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EDUCATION

University of Delaware **Newark, DE**
Curriculum and Instruction- Science Education | Doctor of Philosophy *Graduation: 2005*

University of Delaware **Newark, DE**
Curriculum and Instruction- Science Education | Master of Education *Graduation: 2002*

Purdue University **West Lafayette, IN**
Biology | Bachelor of Science *Graduation: 1995*
Chemistry | Certification

HIGHER EDUCATION/ PROFESSIONAL EXPERIENCE

Professor **Millersville, PA**
Millersville University of Pennsylvania | Department of Educational Foundations *2016-Present*

Co-Director **Millersville, PA**
Millersville University of Pennsylvania | Watershed Education Training Center (WETi) *2014-Present*

Associate Professor **Millersville, PA**
Millersville University of Pennsylvania | Department of Educational Foundations *2011-2016*

Adjunct Education Faculty **Avondale, PA**
Stroud Water Research Center | Education Department *2011- Present*

Assistant Professor **Millersville, PA**
Millersville University of Pennsylvania | Department of Educational Foundations *2005-2011*

Assistant Instructor **Newark, DE**
University of Delaware | Science Education *2002- 2004*

High School Science Teacher **Kennett Square, PA**
Unionville Chadds-Ford School District | Unionville High School *1996- 2005*

High School Science Teacher **Portage, IN**
Portage Area School District | Portage High School- Chemistry/Biology *1995-1996*

COURSES TAUGHT

Undergraduate

- EDSE 435 Teaching Science in the Secondary School
- ELED 361 Teaching Science in Elementary Schools
- EDFN 355 Living Online: Youth Conflict, Agency & Identity on Social Media
- EDUC 341 Elementary and Middle School Science Methods
- EDFN 330 Instructional Technology, Design, and Assessment
- EDFN 320 Instructional Technology
- EDFN 301 Cell Biology Pedagogy Seminar

Graduate

- ACTE 655 Integrative STEM Education
- ELED 661 Teaching Science in Schools

- ACTE 651 Science Curriculum and Reform
 - ACTE 634 The Legal and Ethical Implications of Online Instruction
 - ACTE 625 Technology & Assessment for Teaching & Learning
 - EDFN 530 Instructional Technology, Design, and Assessment
 - EDFN 520 Instructional Technology
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FEDERAL GRANTS- AWARDED

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|---|------------------|
| <p>Building Sustainable and Equitable Capacity Support Systems towards Environmental Literacy for All K-12 Audiences across Pennsylvania <i>Co-Primary Investigator (co-PI)</i> <i>NOAA Fisheries Habitat Conservation Program Office (HCPO)</i> <i>Total Project: \$200,000</i> <i>Award#: NA22NMF4570318</i></p> | 2022-2024 |
| <p>Supporting Students' Success: Improving Retention in STEM Fields by Implementing A Workforce Development Research Methods Program <i>Co-Primary Investigator (co-PI)</i> <i>NSF- S-STEM Schlr Sci Tech Eng & Math</i> <i>Total Project: \$1,499,560</i> <i>Award #: DUE 2130176</i></p> | 2022-2027 |
| <p>Building Capacity to Improve Pathways for Students Pursuing Careers in Secondary STEM Education <i>Co-Primary Investigator (co-PI)</i> <i>NSF- Robert Noyce Teacher Scholarship Program</i> <i>Total Project: \$74,965</i> <i>Award #:FAIN 2150954</i></p> | 2022-2023 |
| <p>Expanding Environmental Literacy and MWEE Implementation Capacity Across Pennsylvania <i>Co-Primary Investigator (co-PI)</i> <i>NOAA Fisheries Habitat Conservation Program Office (HCPO)</i> <i>Total Project: \$170,000</i> <i>Award #: NA20NMF4570238</i></p> | 2020-2022 |
| <p>Shared Waters: An Upstream Downstream Collaborative Project <i>Primary Investigator (PI)</i> <i>NOAA Fisheries Habitat Conservation Program Office (HCPO)</i> <i>Total Project: \$396,318</i> <i>Award #: NA21NMF4570498</i></p> | 2021-2024 |
| <p>Collaborative Proposal- WATERS Watershed Awareness, Training, Education, Research and Sustainability <i>Primary Investigator (PI)</i> <i>NSF- Innovation Technology Experiences for Students and Teachers (ITEST)</i> <i>Total Project: \$2,000,000</i> <i>Award#: DRL-1850060</i></p> | 2019-2023 |
| <p>Pennsylvania Environmental Literacy and MWEE Programming Capacity Building <i>Co-Primary Investigator (co-PI)</i></p> | 2017-2020 |

Chesapeake Bay Total Project: \$298,877

Precipitating Change: Embedding Computational Thinking Into the Middle School Science Classrooms 2016-2019

Co-Primary Investigator (co-PI)
STEM + Computing Partnerships (STEM + C)
Total Project: \$2,500,000
Award#: DRL-1640088

Skilled Women Get STEM Jobs: Recruiting and Engaging Female Students 2015-2020

Co-Primary Investigator (co-PI)
NSF- Advanced Technological Education (ATE)
Total Project: \$200,00

Integrative Science, Technology, Engineering & Math (STEM) Education for Teachers of Young Students (iSTEM4ToYS) 2015-2020

Co-Primary Investigator (co-PI)
NSF- Improving Undergraduate STEM Education (IUSE)
Total Project: \$300,00

Collaborative Proposal-Teaching Environmental Sustainability with Model My Watershed 2014-2018

Primary Investigator (PI)
NSF- Discovery Research in K-12(DRK-12)
Total Project: \$2,900,000
Award#- DRL-1417527

Subcontractor: Strategies: Water SCIENCE: Supporting Collaborative Inquiry, Engineering, And Career Exploration with Water 2014-2017

Senior Personnel
NSF- Innovative Technology Experiences for Students and Teachers (ITEST)
Total Project: \$1,200,000
Award#- DRL-1433761

“Introducing the Principles and Processes of Earth’s Critical Zone to Teachers, Informal Educators, and Academically At-risk Youth 20010-2012

External Evaluator
NSF- Geosciences (GEO)
Total Project: \$1,100,000
Award#- GEO-1034961
Evaluator Stipend- \$15,000

Collaborative Proposal- Model My Watershed: Developing a Cyberlearning Application And Curricula 2009-2012

Primary Investigator (PI)
NSF- Innovative Technology Experiences for Students and Teachers (ITEST)
Total Project: \$1,100,000
Award#- DRL-0929639

PENNSYLVANIA STATE SYSTEM OF HIGH EDUCATION (PASSHE) GRANT-AWARDED

AWARDS

Gerhard Salinger Award

2019

(Team Award: Drs’ Brusic, Marcum-Dietrich, Shettel, Petula, White, & Wolfgang)

Award is presented annually to an individual or team of collaborators whose work has exemplified, promoted, investigated, and/or enhanced teaching and learning in Science, Technology, Engineering, and Mathematics (STEM) through the effective application of technological/ engineering design activity.

Millersville University of Pennsylvania, Distinguished Civic Leadership Award

2018

Publicly recognizes notable leaders, and civic/community contributions on the part of individuals and entities that have had a positive impact locally, regionally, nationally, or internationally.

NAPDS Award for Exemplary Professional Development School Achievement

2014

Recognizes Professional Development School relationships for their ongoing contribution to the mission and vision of the National Association of Professional Development Schools in creating and sustaining genuine collaborative partnerships between P-12 and higher education that shapes educator leadership and practice.

University of Delaware, Robert W. Stegner Award

2002

Presented to a senior or graduate student who has demonstrated the outstanding qualities which characterized the late Dr. Stegner: dedication to the teaching profession, a comprehension of the breadth and depth of science, and excellence in teaching.

Widener University, Outstanding Cooperating Teacher Award

2002

Presented to a teacher in recognition of his/her exceptional work as a mentor to a Widener University student teacher.

PUBLICATIONS

Krauss, Z., Kline, D., Marcum-Dietrich, N., Stunkard, C., Kerlin, S., & Staudt, C. (2022) Protecting our WATERS: A 5E lesson sequence derived from a National Science Foundation-funded middle school watershed sustainability curriculum, *Science Activities*, 59:2, 97-105, doi:10.1080/00368121.2022.2063243

Marcum-Dietrich, N., Bruozas, M., & Domyancich, J., (2022). Does this count as Work? Nurturing Computational Thinking in the Science Classroom. *The Science Teacher*, 89(6). p10-13.

Marcum-Dietrich, N., Stunkard, C., Krauss, Z., Kerlin, S., Staudt, C., Muenz, T., & Kline, D. (2021-2022) Stormy WATERS: COVID-19 transition to online learning for a National Science Foundation (NSF)-funded Environmental Education middle school curriculum. *Science Educator* Winter 2021/Spring 2022, Vol. 28 Issue 3, p97-106. doi: 0.20429/cimle.2021.250203

Brusic, S., Marcum-Dietrich, N., Shettel, J., & White, J. (in review). Building a Firm Foundation: Preparing PreK-4 Teachers for Integrative STEM Pedagogy. *Innovations in Science Teacher Education*.

Marcum-Dietrich, N., Hendrix, A., Kerlin, S., Staudt, C., & Krauss, Z. (2021) Model My Watershed: An investigation into the role of big data, technology, and models in promoting student interest in watershed action. *Journal of Environmental Education*, 52(6), p1–14. doi:10.1080/00958964.2021.1979451

- Marcum-Dietrich, N., Stunkard, C., & Krauss, Z., Kerlin, S. (2021). Uncharted WATERS: Sustaining a Meaningful Student Teaching Experience Amidst a Global Pandemic via an Online STEM Curriculum. *Current Issues in Middle Level Education*. 25(2), article 3. doi: 10.20429/cimle.2021.250203
- Gaudino, A. C., & Marcum-Dietrich, N. (2020). School Administrator Perceptions of Environmental Literacy in Their Districts (U. States. N. M. F. Service, Alaska. O. of M. and Budget, & M. U. of Pennsylvania, Eds.). <https://repository.library.noaa.gov/view/noaa/25375>
- Smith, T. S., Kerlin, S., & Marcum-Dietrich, N. (2020). 2019 Status and Needs of Non-Formal and Formal (K-12) Environmental Educators Across Pennsylvania (Millersville University of Pennsylvania, Ed.). <https://repository.library.noaa.gov/view/noaa/24252>
- Brooks, S. B., Marcum-Dietrich, N. & Daneker, D. (2019). Structures that promote school-university collaborative reflection in the preparation of secondary and k-12 teachers. In E. Garin & R. W. Burns (eds.) *The NAPDS Nine Essentials in Action: Cases of Professional Development Schools*. Information Age Publishing.
- Kilpatrick, J. O., Marcum-Dietrich, N. I., & Wallace, J. R. (2018). Engineering a Model of the Earth as a Water Filter. *Science and Children* 56(3).
- Marcum-Dietrich, N., Kerlin, S., Staudt, C & Daniels, M. (2018). Our Watershed. *The Science Teacher* 85(2), 39-46.
- Marcum-Dietrich, N. & Mahoney, T. (2015). Millersville University Secondary Education PDS. *School-University Partnerships*. 8(1), 3-6.
- Gill, S & Marcum-Dietrich, N. (2014). Model My Watershed: Contextualizing problem-based and place-based geoscience learning within a sociocultural context. *Journal of Geoscience Education*. 62(1), 61-70.
- Marcum-Dietrich, N. & Dreon, O. (2013). Preparing beginning teachers to use instructional technology effectively. In A. D. Ritzhaupt & Swapna Kumar (Eds.) *Cases on Educational Technology Implementation for Facilitating Learning*. Hershey, PA: IGI Global.
- Gill, S. E., Marcum-Dietrich, N. & Fraser, J. (2013). Developing a web application for the integration of real-world, scientific, problem-solving into the secondary classroom. In A. D. Ritzhaupt & Swapna Kumar (Eds.) *Cases on Educational Technology Implementation for Facilitating Learning*. Hershey, PA: IGI Global.
- Marcum-Dietrich, N., Dreon, O, & Mahoney, T. (2013). Participating in Change: Mentor-Teacher's Perceptions of the Effectiveness of a Science Teacher Residency Program, *Teacher Education and Practice* 26(4), 760-771.
- Dreon, O. & Marcum-Dietrich, N. (2012). Preparing and Supporting Teacher Development through Social Networking. In D. Polly, C. Mims & K. Persichitte (Eds.), *Developing Technology Rich Teacher Education Programs*. Hershey, PA: IGI-Global
- Marcum-Dietrich, N., Marquez, L., Gill, S., & Medved, C. (2011). No Teacher Left Inside: Preparing a new generation of teachers. *Journal of Geoscience Education* 59, 1-4.
- Dreon, O., Marcum-Dietrich, N., & Ryder-Bertrand, J. (2011). Using Technology To Support Collaboration In Professional Development Schools. *School-University Partnership*.
- Marcum-Dietrich, N. (2010). Talk like a scientist: Using Science Symposiums in the Classroom. *The Science Teacher*. 77(4), 43-47.
- Marcum- Dietrich, N., & Byrne, E., & O'Hern, B. (2009). Marrying the muse to the thinker: Writing poetry in the science classroom. *Science Activities*. 32(2), 14-17.
- Dreon, O. & Marcum-Dietrich, N. (2009). Turning lemons into lemonade: Teaching assistive technology through wikis and embedded video. *Tech Trends* 53(1), 78-80.

- Marcum-Dietrich, N., (2008). Using constructivist theories to educate the outsiders. *Journal of Latinos and Education* 7(1), 79-87.
- Marcum- Dietrich, N. & Dreon, O. (2008). *Authentic Instruction with Technology: A Student Centered Approach*. Kendall-Hunt Publishing. Dubuque, IA.
- Marcum-Dietrich, N., (2007). Genetic symposium: A model of scientific talk. *American Biology Teacher*. 69(8), 520.
- Marcum-Dietrich, N., (2007) Teaching teachers to track tech tips. *Educator's Ezine*. Sept. 1.
- Marcum-Dietrich, N. & Ross, P. (2007). Learning through stories. *The Science Teacher* 74(4), 52-54.
- Marcum-Dietrich, N. (2005). Investigating the writing strategies used and the content knowledge gained by secondary chemistry students. (Doctoral Dissertation, University of Delaware) *Dissertation Abstracts International*.
- Marcum-Dietrich, N. & Ford, D. (2003). The tools of science: Using computer probeware to enhance students' laboratory experience. *The Science Teacher* 70(2), 48-51.
- Marcum-Dietrich, N. & Ford, D. (2002). The place for the computer is in the laboratory. *Journal of Computers in Math and Science Teaching* 21(4), 361-379.
- Dietrich, N., Pruden, S., Ksiazek, T.G., Morzunov, S.P., Camp, J.W. (1997). A small-scale survey of Hantavirus in mammals from Indiana. *Journal of Wildlife Diseases* 33(4), 818-822.

CURRICULUM DEVELOPMENT

National Curriculum Development

Collaborative Proposal- WATERS Watershed Awareness, Training, Education, Research, and Sustainability **2019-2022**

Primary Investigator (PI)

NSF- Innovative Technology Experiences for Students and Teachers (ITEST)

Total Project: \$2M

Award #DRL 1850060

Developed a comprehensive watershed science curriculum implemented in 3 states and impacts > 25,000 students.

Collaborative Proposal- Teaching Environmental Sustainability- Model My Watershed **2014-current**

Primary Investigator (PI)

NSF Funded Project

Award # 1417527

Developed a comprehensive watershed science curriculum implemented in 5 states and impactd > 500 students.

Water SCIENCE: Supporting Collaborative Inquiry, Engineering, and Career Exploration with Water Strategies **2014-current**

NSF Funded Project

Award # 1433761

Developed activities for inclusion in the project curriculum that was implemented in 3 states and impacted > 500 students.

Collaborative Proposal- Model My Watershed: Developing a Cyberlearning Application And Curricula to Enhance Interest in STEM Careers **2009-2012**

Primary Investigator (PI)

NSF Funded Project

Award # 0929639

Developed a complete watershed curriculum that was teste and implemented in schools in PA and distributed nationally.

Higher Education Program- Development

Science, Technology, Engineering, Math (STEM) Endorsement Program **2015**

Drafted the proposal for a new endorsement program that was approved by the Pennsylvania Department of Education

1st STEM endorsement program in the state of Pennsylvania

WETi- Watershed Education Training Institute at Creek Lodge **2015**

Co-authored the proposal for the establishment of watershed stewardship and student/faculty Research center at Millersville University

Millersville University Secondary Education Professional Development School (PDS) **2007-2014**

PDS Program Coordinator/Co-Chair

Co-created a new model for secondary education teacher preparation

**In 2014, the MU Secondary PDS Program was the recipient of the Exemplary Professional Development School Achievement Award by the National Association of Professional Development Schools*

M.Ed. – Assessment, Curriculum, and Teaching **2005-2006**

Co-drafted a proposal for a new departmental Pedagogical Center Knowledge M.Ed.

Science (SPA) NCATE Accreditation Process **2005-2006**

Completed SPA report revisions- resulting in a successful SPA report

Higher Education- Curriculum Development

ACTE 625 Technology and Assessment for Learning **2020**

Authored and taught a new ACTE core course that teaches instructional technology through the lens of formative assessment practices.

EDFN 355 Living Online: Youth Conflict, Agency & Identity on Social Media **2015**

Co-Authored and taught a General Education Course that explores the work of social theorists, technology gurus, public policymakers, and youth participants who continue to grapple with the ever-changing landscape of social media.

ACTE 634 Legal and Ethical Issues in Online Instruction **2014**

Authored and taught a course that addresses current legislation pertaining to the use of copyrighted digital media in classroom, best practice in the use of online tools and applications with children over and under 13 years of age, and current controversies and legal challenges related to children's online behaviors.

BIOL 623/EDFN 301 Cell Biology Pedagogy Seminar **2007**

Authored and taught a pedagogy seminar for cell biology course taught by Joel Piperberg. The goal of the course is to investigate "best practice" in science education and encourage students to consider a career in secondary science education.

ACTE 650 Science Curriculum and Reform **2006**

Authored a master's level course in science education for the Assessment, Curriculum and Teaching (ACTE) Masters in Education (M.Ed) program the course examines literature that provides the foundation for modern reform in science education.

ACTE 651 Science Teaching and Learning

2006

Authored a master's level course in science education, Curriculum and Teaching (ACTE) Master's in Education (M.Ed.) program- new degree program.

NATIONAL/ INTERNATIONAL CONFERENCE PRESENTATIONS

- Kerlin, S., Staudt, C., & Marcum-Dietrich, N., (2022, March 14-18) *Simulations, GIS Modeling, Online, Classroom, Outside Activities and Research from the WATERS Curriculum*. Paper presented at the biannual meeting of the World Environmental Education Congress (WEEC), Prague, Czech Republic.
- Kerlin, S., Marcum-Dietrich, N., Peffer, T., (2022, March 14-18). *Building Capacity for Watershed and Environmental Literacy: A discussion of collaborative efforts from the state of Pennsylvania, USA*. Paper presented at the biannual meeting of the World Environmental Education Congress (WEEC), Prague, Czech Republic.
- Marcum-Dietrich, N., & Kerlin, S., (2022, March 14-18) *WATERS: Watershed Awareness Using Technology and Environmental Research for Sustainability*. Paper presented at the biannual meeting of the World Environmental Education Congress (WEEC), Prague, Czech Republic.
- Marcum-Dietrich, N., Stunkard, C., Staudt, C., & Kerlin, S. (2022, April 21-26). *Water Careers: Impact of a Universal Design for Learning-Enhanced Middle School Watershed Curriculum on Students' Career Interest*. Paper presented at the annual meeting of the American Educational Research Association (AERA), San Diego, CA.
- Marcum-Dietrich, N., Stunkard, C., & Kerlin, S.. (2021, October 7-8). *EE for All: Using Universal Design for Learning (UDL) Principles in EE*. Paper presented at the meeting of the North American Association for Environmental Educators Research Symposium, Virtual.
- Marcum-Dietrich, N., Kerlin, S., & Staudt, C. (2021, CANCELLED). *Shared WATERS: UDL Strategies for Teaching about Watersheds*. Paper presented at the meeting of the National Science Teaching Association (NSTA), Chicago, IL.
- Marcum-Dietrich, N., Stunkard, C., Kerlin, S., & Staudt, C. (2021, April 9–12). *Stormy WATERS*. Paper presented at the annual meeting of the American Educational Research Association (AERA), Virtual.
- Staudt, C., Kerlin, S., Marcum-Dietrich, N., Danaker, D., Valadez, J., & Leach, P. (2021, CANCELLED). *Explore Free Watershed Awareness Using Technology and Environmental Research for Sustainability (WATERS) Activities for Middle School Environmental Classrooms*. Paper presented at the meeting of the National Science Teaching Association (NSTA), Chicago, IL.
- Staudt, C., Kerlin, S., Marcum-Dietrich, N., Danaker, D., Valadez, J., & Leach, P. (2021b, July 28). *Watershed Awareness Using Free Technology and Environmental Research for Sustainability (WATERS)*. Paper presented at the 2021 STEM Forum & Expo, Detroit, MI.
- Kerlin, S., Kline, D., Marcum-Dietrich, N., Muenz, T., & Staudt, C. (2020, October 14–17). *BMPs on School Grounds for Watershed Health and Learning*. Paper presented at the meeting of the North American Association for Environmental Educators, Virtual.
- Kerlin, S., Staudt, C., & Marcum-Dietrich, N. (2020, April 3). *The WATERS Project: Student Use of Emerging Technologies and Motivation to Pursue STEM Careers*. Paper presented at the meeting of the National Science Teaching Association, Boston, MA. <https://nsta.org>

- Kline, D., Marcum-Dietrich, N., Muenz, T., & Kerlin, S. (2020, March 17–20). *Best Management Practices on School Grounds for Watershed Health*. Paper presented at the meeting of the Pennsylvania Association of Environmental Educators and Pennsylvania Recreation and Parks Society, Seven Springs, PA.
- Krauss, Z., Marcum-Dietrich, N., Kerlin, S., & Stunkard, C. (2020, November 6–7). *Watershed Awareness using Technology and Environmental Research for Sustainability (WATERS)*. Poster presented at the Bucknell River Symposium, Virtual.
- Marcum-Dietrich, N., Kerlin, S., & Staudt, C. (2020, April 3 CANCELLED). *HIGH SCHOOL Share-A-Thon: WATERS*. Paper presented at the meeting of the National Science Teaching Association, Boston, MA. <https://nsta.org>
- Marcum-Dietrich, N., Kerlin, S., & Staudt, C. (2020, April 3 CANCELLED). *Meet Me in the Middle Share-a-Thon: Watershed Awareness using Technology & Environmental Research for Sustainability*. Paper presented at the meeting of the National Science Teaching Association, Boston, MA. <https://nmlsta.wildapricot.org/>
- Marcum-Dietrich, N., Kerlin, S., & Staudt, C. (2020, October 14–18 CANCELLED). *The Watershed Awareness Using Technology And Environmental Research For Sustainability (Waters)*. Poster presented at the meeting of the North American Association for Environmental Educators, Virtual.
- Marcum-Dietrich, N., & Stunkard, C. (2020, October 23–25). *Explore Free and Accessible Watershed Activities for Middle School Classrooms*. Paper presented at the meeting of the Association for Middle Level Education, Virtual.
- Marcum-Dietrich, N. (2020). WATERS. Marcum-Dietrich, N., Kimball, N., Staudt, C. (2019). *Precipitating Change: Embedding computational thinking into the middle school science classroom*. Poster presented at the annual meeting of the American Educational Research Association (AERA). Toronto, ON.
- Staudt, C., Kerlin, S., & Marcum-Dietrich, N. (2020, July 22). *Explore Free Watershed Awareness using Technology and Environmental Research for Sustainability (WATERS) Activities for Middle School Environmental Classrooms*. Paper presented at the 2020 STEM Forum & Expo, Louisville, KY. <https://nsta.org>
- Staudt, C., Kerlin, S., & Marcum-Dietrich, N. (2020b, July 27). *Explore Free Watershed Awareness using Technology and Environmental Research for Sustainability (WATERS) Activities for Middle School Environmental Classrooms*. Paper presented at the 2020 STEM Forum & Expo, Louisville, KY.
- Staudt, C., Kerlin, S., Marcum-Dietrich, N., Valadez, J., Daneker, D., & Leach, P. (2020, April 3 CANCELLED). *Explore Free Watershed Awareness using Technology and Environmental Research for Sustainability (WATERS) Activities for Middle School Classrooms*. Paper presented at the meeting of the National Science Teaching Association, Boston, MA. <https://nsta.org>
- Marcum-Dietrich, N., Bruozas, M., & Staudt, C. (2019). *Embedding computational thinking into a middle school science meteorology curriculum*. Interactive Poster presented at the annual meeting of the National Association of Research in Science Teaching (NARST). Baltimore, MD.
- Marcum-Dietrich, N., Staudt, C., & Kerlin, S. (2019). *Teaching Environmental Sustainability – Model My Watershed*. Paper presented at the annual meeting of the National Association of Research in Science Teaching (NARST). Baltimore, MD.
- Marcum-Dietrich, N., Bruozas, M., & Staudt, C. (2018). *Teaching Computational Thinking in the Science Classroom using simulations*. Research Paper presented at the annual meeting of the International Society of Technology Education (ISTE). Chicago, IL.
- Marcum-Dietrich, N., Bruozas, M.; Dietrich, B. & Staudt, C. (2018). *Teaching Computational Thinking in the Science Classroom using simulations*. Research Paper presented at the annual meeting of the International Society of Technology Education (ISTE). Chicago, IL.

- Marcum- Dietrich, N., Staudt, C., Kerlin, S., Reider, D. (2018), *Using Watershed Modeling to Teach Environmental Sustainability*. Round table presented at the annual meeting of the American Educational Research Association (AERA). New York, NY.
- Marcum- Dietrich, N., Kimball, N., Staudt, C. (2018), *Robert Tinker's Vision: Integrating Meteorology, Mathematics, and Computational Thinking: Students Use of Data, Modeling, and Prediction Practices for Weather Forecasting*. Poster presented at the annual meeting of the American Educational Research Association (AERA). New York, NY.
- Staudt, C., Marcum- Dietrich, N., Kerlin, S. (2018), *Robert Tinker's Models: Teaching Environmental Sustainability with Model My Watershed*. Poster presented at the annual meeting of the American Educational Research Association (AERA). New York, NY.
- Marcum- Dietrich, N., Staudt, C., Kerlin, S. (2018), *Model My Watershed: Using Real Data to Make Watershed Decisions*. Session presented at the annual meeting of the National Science Teachers Association (NSTA). Atlanta, GA.
- Staudt, C., Marcum- Dietrich, N., Kerlin, S., Daniels, M., (2018), *Teaching Environmental Sustainability Using a Free Place-Based Watershed Model*. Session presented at the annual meeting of the National Science Teachers Association (NSTA). Atlanta, GA.
- Staudt, C., Marcum- Dietrich, N., Kimball, N., Dorsey, C. (2018), *Precipitating Change: Embedding Weather into the Middle School Science Classroom*. Session presented at the annual meeting of the National Science Teachers Association (NSTA). Atlanta, GA.
- Marcum- Dietrich, N. (2018), *Integrative STEM (iSTEM) for Little Learners*. Session presented at the annual meeting of the National Science Teachers Association (NSTA). Atlanta, GA.
- Marcum- Dietrich, N., Staudt, C., Kerlin, S. (2018), *Using Watershed Modeling and Probeware to Teach Environmental Sustainability*. Paper presented at the annual meeting of the National Association of Research in Science Teaching (NARST). Atlanta, GA.
- Marcum- Dietrich, N., Staudt, C. (2018), *Embedding Computational Thinking in the Middle School Science Classroom*. Paper presented at the annual meeting of the National Association of Research in Science Teaching (NARST). Atlanta, GA.
- Marcum-Dietrich, N., Staudt, C. & Kerlin, S. (2017), *Model My Watershed: Using Place-Based Education to Promote STEM Learning and Watershed Citizenship*. Session presented at the annual meeting of the National Science Teacher Association (NSTA). Los Angeles, CA.
- Staudt, C., Daniels, M., Marcum-Dietrich, N., & Tirupalavanam G. (2017), *Explore Free Water Science Activities for Middle School Environmental Classrooms*. Session presented at the annual meeting of the National Science Teacher Association (NSTA). Los Angeles, CA.
- Kerlin, S. Marcum-Dietrich, N., Staudt, C. & Daniels, M. (2017), *Wikiwatershed.org Toolkit of Resources and Curriculum*. Session presented at the annual meeting of the National Science Teacher Association (NSTA). Los Angeles, CA.
- Surra, A. & Marcum-Dietrich, N. (2017), *See it to Be it*. Session presented at the annual meeting of the National Science Teacher Association (NSTA). Los Angeles, CA.
- Marcum-Dietrich, N. & Brusic, S. (2017), *Toying with Integrative STEM (iSTEM) in Early Childhood Classrooms*. Session presented at the annual meeting of the National Science Teacher Association (NSTA). Los Angeles, CA.
- Staudt, C. Marcum-Dietrich, N., & Kerlin, S. (2017), *Teaching Environmental Sustainability Using a Free Place-Based Watershed Model*. Session presented at the annual meeting of the National Science Teacher Association (NSTA). Los Angeles, CA.

- Marcum-Dietrich, N. & Staudt, C. (2017), *Teaching Environmental Sustainability - Model My Watershed*. Interactive poster presentation at annual meeting of the American Educational Research Association (AERA). San Antonio, TX.
- Marcum-Dietrich, N. & Staudt, C. (2017), *Assessing Systems Thinking through Science and Engineering Practices*. Symposium presentation at annual meeting of the National Association of Research in Science Teaching (NARST). San Antonio, TX.
- Marcum-Dietrich, N., Kerlin, S. & Staudt, C. (2017), *Using Field and Online Technologies to Learn About Watershed Modeling*. Interactive poster presented at annual meeting of the National Association of Research in Science Teaching (NARST). San Antonio, TX.
- Marcum- Dietrich, N., Hess, & M., Staudt, C. (2016), *Teaching Environmental Sustainability Using a Place-Based Watershed Modeling Application*. Session presented at the annual meeting of the STEM Expo. Denver, CO.
- Marcum- Dietrich, N., Hess, M., Staudt, C. & Muenz, T. (2016), *Model My Watershed: Using Local Data to Make Local Decision*. Session presented at the annual meeting of the National Science Teacher Association (NSTA). Nashville, TN.
- Marcum- Dietrich, N., Hess, M., Staudt, C. & Muenz, T. (2016), *Teaching Environmental Sustainability with the Model My Watershed Application*. Session presented at the annual meeting of the National Science Teacher Association (NSTA). Nashville, TN.
- Marcum- Dietrich, N., Hess, M., Staudt, C. & Muenz, T. (2016), *Model My Watershed: Using Local Data to Make Local Decision*. Session presented at the annual meeting of the National Science Teacher Association (NSTA). Nashville, TN.
- Marcum- Dietrich, N. & Staudt, C. (2015). *Teaching environmental sustainability - Model My Watershed*. NSF Award #: 1417527. Video presented at the NSF 2015 Teaching and Learning Showcase. <http://resourcecenters2015.videohall.com/posters/525>
- Marcum- Dietrich, N., Gill, S., & Staudt, C. (2015). *Teaching environmental sustainability*. Paper presented at the annual meeting of the North American Association of Environmental Education (NAAEE). San Diego, CA.
- Hernandez, J. & Marcum- Dietrich, N. (2015). *Teaching environmental sustainability - Model My Watershed*. Session presented at the annual meeting of the Geological Society of America (GSA). Baltimore, MD.
- Marcum- Dietrich, N. (2015). *Teaching environmental sustainability using a place-based watershed modeling application*. Poster presented at annual meeting of the National Association of Research in Science Teaching (NARST). Chicago, IL.
- Marcum- Dietrich, N., Gill, S., & Staudt, C. (2015). *Teaching environmental sustainability with a watershed modeling curriculum*. Paper presented at the annual meeting of the American Educational Research Association (AERA). Chicago, IL.
- Dreon, O. & Marcum-Dietrich, N. (2015). *The Impact of Field Placement Design on Preservice Teachers' Self-Efficacy: A Comparative Study*. Paper presented at the annual meeting of the American Educational Research Association (AERA). Chicago, IL.
- Marcum- Dietrich, N., Gill, S., & Staudt, C. (2015). *Model My Watershed: Using place-based education to promote STEM learning and watershed citizenship*. Poster presented at the annual meeting of the American Association for the Advancement of Science (AAAS). San Jose, CA.
- Marcum-Dietrich, N. (2015). *Method's instructor's challenge: unit planning in a co-teaching environment*. Session presented at the annual meeting of the National Association of Professional Development Schools (NAPDS). Atlanta, GA.

- Lessen, E., *A Conversation with the 2014 recipients of the NAPDS award for exemplary professional development school achievement*. Panel presented at the annual meeting of the National Association of Professional Development Schools (NAPDS). Atlanta, GA.
- Marcum-Dietrich, N. (2014). *Improving STEM teacher preparation at a public university: undergraduate teacher residency programs*. Poster presented at the annual meeting of the American Association for the Advancement of Science (AAAS). Chicago, IL.
- Marcum-Dietrich, N., Gill, S. (2014), *Model My Watershed: An online tool that investigates YOUR watershed*. Session presented at the annual meeting of the National Science Teacher Association (NSTA). Boston, MA.
- Dreon, O. & Marcum-Dietrich, N. (2014). *Self-Efficacy: Evolution and field placement design*. Session presented at the annual meeting of the National Association of Professional development Schools (NAPDS). Las Vegas, NV.
- Marcum-Dietrich, N., Dreon, O., Long, E., Miller, A. & Mahoney, T. (2014) *Encouraging and supporting a culture of scholarly research in your PDS program*. Session presented at the annual meeting of the National Association of Professional Development Schools (NAPDS). Las Vegas, NV.
- Gill, S. & Marcum-Dietrich, N. (2013). *Using Model My Watershed: An authentic online hydrologic model*. Session presented at the annual meeting of the North American Association of Environmental Education (NAAEE). Baltimore, MD.
- Marcum-Dietrich, N. & Cooper, M. (2013). *STEM school-university partnership: Improving science teacher preparation at Millersville University*. Poster presented at the annual meeting of the American Association for the Advancement of Science (AAAS). Boston, MA.
- Marcum-Dietrich, N. & Dreon, O. (2013). *The Essential Partner: Investigating Mentors' Perceptions of the PDS Program*. Paper presented at the annual meeting of the American Educational Research Association (AERA). San Francisco, CA.
- Dreon, O., & Marcum-Dietrich, N. (2013). *Navigating self-doubt: A PDS journey*. Session presented at the annual meeting of the National Association of Professional development Schools (NAPDS). New Orleans, LA.
- Marcum-Dietrich, N. & Dreon, O. (2013). *The essential partner: Investigating mentors' perceptions of the PDS program*. Session presented at the annual meeting of the National Association of Professional development Schools (NAPDS). New Orleans, LA.
- Marcum-Dietrich, N., Dreon, O., Shea, T., & Stolfus, L. (2013). *Developing a PDS research community at your institution*. Session presented at the annual meeting of the National Association of Professional development Schools (NAPDS). New Orleans, LA.
- Marcum-Dietrich, N (2012). *Improving STEM teacher education with a residency model*. Session presented at the annual STEM Forum and Expo. Atlantic City, NJ.
- Marcum-Dietrich, N & Gill, S. (2012). *Model My Watershed: An online hydrologic model for your neighborhood*. Session presented at the annual STEM Forum and Expo. Atlantic City, NJ.
- Marcum-Dietrich, N. & Dreon, O. (2012). *Participating in change: Mentor-teacher's perceptions of the effectiveness of a science teacher residency program*. Paper presented at the annual meeting of the American Educational Research Association (AERA). Vancouver, B.C.
- Marcum-Dietrich, N. & Dreon, O. (2012). *Implementing a residency-model for science teacher preparation*. Poster presented at the annual meeting of the National Association of Research in Science Teaching (NARST). Indianapolis, IN.
- Marcum-Dietrich, N. & Dreon, O. (2012). *Supporting teacher development through social networking*. Session presented at the annual meeting of the National Science Teacher Association (NSTA). Indianapolis, IN.

- Marcum-Dietrich, N. & Gill, S. (2012). *Model My Watershed: Modeling the hydrology of your neighborhood*. Session presented at the annual meeting of the National Science Teacher Association (NSTA). Indianapolis, IN.
- Dreon, O. & Marcum-Dietrich, N. (2012). *Supporting teacher development through social networking*. Session presented at the annual meeting of the American Association for Colleges of Teacher Education (AACTE). Chicago, IL.
- Gill, S. & Marcum-Dietrich, N. (2012). *Model My Watershed*. Poster presented at the annual ITEST Summit, Washington, DC.
- Gill, S. & Marcum-Dietrich, N. (2011). [Model My Watershed: Integrating a research-grade, Desk-top hydrologic model into a web-based cyberlearning project](#). Paper presented at the annual meeting of the American Educational Research Association (AERA). New Orleans, LA.
- Gill, S. & Marcum-Dietrich, N. (2011). [Model My Watershed: Using place-based education to promote science, technology, engineering, and mathematics \(STEM\) learning and watershed citizenship](#). Paper presented at the annual meeting of the American Educational Research Association (AERA). New Orleans, LA.
- Gill, S., Marcum-Dietrich, N., Aufdenkampe, A., Tomlin, D., & Cheetham, R. (2011). *Model My Watershed: An authentic cyberlearning game for your neighborhood*. Poster presented at the annual meeting of the American Association for the Advancement of Science (AAAS). Washington, DC.
- Gill, S. & Marcum-Dietrich, N. (2011). *Model My Watershed*. Poster presented at the annual ITEST Summit, Washington, DC.
- Marcum-Dietrich, N. & Dreon, O. (2011). *Improving K-12 teacher education: Using a medical school model of learning through apprenticeship*, Poster presented at the annual meeting of the American Association for the Advancement of Science (AAAS), Washington, DC.
- Dreon, O. & Marcum-Dietrich, N. (2011). *Fostering a unified learning community across a geographically-distributed secondary PDS*, Paper presented at the annual conference of the National Association for Professional Development Schools (NAPDS), New Orleans, LA.
- Marcum-Dietrich, N. & Marquez, L., Gill, S., Medved, C., & Nell, M. (2010). *No teacher left inside: Using the outdoors as your science classroom*. Session presented at the annual meeting of the National Science Teachers Association (NSTA), Philadelphia, PA.
- Marcum-Dietrich, N. & Dreon, O. (2010). *The first-year teacher experience: stories of triumph and challenges*. Session presented at the annual meeting of the National Science Teachers Association (NSTA), Philadelphia, PA.
- Dreon, O. & Marcum-Dietrich, N. (2010). *Classroom symposium: A model of scientific talk*. Session presented at the annual meeting of the National Science Teachers Association (NSTA), Philadelphia, PA.
- Gill, S., Aufdenkampe, A., Tomlin, C. D., Cheetham, R., Dietrich, N., & Newbold, J.D. (2010). *Model My Watershed: Developing online hydrologic modeling capacity for students and citizens*. Session presented at the annual meeting of the Annual Water Resource Conference (AWRC), Philadelphia, PA.
- Marcum-Dietrich, N., Dreon, O., & Long, E. (2010). *From theory to action: Year one of a PDS*. Session presented at the annual meeting of the National Association of Professional Development Schools (NAPDS), Orlando, FL.
- Dreon, O. & Marcum-Dietrich, N. (2010). *The Ning is the thing: Supporting interns through social networking*. Session presented at the annual meeting of the National Association of Professional Development Schools (NAPDS), Orlando, FL.
- Marcum-Dietrich, N., Gill, S., Aufdenkampe, A., Tomlin, C. D., & Cheetham, R. (2010). *Model My Watershed: Developing a Cyberlearning Application and Curricula to Enhance Interest in STEM*

- careers*. Poster presented at the annual meeting of the American Association for the Advancement of Science (AAAS). San Diego, CA.
- Gill, S. & Marcum-Dietrich, N. (2010). *Model My Watershed: Developing a cyberlearning application and curricula to enhance interest in STEM careers*. Session presented at the annual ITEST Summit, Washington, DC.
- Ross, P, Dreon, O. & Marcum-Dietrich, N. (2009). *The first-year teacher experience: Stories of triumph and challenges*. Session presented at the annual meeting of the National Science Teachers Association (NSTA), New Orleans, LA.
- Dreon, O. & Marcum-Dietrich, N. (2009). *Using technology to support communication in professional development schools*. Session presented at the annual meeting of the Professional Development Schools Annual Conference (NAPDS), Daytona Beach, FL.
- Valette, D. & Marcum-Dietrich, N. (2008). *How mathematical literacy impacts inquiry in physics*. Paper presented at the annual meeting of the National Association of Research in Science Teaching (NARST), Baltimore, MD.
- Marcum-Dietrich, N. & Ross, P. (2008). *Writing to learn in science: A k-12 approach*. Session presented at the annual meeting of the National Science Teachers Association (NSTA), Boston, MA.
- Marcum-Dietrich, N. & Vallette, D. (2008). *When words get in the way: Modeling Physics*. Session presented at the annual meeting of the National Science Teachers Association (NSTA), Boston, MA.
- Nell, M., Marcum-Dietrich, N. & Long, E. (2008). *Not everything stays in Vegas: Creating a communication structure*. Session presented at the annual meeting of the National Association of Professional Development Schools Annual Conference (NAPDS), Orlando, FL.
- Marcum-Dietrich, N. (2007). *Using constructivist theories to educate the 'outsider'*. Paper presented at the annual meeting of the National Association of Research in Science Teaching (NARST), New Orleans, LA.
- Marcum-Dietrich, N. Vallette, D. (2007) *The use and understanding of language in physics and mathematical modeling*, Poster presented at the annual meeting of the American Association for the Advancement of Science (AAAS), San Francisco, CA.
- Marcum-Dietrich, N. (2005). *Investigating the writing strategies used and the content knowledge gained by secondary chemistry students*. Paper presented at the annual meeting of the National Association of Research in Science Teaching (NARST), Dallas, TX.
- Marcum-Dietrich, N. (2005). *Investigating the processes students use to write in the secondary science classroom*. Paper presented at the annual meeting of the American Educational Research Association (AERA), Montreal, Canada.
- Marcum-Dietrich, N. (2003) *Teacher as researcher: Investigating one's own practice*. Session presented at the annual meeting of the National Science Teachers Association (NSTA), Philadelphia, PA.
- Marcum-Dietrich, N., Conti-D'Antonio, R., & O'Donnell, V. (2003). *Differentiating your instruction of evolution using the power of technology*. Session presented at the annual meeting of the National Science Teachers Association (NSTA), Philadelphia, PA.
- Marcum-Dietrich, N. (2002). *The place for the computer is in the laboratory: An investigation of the use of computer probe-ware in a study of enzyme action*. Paper presented at the annual meeting of the National Association of Research in Science Teaching (NARST), New Orleans, LA.
- Marcum-Dietrich, N. (2000). *Using multimedia presentations to enhance your classroom instruction*. Session presented at the annual meeting of the National Science Teachers Association (NSTA), Orlando, FL.

SERVICE COMMITTEES (2011-PRESENT)

University Service

AVP for Sponsored Programs 2019-2021
Committee Member
Position Attained: Invited

The Watershed Education Training Institute at Creek Lodge (WETi) 2015-present
Co-founder/co-director
Position Attained: Co-founder

Institutional Review Board (IRB) 2014-2017
Committee Member
Position Attained: Appointed

Faculty Senate (Alternate 2012-2015, Rep 2015-present) 2012-2017
Committee Member
Position Attained: Elected

Millersville University Center for Environmental Sciences (MUCES) 2015-2016
Committee Member
Position Attained: Invited

VIP for Enrollment Management Search 2013
Committee Member
Position Attained: Elected

National Science Teacher Association (NSTA) Student Chapter 2007-2014
Faculty Advisor
Position Attained: Volunteered

Student-Faculty Research Priority Committee of the Capital Campaign "Soar to Greatness" 2009-2013
Committee Member
Position Attained: Invited

College Service

Secondary Education Professional Development School (PDS) Committee 2009-2014
Coordinator
Position Attained: Co-founder

Advanced Professional Studies (APS) Academic Appeals Committee 2006-2017
Chair
Position Attained: Elected

School of Education Curriculum Committee 2013-2016
Committee Member
Position Attained: Elected

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| NCATE Steering Committee <i>Committee Member</i> <i>Position Attained: Invited</i> | 2012-2014 |
| Teacher Education Council (TEC) <i>Committee Member</i> <i>Position Attained: Elected</i> | 2009-2013 |
| Teacher Education Council (TEC) Re-approval sub-committee <i>Chair</i> <i>Position Attained: Elected</i> | 2008-2012 |
| <u><i>Department Service</i></u> | |
| Science, Technology, Engineering, and Math (STEM) Endorsement Program <i>Program Author & Endorsement Program Coordinator</i> | 2015-present |
| Faculty Search Committee- Education Leadership <i>Committee Member</i> | 2005 |
| Faculty Mentor- Dr. Scott Richardson <i>Mentor</i> | 2010-2015 |
| PDS Coordinator/ Assistant Department Head <i>Administered the Secondary PDS program and coordinated student placements and public school relations</i> | 2012-2014 |
| PDS Co-Founder/ Co-Coordinator <i>Administered the Secondary PDS program and coordinated student placements and public school relations</i> | 2007-2012 |
| Faculty Evaluation Committee <i>Committee Member</i> | 2010-present |