

## Curriculum Vitae

**CATHLYN DAVIS STYLINSKI**  
**Principal Agent**  
**University of Maryland Center for Environmental Science**  
**Appalachian Laboratory**

### Certification

*I have reviewed this Curriculum Vita and here certify that is a current and accurate statement of my professional record.*

Signed: 

Date: February 1, 2019

## CURRICULUM VITAE

### Cathlyn Davis Stylinski

Appalachian Laboratory

University of Maryland Center for Environmental Science

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#### I. Education

- 2001 Ph.D. Ecology 2001 University of California, Davis/San Diego State University (joint program). Title: *Effects of resource availability on plant reflectance and physiology*. Chairs: Drs. Walt Oechel and Susan Ustin.
- 1994 M.S. Biology San Diego State University. Biology. Title: *Successional changes in shrub communities following mechanical anthropogenic disturbance*. Chairs: Drs. Edith Allen and Michael Allen.
- 1987 B.S. Radio-Television. San Diego State University.

#### III. Professional Background

- 2018- Principal Agent, Appalachian Laboratory, University of Maryland Center for Environmental Science, Frostburg, MD
- 2008-2018 Senior Agent, Appalachian Laboratory, University of Maryland Center for Environmental Science, Frostburg, MD
- 2001-2008 Assistant Professor, Appalachian Laboratory, University of Maryland Center for Environmental Science, Frostburg, MD
- 2000-2001 Director of Science Content, California Institute for Biodiversity, Walnut Creek, CA
- 2001 Education consultant (curriculum development), California Native Plant Society, Sacramento, CA
- 1995-1999 NASA Graduate Fellow, University of California Davis/San Diego State University, Davis/San Diego, CA
- 1985-1991 Video production (technical and creative aspects) KGTV Channel 10, KPBS Channel 15, ESPN and others, San Diego, CA

#### A. Awards and Special Recognition

- 2017 UMCES President's Award for Excellence in Application of Science
- 2008 Videographer Awards of Distinction and Excellence, 2008 Communicator Silver Awards, 2008 Telly Silver and Bronze Awards, 2007 Ava Platinum Award, and 2007 Davey Award. *Flood of Mud* (C. Stylinski, producer)
- 2006 National Civic Star Award state winner. Awarded to Garrett County Public Schools for PIERS project (C. Stylinski, PIERS PI)
- 2004 MarCom Creative Award Gold Recipient. ALESE website (C. Stylinski, producer)
- 2003 Telly Bronze Award and Videographer Award of Distinction. *The Forest for the Trees* video (C. Stylinski, producer).
- 2003 Telly Bronze Award. *Introducing Cal Alive!* video (C. Stylinski, producer).
- 1996 NSF International Dissertation Enhancement Award
- 1995 NASA Graduate Fellowship

### III. Research, Scholarship and Creative Activities

#### A. Areas of Professional Expertise and Interests

- Public engagement with science and scientists
- Educator professional development and professional learning communities
- Citizen science design and assessment
- Integration of science practices and technology in K-12 and public settings
- Links between environmental learning and sustainability

#### B. Publications

##### 1. *Papers in Referred Journals*

- Stylinski C.D., Storksdieck M., Canzoneri N., Klein E., & Johnson A. (2018) Impacts of a comprehensive public engagement training and support program on scientists' outreach attitudes and practices. *International Journal of Science Education, Part B*. 8(4):340-354. (UMCES #5529)
- Gougherty A.V., Keller S.R., Kruger A., Stylinski C.D., Lintz H.E., Elmore A.J., & Fitzpatrick M.C. (2018) Estimating tree phenology from high frequency tree movement data. *Agricultural and Forest Meteorology*. 263:217-224.
- Stylinski C.D., Heimlich J., Palmquist S., Wasserman D., & Youngs R. (2017) Alignment between informal educator perceptions and audience expectations of climate change education. *Applied Environmental Education and Communication*. 16:1-13. (UMCES #5416)
- Elmore A.J., Stylinski C. and Pradhan K. (2016) Synergistic use of citizen science and remote sensing for continental-scale measurements of forest tree phenology. *Remote Sensing* 8(6): 502 (UMCES #5313)
- Becker-Klein R., Peterman K. & Stylinski C. (2016) Embedded assessment as an essential method for understanding public engagement in citizen science. *Citizen Science: Theory and Practice*: 1(1):8 (UMCES #5310)
- Parker C., Stylinski C., Bonney C., Schillaci R. & McAuliffe C. (2015) Examining the quality of technology implementation in STEM Classrooms: Demonstration of an Evaluation Framework. *Journal of Research on Technology in Education* 47(2):105-121 (UMCES #5311).
- Groffman P., Stylinski C., Nisbet M.C., Durate C.M., Jordan R., Burgin A., Previtali M.A. & Coloso J. (2010) Restarting the conversation: Challenges at the interface between ecology and society. *Frontiers in Ecology and the Environment* 6(8):284-291 (UMCES #4490).
- Parker C., Stylinski C.D., Darrah M., Gupta P., Akbayin B. & McAuliffe C. (2010) Integrating innovative technology applications into the classroom: A preliminary review of ITEST Teacher Education. *Journal of Technology and Teacher Education* 18(2):203-230 (UMCES #4498).
- Stylinski C.D., Gamon J.A. & Oechel W.C. (2002) Seasonal patterns of reflectance indices, carotenoid pigments and photosynthesis of evergreen chaparral species. *Oecologia* 131:366-374.
- Stylinski C.D., Oechel W.C., Gamon J.A., Tissue D.T., Miglietta F. & Raschi A. (2000) Effects of long-term [CO<sub>2</sub>] enrichment on carboxylation and light utilization of *Quercus pubescens* Willd. examined with gas exchange, biochemistry and optical techniques. *Plant, Cell and Environment* 23:1353-1362

Stylinski C.D. & Allen E.B. (1998) Lack of native species recovery following exotic disturbance in southern California shrublands. *Journal of Applied Ecology* 36:544-554.

## **2. Book Chapters**

Peterman K., Becker-Klein R., Stylinski C. & Grack Nelson A. (2017). Exploring Embedded Assessment to Document Scientific Inquiry Skills within Citizen Science. In Pages 63-82 C. Herodotou, M. Sharples, and E. Scanlon (Eds.), *Citizen Inquiry: A Fusion of Citizen Science and Inquiry Learning*. Routledge, Oxon OX (UMCES #5312).

Stylinski C.D. & Doty C. (2013) The Inquiring with GIS (iGIS) Project: Helping teachers create and lead local GIS-based investigations. In: Pages 161-190. MaKinster J.G., Trautman N.M. & Barnett M. (Eds.) *Teaching Science and Investigating Environmental Issues with Geospatial Technology: Designing Effective Professional Development for Teachers*, Springer Dordrecht, (UMCES #4782).

Storksdieck M. & Stylinski C.D. (2010) The role and influence of news media on public understanding of environmental issues. In: Pages 131-146 R. Stevens and J. Dillon (Eds.) *Environmental Education: Learning, Culture and Agency*, SensePublishers, Rotterdam, The Netherlands (UMCES #4491).

## **3. Papers in Review**

Stylinski C., Peterman K., Phillips T., Linhart J. & Becker-Klein R. (**in review**) A review of volunteers' science Inquiry skills and assessment in citizen science. *Citizen Science: Theory and Practice*.

Parker C.E., Stylinski C.D., Bonney C.R., Delisi J., Wong W. & Doty C. (**in review**) Measuring quality technology integration in science classrooms. *Journal of Science Education and Technology*.

## **4. Technical Reports and White Papers**

Storksdieck M., Stylinski C. & Canzoneri N. (2017) The impact of Portal to the Public: Creating an infrastructure for engaging scientists in Informal Science Learning. Summative Evaluation. Center for Research on Lifelong STEM Learning. Corvallis, OR.

Storksdieck M., Stylinski C. & Bailey D. (2016) Typology for public engagement with science: A conceptual framework framework for public engagement involving scientists. Center for Research on Lifelong STEM Learning. Corvallis, OR.

Stylinski C.D. (2004) Examining Dyke Marsh restoration options: A teacher-scientist partnership in the National Capital Region. Page 23. IN: *National Park Service Year in Review-2003*. National Resource Information Division, Denver, Colorado.

Allen E.B., Eliason S.A., Marquez V.J., Schultz G.P., Storms N.K., Stylinski C.D., Zink T.A. & Allen M.F. (2000) What are the limits to restoration of coastal sage scrub in southern California? Pages 253-262. IN: *2nd Interface Between Ecology and Land Development in California*. Keeley, J.E., M.B. Keeley and C.J. Fotheringham (eds.) USGS Open-File Report 00-62, Sacramento, California.

## **5. Papers in Referred and Published Conference Proceedings**

Stylinski C., Youngs R., Heimlich J., & Palmquist S. (2014) Identifying opportunities to align informal educator perceptions with audience expectations in climate change education. National Association for Research in Science Teaching Conference. Pittsburgh, PA (available on CD-ROM and online until April 9 2014 to conference attendees).

- Stylinski C.D., Parker C.E. & McAuliffe C. (2013) Effective strategies of teacher professional focused on geospatial technologies ESRI GIS Education Conference. San Diego, CA  
<http://proceedings.esri.com/library/userconf/educ13/index.html>
- Parker C.E., Bonney C.R., Schamberg M., Stylinski C.D. & McAuliffe C.M. (2013) Authenticity in STEM learning: A framework for technology integration in the classroom American Education Research Association Conference. San Francisco, CA (online paper only available to more than 25,000 AERA members)
- Stylinski C.D., Parker C. & McAuliffe C. (2012a) Integrating informal education experiences in K-12 technology-intense teacher professional development American Education Research Association Conference. Vancouver, BC (online paper only available to more than 25,000 AERA members)
- Stylinski C.D., Parker C. & McAuliffe C. (2012b) Strategies of Teacher Professional Development Focused on Real-World Technology Applications International Society for Technology in Education Conference. San Diego, CA  
[http://www.isteconference.org/2012/uploads/KEY\\_70198899/ISTE2012\\_paper\\_RP.pdf](http://www.isteconference.org/2012/uploads/KEY_70198899/ISTE2012_paper_RP.pdf)
- Stylinski C. and C. Doty (2009) *Strategies to help teachers lead locally-based GIS environmental investigations* ESRI GIS Education User Conference. San Diego, CA.  
<http://proceedings.esri.com/library/userconf/educ09/>
- Stylinski C.D. and D. Smith (2006) *Connecting classrooms to real-world GIS-based watershed investigations*. ESRI Educators Users Conference, San Diego CA.  
[http://gis.esri.com/library/userconf/educ06/papers/educ\\_2275.pdf](http://gis.esri.com/library/userconf/educ06/papers/educ_2275.pdf)
- Gamon J.A., Qiu H.L., Roberts D.A., Ustin S.L., Fuentes D.A., Rahman A., Sims D. & Stylinski C.D. (1999) Water expressions from hyperspectral reflectance: implications for ecosystem flux modeling. In: Proceedings of 1999 Airborne Geoscience Workshop. Jet Propulsion Laboratory, Pasadena, CA.  
[http://makalu.jpl.nasa.gov/docs/workshops/99\\_docs/toc.htm](http://makalu.jpl.nasa.gov/docs/workshops/99_docs/toc.htm)

#### **6. Presentation with Referred and Published Abstracts**

- Klein E., Risien J., Stylinski C., Johnson A., McMahon A., Tangen T., Spraggs M., Flemming T., & Van Derzee L. (2018) Partnership for Broader Impacts Design: First Step. National Alliance for Broader Impacts. Providence, RI.
- Stylinski C. (2018) Embedded assessment of skills in citizen science. European Citizen Science Association. Geneva, Switzerland.
- Stylinski C., DeLisi J., Wong J., Bonney C. & Parker C. (2018) Mind the gap: Reviewing Measures of Quality and technology Use in Classroom Observation Protocols. National Association for Research in Science Teaching Conference. Atlanta, GA.
- Stylinski C., Riedinger K., & Kermish-Allen R. (2018) Harnessing digital media to support, rather than hinder, environmental literacy. North American Association for Environmental Education Research Symposium, Spokane, WA.
- Kamraninen A., Stylinski C., Kermish-Allen R., Gagnon D. & Storksdieck M. (2018) Participatory place-based augmented reality co-design for scientists and girls. Connected Learning Summit, Cambridge, MA.
- Bostic J., Stylinski C., & Doty C. (2017) A graduate student's experience and perspective on a student-teacher-researcher partnership. American Geophysical Union. New Orleans, LA.
- Heimlich J., Stylinski C., Palmquist S. & Wasserman D. (2017) Communities of practice in support of collaborative multi-disciplinary learning and action in response to climate change. American Geophysical Union. New Orleans, LA.

- Bonney C.R., Parker C.E., Stylinski C., & DeLisi J. (2017) Beyond tallies: Evaluating quality of technology use in high school science classroom. Washington, D.C.
- Storksdieck M. & Stylinski C. (2017) The role of partnership in empowering high-quality outreach by scientist: Recent and ongoing research Coordinated Panel. National Association for Broader Impacts. Skamania Lodge, Stevenson, WA.
- Stylinski C. & Storksdieck C. (2017) Supporting public engagement of science within broader impacts efforts Workshop. National Association for Broader Impacts. Skamania Lodge, Stevenson, WA.
- Stylinski C., Becker-Klein R. & Peterman K. (2017) Direct assessment of skills in citizen science: Status, challenges and opportunities. North American Association for Environmental Education Research Symposium. Virtual meeting (originally scheduled in San Juan, Puerto Rico).
- Stylinski C. (2017) Fostering meaningful dialogue in student-teacher-scientist research partnership. Citizen Science Association Conference. St Paul, Minnesota.
- Heimlich J., Stylinski C., Palmquist S., & Wasserman D. (2016) Using communities-of-practice to support informal educators' professional development. National Association for Research in Science Teaching Conference. Baltimore, MD.
- Stylinski C., Palmquist S., Heimlich J., & Wasserman D. (2016) Examining the impact of an informal climate change education community of practice. American Educational Research Association. Washington, D.C.
- Stylinski C., Bowen S., Pease A., Greoski L., & Weilminster C.E. (2016) Building capacity for regional climate change education through a community-of-practice. North American Association for Environmental Education Research Symposium, Madison, WI.
- Wasserman D., Palmquist S. & Stylinski C. (2016) Network Analysis for Sustaining a Community of Practice. Visitor Studies Association, Boston, MA.
- Stylinski C., Kermish-Allen R., and Kerlin S. (2015) Current trends of EE research and applications for EE practice North American Association for Environmental Education, San Diego, CA.
- Stylinski C., Pradhan K. and Elmore A. (2015) Linking ground-based volunteer observations with moderate resolution satellite observations of phenology Citizen Science Association Conference, San Jose, CA.
- Stylinski C., Heimlich J.E., Wasserman D. & Palmquist S. (2015) Using social network analysis to explore the building of a community North American Association for Environmental Education Research Symposium, San Diego, CA.
- Wasserman, D., Durland M., Stylinski C., Heimlich J., and Palmquist S. (2015) Social network analysis as a tool for stakeholder engagement and utilization-focused evaluation: Addressing the needs of a community of practice American Evaluation Association, Chicago, IL.
- Stylinski. C.D. & Heimlich J.E. (2014) Supporting Informal Educator Professional Development Focused on Complex Environmental Issues North American Association for Environmental Education Research Symposium, Ottawa, ON.
- Stylinski C.D. and E. Takaki (2014) Building capacity for environment education using geospatial technology North American Association for Environmental Education Conference, Ottawa, ON.
- Wasserman D., Heimlich J., and Stylinski C. (2014) Evaluation Feedback for Enhancing Communities of Practice: A case-study lesson in mixed messages American Evaluation Association. Denver, CO.

- Becker-Klein R., Stylinski C., Peterman K., & Phillips T. (2014) Using Embedded Assessment to Measure Science Skills Within STEM Education. American Evaluation Association. Denver, CO.
- Stylinski C.D., Keller S., Elmore A., Fitzpatrick M. & Pradhan K. (2014) Scientists and volunteers partner to explore poplar phenology and vulnerability to climate change Ecological Society of America. Sacramento, CA.
- Stylinski C.D., Palmquist S., Youngs R. & Heimlich J. (2013) Using reflective practice to foster a climate change education community-of-practice North American Association for Environmental Education Research Symposium. Baltimore, MD.
- Stylinski C.D., C. Doty, B. Merritt, J. Holmes and E. Takaki (2013) Modeling and mapping sea-level-rise in the Delaware and Chesapeake Bays North American Association for Environmental Education Conference. Baltimore, MD.
- Stylinski C.D. (2013) Engaging rural volunteers in American chestnut research North American Association for Environmental Education Conference. Baltimore, MD.
- Crimmins T.M., A.J. Elmore, A. Huete, S.R. Keller, E. Levetin, J. Luvall, O. Myers, C. Stylinski, P.K. Van de Water, and A. Vokovic (2013) Research-driven campaigns engage Nature's Notebook participants in scientific data collection Ecological Society of America, Austin, TX.
- McAuliffe, C.M., Parker C. & Stylinski C. (2013) Designing technology-intensive science, technology, math, and engineering professional development: Insights from NSF's ITEST Projects. National Association for Research on Science Teaching Conference. Rio Grande, Puerto Rico.
- Stylinski C.D., Heimlich J., Palmquist S., Youngs R. & Griswold M. (2012) Promoting regionally-based climate change in formal and informal education institutions. American Geophysical Union, San Francisco, CA.
- Stylinski C.D., Palmquist S. & Heimlich J. (2012) Climate change education in free-choice-learning settings: approaches and beliefs of education staff and audiences. Ecological Society of America Annual Meeting. Portland, OR.
- Heimlich J., Stylinski C.D. & Palmquist S. (2012) Exploring climate change audience segmentation in science centers and beyond Association of Science and Technology Centers Annual Conference, Columbus, OH.
- Stylinski C.D., Heimlich J., Palmquist S. & Youngs R. (2012) Understanding climate change approaches and attitudes across informal education organizations National Association for Interpretation International Conference. Kailua-Kona, HI.
- Stylinski C.D., Parker C. & McAuliffe C. (2011) Examining real-world IT-immersion teacher education experiences through the lens of two teacher roles National Association for Research in Science Teaching Conference. Orlando, FL. (paper prepared and distributed)
- Switzer, A. E. Takaki, and C.D. Stylinski (2011) FieldScope: Supporting geographic investigations and engaging students as citizen scientists. North American Association for Environmental Education Research Symposium. Raleigh, N.C.
- Stylinski C.D., C. Parker and C. McAuliffe (2010) *Linking teacher professional development focused on real-world technology applications with changes in teaching practices* Society for Information Technology and Teacher Education International Conference, San Diego, CA.
- Zimmerman H.T., L.U. Tran, C.D. Stylinski, C. Eberach, K. Fadigan, L.B. Diaz, L.D. Dierking and H. King (2010) *Facilitating Informal Science Learning: People, Places and Technologies Symposium* National Association for Research in Science Teaching Conference. Philadelphia, PA.

- MaKinster J.G., C.D. Stylinski, C. McAuliffe, M. Barnett, N.M. Trautmann, A.M. Bodzin, L. Yarnall and S. Conover (2010) *Research on Teaching and Learning Science with Geospatial Technologies* National Association for Research in Science Teaching Conference. Philadelphia, PA.
- Heimlich J., C. Stylinski and M. Storksdieck (2009) *Children and Nature: What works and how do we know?* North American Association for Environmental Education Research Symposium. Portland, OR.
- Stylinski C. and C. Doty (2009) *Visualizing the Watershed: How Geospatial Technology enhances local streams investigations* North American Association for Environmental Education Conference. Portland, OR.
- Stylinski C. and C. Doty (2009) *Using GIS for environmental investigations in your local neighborhood* National Education Computing Conference. Washington, D.C.
- Stylinski C., M. Storksdieck, J. Fraser and J. Falk (2009) *News media impacts on public understanding of science* National Association of Research on Science Teaching Conference. Garden Grove, CA.

## **7. Invited Presentations and Seminars**

- Stylinski C. (2017) *Is this thing on? Beyond information transmission to public engagement with science.* Appalachian Laboratory, Horn Point Laboratory, Chesapeake Biological Laboratory, and Institute for Marine and Environmental Technology.
- Stylinski C., Peterman K. & Becker-Klein K. (2017) *Embedded assessment: An innovative method to support citizen science design.* National Academies Designing Citizen Science to Support Science Learning Meeting. Washington, D.C.
- Storksdieck M & Stylinski C. (2015) *A Typology of Public Engagement.* American Association for the Advancement Convening on Evaluation of Public Engagement with Science, Washington, D.C.
- Storksdieck M & Stylinski C. (2015) *A Typology of Public Engagement.* American Association for the Advancement of Science Live Trellis Discussion. Online.
- Stylinski C. (2015) *Caring and feeding of a healthy community of practice* Stanford University Seminar (Ardoin Lab Group), Palo Alto, CA.
- Stylinski C.D., C. Parker and C. McAuliffe (2009) *Challenges and benefits of integrating teachers into OST-STEM experiences* Out-of-School-Time (OST) STEM: Building Experiences, Building Bridges Meeting. Arlington, VA.
- Stylinski C.D. and M. Storksdieck (2009) *What does the public learn from the media about sustainable agriculture?* American Institute of Biological Sciences Annual Meeting. Arlington, VA.
- Stylinski C.D. (2009) *News media and informal learning of environmental issues* Cary Conference XIII Effective Communication of Science in Environmental Controversies, Millbrook, NY.
- Stylinski C.D. (2009) *Using GIS to enhance meaningful watershed experiences* Ecosystem-Based Management Conference. Baltimore, MD.
- Stylinski C.D. (2008) *Where to from here? Reflections on geospatial technologies in the classroom and beyond* (Invited Keynote Speaker) National Conference on Geospatial Technologies in K-12 Education, Harrisonburg, VA.
- Stylinski C.D. (2008) *iGIS—Informal science education and teacher education.* NSF Informal Science Education PI Summit, Washington, D.C.



- Stylinski C. 2004. *A Path to Ecological Literacy through Research and the Local Environmental Neighborhood*. Institute for Ecosystem Studies. Lunch Seminar, Millbrook, NY.
- Stylinski C. 2004. *Scientist-Teacher Partnership: Promoting Stewardship in the Next Generation*. Multi-State Working Group on Environmental Performance, Charleston, WV.

#### 8. Video Productions

- Glass, M. et al. (2018) Informal STEM Learning (ISL) Professional Framework. 3-minute video. Association of Science and Technology Centers, Washington, D.C (<http://stemforall2018.videohall.com/presentations/1096>).
- Stylinski C.D., N.A. Stylinski and P. Townsend (2007) *Flood of Mud*. 18.5-minute video. University of Maryland Center for Environmental Science, Frostburg, MD.
- Stylinski C.D., N. Stylinski and P. Townsend (2002) *Forest for the Trees*. 12-minute video. University of Maryland Center for Environmental Science, Frostburg, MD.

#### 9. K-12 Curricular Materials

- Student, Teacher And Researcher (STAR) Partners Nitrate Investigation* curricular unit (2017) Stylinski C.D., Doty C., Nelson D. & Elmore A. (High School Science course, 4 parts, 7-9 class periods)
- PIERS Schoolyard Investigation* curricular units
- I. *Survival* (2014) Stylinski C.D. & Doty C. (1<sup>st</sup> grade, 3 lessons, 3 class periods)
  - II. *Soil Habitat* (2014) Stylinski C.D. & Doty C. (2<sup>nd</sup> grade, 3 lessons, 3 class periods)
  - III. *Schoolyard Plant-Animal Interaction* (2012) Stylinski C.D. & Doty C. (4<sup>th</sup> grade, 3 lessons, 4 class periods).
  - IV. *Raindrop to Runoff to Ocean* (2011) Stylinski C.D., Doty C. & Burk A. (5<sup>th</sup> grade, 5 lessons, 5 class periods)
  - V. *Healthy Schoolyards Healthy Streams* (2009) Stylinski C.D., Doty C. & Burk A. (7 Lesson, 6 class periods)
- MBSS FieldScope Investigations* (2014) Stylinski C.D. & Doty C. (5 mini-investigations for middle or high school)
- Sea Level Rise* (2014) Stylinski C.D., Doty C., Friebele E., Merrick B., Holmes J., Russell E., Sill T., Takaki E., & Weilminster C.
- I. *Delaware Bay* (2014) (high school, 3 lessons, 4 class periods)
  - II. *Chesapeake Bay Sea Level Rise* (high school, 3 lessons, 4 class periods)
- Mapping Our Streams – FieldScope & My World versions* (2014, 2011, 2009) Stylinski C.D. & Doty C. (5 lessons, 7 class periods)
- Mapping Our Parks* (2009) Stylinski C.D. & Doty C. (3 lessons, 1 class periods)
- PIERS Plant Guide Activity* (2004) Stylinski C.D. & Raesly E. (72 pages)
- GIS Chesapeake Investigations* (2004) Stylinski C.D., Fiscus D., Baxter K., Wallace L. & Townsend P. (32 pages)

#### C. Grants and Contracts (listed amounts are for AL *only* unless otherwise noted)

##### 2018

- Restoration Stations: Enhancing motivation of group leaders to support citizen science in underserved urban communities* \$229,758, 4 years, (co-PI) with Losey, PI, Wasserman and

Davis-Manigaulte, Co-PI) National Science Foundation.

*Wave of Plastic: Student inquiry of plastic waste and its impact on marine ecosystems.* \$64,748 (\$415,995), 3 years, (co-PI with Helen Bailey (PI) with Brzezinski, Mitchelmore, and Gonsior, Co-PIs) National Oceanic Atmospheric Administration.

## 2017

*Developing rural girls' STEM competency and motivation through communication scientific topics with advanced technology (Girl ARTS)* \$454,146 (\$1,029,584 total), 3 years (overall PI with Kermish-Allen, M. Storksdieck, A. Kamarainen, collaborative PIs) National Science Foundation.

*Streamlining Embedded Assessment to Understand Citizen Scientists' Skill Gains* \$1,975,597, 4 years (PI with Peterman, Becker-Klein, Wiggin, Co-PIs) National Science Foundation.

*INFEWS/T2: Sustainable Agriculture in the Nexus of Food, Energy, Water and Nutrient on National and Global Scales* \$1,147,886, 3 years (Co-PI with Zhang, PI, Lyubchich, Co-PI), National Science Foundation.

*Making the Link: Aligning MWEES with NGSS and MD E-Lit through Professional Learning Community and Targeted Resources* \$298,685, 3 years (PI) National Oceanic Atmospheric Administration.

*Evolutionary responses to climate change at range limits; adaptation, migration and population size at the core, margin and trailing* \$509,644, 3 year (senior personnel with Fitzpatrick, PI Nelson, Co-PI), National Science Foundation.

## 2016

*Variation in retention of atmospheric nitrate as a function of land use across the Chesapeake Bay watershed* \$149,361, 3 years (Co-PI with D. Nelson, PI, K. Eshleman, Co-PI) Maryland Sea Grant.

## 2015

*Citizen Science Embedded Assessment* \$299,957, 4 years (PI with R. Becker-Klein, K. Peterman, Co-PI) National Science Foundation.

## 2014

*Validating an innovative technology classroom observation protocol in high school science classrooms (Technology Observation Protocol (TOP) – Science)* \$265,813 (AL only), 5 years (collaborative PI with C. Parker, overall PI and C. Bonney, Co-PI) National Science Foundation.

*Watershed Research Investigations: A student-teacher-scientist partnership to support healthy streams* \$232,248, 5 years (PI with D. Nelson and A. Elmore, Co-PIs) National Oceanic and Atmospheric Administration.

*Partners in Ecology and Restoration of Schoolyards 2014* \$29,992, (PI) 1 year, Chesapeake Bay Trust.

## 2013

*Partners in Ecology and Restoration of Schoolyards 2013* \$29,990, 1 year (PI) Chesapeake Bay Trust

*Combining genomics, remote sensing, and geospatial modeling to understand adaptation to growing season length in Balsam poplar,* \$741,865, 4 years (co-PI with M. Fitzpatrick, PI, with A. Elmore, D. Nelson, co-PIs) National Science Foundation

## 2012

*Maryland and Delaware Climate Change Education, Assessment and Research Phase II* \$606,864 (AL only) 7 years (**senior personnel** with Don Boesch, PI) National Science Foundation.  
*Citizen Restoring American Chestnuts* \$14,993, 1.5 years (**PI**) Chesapeake Bay Trust.  
*Partners in Ecology and Restoration of Schoolyards 2012* \$29,990, 1 year (**PI**) Chesapeake Bay Trust.

## 2011

*Partners in Ecology and Restoration of Schoolyards VI* \$26,996, 1 year (**PI**) Chesapeake Bay Trust.

## 2010

*Chesapeake FieldScope Project (formerly FieldScope – Investigating Streams)* \$220,199, 4.5 years (**PI** with K. Schwille and E. Takaki, co-PIs) NOAA B-WET.  
*Maryland and Delaware Climate Change Education, Assessment and Research Phase I* \$62,496 (AL only), 3 years through no-cost extension (**senior personnel** with Don Boesch, PI) National Science Foundation.  
*Partners in Ecology and Restoration of Schoolyards V.* \$33,651, 1 year (**PI**) Chesapeake Bay Trust.  
*Mapping Our Parks On-going Support.* \$10,750, 1 year (**PI**) Alice Ferguson Foundation.

## 2009

*Expanding National Geographic FieldScope to local watershed investigations in upstream communities* \$24,834, 2 years (**PI**), National Geographic Society.  
*Partners in Ecology and Restoration of Schoolyards IV (PIERS IV).* \$19,980, 1 year (**PI**) Chesapeake Bay Trust.

## 2008

*ITEST Study: Promoting STEM Career Interest in the Classroom: An Exploratory Study Linking Teacher Professional Development with Changes in Teaching Practices.* \$173,262 (AL only), 5 years. (**co-PI** with C. Parker, PI, and C. McAuliffe, co-PI) National Science Foundation.  
*Partners in Ecology and Restoration of Schoolyards III.* \$23,448, 1 year (**PI**) Chesapeake Bay Trust.

## 2007

*Chesapeake Research Fellowship Program II.* \$63,426 (AL only,) 3 years (**co-PI** with J. Kramer, PI, and J.A. Frederick, L. Murray, J. Takacs, Co-PIs) NOAA Chesapeake Bay Office.

## 2006

*Mapping and Monitoring Maryland Streams II: A Teacher Professional Development Project using GIS and Field Sampling to Investigate Watersheds.* \$242,207, 3 years (**PI** with E. Takaki, co-PI) NOAA Chesapeake Bay Office.  
*Partners in Ecology and Restoration of Schoolyards II.* \$24,364, 1 year (**PI**) Chesapeake Bay Trust.

## 2005

*Flood of Mud: The Roanoke River – Past and Future.* \$74,938, 2.5 years (**PI** with P. Townsend, co-PI) National Science Foundation.  
*Flood of Mud.* \$10,000, 2.5 years (**PI** with P. Townsend, co-PI) The Nature Conservancy, North Carolina Chapter.

## 2004

*Inquiring with GIS Project: A Partnership Between Scientists and Educators.* \$1,272,986, 5 years (PI with P. Townsend, co-PI) National Science Foundation.

*Mapping and Monitoring Maryland Streams: A Teacher Professional Development Project using GIS and Field Sampling to Investigate Watersheds.* \$166,188, 2 years (PI with E. Takaki, co-PI) NOAA Chesapeake Bay Office.

*Chesapeake Teacher Research Fellowship Program.* \$73,576 (AL only), 3 year (co-PI with J. Kramer, PI, and J.A. Frederick, L. Murray, J. Takacs, Co-PIs) NOAA Chesapeake Bay Office.

## 2003

*Partners in Ecology and Restoration of Schoolyards (PIERS).* \$69,074, 3 years (PI) Chesapeake Bay Trust.

*Parks, Pollinators and Habitats Workshop.* \$30,000, 3 years (co-PI) National Park Service CESU.

*GIS Metadata Capacity Development for UMCES.* \$7,079, 2 years (co-PI) U.S. Geological Survey.

## 2002

*Chesapeake Research Fellowship Program.* \$88,500, 2 years (Senior personnel) NOAA-Chesapeake Bay Office.

*National Capital Region Partners with the UMCES-MDSG Teacher Research Fellowship Program.* \$115,000, 7 years (PI) National Park Service (CESU).

*Learning With GIS: Incorporating Local Science Investigations into the Classroom.* \$14,500, 2 years (PI) NOAA-Chesapeake Bay Office.

### D. Symposia, Sessions and Workshops Organized/Chaired for Professional Meetings

2016 North American Association for Environmental Education Research Symposium *Closing Plenary*. Madison, WI.

2015 North American Association for Environmental Education Research Symposium *Introductory and Closing Plenary*. Chair. San Diego, CA.

2014 North American Association for Environmental Education Research Symposium *Introductory and Closing Plenary*. Chair Elect. Ottawa, ON.

2012 American Geophysical Union Conference. *Climate literacy: Reaching diverse audiences through informal education experiences, public outreach, and community programs*. Chair. San Francisco, CA

2012 Sesync Workshop. *Socio-Environmental Synthesis Education: Goals, Resources and Tools*. Co-organized with D. Hawthorne (organizer) and B. Grant. Annapolis, MD.

### E. Reviewing Activities for Professional Publications

2018 *Science Education*

2018 *Connected Science Learning*

2017 *Connected Science Learning*

2017 *BioScience*

2017 *Cornell University Press*

2017, 2016 *Citizen Science: Theory and Practice*

2016 *Environmental Education Research*

2014, 2013 *Agriculture and Human Values*

2013 *Journal of Environmental Education*

2007 *Oecologia* (2x)

2005 *Conservation Biology*  
2005 *Ecology and Society*  
2005 *Frontiers in Ecology and the Environment*

#### **G. Memberships in Professional Societies**

American Institute of Biological Sciences  
American Education Research Association  
Ecological Society of America  
International Society for Technology in Education  
Maryland Association for Environmental and Outdoor Education  
National Association of Research on Science Teaching  
North American Association of Environmental Education

#### **H. Invited Conference/Workshop Participant**

**2018** *NSF Innovative Technology Experience for Students and Teachers (ITEST)* PI and Evaluator Summit. Education Development Center. Alexandria, VA.

2017 National Academies Designing Citizen Science to Support Science Learning Meeting. Washington, D.C

2016, 2010, 2008. *NSF Informal Science Learning PI Summit*. Center for Advancement of Informal Science Education. Washington, D.C.

2015 AAAS Convening on Evaluation of Public Engagement with Science. Washington, D.C.

2015 CAISE Convening on Broader Impacts + Informal Science Education. Washington, D.C.

2015 NSF Communicating Research to Public Audiences: Looking Back and Ahead Webinar (interviews and focus groups). Online.

2014 *NSF DCL New Science and Engineering Indicators for K-12 STEM Education* Arlington VA.

2014 *NSF Broader Impacts Infrastructure Summit* Arlington, VA.

2013 *Mid-Atlantic Environmental Literacy Summit and WorkGroup Session*, Annapolis, MD

2013 *National Socio-Environmental Synthesis Center, Fisher Learning Exchange Workshop*. Annapolis, MD.

2012 *NASA-NOAA-NSF Climate Change Education PI Meeting*. Arlington, VA.

2012 *Maryland State Department of Education Higher Education Environmental Literacy Forum*. Rockville, MD.

2012-2005. *Innovative Technology Experiences for Students and Teachers Summit*. Education Development Center and NSF. Arlington, VA and Washington, D.C.

2010 *Ecology and Education* (attending as American Institute for Biological Science representative) Ecological Society of America, Washington, D.C.

2010 *Maryland Environmental Literacy Summit*. No Child Left Inside Coalition and Chesapeake Bay Trust. Annapolis, MD.

2009 *Out-of-School-Time (OST) STEM: Building Experiences, Building Bridges Conference*. Center for Informal Learning and Schools and NSF. Arlington, VA.

2009. *Building Capacity and Collaboration at the Intersection of the Learning Sciences and Informal Science Education Workshop*. U of Wisconsin Milwaukee, U of Washington, Penn State, and NSF. Milwaukee, WI.

2006, 2004. *Developers Workshop on the Design of GIS Tools for Education*. Northwestern University GEODE Institute, Evanston, IL.

2005. *Free-Choice Learning and the Environment: A Learning Innovation Conference*. Institute for Learning Innovation. Shepherdstown, WV.

#### IV. Teaching, Mentoring and Advising

##### A. Courses

Research Paper Conservation (2 Cr. Graduate, UM CONS798, Fall 2013)  
Mapping and Monitoring Maryland Streams (2 Cr. Graduate, MEES698L, Summer 2009, 2008, 2007, 2006, 2005)  
Inquiring with GIS (3 Cr. Graduate, MEES698K, Summer 2009 and 2008; FSU BIOL650 Spring 2007; WVU CANDI930 Spring 2006)

##### B. Education Outreach Projects

**Present** – 2018 *Wave of Plastic* (teacher professional development and school support: collaborate with middle school teachers in St. Mary's and Calvert Counties to develop and implement curricular unit on plastic pollution)

**Present** – 2017 *Making the Link* (capacity building project: initiate a professional learning community and create standards-based environmental education toolkit with 7 Maryland curriculum writers and environmental education providers)

**2018** – 2014 *Students-Teachers-And-Researchers (STAR) Partners* (teacher professional development and school support: 4-part schoolyard-based (8 class periods) curricular unit with supporting documents and video plus 2 years of workshops and in-classroom support (including indirect and direct interactions with AL scientist) for 15 environmental science teachers in Garrett, Allegany and Washington Counties and their ~300 students))

**2018** - 2012: *MADE-CLEAR II: Informal Climate Change Education (ICCE) Community* (educator professional development (and design-based research)): recruited ~40 members from >25 institutions; facilitated multiple in-person meetings and follow-up online communication and activities; designed and manage website; support collect and analyze research data)

2017 – 2012: *PopClock* (citizen science project: partnership with three established U.S./Canadian citizen science phenology efforts; recruited over 500 volunteers, who submitted data; produced 6 newsletters; gave 2 webinars; supported extensive media coverage); recruited and coordinated 8 volunteers in special PopClock effort)

2015 – 2011: *Chesapeake FieldScope* (capacity-building project: created social networking website, *Mapping Our Stream* curricular unit/map, *MBSS Investigations*, *Delaware* and *Chesapeake Sea Level Rise FieldScope* curricular units, *Mid-Atlantic Sustainable Schools FieldScope* project; 643 teachers/educators in *Chesapeake FieldScope* professional development, 611 teachers/educators (with 162 students) at *Chesapeake FieldScope* presentations, and 459 *Chesapeake FieldScope* other participants (152 in the CRAC project)

2015 – 2011: *Citizens Restoring American Chestnuts* (citizen science project: 4 newsletters, protocol packet, online National Geographic mapping tool (FieldScope); 11 introductory presentations for 228 community members; 10 hour-long workshops that trained 187 adult volunteers; distributed 1060 seedlings and 1258 seeds; had extensive media coverage)

2015 – 2003: *Partners in Ecology and Restoration of Schoolyards* (teacher professional development and school support: four elementary school curricular units and companion professional development (including in-class support) for all 1<sup>st</sup> grade, 2<sup>nd</sup> grade (pilot), 4<sup>th</sup> and 5<sup>th</sup> grade students and teachers in all Allegany and Garrett County (about 3900 students and 130 teachers; note 5<sup>th</sup> grade Garrett County only); general support for all other teachers in both counties).

2010 – 2004: *Mapping Our Parks* (teacher professional development: 60 teachers; one MOP curricular unit)

2010-2004: *Mapping and Monitoring Maryland Streams* (teacher professional development and school support: 73 teachers; 1 curricular unit)

2010-2002: *UMCES-MDSG Chesapeake Teacher Research Fellows Project*. (teacher professional development: 21 teachers based at AL)

2009 - 2004: *Inquiring with GIS* (teacher professional development and school support: 106 teachers; 158 summer youth; 1 iGIS curricular unit)

2004 – 2002: *GIS Chesapeake Investigations* (teacher professional development: 24 teachers; 1 Investigation activity)

### C. Educator Workshops

Stylinski C.D., Doty C., & Takaki E. (2014) *Engaging Students in Sea-Level-Rise Data Visualization and Analysis* Maryland Association of Environmental and Outdoor Education Conference, Ocean City, MD (14 participants).

Doty C., Takaki E. & Stylinski C.D. (2013) *Using Digital Mapping Tools to Enhance your Environmental Education Investigations* Maryland Association of Environmental and Outdoor Education Conference, Ocean City, MD (~29 participants).

Stylinski C.D. & E. Takaki (2012) *Using a digital mapping tool to support data visualization and promote community involvement* IAN Mid-Atlantic Tributary Assessment Coalition, Annapolis, MD (~8 participants)

Griswold M. & C Stylinski (2012) *Navigating climate change education: resources and opportunities* Maryland Association of Environmental and Outdoor Education Conference, Ocean City, MD (~20 participants).

Doty C. & Stylinski C.D. (2012) *Where did the brook trout go? Find out with FieldScope* Maryland Association of Environmental and Outdoor Education Conference, Ocean City, MD (~20 participants).

Doty C. & Stylinski C.D. (2011) *A birds-eye-view: Using FieldScope to expand your stream/Bay investigations* Maryland Association of Environmental and Outdoor Education Conference, College Park MD (~20 participants).

Doty C. & C.D. Stylinski (2010). Workshops/presentations on *Mapping Our Streams* project at National Science Teachers Association Regional Conference (Baltimore MD, 23 participants), West Virginia Environmental Education Conference (Harpers Ferry WV, 15 participants), and Maryland Association of Environmental and Outdoor Education Conference Flintstone, MD, (5 participants).

Stylinski C.D., E. Takaki & C. Doty (2009) *Mapping and Monitoring Maryland Streams Summary*. Bay Watershed Education and Training Program National Conference (poster session).

### D. Graduate Students and Faculty Research Assistants Advised and Supervised

#### 1. MEES and FSU Students

**Kelly Pearce** (2013-, MEES Ph.D.) – advisor and committee member

Gretchen Downey (2013-2014 (graduated), SDCB M.S., now STEM-magnet middle school teacher) – advisor

Clark Freise (2001-transferred MEES Ph.D.) – committee member

**2. Interaction with other MEES students and \*Graduate Teaching Assistant**

Joel Bostic (2017-2016)  
Andy Gougherty (2017-2016)  
Kavya Pradhan (2016)  
\*Jason Granberg (2007)  
\*Carolyn Klocker (2005)  
\*Lauren McChesney (2004)  
\*Madhura Kulkarni (2003)  
\*Todd Chadwell (2003)

**3. Teacher Interns**

Annie Duffus (2009)  
Erin Green (2009)  
Becky Byzon (2009)  
Lisa Ozinga (2008)  
Steve Parcels (2008)  
Elizabeth Williams (2007)  
Sara Ferraro (2007)  
Keri Brand (2007)  
Lois Ashley (2006)  
James Morgan (2006)  
Dan Reynolds (2005)  
Kirk Fitch (2005)  
Tony Williams (2005)  
Rebecca Kenyon (2004)  
Gary Dawson (2004)  
Jed Feffer (2004)  
Stephanie Lanzel (2004)  
Mike Allred (2003)  
Darren Wilburn (2003)  
Sam Lucas (2002)  
Gretchen Hockhausler (2002)  
Chastity Seib (2002 – through Johns Hopkins U fellowship program)

**4. Faculty Research Assistants**

**Cassie Doty** (2005-)  
**Jenna Linhart** (2015-)  
Kara Hawkins (2016-2014)  
Abby Burk (2007-2005)  
Elaine Rasley (2005-2003)

**V. Service**

**A. Professional**

**1. Offices and committee memberships in professional organizations (appointed or elected)**



**Present-2017:** Citizen Science Association Board of Director member and Fundraising Committee Co-chair  
**Present-2016:** Citizen Science Association Research-Evaluation Working Group Co-Chair  
**2015-2013:** North American Association for Environmental Education Research Symposium Co-Chair (2014-2013), Chair (2015-2014)  
**2014:** Baltimore Ecosystem Study Education Committee  
**2013-2010:** Maryland Association for Environmental and Outdoor Education Board  
**2013-2011:** National Socio-Environmental Synthesis Center (SESY) Education Committee  
**2013-2009:** National Ecological Observatory Network (NEON) Mid-Atlantic Domain Science and Education Coordination Committee  
**2011-2006:** American Institute of Biological Sciences Education Committee  
**2006-2005:** Ecological Society of America Education Section (Secretary/Treasurer)

## **2.. Advising and Consulting Activities**

**Present-2018** *SCC STEMports Community Workforce Development through Augmented Reality STEM Learning Experience* (NSF education outreach/research project)  
**Present-2017** *Transforming Rural Communities: Virtual Instructional Coaching in Afterschool and Library Programs* (NSF education outreach/research project)  
**Present-2017:** *Grounding Institutional Partnerships in Structures for Broader Impacts Design* (NSF education outreach/research project)  
**Present-2017:** *Building Capacity for Evidence-based Undergraduate Field Experiences* (NSF Research Coordinated Network project)  
**Present-2017:** *Embedded Assessment and Innovative Adoption of SciStarter 2.0* (NSF education outreach/research project)  
**Present-2016:** *An Evidence-based Informal STEM Learning (ISL) Professional Network* (NSF funded education outreach/research project)  
**Present-2016:** *Next Generation WeatherBlur: Expanding Non-Hierarchical Online Learning Community Models for Citizen Science* (NSF-funded education outreach/research project), Advisory Board Facilitator  
**Present-2016:** *Learning to See, Seeing to Learn: A Sociotechnical System Supporting Taxonomic Identification Activities in Volunteer-Based Water Quality Biomonitoring* (NSF-funded education outreach/research project)  
**2015-2010:** *National Geographic FieldScope* (NSF education outreach/research project)  
**2011-2010:** *Using Structure-Behavior-Function Thinking as a Conceptual Tool for Understanding Complex Natural Systems in Middle School Science* (NSF-funded education research study)

## **3. Proposal Review Panels**

Reviewer, National Science Foundation, Division of Research on Learning in Formal and Informal Settings 2016 (1x), 2013 (1x), 2012 (1x), 2011 (2x), 2010 (2x), 2009 (2x), 2008 (2x), 2007 (2x), 2006 (3x), 2005 (1x)  
 Reviewer, National Socio-Environmental Synthesis Center (Sesync), 2013 (1x)  
 Reviewer, NOAA 2006 (1x), 2005 (1x), 2004 (1x)

## **4. Other reviewing and committee memberships**

**2018** Immersive Learning Research Network Conference, Proposal reviewer  
**2016** National Science Foundation *Communicating Research to Broader Audiences* supplemental program, Reviewer

2014 National Association for Research on Science Teaching Conference, Proposal Reviewer  
 2014 West Virginia University, Tenure Promotion Reviewer  
 2014 Hobart and William Smith College, Promotion Reviewer  
 2013-2011: Maryland State Leadership Team for the Development of Next Generation Science Standards, Committee Member  
 2013 National Association for Research on Science Teaching Conference, Proposal Reviewer  
 2013 North American Association for Environmental Education Research Symposium, Proposal Reviewer  
 2013 Maryland State Department of Education Regional Environmental Literacy (including hosting spring 2013 workshop), Co-liaison  
 2013 West Virginia University, Faculty Promotion Reviewer  
 2011 National Science Foundation, Division of Research on Learning in Formal and Informal Settings, Program Reviewer  
 2011 National Conference on Citizen Science at ESA, Advisor  
 2011 NOAA BWET Program Evaluation, Reviewer  
 2011 Mid-Atlantic K-12 Environmental Literacy Strategy, Reviewer  
 2011 Environmental Literacy Network Design Workshop, Advisor  
 2011 Science Education for New Civic Engagement and Responsibilities Center proposal, Advisor  
 2004 Chesapeake Bay Trust grant application materials, Reviewer

## **B. University and Center**

### **1. Committees (\*\*chair, \*vice-chair, †alternate)**

UMCES Senate (\***present**-2017, 2017-2016, †2008-2006, 2006-2003)  
 AL Johnson Environmental Education Award Selection (\*\***present**-2001)  
 AL Seminar Chair (fall **2018**)  
 UMCES Sustainability Committee (**present**-2018)  
 Working Group 5 of the UMCES Self-Study for MSCHE accreditation process (2015-2014)  
 UMCES Promotion Review Committee (\*\*2012)  
 Appalachian Laboratory Director Review Committee Member (2011)  
 UMCES Environmental Science Education Council (2009-2005, \*\*2007-2004, 2004-2001)  
 AL Faculty Search Committee (2008-2007, 2005)  
 UMCES Maryland Space Grant UMCES-representative (2008-2002)  
 AL Retreat Committee (2002)  
 AL Web Committee (2002)  
 UMCES Graduate Forum on Environmental Education (2001)

### **2. Activities**

UMCES Science Communication planning meetings (**present**-2018)  
 UMCES Convocation facilitator (2017) and session leader (2005, 2002)  
 UMCES Science (Education) Forum Leader (2016, 2001)  
 UMCES Ambassador for 90<sup>th</sup> UMCES Anniversary Celebration (2015)  
 AL Director Selection Review (provided feedback, 2013)  
 UMCES Graduate Education Program Plan (provided feedback, 2013)  
 Laboratory Outreach (2013-2002) including coordinating on- and off-site short programs and assisting with Laboratory lectures and tours including AL Open House

Various other UMCES ventures (e.g., CESU, IAN, UMCES External Review, AL website, AL Brown Bag)

**C. Community (in addition to funded outreach projects)**

Allegany County Extended Day Programming project (2016-2012)

Frostburg Science Discovery Center Board (2014)

White House Easter Egg Roll (2013)

Frost Elementary 2<sup>nd</sup> Appalachian Laboratory day (2013)

Mountain Ridge High School student fracking presentation prep (2013)

FSU International Otter Colloquium Outreach Program (2004)

Eastern Panhandle Regional Science Fair judge (2004-2002)

Northern Middle School Science Fair (2004)