Joseph Arthur Brobst, Ed.D.
The Center for Educational Partnerships
Darden College of Education & Professional Studies
Old Dominion University
4301 Hampton Blvd #2330, Norfolk, VA 23529
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EDUCATION

Ed.D. Educational Leadership — University of Delaware, Newark, DE — 2014
Curriculum, Technology, &
Higher Education concentration

M.A. Education — University of Delaware, Newark, DE — 2008
Curriculum & Instruction -
Science Education concentration

B.S. Biological Sciences (Cum Laude) — University of Delaware, Newark, DE — 2003
Biotechnology concentration
Minor: German Language & Literature

APPOINTMENTS

Old Dominion University, Norfolk, VA
Darden College of Education & Professional Studies
The Center for Educational Partnerships
Research Assistant Professor 2018-
Department of STEM Education & Professional Studies
Affiliate Faculty, Educational Psychology & Program Evaluation 2023-

Western Washington University, Bellingham, WA
Science, Mathematics, & Technology Education
Research Associate 2013-2018

University of Delaware, Newark DE
School of Education
Graduate Research Assistant 2006-2013

Smyrna High School, Smyrna, DE 2004-2006
Science Teacher – Biology, Anatomy & Physiology, Oceanography

AWARDS

Virginia Mathematics and Science Coalition 2025
Programs that Work Teacher Program Award & Student Program Award
Advancing Rural Computer Science

SPONSORED RESEARCH ACTIVITY

FEDERAL (PENDING)

Yang, D. (2025). *Unveiling Causality in Transportation Systems Management and Operations: Foundational Statistical and AI-Driven Theories*. $500,000 proposed. National Science Foundation CAREER. Role: program evaluation consulting on educational components of proposed project.

Carter, C., Penland, J., Lowe, C. (2025). *Explorations – Bridging the Future: Connecting Community Colleges and Industry for Advanced Manufacturing Exploration.* $1,000,000 proposed. National Science Foundation Experiential Learning for Emerging and Novel Technologies (ExLENT). Role: external evaluation.

Neubert, J., Carter, C., Michaluk, L., & **Brobst, J.** (2024). *Analyzing and Enhancing Student STEM Impact Through the Plant the Moon Challenge*. $1,983,255 proposed. National Science Foundation DRK-12. Role: Co-PI, educational research.

FEDERAL (CURRENT)

Garner, J., Chappell Moots, S., Loney, M., Webster, H., **Brobst, J.**, Ranjan, D., & Doherty, R. (2019-2025). *Advancing Rural Computer Science*. $3,937,531 awarded to Old Dominion University. U.S. Department of Education, Education Innovation & Research (EIR), Award #U411C190032. Role: Co-PI.

Zhang, X., & Kumar, S. (2022-2025; funded 2020 but delayed due to COVID-19 pandemic). *Training STEM teachers in alternative (biomass, solar, wind, and hydrogen) energy research through hands on laboratory and computational experiences*. $600,000 awarded to Old Dominion University. National Science Foundation RET Site, Award #1953411. Role: external evaluation.

FEDERAL (COMPLETED)

Agho, A., Finley-Croswhite, A., Ringleb, S., Jovanovic, V., & Jenkins, S. (2023-2025). *ADAPTATION: Re-envisioning Inclusive and Sustainable Excellence (RISE) Advancing Women in STEM at Old Dominion University*. $1,000,000 awarded to Old Dominion University. National Science Foundation ADVANCE, Award #2305202. Role: Senior Personnel, internal evaluation. **Terminated early due to Trump administration Executive Orders & actions taken by "Department of Government Efficiency"**

Davishahl, J., Klein, A., Al-Qudah, S., **Brobst, J.,** Herring, J. (2018-2024). *Becoming Engaged Engineering Scholars: Success Programs for Recruitment and Retention in Engineering*. Sub-award of $118,228 to Old Dominion University from $957,532 awarded to Western Washington University. National Science Foundation S-STEM, Award #1834139. Role: PI of ODU sub-award, educational researcher.

McDowell, J., & Kmiec, E. (2020-2024). *Technician Training in CRISPR-based Gene Editing*. Sub-award of $60,000 to Old Dominion University from $574,327 awarded to Delaware Technical Community College. National Science Foundation ATE, Award # 2000696. Role: PI of ODU sub-award, external evaluator.

Hartenstine, D., Fizzano, P., **Brobst, J.,** Barber-DeGraaff, R. (2017-2023). *Preparing Students for Careers in Computer Science and Math*. Sub-award of $129,782 to Old Dominion University from $999,898 awarded to Western Washington University. National Science Foundation S-STEM, Award #1742110. Role: PI of ODU sub-award, educational researcher.

Khare, P., Sharma, R., Maynard, K., & Kaipa, K. (2019-2022). *Minor Certificate Program in Computational Naval Sciences to Enable Naval STEM Careers*. Sub-award of $300,000 to Old Dominion University from $600,000 awarded to University of Cincinnati. Office of Naval Research, Award #N00014-19-1-2486. Role: external evaluation.

Balke, V., McDowell, J., & Kmiec, E. (2017-2020). *Technician Training in Gene Editing*. Independent consulting contract with Delaware Technical Community College. National Science Foundation ATE. Role: external evaluation.

Brobst, J., & Chappell Moots, S. (2018-2019). *College Access Corps Impact Evaluation*. $41,600 awarded to Old Dominion University from Washington Campus Compact, Sponsor: Corporation for National and Community Service. Role: external evaluation.

Gallucci, V., Fabbi, N., Rossiter, D., Storer, T., & Baloy, N.J.K. (2014-2018). *Pacific Northwest National Resource Center on Canada*. U.S. Department of Education Title VI. Role: external evaluation.

Hanley, D., Ohana, C., & Miller, M. (2013-2018). *Model of Research-based Education for Teachers*. National Science Foundation DRK-12. Role: educational research, elementary teacher professional development.

Klein, A., & Martin, R. (2015-2018). *Learning about Signals through Tinkering and Game-Playing*. Office of Naval Research STEM Education, Outreach, & Workforce Program. Role: external evaluation.

Markworth, K., Ohana, C., & Parker, R. (2013-2017). *Every Day, Every Child: A Partnership for Research with Elementary Math and Science Instructional Specialists*. National Science Foundation DRK-12. Role: educational research.

Larson, B. (2013-2014). *TeachWashington Noyce Teacher Scholarships*. National Science Foundation Robert Noyce Scholarship Program. Role: external evaluation.

FEDERAL (UNFUNDED)

Audette, M., Li., J., Nawarathna, D., Kaipa, K., & Kravchenko, O. (2024). *NRT:Deep Neural Network-potentiated, Inclusive Approach to Graduate Biomedical Engineering.* $2,494,115 proposed. National Science Foundation Research Traineeship (NRT). Role: external evaluation.

Audette, M., Li., J., Nawarathna, D., Osgood, C., & **Brobst, J.** (2024). *IGE: Track 1: Three-Step Instruction and Internship Program to Endow STEM Graduate Students with Deep Neural Network Expertise.* $499,847 proposed. National Science Foundation Innovations in Graduate Education. Role: Co-PI, educational research and program assessment.

Agho, A., Sparkman-Key, N., Finley-Croswhite, S.A., Jovanovic, V., & **Brobst, J.** (2021). *Re-envisioning Inclusive and Sustainable Excellence (RISE): Advancing Women and Underrepresented Minorities in STEM at Old Dominion University*. $1,000,000 proposed. National Science Foundation ADVANCE Adaptation. Role: internal formative evaluation.

Agho, A., Sparkman-Key, N., Stuart, B., Daines, D., & Garner, J. (2020). *Targeted Inclusive Diversity and Equitable Structures (TIDES): Advancing Women in STEM at Old Dominion University*. $1,000,000 proposed. National Science Foundation ADVANCE Adaptation. Role: internal formative evaluation.

Bayse, C., Gaff, H., Wallach, J., & Perez, A. (2022). *Proactive Approach to Successful Degree Completion by Low-Income Chemistry and Biology Students*. $1,498,338 proposed. National Science Foundation S-STEM. Role: external evaluation.

Bayse, C., Perez, A., Wallach, J. (2021). *Proactive Approach to Successful Degree Completion by Low-Income STEM Students*. $1,499,214 proposed. National Science Foundation S-STEM. Role: external evaluation.

Chappell Moots, S., & **Brobst, J.** (2024). *NSF EPIIC: Building Opportunities for Outstanding Skills Training in Advanced Manufacturing for Southeastern Two-Year Colleges (BOOST)*. $72,000 proposed. National Science Foundation EPIIC (Enabling Partnerships to Increase Innovation Capacity). Role: external evaluation.

Chappell Moots, S., Garner, J., **Brobst, J.**, Ferrell, V., & Webster, H. (2021). *A Formula for Success: Establishing Initial Efficacy of Essential Chemistry*. $3,754,650 proposed. Institute of Education Sciences Education Research Grant. Role: Co-PI, educational research.

Chappell Moots, S., Garner, J., **Brobst, J.**, Webster, H., & Loney, M. (2020). *A Formula for Success: Establishing Initial Efficacy of Essential Chemistry*. $3,571,574 proposed. Institute of Education Sciences Education Research Grant. Role: Co-PI, educational research.

Chappell Moots, S., **Brobst, J.**, Maeng, J., & Reed, P. (2019). *Developing and Testing Innovations: Paving Pathways to STEM Careers through Augmented Reality Career and Technical Education*. $1,495,903 proposed. National Science Foundation ITEST. Role: Co-PI, educational research, project management.

Ferrell, V., & **Brobst, J.** (2024). *DTI: iQuest*. $1,296,349 proposed. National Science Foundation ITEST. Role: Co-PI, educational research.

Ferrell, V., & **Brobst, J.** (2023). *DTI: iQuest*. $1,289,792 proposed. National Science Foundation ITEST. Role: Co-PI, educational research.

Ferrell, V., **Brobst, J.**, Joe., M., & Johnson, J. (2022). *Developing & Testing Innovations (DTI): iQuest*. $1,277,798 proposed. National Science Foundation ITEST. Role: Co-PI, educational research.

Garner, J.K., Chappell Moots, S., **Brobst, J.**, Ferrell, V., Loney, M., Ranjan, D., & Webster, H. (2024). *Advancing Rural Computer Science (ARCS)*. U.S. Department of Education EIR (Education Innovation and Research). $9,538,917 proposed. Role: Co-PI, educational research.

Garner, J.K., Chappell Moots, S., & **Brobst, J.** (2023). *Evaluation of NSF Engine: Type 2, Virginia Neuroscience Initiative*. $1,800,000 proposed. National Science Foundation Regional Innovation Engines Type 2. Role: external evaluation.

Garner, J., Annetta, L., Sampson, V., Kaplan, A., Johansson, M., Hale, R., Goodman-Scott, E., Crumb, L., **Brobst, J.**, & Loney, M. (2019). *Redesigning Environmental Science Inquiry-based Learning through Innovative Engagement and Career Exploration (RESILIENCE)*. $2,607,343 proposed. National Science Foundation DRK-12. Role: educational research, data management.

Jayarathna, S., Chappell, A., Perrotti, A., & Wadduwage, D. (2024). *Virtual Ecosystem for STEM Teaching (VEST): Facilitating STEM Education for Youth at Risk of School Failure*. $2,872,853 proposed. Role: external evaluation.

Jayarathna, S., Perrotti, A., Chappell, A, Oliverio, J., & Oaks-Garcia, C. (2023). *SCC-IRG Track 1: Personalized Ecosystem for Occupational Education and Training (POET): Increasing Equitable Outcomes for Detained Youth*. $2,500,000 proposed. National Science Foundation Smart & Connected Communities. Role: external evaluation.

Loney, M., & Webster, H. (2019). *Investigating Nature's Questions Using Instruction, Research, and Exploration (INQUIRE)*. $449,996 proposed. National Oceanic & Atmospheric Association B-WET. Role: external evaluation.

Neubert, J., Carter, C., & **Brobst, J.** (2023). *Enhancing Rural Underserved Student STEM Outcomes Through the Plant the Moon Challenge*. $2,991,341 proposed. National Science Foundation DRK-12. Role: Co-PI, educational research.

Neubert, J., White, A., Fisher, C, & Dolcimascolo, K. (2023). *Engaging Rural, Underserved Youth in Advanced Agricultural Technology through the Plant the Moon Challenge*. $750,000 proposed. United States Department of Agriculture, National Institute of Food and Agriculture, Agriculture and Food Research Initiative, Food and Agricultural Non-formal Education (USDA-NIF-AFRI Food and Agriculture Non-formal Education) program. Role: PI of subaward, external evaluation.

Ringleb, S., Ash, R., Britcher, C., Popescu, D., Jayarathna, U., & **Brobst, J.** (2019). *STARS: Science Teachers as Researchers with Satellites*. $600,000 proposed. National Science Foundation RET Site. Role: external evaluation.

Tonelson, S., Gable, R. & Maydosz, A. (2022). *Integrating Social Emotional Behavioral Learning (iSEBL) within Academic Instruction Using an Interconnected Systems Framework.* $2,784,530 proposed. U.S. Department of Education, Education Innovation & Research (EIR). Role: external evaluation.

SCHOLARSHIP

JOURNAL ARTICLES

UNDER REVIEW

Chappell Moots, S., Garner, J.K., **Brobst, J.**, Loney, M., Steffian, L., & Maeng, J. (2025). Supporting K-5 Computer Science Integration through High-Quality Teacher Professional Development. Currently under review for *Studies in Educational Evaluation*.

Maeng, J.L., Konold, T., Singh, K., Liu, R., Loney, M., **Brobst, J.A.**, Chappell Moots, S., & Garner, J.K. (2025). Development and Psychometric Evaluation of the Content Knowledge and Affective Instrument for Computer Science (CKACS). Currently under review for *Computer Science Education*.

Brobst, J., & Hartenstine, D. (2025). Exploring Potential Benefits and Unintended Consequences of an Early Exposure to Computer Science (EECS) Sequence Offered to Participants in a Computer Science and Mathematics Focused S-STEM Project. Currently under review for *Journal of STEM Education: Innovations and Research*.

Brobst, J., Garner, J., Hartenstine, D., & Fizzano, P. (2024). Professional identity exploration and commitment development by STEM undergraduates from underrepresented groups during near-peer mentoring. Currently under review for *Mentoring and Tutoring: Partnership in Learning*.

PUBLISHED

Brobst, J., Litzler, E., Alqudah, S., Davishahl, J., & Klein, A. (2025). Navigating the Path to Persistence and Belonging: The Role of Multifaceted Support in the First Two Years of Undergraduate Engineering Education. *Journal of STEM Education: Innovations and Research*, *26*(1), 6–15. https://doi.org/10.63504/jstem.v26i1.2686

Brobst, J.A., Markworth, K.A. (2019). Elementary content specialization: Perspectives on perils and promise. *School Science and Mathematics, 119*: 369– 381. https://doi.org/10.1111/ssm.12362

Melton, J., & **Brobst, J.A.** (2019). Elementary content specialization: What to consider. *School Science and Mathematics, 119*.

https://onlinelibrary.wiley.com/action/downloadSupplement?doi=10.1111%2Fssm.12362&file=ssm12362-sup-0001-Supinfo.pdf

Miller, M., Hanley, D., & **Brobst, J.** (2019). The impacts of a research-based model for mentoring elementary preservice teachers in science. *Journal of Science Teacher Education, 30*(4): 357-378. https://doi.org/10.1080/1046560X.2019.1573127

Melton, J., Miller, M., & **Brobst, J.** (2019). Mentoring the mentors: Hybridizing professional development to support cooperating teachers' mentoring practice in science. *Contemporary Issues in Technology and Teacher Education*, 19(1). Retrieved from https://www.citejournal.org/volume-19/issue-1-19/science/mentoring-the-mentors-hybridizing-professional-development-to-support-cooperating-teachers-mentoring-practice-in-science

Markworth, K., **Brobst, J.**, Ohana, C., & Parker, R. (2018). Exploring elementary content specialization: benefits and cautions, pitfalls and fixes. *NCSM Journal of Mathematics Education Leadership, 19*(2): 3-11. https://www.mathedleadership.org/member/docs/resources/journals/NCSMJournalVol19Num2.pdf

Brobst, J., Markworth, K., Tasker, T. and Ohana, C. (2017). Comparing the preparedness, content knowledge, and instructional quality of elementary science specialists and self-contained teachers. *Journal of Research in Science Teaching, 54*(10): 1302–1321. https://doi.org/10.1002/tea.21406

Markworth, K., **Brobst, J.**, Ohana, C., & Parker, R. (2016). Elementary content specialization: models, affordances, and constraints. *International Journal of STEM Education, 3*(16). https://doi.org/10.1186/s40594-016-0049-9

Eslinger, E., White, B., Frederiksen, J., & **Brobst, J.** (2008). Supporting inquiry processes with an interactive learning environment: Inquiry Island. *Journal of Science Education and Technology*, *17*(6), 610-617. https://doi.org/10.1007/s10956-008-9130-6

CONFERENCE PAPERS

Brobst, J.A., Davishahl, J., Litzler, E., Klein, A.G., & Alqudah, S. (2023, June). *Examining first-year engineering programs' impacts on sense of belonging across gender*. Paper presented at 2023 ASEE Annual Conference & Exposition, Baltimore, MD, United States. https://peer.asee.org/43481

Davishahl, J., Alqudah, S., **Brobst, J. A.**, Litzler, E., & Klein, A. G. (2023, June). *Math to Makerspace: Evolution of a Bridge Program to Support Cohort Development.* Paper presented at 2023 ASEE Annual Conference & Exposition, Baltimore, MD, United States. https://peer.asee.org/42947

Brobst, J.A., Litzler, E., Alqudah, S., Barber, R., Davishahl, J., Fizzano, P., Hartenstine, D., & Klein, A. (2023, April). *Targeted Curricular and Co-Curricular Activities and Identity Development Across Two Projects Supporting Diverse STEM Undergraduates*. Paper presented at the 2023 Annual Meeting of the American Educational Research Association, Chicago, IL, United States. https://doi.org/10.3102/2010586

Chappell Moots, S., Garner, J.K., **Brobst, J.A.**, & Tennessee, K. (2023, April). *Professional Development Through Micro-Credentials: Building Teacher Capacity to Integrate Computer Science in Rural Settings*. Paper presented at the 2023 Annual Meeting of the American Educational Research Association, Chicago, IL, United States. https://doi.org/10.3102/2008425

Davishahl, J., **Brobst, J.A.**, Litzler, E., Alqudah, S., & Klein, A.G. (2022, June). *Exploring the complex relationships between engineering students' math experiences and identity formation*. Paper presented at 2022 ASEE Annual Conference & Exposition, Minneapolis, MN, United States. https://peer.asee.org/41931

Brobst, J., Litzler, E., Alqudah, S., Barber, R., Davishahl, J., Fizzano, P., Hartenstine, D., & Klein, A. (2022, April). *Developing sense of belonging in isolation: insights from two projects supporting STEM undergraduates*. Paper presented at the 2022 Annual Meeting of the American Educational Research Association, San Diego, CA, United States. https://doi.org/10.3102/1885686

Hartenstine, D., Fizzano, P., **Brobst, J. A.**, & Garner, J. K. (2021, July). *Near-Peer Mentoring and Early Exposure to Computer Science – Quantitative and Qualitative Results*. Paper presented at 2021 ASEE Virtual Annual Conference Content Access, Virtual Conference. https://peer.asee.org/37523

Brobst, J., Garner, J., Hartenstine, D., Fizzano, P., & Barber DeGraaff, R. (2021, April). *Professional Identity Exploration and Commitment Development by STEM Undergraduates from Underrepresented Groups during Near-Peer Mentoring*. Paper presented at the 2021 Annual Meeting of the American Educational Research Association, Virtual. https://doi.org/10.3102/1686005

Hartenstine, D., Fizzano, P., **Brobst, J. A.**, Litzler, E., & Barber DeGraaff, R. (2020, June). *CS/M Scholars Program - an NSF S-STEM Project*. Paper presented at 2020 ASEE Virtual Annual Conference Content Access, Virtual Online. https://doi.org/10.18260/1-2--34360

Alqudah, S., Litzler, E., **Brobst, J. A.**, Davishahl, J., & Klein, A. G. (2020, June), *S-STEM Becoming Engaged Engineering Scholars (BEES): Insights from Year 1*. Paper presented at 2020 ASEE Virtual Annual Conference. https://doi.org/10.18260/1-2--35171

BOOKS

Matusov, E., & **Brobst, J.** (2013), *Radical Experiment in Dialogic Pedagogy in higher education and its Centauric failure: Chronotopic analysis*. Hauppauge, NY: Nova Publishers.

TECHNICAL REPORTS AND OTHER PUBLICATIONS

Brobst, J. (2025, February 10). Don't Bore Us, Get to the Chorus: Singing the Songs of Evaluation Data. *EvaluATE Blog*. https://evalu-ate.org/blog/brobst-feb25/

Brobst, J. (2024). RISE ADVANCE 2024 Climate Survey Report. T2024.2. The Center for Educational Partnerships, Old Dominion University, Norfolk, VA.

Brobst, J., & Council, T-R (2024). *Alternative Energy RET Site 2023-2024 Evaluation Report*. T2024.1. The Center for Educational Partnerships, Old Dominion University, Norfolk, VA.

Brobst, J., & Council, T-R. (2023). *Alternative Energy RET Site – Summer 2023 Evaluation Report*. T2023.4. The Center for Educational Partnerships, Old Dominion University, Norfolk, VA

Brobst, J., & Council, T-R. (2023). *Minor Certificate Program in Computational Naval Sciences Aggregate Student Outcomes Report – July 2023*. T2023.3. The Center for Educational Partnerships, Old Dominion University, Norfolk, VA

Brobst, J., & Council, T-R. (2023). *Technician Training in CRISPR-based Gene Editing Spring 2023 Student Course Outcomes Report*. T2023.2. The Center for Educational Partnerships, Old Dominion University, Norfolk, VA

Brobst, J., & Garner, J. (2023). *Minor Certificate Program in Computational Naval Sciences Aerodynamics Post-Survey Summary Report*. T2023.1. The Center for Educational Partnerships, Old Dominion University, Norfolk, VA.

Brobst, J., Council, T-R., & Garner, J. (2022). *Minor Certificate Program in Computational Naval Sciences Aerodynamics Pre-Survey Summary Report*. T2022.6. The Center for Educational Partnerships, Old Dominion University, Norfolk, VA.

Brobst, J., & Garner, J. (2022). *Minor Certificate Program in Computational Naval Sciences System Dynamics Post-Survey Summary Report*. T2022.5. The Center for Educational Partnerships, Old Dominion University, Norfolk, VA.

Brobst, J., & Garner, J. (2022). *Minor Certificate Program in Computational Naval Sciences System Dynamics Pre-Survey Summary Report*. T2022.4. The Center for Educational Partnerships, Old Dominion University, Norfolk, VA.

Brobst, J. (2022). *Technician Training in Gene Editing 2.0 Spring 2022 Faculty Follow-up Survey Report*. T2022.3. The Center for Educational Partnerships, Old Dominion University, Norfolk, VA.

Brobst, J. (2022). *Technician Training in Gene Editing 2.0 Spring 2022 Student Course Outcomes Report*. T2022.2. The Center for Educational Partnerships, Old Dominion University, Norfolk, VA.

Brobst, J. & Garner, J. (2022). *Minor Certificate Program in Computational Naval Sciences Computational Methods Post-Survey Summary Report*. T2022.1. The Center for Educational Partnerships, Old Dominion University, Norfolk, VA.

Brobst, J. & Garner, J. (2021). *Minor Certificate Program in Computational Naval Sciences Computational Methods Pre-Survey Summary Report*. T2021.7. The Center for Educational Partnerships, Old Dominion University, Norfolk, VA.

Brobst, J. & Garner, J. (2021). *Minor Certificate Program in Computational Naval Sciences Fluid Dynamics Post-Survey Summary Report*. T2021.6. The Center for Educational Partnerships, Old Dominion University, Norfolk, VA.

Brobst, J. & Garner, J. (2021). *Minor Certificate Program in Computational Naval Sciences Fluid Dynamics Pre-Survey Summary Report*. T2021.5. The Center for Educational Partnerships, Old Dominion University, Norfolk, VA.

Brobst, J. & Garner, J. (2021). *Minor Certificate Program in Computational Naval Sciences Underwater Robotics Post-Survey Summary Report*. T2021.4. The Center for Educational Partnerships, Old Dominion University, Norfolk, VA.

Brobst, J. & Garner, J. (2021). *Minor Certificate Program in Computational Naval Sciences Underwater Robotics Pre-Survey Summary Report*. T2021.3. The Center for Educational Partnerships, Old Dominion University, Norfolk, VA.

Brobst, J. (2021). *Technician Training in CRISPR-based Gene Editing April 2021 Webinar Evaluation Report*. T2021.2. The Center for Educational Partnerships, Old Dominion University, Norfolk, VA.

Brobst, J. (2021). *Technician Training in CRISPR-based Gene Editing February 2021 Webinar Evaluation Report*. T2021.1. The Center for Educational Partnerships, Old Dominion University, Norfolk, VA.

Brobst, J. & Garner, J. (2020). *Minor Certificate Program in Computational Naval Sciences Fall 2020 Post Survey Summary*. T2020.2. The Center for Educational Partnerships, Old Dominion University, Norfolk, VA.

Brobst, J. & Garner, J. (2020). *Minor Certificate Program in Computational Naval Sciences June Information Session Summary*. T2020.1. The Center for Educational Partnerships, Old Dominion University, Norfolk, VA.

Chappell Moots, S., & **Brobst, J.** (2019). College Access Corps Impact Evaluation. Tech Rep. T2019.1. The Center for Educational Partnerships, Old Dominion University, Norfolk, VA.

Brobst, J., Jones, A., & Ackerman, C.M. (2016). An examination of mechanisms supporting the production of research and collaborations within Delaware EPSCoR. Tech. Rep. T2016.1. University of Delaware, Newark, DE.

CONFERENCE PRESENTATIONS (exclusive of above)

Brobst, J. (2025, March 23-25). *Secondary science teachers' goal conflicts in an alternative energy focused engineering RET project*. [Paper presentation]. NARST Annual International Conference, National Harbor, MD, United States.

Brobst, J., & Hartenstine, D. (2024, November 7-9). *Exploring Potential Benefits and Unintended Consequences of an Early Exposure to Computer Science (EECS) Sequence Offered to Participants in a Computer Science and Mathematics Focused S-STEM Project*. [Poster presentation]. AAC&U Transforming STEM Higher Education Conference, Arlington, VA , United States.

Brobst, J. (2022, November 3-5). *Assessing Broader Departmental and Institutional Impacts of Two STEM Undergraduate Scholarship and Support Projects*. [Innovation/Ideation Session]. AAC&U Transforming STEM Higher Education Conference, Arlington, VA, United States.

Garner, J., **Brobst, J.**, Chappell Moots, S., Ferrell, V., et al. (2022, October 20-21). *Advancing Rural Computer Science*. [Virtual Research Symposium Session]. National Rural Education Association Convention & Research Symposium, Green Bay, WI, United States.

Garner, J., Chappell Moots, S., Maeng, J., **Brobst, J.**, Tennessee, K., Rice, N., Ranjan, D., & Ferrell, V. (2022, October 18-19). *Advancing STEM and CS Integration through Partnerships and Professional Development*. Educational Innovation and Research Project Directors and Evaluators Technical Assistance Meeting, Virtual.

Hartenstine, D., Fizzano, P., **Brobst, J.**, Litzler, E., & Barber, R. (2022, September 29-October 1). *Preparing Students for Careers in Computer Science and Mathematics: an NSF S-STEM Project at Western Washington University.* [Poster presentation]. AAAS S-STEM Symposium, Washington, DC, United States.

Klein, A., **Brobst, J.**, Davishahl, J. & Alqudah, S. (2022, September 29-October 1). *Becoming Engaged Engineering Scholars: Success Programs for Recruitment and Retention in Engineering*. [Poster presentation]. AAAS S-STEM Symposium, Washington, DC, United States.

Hartenstine, D., Fizzano, P., **Brobst, J.**, Litzler, E., & Barber, R. (2022, August 3-6). *Preparing Students for Careers in Computer Science and Mathematics: an NSF S-STEM Project at Western Washington University*. [Poster presentation]. Mathematical Association of America MathFest, Philadelphia, PA, United States.

Garner, J., Chappell Moots, S., **Brobst, J.**, Tennessee, K., & Maeng, J. (2021, November 9-10). *Developing Elementary Computer Science Microcredentials in an Early Phase Project*. Education Innovation and Research Project Directors and Evaluators Technical Assistance Meeting, Virtual.

Brobst, J., & McDowell, J. (2021, November 4-6). *Plans for Investigating Community College Student and Faculty Perceptions of Ethical Concerns Related to CRISPR Gene Editing*. [Innovation/Ideation Session]. AAC&U Transforming STEM Higher Education Conference, Virtual.

Brobst, J., Maeng, J., & Garner, J. (2021, April 7-10). *Variations in Rural Elementary Teachers' Confidence and Experience with Computer Science Integration by Teacher Type* [Paper presentation]. NARST Annual International Conference, Virtual.

Brobst, J., Litzler, E., Davishahl, J., Alqudah, S., & Klein, A. (2020, November 5-7). *Impacts of supports on student affect in an engineering-focused S-STEM*. [Poster presentation]. AAC&U Transforming STEM Higher Education Conference, Virtual.

Brobst, J., Fizzano, P., Hartenstine, D., & Litzler, E. (2019, November 7-9). *Early impacts of seminars and mentoring in an interdisciplinary S-STEM*. [Poster presentation]. AAC&U Transforming STEM Higher Education Conference, Chicago, IL, United States.

Miller, M., Hanley, D., & **Brobst, J.** (2018, April 13-17). *The Impacts of a Research-based Model for Mentoring Elementary Preservice Teachers in Science*. [Roundtable session]. Annual Meeting of the American Educational Research Association, New York, NY, United States.

Brobst, J., & Melton, J. (2018, March 10-13). *Sophisticated preservice teacher beliefs: predictors of effective, reflective instruction as novice teachers?* [Paper presentation]. NARST Annual International Conference, Atlanta, GA, United States.

Brobst, J., Tasker, T., & Markworth, K. (2016, April 14-17). *Comparing the Preparedness and Instructional Quality of Traditional and Science Specialist Elementary Teachers*. [Paper presentation]. NARST Annual International Conference, Baltimore, MD, United States.

Hanley, D., Tasker, T., **Brobst, J.**, & Miller, M. (2016, April 14-17). *MORE for Teachers: A Research-based Model to Support the Mentoring of Elementary Pre-service Teachers in Science*. [Paper presentation]. NARST Annual International Conference, Baltimore, MD, United States.

Brobst, J., & Markworth, K. (2015, April 11-14). *Every Day, Every Child: Investigating Models of Science Specialization among Elementary Teachers*. [Paper presentation]. NARST Annual International Conference, Chicago, IL, United States.

Brobst, J., & Markworth, K. (2015, February 9-10). *Elementary Instructional Specialization in Mathematics & Science: Views through Temporal and Stakeholder Lenses*. [Poster

presentation]. Annual Ethnographic & Qualitative Research Conference, Las Vegas, NV, United States.

INVITED PRESENTATIONS

Brobst, J. (2023, July 25). *Insights from evaluation of Technician Training in CRISPR-based Gene Editing ATE project*. EvaluATE pre-conference session, HI-TEC Conference, Atlanta, GA.

Brobst, J., & Garner, J.K. (2023, June 8). *Building a Budget for Program Evaluation*. Guest lecture in ODU course FOUN813 – Program Evaluation in Education, Norfolk, VA.

Brobst, J. (2022, April 13). *Factors Promoting Retention and Success among Computer Science, Mathematics, and Engineering Undergraduates: Findings and Reflections from Two Research Projects*. University of Delaware School of Education Alumni Colloquium Series, Virtual.

SERVICE TO THE PROFESSION

JOURNALS

Journal of Research in Science Teaching	
Editorial Board member	2019-2022
Ad hoc reviewer	2017-
Mentoring & Tutoring: Partnership in Learning	
Ad hoc reviewer	2023-
Science Education	
Ad hoc reviewer	2023-
School Science and Mathematics	
Ad hoc reviewer	2019-
Teaching and Teacher Education	
Ad hoc reviewer	2020-

PROFESSIONAL SOCIETIES/CONFERENCES

American Educational Research Association	
Annual Meeting proposal reviewer	2020-
American Society for Engineering Education	
Annual Conference & Exhibition proposal reviewer	2022-
Eastern Evaluation Research Society	
Board Member at large	2022-
Conference Technology Chair	2024, 2025

NARST Annual International Conference
Proposal reviewer 2020-

National Science Foundation
Review panelist 2016; 2020; 2024 (2x)

GRADUATE STUDENT SUPERVISION

Old Dominion University 2024-present
PhD in Educational Psychology & Program Evaluation
Advisor, Imole J. Samson

The George Washington University 2020
External dissertation reader, Dr. Roberta M. King

PROFESSIONAL MEMBERSHIPS

American Educational Research Association (AERA)
American Society for Engineering Education (ASEE)
Eastern Evaluation Research Society (EERS)
National Association for Research in Science Teaching (NARST)
School Science and Mathematics Association (SSMA)