of STEM Education Expert Review Panels

National Science Foundation Grant Review (Panels & Ad Hoc)

Institute of Museum & Library Services (US)

Natural Sciences and Engineering Research Council of Canada

US-Israel Binational Science Foundation Grant Review

### **JOURNALS**

*PLOS One; American Educational Research Journal; Educational Researcher; Journal of Research in Science Teaching; CBE – Life Sciences Education; International Journal of Science Education; Journal of Chemical Education; Journal of College Science Teaching; Science Education; Learning and Individual Differences; Learning and Instruction; Journal of Engineering Education; Child Development; The Review of Higher Education; Instructional Science; The Elementary School Journal; Research in Science & Technological Education; Education Sciences; Equality, diversity and inclusion; The Physics Teacher; Journal for STEM Education Research; Connected Science Learning; AERA Open; Journal of Pre-College Engineering Education Research; Visitor Studies*