

ERICA A.H. SMITHWICK, CURRICULUM VITA

Earth and Environmental Systems Institute
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Education

Oregon State University	Ph.D.	2002	Forest Science/Forest Ecology
University of Montana	M.S.	1997	Forestry and Resource Conservation
Tufts University	B.S. <i>Cum laude</i>	1995	Geology and Environmental Studies

Appointments

2023-	Director, Earth and Environmental Systems Institute , Penn State
2021-	Distinguished Professor of Geography , Department of Geography, Penn State
2019-	Associate Director, Institutes of Energy and Environment , Penn State
2018-2020	E. Willard and Ruby S. Miller Professor of Geography , Department of Geography
2017-2021	Director, The Ecology Institute , Penn State
2015-	Founding Director, Center for Landscape Dynamics , Earth and Environmental Systems Institute, Penn State
2007-	Graduate Faculty , Intercollege Graduate Degree Program in Ecology; Dual-Title Graduate Degree Program in Biogeochemistry; and, Human Dimensions of Natural Resources and the Environment, Penn State
2007-	Faculty Associate, Earth and Environmental Systems Institute , College of Earth and Mineral Sciences, Penn State
2013-2018	Associate Professor of Geography , Department of Geography, Penn State
2016	Visiting Scientist and Fulbright Scholar , Rhodes University, South Africa
2007- 2013	Assistant Professor of Geography , Department of Geography, Penn State
2002 -2007	Postdoctoral Research Associate , University of Wisconsin-Madison, Landscape and Ecosystem Ecology Laboratory of Dr. Monica G. Turner

Awards, Recognition, and Professional Leadership

- *Founding Director, Climate Consortium at Penn State University (2023-present)*
- *Administrative Fellow, Office of the Senior Vice President for Research, Penn State (2021-22)*
- *ScienceMoms spotlighted scientist (Katharine Hayhoe/Daniel Schrag founders) (2021-present)*
- *Alan Alda Climate Communication (2021)*
- *Wilson Award for Excellence in Research, College of Earth and Mineral Sciences (2019)*
- *Journal of Geography Award from the National Council for Geographic Education as the best college/university article for "Interactive Videos Enhance Learning about Socio-Ecological Systems" (2019)*
- *Changing the Future for Women Faculty, Leadership Training, Penn State (2019)*
- *Fulbright Faculty Scholar to South Africa (2016)*

Research Funding

Smithsonian Institution. Mapping mangrove co-benefits in protected areas: integrating social and ecological indicators. 05/23-12/23 \$25,584

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National Science Foundation BCS 2149244 HEGS: Towards regenerative landscape futures: the role of policy legacies, environmental stress, and landscape change, OSP#225987, Principal Investigator, 2022-2025, 6/1/2022-5/31-2025, (\$399,748).

National Science Foundation ICER: 1927827 Navigating the New Arctic Track 1: Pursuing Opportunities for Long-term Arctic Resilience for Infrastructure and Society (POLARIS), OSP#207609, Senior Personnel. (Principal Investigator: Guangqing Chi), 1/1/2020-12/31/2025 (\$3,000,000)

National Science Foundation DGE 1828822, NRT-INFEWS: Landscape-U, Impactful partnerships among graduate students and managers for regenerative landscape design, OSP# 200088, Principal Investigator, 09/01/2018-08/21/2023 (\$3,000,000).

National Science Foundation DGE 2129893 INTERN-DCL-NRT-INFEWS: Landscape-U, Impactful partnerships among graduate students and managers for regenerative landscape design. Urban Ecology Center – Timothy Mateer, OSP#222155, Principal Investigator (\$18,896)

National Science Foundation BCS 1617396 CNH-L: Visualizing forest futures under climate uncertainty: integrating indigenous knowledge into decision support tools for collaborative decision making, OSP#184792, Principal Investigator, 08/01/2016-07/31/2022 (\$1,700,000)

National Science Foundation BCS 1901630 Geography & Spatial Sci-DDRI Doctoral Dissertation Research: Spatial Resilience in Forests Recovering from Fires, J. Peeler, (\$18,000)

USDI Joint Fire Sciences Program. Firescapes in the mid-Atlantic: mismatches between social perceptions and prescribed fire use. Principal Investigator, 08/01/2016- 07/31/2020, (\$327,726)

Penn State Human Health and Environment Seed Grant. From environmental change to left-behind children's well-being in rural highlands: the nexus of pasture productivity, family processes, labor migrants, and child development. Co-Principal Investigator (Principal Investigator: Guangqing Chi), 07/01/2017 – 6/30/2019, (\$50,000)

Penn State Institutes of Energy and Environment Seed Grant. Ecological migration in a large-scale quasi-experiment design in China: implications of climate change, landscape structure, ecosystem services, and government intervention. Co-Principal Investigator (Principal Investigator: Guangqing Chi), 07/01/2017 – 6/30/2018, (\$25,000)

College of Earth and Mineral Sciences, The Pennsylvania State University. Wilson Travel Grant. Principal Investigator, 2017-2018, (\$2000)

The National Socio-Environmental Synthesis Center (SESYNC). Landscape diversity and dietary diversity. Co-Principal Investigator (Principal Investigator: Sarah Gergel), 03/01/2017 – 08/31/2017, (\$21,541)

Ecology Institute, The Pennsylvania State University. Virtual ecology. Co-Principal Investigator (Principal Investigator: Alexander Klippel), 2015-2017, (\$2,500)

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Penn State Institutes of Energy and Environment Seed Grant. Mapping and measuring forests and wetlands with a sUAS-based Lidar/multispectral system. Co-Principal Investigator (Principal Investigator: Doug Miller), 2016-2017, (\$25,000)

Center for Online Innovation in Learning, Penn State University. Interactive videos in online learning. Principal Investigator, 7/1/15 to 6/30/16, (\$36,106)

Penn State Institute of Energy and Environment Seed Grant. Landscapes of fire and people: how climate, human values, and shifting ecologies will influence mid-Atlantic forest management. Principal Investigator, 3/15/16 – 6/30/15, (\$24,737)

The John Wesley Powell Center for Analysis and Synthesis. Forecasting forest response to N deposition: integrating data from individual plant responses to soil chemistry with a continental-scale gradient analysis. 1/1/2014 – 12/31/2015, Co-Principal Investigator, (\$167,790)

The National Park Service. Identifying critical thresholds: relating soil solution and exchangeable chemistry to detrimental plant responses. Principal Investigator, 2/1/14- 12/31/15. (\$20,549)

Penn State Institute of Energy and Environment Seed Grant. Sustainable intensification of grazing land to produce food and bioenergy. Principal Investigator, 1/1/13 – 12/31/14, (\$25,000)

The Sustainability Institute Reinvention Fund, Penn State. Building sustainable communities through the digital global classroom. Principal Investigator, 7/1/2014-6/30/2015, (\$36,500)

College of Earth and Mineral Sciences Gladys Snyder Educational Grant. Parks as stories: video learning tools to enhance landscape sustainability. Principal Investigator, 7/1/12 – 6/30/13, (\$5000)

NASA Research Opportunities in Space and Earth Sciences. Influence of disturbance and seasonality on regional carbon flux upscaling. Principal Investigator, 7/1/2011 to 6/30/2014, (\$883,605)

College of Earth and Mineral Sciences **George H. Deike Jr. Research Grant.** Pyrogeography: understanding complexity and resilience on African landscapes. Principal Investigator, 7/1/12 – 6/30/13, (\$50,000)

National Science Foundation-DEB (EAGER). Spatial patterns of nutrient limitation and carbon storage in South African coastal lowland landscapes. Principal Investigator, 7/1/09-30,675)

National Science Foundation-DEB (REU-EAGER). Spatial patterns of nutrient limitation and carbon storage in South African coastal lowland landscapes. Principal Investigator, 8/1/10 – 7/31/12, (\$15,500)

Appalachian Trail Conservancy. Characterization of “elevational landscapes” along the Appalachian Trail Mega-Transect. Principal Investigator, 10/1/08 – 9/30/09, (\$20,000)

Department of Energy, National Institute of Climatic Change Research. Consequences of novel disturbance regimes on climate-induced biogeographic shifts along the Appalachian Trail. Principal Investigator, 4/1/09 – 3/31/11, (\$125,000)

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USDI Joint Fire Science Program. Climate, fire and carbon: tipping points and landscape vulnerability in the Greater Yellowstone Ecosystem. Principal Investigator, 7/1/09- 12/31/10, (\$140,653)

National Science Foundation. GK-12: Carbon education and research together for humanity. Co-Principal Investigator, (Principal Investigator: Renee Diehl), 3/15/10 – 2/28/15, (\$3,000,000)

National Science Foundation CNH. Climatic extremes, mining, and *Mycobacterium ulcerans*: a coupled systems approach. Co-Principal Investigator, (Principal Investigator: Petra Tschakert), 10/09- 8/31/14 (\$1,421,997)

National Science Foundation DEB Ecosystem Science. RCN: The Novus project for integrating paleo- and neo-ecosystem ecology. Participant, 2012-2017, (\$499,753)

National Science Foundation, DEB Ecosystem Science. Ecosystem response to disturbance from decadal to millennial timescales: support for the PROBE workshop. Participant, 2011-2012, (\$29,917)

Publications

In Preparation

Zipp, K, Shr Y-H, Smithwick EAH, Zhao A, Taylor A, Kaye M, Miller Z, Wu, H, Newman P. Feeling the burn: the optimal timing of prescribed fires for recreational benefits, in preparation.

Spencer O*, Evans JR, Machtinger E, Kreye J, Smithwick EAH. Potential co-benefit of prescribed fire for blacklegged tick control in mid-Atlantic forests. In preparation for Fire Ecology.

Baldwin, D.* and Smithwick EAH. Mapping regional carbon fluxes reveals thresholds in carbon sequestration potential in northeastern USA forests.

In Review

Kotikot SM*, Spencer O; Cissell JR, Connette G, **Smithwick EAH**; Durdall A, Grimes KW, Stewart HA, Tzadik O, Canty SWJ. Building a mangrove ecosystem monitoring tool for managers using Sentinel-2 imagery in Google Earth Engine, Ocean and Coastal Management, in review.

Kotikot SM*, **Smithwick EAH**, Nankaya J, Gergel S, Zimmerer K, Abila R. Exploring perceptions of climate change and its impacts for contextualized adaptation strategies for differential climate vulnerability. Annals of the American Association of Geographers, in review.

Smithwick EAH, Wu H, Spangler K, Adib M, Wang R, Dems C, Taylor AH, Kaye MW, Zipp K, Newman P, Miller ZD, Zhao A. 2024. Barriers and Opportunities for Implementing Prescribed Fire: Lessons from Managers in the mid-Atlantic Region, United States, in review.

Zhou S, Chi G, Qiu H, Lei Z, **Smithwick EAH**, Chen J. Relocation preference and settlement; lessons from the poverty alleviation relocation program in China, in review.

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Helgeson C, Keller K, Nicholas RE, Srikrishnan V, Cooper C, **Smithwick EAH**, Tuana N. Integrating values to improve the relevance and inclusiveness of climate-risk research, in review.

Published or In Press

81. Kotikot SM*, **Smithwick EAH**, Greatrex H. 2024. Observations of enhanced rainfall variability in Kenya, East Africa. *Scientific Reports* 14, 12915. <https://doi.org/10.1038/s41598-024-63786-2>
80. Spangler K*, **Smithwick EAH**, Buechler S., Baka J. 2023. Just energy imaginaries? Examining realities of solar development on Pennsylvania's farmland. *Energy Research & Social Science*, 108: 103394. <https://doi-org.ezaccess.libraries.psu.edu/10.1016/j.erss.2023.103394>
79. Lucash MD, Williams N, Srikrishnan, V, Keller K, Scheller, RM, Helgeson C, Nicholas RE, **Smithwick EAH**. 2023. Balancing multiple forest management objectives under climate change in central Wisconsin, U.S.A., *Trees, Forests, and People* 14: 100460.h <https://doi.org/10.1016/j.tfp.2023.100460>
78. Hamilton C*, **Smithwick EAH**. Spellman KV., Baltensperger AP, Spellman BT, Chi, G. 2023. Data for: Predicting berry plant habitat under climate change in Bristol Bay, AK <https://doi.org/10.5061/dryad.7wm37pvxz> [Data Set]
77. Hamilton C*, **Smithwick EAH**. Spellman KV., Baltensperger AP, Spellman BT, Chi, G. 2024. Predicting the suitable habitat distribution of berry plants under climate change. *Landscape Ecology* 39 (18), <https://doi.org/10.1007/s10980-024-01839-7>
76. Nasr-Azadani E*, **Smithwick EAH**. Steidle SJ, Lucash MS, Wardrop DH, Fregien N, Kenote Jr T. 2023. Integrating Menominee model for sustainable forestry with Systems Thinking competency through 3D virtual tours. *Sustainability Science* 18: 2605-2628. <https://doi.org/10.1007/s11625-023-01399-w>
75. **Smithwick EAH**, Baka J, Bird D, Blaszcak-Boxe C, Cole, Charles A., Fuentes, JD, Gergel S, Glenna L, Grady D, Graefe A, Hunt C, Iulo, LD, Kaye J, Keller K. 2023. Regenerative Landscape Design: An Integrative Framework to Enhance Sustainability Planning, *Ecology and Society*, 28(4) <https://doi.org/10.5751/ES-14483-280405>
74. Steidle S, Lucash ML, Nasr-Azadani E*, **Smithwick EAH**. 2023. Testing presence, assessing attitudes: study of a virtual tour in an "aesthetically challenged" landscape, *Journal of Environmental Management* 337: 117574. <https://doi.org/10.1016/j.jenvman.2023.117574>
73. Wu H, Miller ZD, Wang R, Zipp K, Newman P, Shr Y-H, Dems CL, Taylor A, Kaye M, **Smithwick EAH**. 2022. Public and management perspectives about prescribed fire in the Mid-Atlantic, United States. *Journal of Environmental Management* 322: 116100 <https://doi.org/10.1016/j.jenvman.2022.116100>.
72. Peeler JL*, **Smithwick EAH**. 2021. Interactions between landscape and local factors inform spatial action planning in post-fire forest environments. *Landscape Ecology* 36(12): 3523-3537, [10.1007/s10980-021-01325-4](https://doi.org/10.1007/s10980-021-01325-4).

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71. Zhao A, Taylor AH, **Smithwick EAH**, Kaye M, Harris L. 2021. Simulated fire regimes favor oak and pine but affect carbon stocks in mixed oak forests in Pennsylvania, U.S.A. 2021. *Forest Ecology and Management* 494: 119332 <https://doi.org/10.1016/j.foreco.2021.119332>
70. **Smithwick EAH**. 2021. Chapter 7: Nutrient Flows on Landscapes. Routledge Handbook of Landscape Ecology, Taylor and Francis, Group; Francis R., Millington, J., Perry G., Minor, E., eds. Routledge, 502pp, ISBN 9780367024567.
69. Dems C, Taylor AH, **Smithwick EAH**, Kreye J, Kaye MW. 2021. Prescribed fire alters structure and composition of a Mid-Atlantic oak forest up to eight years after burning. *Fire Ecology* 17 (10), <https://doi.org/10.1186/s42408-021-00093-5> .
68. Olson SK*, **Smithwick EAH**, Lucash MS, Scheller RM, Nicholas RE, and Ruckert K, Caldwell C. 2021. Landscape-scale forest re-organization following insect invasion, harvest, and climate change. *Ecosystems*, <https://doi.org/10.1007/s10021-021-00616-w>.
67. Peeler JL*, **Smithwick EAH**. 2020. Seed source pattern and terrain have scale-dependent effects on post-fire tree recovery. *Landscape Ecology* 35 (9): 1945-1959. <https://doi.org/10.1007/s10980-020-01071-z>
66. Field J, Richard TL, **Smithwick EAH**, Cai H, Laser MS, LeBauer DS, Long, SP, Paustian K, Qin Z, Sheehan JJ, Smith, P, Wang MQ, Lynd L. 2020. The logic of greenhouse gas mitigation through cellulosic biofuel production is sound. *Proceedings of the National Academy of Sciences* 117(36): 21968-21977, <https://doi.org/10.1073/pnas.1920877117> [top 5% of all research outputs scored by Altmetric]
65. Miller ZD, Wu H, Zipp K, Dems CL, **Smithwick EAH**, Kaye M, Newman P, Zhao A, Taylor A. 2020. Hunter and non-hunter perceptions of costs, benefits and likelihood of outcomes of prescribed fire in the mid-Atlantic region. *Society and Natural Resources* 33(10): 1321-1327, <https://doi.org/10.1080/08941920.2020.1780359>
64. Young C, Fritz H, **Smithwick EAH**, Venter J. 2020. Patch-scale selection patterns of grazing herbivores in the central basalt plains of Kruger National Park. *African Journal of Range & Forage Science* 37 (3): 199-213. <https://doi.org/10.2989/10220119.2020.1733084>
63. Gergel S, Powell B, Baudron F, Wood SLR, Rhemtulla J, Kennedy G, Rasmussen L, Ickowitz A, Fagan M, **Smithwick EAH**, Rainieri J, Wood, S A, Groot JCJ, Sunderland TCH. 2020. Conceptual linkages between landscape diversity and diet diversity: a roadmap for transdisciplinary research. *Bioscience*, biaa048, <https://doi.org/10.1093/biosci/biaa048>
62. Young C, Fritz H, **Smithwick EAH**, Venter J. 2019. The landscape-scale drivers of herbivore assemblage distribution on the central basalt plains of Kruger National Park. *Journal of Tropical Ecology* 36(1):13-28, <https://doi.org/10.1017/S0266467419000312>.
61. **Smithwick, EAH**, Caldwell C, Klippel A, Scheller R, Tuana N, Bird R, Keller K, Lucash M, Nicholas R, Olson S, Ruckert K, Oyler J, Helgeson C, Huang, J. 2019. Transdisciplinary collaborative learning for triangulating ways of knowing across traditional and Western knowledge systems concerning future climate and forests. *Collaboration Across Boundaries for Social-*

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- Ecological Systems Science, Perz Stephen G., ed., Palgrave Macmillan.
https://doi.org/10.1007/978-3-030-13827-1_1
60. Rasmussen LV, Fagan M, Ickowitz A, Wood S, Kiennedy G, Powell B, Baudron F, Gergel S, Jun S, **Smithwick EAH**, Sunderland T, Wood S, Rhemtulla J. 2019. Forest pattern, not just amount, influences dietary quality in five African countries. *Global Food Security*, Available online 31 October 2019, 100331. <https://doi.org/10.1016/j.gfs.2019.100331>
 59. Lucash M, Ruckert KL, Nicholas RE, Scheller RM, **Smithwick EAH**. 2019. Complex interactions among successional trajectories and climate govern spatial resilience after severe windstorms in central Wisconsin, U.S.A., *Landscape Ecology*, online 07 Nov 2019, <https://doi.org/10.1007/s10980-019-00929-1>.
 58. Baldwin D*, Manfreda S, Lin H, **Smithwick EAH**. 2019. Estimating spatial and temporal variation of root zone soil moisture across a temperate forested catchment with remote sensing data and simple hydrologic models. *Remote Sensing* 11(17), 2013, <https://doi.org/10.3390/rs11172013>.
 57. Rochner M, Masfield B, Jahi CM, **Smithwick EAH**, Romero A, Lane SA, Lave R, Biermann C. 2019. The Palgrave Handbook of Critical Physical Geography. *The AAG Review of Books* 7 (3): 203-213. DOI: 10.1080/2325548X.2019.1615327.
 56. **Smithwick EAH**. 2019. Carbon stocks and biodiversity of coastal lowland forests in South Africa: implications for aligning sustainable development and carbon mitigation initiatives. *Carbon Management* 10 (4): 349-360. <https://doi.org/10.1080/17583004.2019.1620035>
 55. Buma B, Harvey B, Gavin D, Kelly R, Loboda T, McNeil B, Marlon J, Meddens A, Raffa K, Shuman B, **Smithwick EAH**, & McLauchlan K. 2019. The value of linking short and long-term perspectives to understand spatially-explicit ecosystem resilience. *Landscape Ecology* (34): 17-33.
 54. Horn KJ, Thomas RQ, Pardo LH, Lawrence GB, Clark CM, Fenn ME, Lawrence GB, Perakis SS, **Smithwick EAH**, Baldwin DC*, Braun S, Nordin A, Perry CH, Phelan JN, Schaberg PG, St.Clair SB, Warby R, Watmough S. 2018. Growth and survival relationships of 71 tree species with nitrogen and sulfur deposition across the conterminous U.S. *PLoS ONE* 13(10): e0205296. <https://doi.org/10.1371/journal.pone.0205296>
 53. Moon, JB, Wardrop DH, **Smithwick EAH**, Naithani KJ. 2018. Fine-scale spatial homogenization of microbial habitats: a multivariate index of headwater wetland complex condition. *Ecological Applications* 29 (1), e01816, doi: 10.1002/eap.1816
 52. **Smithwick EAH**, Baxter E, Kim K, Edel-Malizia S, Rocco S, Blackstock D. 2018. Interactive videos enhance learning about socio-ecological systems. *Journal of Geography* 117(1):40-49, DOI: /10.1080/00221341.2017.1374433
 51. **Smithwick EAH**. 2018. Book review of The Palgrave Handbook of Critical Physical Geography, Lave R, Biermann C, Lane S N, eds. Palgrave., submitted. In review, AAG Review of Books.

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50. Peeler JL*, **Smithwick EAH**. 2018. Exploring invasibility with species distribution modeling: How does fire promote cheatgrass (*Bromus tectorum*) invasion within lower montane forests? *Diversity & Distributions*. 00:1–13. <https://doi.org/10.1111/ddi.12765>
49. Averill KM*, Mortensen DA, **Smithwick EAH**, Kalisz S, McShea WJ, Bourg NA, Parker JD, Royo AA, Abrams MD, Apsley DK, Blossey B, Boucher CH, Caraher KL, DiTommaso A, Johnson SE, Masson R, Nuzzo VA. 2018. A regional assessment of white-tailed deer effects on plant invasion. *AoB Plants* 10(1), plx047, doi:10.1093/aobpla/plx047
48. Taber ED*, Hutchinson, ML, **Smithwick EAH**, Blanford JI. 2017. A decade of colonization: the spread of the Asian Tiger Mosquito in Pennsylvania and Implications for disease risk. *Journal of Vector Ecology*42(1): 3-12.
47. Baldwin D*, Manfreda S, Keller K, **Smithwick EAH**. 2017. Predicting root zone soil moisture with soil properties and satellite near-surface moisture data across the conterminous United States, *Journal of Hydrology* 546:393-404, <http://dx.doi.org/10.1016/j.jhydrol.2017.01.020>
46. Blackstock D, Edel-Malizia S, Bittner K, and **Smithwick E**. 2017. Investigating Interactive video assessment tools for online and blended learning. *Proceedings of the International Conference on eLearning*, Orlando, FL, U.S.A.
45. **Smithwick EAH**, Baldwin DC*, Naithani KJ*. 2016. Grassland productivity in response to nutrient additions and herbivory is scale-dependent, *PeerJ* 4:e2745; DOI 10.7717/peerj.2745
44. **Smithwick EAH**. 2016. Build social costs into wildfire risks. *Nature (Correspondence)* 535 (7611): 231. doi:10.1038/535231b
43. Wu J*, **Smithwick EAH**. 2016. Landscape fragmentation as a risk factor for Buruli ulcer disease. *American Journal of Tropical Medicine and Hygiene* 95(1): 63-69. doi: 10.4269/ajtmh.15-0647
42. Averill KM*, Mortensen DA, **Smithwick EAH**, Post E. 2016. Generalist herbivore feeding selectivity is plant species-specific, regardless of nature/introduced status. *Biological Invasions* 18(5): 1247-1263. DOI: 10.1007/s10530-016-1063-z
41. Tschakert P, Ricciardi V, **Smithwick EAH**, Machado M, Ferring D, Hausermann H, Bug L. 2016. Situated knowledge of pathogenic landscapes in Ghana: understanding the emergence of Buruli ulcer through qualitative analysis. *Social Science and Medicine* 150: 160-171. <http://dx.doi.org/10.1016/j.socscimed.2015.12.005>
40. Taber E* and **Smithwick EAH**. 2015. Influence of protected areas on malaria prevalence in sub-Saharan Africa. *Applied Geography* 64:35-45. doi:10.1016/j.apgeog.2015.09.001
39. Wu J*, Tschakert P, Klutse E, Ferring D, Ricciardi V, H Hausermann H, Oppong J, **Smithwick EAH**. 2015. Buruli ulcer disease and its association with land cover in Southwestern Ghana. *PLoS Neglected Tropical Disease* 9(6):30003840. doi: 10.1371/journal.pntd.0003840

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38. Keane RE, McKenzie D, Falk DA, **Smithwick EAH**, Miller, C., Kellogg, L-K. B. 2015. Representing climate, disturbance, and vegetation interactions in landscape models. *Ecological Modelling* 309-310: 33-47. doi:10.1016/j.ecolmodel.2015.04.009
37. Keane RE, Loehman R, Clark, J, **Smithwick EAH**, Miller C. 2015. Exploring interactions among multiple disturbance agents in forest landscapes: simulating effects of fire, beetles, and disease under climate change. Ch.8, pp 201-231, in *Simulation Modeling of Forest Landscape Disturbances*, Perera A., Rimmel, R. and Buse L., eds., Springer International Publishing Switzerland, doi: 10.1007/978-3-319-19809-5_8.
36. Hagarty J, Azanu D, Atosona B, Voegborlo R, **Smithwick EAH**, Singha K. 2015. Chemistry of natural waters and its relation to Buruli Ulcer in Ghana. *Journal of Hydrology: Regional Studies* 3: 457-472. doi:10.1016/j.ejrh.2015.03.006
35. Wu, J*, **Smithwick EAH**, Ferring D, Hausermann H, Oppong J, Ricciardi V, Tschakert P 2015. Buruli Ulcer (BU) and landscape disturbance in Ghana 2007-2010. Data set. Available online [<http://www.datacommons.psu.edu/>] at The Pennsylvania State University, University Park, Pennsylvania, U.S.A. doi:10.13014/D3G44N6X
34. McCormack ML*, Crisfield E*, Raczka B, Schnekenburger F, Eissenstat DM, **Smithwick EAH**. 2015. Sensitivity of four ecological models to adjustments in fine root turnover rate. *Ecological Modelling* 297: 107-117. doi:10.1016/j.ecolmodel.2014.11.013
33. **Smithwick EAH**, ML McCormack*, M Lucash, G Sivandran. 2014. Improving the representation of roots in terrestrial models. *Ecological Modelling* 291: 193-204. doi:10.1016/j.ecolmodel.2014.07.023
32. McCormack ML*, Adams TS, **Smithwick EAH**, Eissenstat DM. 2014. Variability in root production and root phenology alter estimates of fine root turnover rate. *Ecology* 95: 2224-2235. <http://dx.doi.org/10.1890/13-1942.1>
31. McLauchlan KK, Higuera PE, Gavin DG, Perakis SS, Mack MC, Alexander H, Battles J, Biondi F, Buma B, Colombaroli D, Enders S, Engstrom DR, Hu FS, Marlon JR, Marshall J, McGlone M, Morris JL, Nave LE, Shuman BN, **Smithwick E**, Urrego DH, Wardle DA, Williams CJ, Williams JJ. 2014. Reconstructing disturbances and their biogeochemical consequences over multiple timescales. *BioScience* 64(2): 105-116.
30. McCormack ML*, Eissenstat DM, Prasad AM, **Smithwick EAH**. 2013. Regional scale patterns of fine root lifespan and turnover under current and future climate. *Global Change Biology* 19(6): 1697-1708. doi: 10.1111/gcb.12163
29. **Smithwick EAH**, Eissenstat DM, Lovett G, Bowden R, Rustad L, and Driscoll C. 2013. Root Stress and Nitrogen Deposition: Consequences and Research Priorities *New Phytologist* 197 (3): 712-719. doi: 10.1111/nph.12081
28. **Smithwick EAH**, Naithani KJ*, Balsler TC, Romme WH, and Turner MG. 2012. Fine-Scale Spatial Distribution of Microbial Communities and Soil Nitrogen Cycling Following Wildfire. *PLoS One*, 7(11):e50597. doi: 10.1371/journal.pone.0050597

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27. Hausermann H, Tschakert P, **Smithwick EAH**, Ferring D, Amankwah R, Klutse E, Hagarty J, Kromel L. 2012. Contours of risk: spatializing human behaviors to understand disease dynamics in changing landscapes. *EcoHealth* (9): 251-255, doi:10.1007/s10393-012-0780-8.
26. McCormack ML*, Adams TS, **Smithwick EAH**, Eissenstat DM. 2012. Predicting fine root lifespan from functional traits in temperate trees. *New Phytologist* 195(4): 823-831. doi: 10.1111/j.1469-8137.2012.04198.x
25. **Smithwick EAH**. 2011. Pyrogeography and biogeochemical resilience, pp143-164 in *The Landscape Ecology of Fire*, eds. by D. McKenzie, D. Falk, C. Miller, Springer.
24. Westerling AL, Turner MG, **Smithwick EAH**, Romme WH, Ryan MG. 2011. Continued warming could transform Greater Yellowstone fire regimes by mid-21st Century, *Proceedings of the National Academy of Sciences* 108: 13165-13170. doi: 10.1073/pnas.1110199108
23. Turner MG, Romme WH, **Smithwick EAH**, Tinker DB, Zhu J. 2011. Variation in aboveground cover influences soil nitrogen availability at fine spatial scales following severe fire in subalpine conifer forests. *Ecosystems* 14(7):1081-1095. doi: 10.1007/s10021-011-9465-3
22. Cleveland MR*, **Smithwick EAH**, Wardrop DH, Brooks RB. 2011. The wetland disturbance index: links with soil and water nitrate concentrations. *Wetlands* 31(5):853-863. doi: 10.1007/s13157-011-0200-9
21. **Smithwick EAH**, Westerling AL, Turner MG, Romme WH, Ryan MG. Vulnerability of Landscape Carbon Fluxes to Future Climate and Fire in the Greater Yellowstone Ecosystem." In: Questioning Greater Yellowstone's Future: Climate, Land Use, and Invasive Species. Proceedings of the 10th Biennial Scientific Conference on the Greater Yellowstone Ecosystem. October 11–13, 2010, Mammoth Hot Springs Hotel, Yellowstone National Park. C. Andersen, ed., 131–134. Yellowstone National Park, WY, and Laramie, WY: Yellowstone Center for Resources and University of Wyoming William D. Ruckelshaus Institute of Environment and Natural Resources
20. **Smithwick EAH**. 2010. Pyrogeography: Lessons for future northeastern U.S. landscapes. *Penn State Environmental Law Review* 18(2): 101-121.
19. **Smithwick EAH**. 2010. Disturbance ecology, biogeochemistry and resilience: three decades of inquiry. Organized Oral Session 34. *Bulletin of the Ecological Society of America* 91:80-93.
18. Turner MG, **Smithwick EAH**, Tinker DB, and Romme WH. 2009. Variation in foliar nitrogen and aboveground net primary production in young postfire lodgepole pine. *Canadian Journal of Forest Research-Revue Canadienne De Recherche Forestiere* 39:1024-1035. <https://doi.org/10.1139/X09-029>
17. **Smithwick EAH**, Kashian DM, Ryan MG, and Turner MG. 2009. Long-term nitrogen storage and soil nitrogen availability in post-fire lodgepole pine ecosystems. *Ecosystems* 12:792-806. <http://dx.doi.org/10.1007/s10021-009-9257-1>

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16. **Smithwick EAH**, Ryan MG, Kashian DM, Romme WH, Tinker DB, and Turner MG. 2009. Modeling the effects of fire and climate change on carbon and nitrogen storage in lodgepole pine (*Pinus contorta*) stands. *Global Change Biology* 15:535-548. doi: 10.1111/j.1365-2486.2008.01659.x
15. Schoennagel T, Turner MG, and **Smithwick EAH**. 2008. Landscape heterogeneity following large fires: insights from Yellowstone National Park, USA. *International Journal of Wildland Fire* 17: 742-753. doi: 10.1071/WF07146
14. Metzger KL, **Smithwick EAH**, Tinker DB, Romme WH, Balsler TC, and Turner MG. 2008. Influence of coarse wood and pine saplings on nitrogen mineralization and microbial communities in young post-fire *Pinus contorta*. *Forest Ecology and Management* 256:59-67. <https://doi.org/10.1016/j.foreco.2008.03.043>
13. Turner, MG, **Smithwick EAH**, Metzger KL, Tinker DB, and Romme WH. 2007. Inorganic nitrogen availability following severe stand-replacing fire in the Greater Yellowstone Ecosystem, inaugural paper, *Proceedings of the National Academy of Science* 104 (12): 4782-4789. doi: 10.1073/pnas.0700180104
12. **Smithwick EAH**. 2006. Editorial: Role of microbial communities in mediating ecosystem response to disturbance, Special Issue in *Plant and Soil* 289:1-3. doi:10.1007/s11104-006-9084-5
11. **Smithwick EAH**, Harmon ME, Domingo JB. 2006. Changing temporal patterns of forest carbon stores and net ecosystem carbon balance: The stand to landscape transformation, *Landscape Ecology* 22(1): 77-94. doi: 10.1007/s10980-006-9006-1
10. **Smithwick EAH**. 2006. Gentle introduction to complexity on landscapes. Book Review for *Ecology* 87(11):2954-2955, doi: 10.1890/0012-9658(2006)87[2954:GITCOL]2.0.CO;2
9. **Smithwick EAH**, Mack MC, Turner MG, Chapin III FS, Zhu J, Balsler TC. 2005. Spatial heterogeneity and soil nitrogen dynamics after severe fire in a black spruce (*Picea mariana*) forest, Alaska: Distinct controls at different scales. *Biogeochemistry* 76: 517-537. doi: 10.1007/s10533-005-0031-y
8. **Smithwick EAH**, Turner MG, Mack MC, Chapin III, FS. 2005. Post-fire soil N cycling in northern conifer forests affected by severe, stand-replacing wildfires. *Ecosystems* 8: 163-181. doi: 10.1007/s10021-004-0097-8
7. **Smithwick EAH**, Turner MG, Metzger KL, Balsler TC. 2005. Variation in NH₄⁺ mineralization and microbial communities with stand age in lodgepole pine (*Pinus contorta*) forests, Yellowstone National Park (USA). *Soil Biology and Biochemistry* 37: 1546-1559. doi: 10.1016/j.soilbio.2005.01.016
6. Homann PS, Harmon ME, Remillard SM, **Smithwick EAH**. 2005. What the soil reveals: Maximum ecosystem C stores of the Pacific Northwest region, USA. *Forest Ecology and Management* 220: 270-283. doi: 10.1016/j.foreco.2005.08.035

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5. Miller JM, Turner MG, **Smithwick EAH**, Dent LC, Stanley EH. 2004. Spatial extrapolation: the science of predicting ecological patterns and processes. *Bioscience* 54(4): 310-320 doi:10.1641/0006-3568(2004)054[0310:SETSOP]2.0.CO;2
4. **Smithwick EAH**, Harmon ME, Domingo JB. 2003. Modeling multi-scale effects of light limitations and edge-induced mortality on carbon stores in forest landscapes. *Landscape Ecology* 18(7): 701-721 doi: 10.1023/B:LAND.0000004254.94982.67
3. Korontzi S, Ward DE, Susott RA, Yokelson RJ, Justice CO, Hobbs PV, **Smithwick EAH**, Hao WM. 2003. Seasonal variation and ecosystem dependence of emission factors for selected trace gases and PM2.5 for southern African savanna fires. *Journal of Geophysical Research* 108(D24), 4758. doi: 10.1029/2003JD003730
2. **Smithwick EAH**, Harmon ME, Acker SA, Remillard SM. 2002. Potential upper bounds of carbon stores in the Pacific Northwest. *Ecological Applications* 12(5): 1303-1317. doi: 10.1890/1051-0761(2002)012[1303:PUBOCS]2.0.CO;2
1. **Hoffa EA** (maiden name), Ward DE, Hao WM, Susott RA, Wakimoto RH. 1999. Seasonality of carbon emissions from biomass burning in a Zambian savanna. *Journal of Geophysical Research* 104: 13,841 – 13,853. doi: 10.1029/1999JD900091

Service to the Profession and Society

Science Community

- Chair of the North and South America Chapter, International Universities Climate Alliance, (2021-present)
- Invited Panel Chair, UC Laboratory Fees Research Program Wildfire Review Panel (2x)
- AAG Task Force on Climate and Inclusivity, 2018-2021
- Invited External Reviewer, NRT proposal, University of Georgia (2021)
- Invited External Reviewer, Swedish Research Council Formas
- Invited External Reviewer, Research Councils UK (RCUK)
- Invited External Reviewer, NSF-NRT
- Invited External Reviewer, NSF-Ecosystems (4x)
- Invited External Reviewer, NSF-Geography and Spatial Sciences (4x)
- Invited Panelist, NSF-NRT
- Invited Panelist, NSF-CNH (now DISES) (3x)
- Invited Panelist, NSF-Ecosystems
- Invited Panelist, NASA ROSES Terrestrial Ecology
- Chair, Users Working Group, NASA/Oak Ridge National Laboratory Distributed Active Archive Center for Biogeochemical Dynamics (ORNL DAAC), 2014-2016
- Member, Users Working Group, NASA/Oak Ridge National Laboratory Distributed Active Archive Center for Biogeochemical Dynamics (ORNL DAAC), 2011-2016

Journals

- Editorial Board, *Ecosystems*, 1/1/2015 – present
- Editorial Advisory Board, *Regional Environmental Change*, 1/1/2014 – 2018, 2023-present
- Editorial Board, *Global Change Biology* 2008-2010
- Peer-reviewer (one or more times) for the following journals:

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- Austral Ecology, Biogeochemistry, Bioscience, Canadian Journal of Forest Research, Ecology, Ecology and Society, Ecological Modelling, Ecosphere, Ecosystems, Ecological Applications, Ecological Monographs, Environmental & Ecological Statistics, Environmental Reviews, Forest Ecology and Management, Geophysical Research Letters, Global Change Biology, Global Ecology and Biogeography, International Journal of Applied Earth Observation and Geoinformation, International Journal of Disaster Risk Reduction, Journal of Biogeography, Journal of Ecology, Journal of Mountain Science, Landscape Ecology, Nature Climate Change, Nature Geoscience, New Phytologist, PeerJ, Physical Geography, Plant and Soil, PLoS ONE, Proceedings of the National Academy of Sciences, Science of the Total Environment, Soil Biology and Biochemistry, Soil Science Society of America Journal*
- Guest Editor for *Plant and Soil* Special Issue: Microbial communities and post-disturbance ecosystem function, 2006

Membership in Professional Associations

- American Geophysical Union
- Ecological Society of America
- International Association of Landscape Ecology
- American Association for the Advancement of Science
- Association for Fire Ecology

Invited External Reviewer for Promote and Tenure

- >10 times

Organized Conference Sessions/Symposia

- Lead organizer, Climate Solutions Symposium, Penn State University, May 2024
- Lead organizer, Climate Solutions Symposium, Penn State University, May 2023
- EESI Earth Talks Seminar Series: Exploring the Multiple Dimensions of Solar Energy
- Session Facilitator, NSF Engineering Research Visioning Alliance, The Role of Engineering in addressing Climate Change
- Organizing Committee, Annual meeting of the Pennsylvania Prescribed Fire Council 2021-24
- Organizing Committee, “Mainstreaming Biodiversity in the Decade of Action”, Sustainability Institute, Penn State, Spring 2021
- Organizer, “Getting to Negative: strategies, ethics, and co-benefits of carbon capture and sequestration”, Panel for EMS 125th anniversary & Energy Days at Penn State, May 2021
- Organizing Committee, “Addressing Intersectionality to Transform Leadership at Penn State”, Feb 2021
- Landscapes, Food and Diet Quality. Association of American Geographers Annual Meeting, Washington DC, April 2019 [co-organized with Bronwen Powell]
- Nutrient Geographies in the Anthropocene. Association of American Geographers Annual Meeting, Washington DC, April 2019 [co-organized with Russell Hedberg]
- Visualizing Ecosystem Futures – Live!, Symposium, International Association of Landscape Ecology, US-Chapter, Annual meeting, Chicago IL, April 2018 (co-organized with R.Scheller and R. Meetenmeyer).
- Visualizing indigenous forest futures. Resilience 2017, Stockholm, Sweden, August 2017
- Landscape Resilience to changing disturbance dynamics: bold approaches and solutions, International Association of Landscape Ecology – US Chapter, Annual Meeting, Newport RI, April 2012

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- Understanding Variability in Social Ecological Systems, American Association of Geographers Annual Meeting, Seattle WA, April 2011
- Disturbance and Disturbance Interactions, Association of American Geographers Annual Meeting, Washington DC, April 2010
- Disturbance ecology, biogeochemistry and resilience: three decades of inquiry, Ecological Society of America Annual Meeting, Albuquerque, NM, August 2009
- Role of microbial communities in mediating ecosystem response to disturbance, Ecological Society of America Annual Meeting, August 2006

Organized Workshops

- Visualizing Forest Futures (VIFF) Community Workshop. December 2016, College of Menominee Nation, Keshena Wisconsin
- National Council for Science and the Environment: The Food-Energy-Water Nexus, 16th National Conference and Global Forum on Science, Policy and the Environment, January 2016, Washington D.C.
- Chequamegon Ecosystem Atmosphere Study: Observing and simulating carbon cycle impacts of forest management and climate variability in heterogeneous landscapes, June 2012, Kemp Natural Resources Station, Woodruff WI, co-organizer with Ankur Desai.
- Spatial Landscape Modeling, International Association of Landscape Ecology - US Chapter Annual Meeting, Madison WI, April 2008
- Introduction to Remote Sensing, LTER All-Scientists Meeting, Snowbird UT, 2000
- Career Planning, LTER All-Scientists Meeting, Snowbird UT, 2000

Invited Workshop Participation

- Networking of Nexus Networks Workshop, Smithsonian Environmental Research Center, Edgewater, Maryland, June 2024
- National Academy of Sciences: A Century of Wildland Fire Research: Contributions to Long-term Approaches for Wildland Fire Management, March 2017
- Santa Fe Institute Workshop: Reinventing the Grid: Designing Resilient, Adaptive and Creative Power Systems, Santa Fe Institute, Santa Fe, New Mexico, April 2015
- KNAW Academy Colloquium. Climate models revisited: the biogeochemical consequences of mycorrhizal dynamics, Amsterdam, The Netherlands, April 2015
- Shifting Seasons: Building Tribal Capacity for Climate Change Adaptation Summit, Kenosha WI, October 2014
- NOVUS Workshop: Fort Collins Colorado USA, September 2014
- Global Sustainable Bioenergy and LACAf, Kruger National Park, South Africa, May 2014
- Global Sustainable Bioenergy and LACAf, Ititaba, Sao Paulo, Brazil, November 2013
- COMPASS Scientific Communication Workshop, Pennsylvania, September 2013
- Scaling root processes: Global Impacts Workshop, DOE, Washington DC, March 2012
- PROBE Workshop: Paleo Reconstructions of Biogeochemical Environments, NSF, Manhattan, KS, April 2012
- Living Laboratory Workshop, Eastern Cape South Africa, September 2011
- Steering Committee, Wild Coast Living Laboratory, South Africa, 2011-2013

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Teaching and Advising

Courses Taught

Integrated Perspectives in Transdisciplinary Research on Environment and Society (TREES 574)
Transdisciplinary Research on Environment and Society Colloquium (TREES 590)
Research Scholarship in Geography (GEOG 502)
Advanced Landscape Ecology/Graduate Seminar in Physical Geography (GEOG 510)
Human Dimensions of Natural Resources and the Environment Colloquium (HDNRE 590)
Human Dimensions of Natural Resources and the Environment Seminar (HDNRE 574)
EMS First year Seminar: Global Conservation
Global Parks and Sustainability (GEOG 1N), resident, online, and hybrid
Landscape Ecology (GEOG 414)
Botany 301, Landscape ecology module, Rhodes University Spring 2016
Advances in Ecology (ECLGY 597, 4 lecture module)
Perspectives in Landscape Ecology (GEOG 597E, Graduate Seminar, Fall 2008)
Landscape Genetics and Microbial Biogeography (ECOL 597B, Spring 2008)
Introduction to Physical Geography (GEOG 010)
Conservation and Climate: Ecosystem Change in Sub-Saharan Africa (GEOG 497U)

Graduate Advisors

Ronald Wakimoto, (M.S. Advisor), University of Montana
Mark Harmon and Warren Cohen (Ph.D. co-major advisors), Oregon State University
Monica G. Turner (postdoctoral advisor), University of Wisconsin

Post-doctoral Advisees

Susan Kotikot, 2023-present
Kaitlyn Spangler, 2021-2023, current position; Assistant Professor, College of Agricultural Sciences, The Pennsylvania State University
Jianyong Wu, 2012 – 2013, current position: Assistant Professor, College of Public Health, The Ohio State University
Kusum Naithani, 2010-2014, current position: Associate Professor, College of Biological Sciences, University of Arkansas

M.S. and Ph.D. Graduate Advisees

Edward Amoah, PhD (Ecology), co-chair with Christina Grozinger, current
Olivia Spencer, PhD (Geography), current
Casey Hamilton, PhD (Geography), current
Ryan Baxter, PhD (Geography), "Multiscalar drivers and patterns of abandoned cropland in the United States: implications for renewable energy," December 2023.
Matthew Fountain, MS (Spatial Data Science/Geography) "Examining landscape-scale movement of snowshoe hare (*Lepus americanus*) in a managed forest," Summer 2023.
Susan Kotikot, PhD (Geography) "Investigating climate and human-induced landscape change for improving social-ecological system resilience," August 2023.
Olivia Spencer, MS (Geography) "Potential co-benefit of prescribed fire for blacklegged tick control in mid-Atlantic forests," Spring 2023.
Elham Nasr Azadani, PhD, (Geography), "Landscape visualization to improve sustainability competencies in participatory natural resource management," Summer 2022.
Matt Price, MGIS (Geography), "Wildfire vulnerability assessment for Marin County Bay Area, California," 2022

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- Casey Hamilton, MS (Geography), "Predicting berry plant habitat under climate change in Bristol Bay, Alaska," Summer 2022
- Michelle Ritchie, PhD (Geography), "A novel framework for the development of a spatial social-ecological systems model of climate change adaptation in the arctic: a case study application in north central Iceland" co-advisor and chair of committee, Summer 2022
- Jamie Peeler, PhD (Geography), "Fire, forests, and spatial resilience: the role of landscapes in post-fire tree recovery," 2021
- John Sullivan, MGIS (Geography), "How have the spatial patterns of wildfire perimeters and the Wildland Urban Interface (WUI) in Oregon and Washington state shifted through time?" 2021
- Bridgett Wall, MGIS (Geography), "NDVI changes near refugee, IDP, and asylum sites in Niger's Tillabery Region, 2014-2021," 2021
- Jessica Smucker, MGIS (Geography) "Characterizing historical patterns of forest ownership and parcelization in McKean county, Pennsylvania," 2021
- Paul Millhauser, MGIS (Geography), "Evaluating landscape connectivity and habitat fragmentation effects on elk in the Roaring Fork and Eagle Valleys," 2019
- Stacey Olsen, MS (Geography), "Modeling Forest Futures: Simulating the Impacts of Emerald Ash Borer Invasion and Climate Change Using LANDIS-II," 2019
- Ethan Davis, PhD (Ecology), "The Potential Impact of Food and Energy Choices on Global Land Use Patterns and Greenhouse Gas Emissions," Summer 2017
- Jamie Peeler, MS (Geography), "Exploring invisibility with species distribution modeling: how does fire promote cheatgrass invasion within lower montane forests?" 2017
- Doug Baldwin, PhD (Geography), "Influence of climate change and disturbance on coupled water-carbon fluxes and variability at landscape scales," Spring 2016
- Eric Taber, MS (Geography), "Influence of protected areas on Malaria prevalence in sub-Saharan Africa," Spring 2015
- Kristine Averill, PhD (Ecology), Co-Advisor with Dave Mortensen (Crop and Soil Science) "The Roles of Herbivore Selectivity and Landscape Context in Exotic Plant Invasion," June 2014
- Elizabeth Crisfield, PhD (Geography), "Factors and Conditions Affecting Climate Adaptation in Appalachian Forests," Fall 2012
- Luke McCormack, PhD (Ecology), Co-Advisor with David Eissenstat (Ecosystem Science and Management), "Measuring and Modeling Fine Root Dynamics in Temperate Forests," Fall 2012
- Jared Oyler, MS (Geography), "The Effect of Burn Severity on Short-Term Post-Fire Boreal Vegetation Recovery in Interior Alaska," May 2009
- Michelle Williams-Tober, MS (Ecology), "Relative Nitrogen Availability along a Condition Gradient in Headwater Wetlands in the Upper Juniata Watershed, Pennsylvania," June 2009

Ph.D. Dissertation Committee Membership

- Mei-Huan Chen, PhD (Geography), current
- Tiza Mfuni, PhD (Geography), current
- Marissa Kopp, PhD (Ecosystem Science and Management), current
- Sugjit Singh, PhD (Ecosystem Science and Management), current
- Carolina Carrion Klier, PhD (Geography), current
- Kristin Shoenecker, PhD (Geography), current
- Katie Bernhard, PhD (Recreation, Parks, and Tourism Management), current

- Sara Esther PhD Anariba Bonilla, PhD (Rural Sociology), "Below the surface: exploring gender dynamics in marine protected area management in teh mesoamerican reef region," August 2024
- Wendy Zeller-Zigaitis, PhD (Geography) "Geospatial sensemaking in protected areas to understand

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- wildlife poaching," August 2024
- Adam Benfield, PhD (Geosciences) "Terrestrial ecosystem dynamics across quaternary glacial terminations: paleoecological insights from California and Malesia," August 2024
- Rachel Rozum, PhD (Plant Science), "Agroecosystem landscape design for food and energy production assisted by modeling," 2022
- Harrison Cole, PhD (Geography), "Tactile maps for flood mitigation planning: design and evaluation," 2022
- Tara Mazurczyk, PhD (Geography), "The influence of invasive plants and compositional assembly on ecosystem services in freshwater wetlands," Summer 2022.
- Veronika Vazhnik, PhD (Agricultural Engineering), "Farm landscape design decision support to increase economic, environmental and social benefits using stakeholder engagement, sustainability assessment and spatial optimization," 2021
- Claire Elaine Cleveland, PhD (Geosciences) "Oreodont adaptation, evolution, and extinction in oligocene-miocene North America," 2021
- Joanmarie Del Vecchio, PhD (Geosciences) "Appalachian pasts, arctic futures: permafrost landscape response to warming," 2021
- Hai Thanh Nguyen, PhD (Heidi) (Agricultural Engineering). 2021
- Hong, Y PhD (Geography), "East Asian home gardens as agrobiodiversity reserves during agricultural intensification and disintensification in the era of globalization," 2021
- Edward Primka, PhD (Ecology) "Fine root dynamics and their effect on soil CO₂ efflux across a forested landscape with complex topography," 2021
- Xin Chen, PhD (Ecosystem Science and Management), "Improving species distribution models to advance the understanding of tree range shifts under climate change," 2020
- Briana Ezray, PhD (Entomology) "Evolutionary and ecological patterns in bumble bees (*Bombus* spp): from mimetic coloration to epidemiological dynamics," 2019
- Lucas Harris, PhD (Geography), "Fire-driven alternative states and spatial variability in forest resilience at a dry forest ecotone," 2019
- Melanie Kammerer-Allen, PhD (Entomology), "Enabling conservation: unraveling spatio-temporal drivers of wild-bee communities," 2019
- Rachel Brimmer, PhD (Soil Science), "Soil aggregation and nutrient retention across prominent Pennsylvania land use types," Co-Advisor with Jason Kaye
- Allyson Karp, PhD (Geosciences), "The role of fire ecology in vegetation change during the neogene: new applications of molecular and isotopic proxies for vegetation burning in the Paleorecord," 2019
- Amy Welch, PhD (Geography), "Social and ecological factors influencing community environmental restoration potential: A case study of water quality improvements in the Chesapeake basin," 2019
- Catherine Airey, PhD (Geography), "Fire and vegetation dynamics in a sagebrush-grassland forest gradient in the Soldier Mountains of the Sawtooth National Forest, Idaho," 2018
- Pawlikowski, PhD (Geography), MS, "Long-term forest development following wildfire in old growth pinus ponderosa forest, southern Cascades, California," (2018).
- Russell Hedberg, PhD (Geography), "Local and Regional Food Systems, Soil Phosphorus, and Resilience in a Regional Farmer's Market Network, New York City, USA.," (2018).
- Caroline Normille, PhD (Meteorology), "Progress toward quantifying North American carbon fluxes and associated uncertainties: Comparing CO₂ mole fraction and flux observations to forward model simulations and inversion posteriors," 2017
- David Watts, PhD (Ecology), "Arctic vegetation responses to global change: Reproduction, growth, and consequences for biodiversity," 2016
- Rachel Isaacs, PhD (Geography), "Climate change and the biophysical landscape: The influence of top-down and bottom-up controls on spatiotemporal patterns of forest expansion and tree growth in

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- Denali National Park and Preserve, Alaska," 2016
- Abbey Tyrna, PhD (Geography), "Examining the impacts of hydrologic connectivity, anthropogenic disturbances, and spatial position on headwater wetlands in the riparian-stream network in Upper Shaver Creek Watershed, Pennsylvania," 2015
- Jamie Shinn, PhD (Geography), "Governing environmental variability: Flooding and natural resource access in the Okavango Delta, Botswana," 2015
- Jeffrey Kerby, PhD (Ecology), "Phenology in a changing arctic: Linking trophic interactions across scales," 2015
- S Debasish, PhD (Soil Science) "Nitrous oxide emissions in a landscape transitioning to the energy crops Miscanthus and switchgrass," 2015
- Brett Raczka, PhD (Meteorology), "Evaluation of continental carbon cycle simulations with North American flux tower observations," 2014
- Christine Rollinson, PhD (Ecology), PhD, "Influences of climate and biotic interactions on realized niches and tree distribution in the Central Appalachians," 2014
- Greg Luna, PhD (Anthropology), PhD, "Modeling the Aztec agricultural waterscape of lake Xochimilco: A GIS analysis of lakebed chinampas and settlement," 2014
- Chris Fernandez, PhD (Ecology), PhD, "Biochemistry of ectomycorrhizal fungi: From functional traits to ecosystem processes," 2013
- Heather Graham, PhD (Geosciences), PhD, "Molecular and isotopic indicators of canopy closure in ancient forests and the effects of environmental gradients on leaf alkane expression," 2013
- Julianne Hagarty, PhD (Geosciences), PhD, "Spatial variation of chemical constituents in natural waters and their correlation to incidence of Buruli Ulcer in gold-mining regions of Ghana," 2012
- Sarah Pabian, PhD (Ecology), PhD, "Soil calcium and forest birds: Indirect links between nutrient availability and community composition," 2012

M.S. Committee Membership

- Emma Cheriegate, MS (Geography), current
- Isabella Pettita, MS (Ecology), current
- Kiely Hine, MS (Geography), current
- Sam Cohen, MS (Geography), "Environmental drivers of seasonal nutrient concentration discharge relationships with US rivers and streams," current
- Tim Tallmadge, MS (Spatial Data Science/Geography), "Wildfire and community vulnerability in the wildland urban interface," August 2024
- Timothy Benally, MS (Recreation, Parks and Tourism Management), "HOZHÓOGO NASHÁA "Walking in regenerative beauty: a journey from Diné wisdom to ethical transdisciplinary research" August 2024
- Marina Howarth, MS (Civil and Environmental Engineering), "A systematic review of nature-based solutions for riverine flood mitigation," August 2023.
- Katherine Altamirano, MS (Ecology), "Spatial and temporal controls on denitrification in an urban riparian zone," July 2023
- Darcy Gray, MS (Entomology) "Landscape and weather influences on honey bee seasonal behavior and beekeeping in European and African honey bees (*Apis Mellifera*)," September 2023
- Jesse Evans, MS (Entomology) "A song of mice and fire: effects of prescribed burns on tick host interactions involving *Peromyscus leucopus* and *Ixodes Scapularis*" (The Pennsylvania State University, Entomology, 2023)
- Dani Niziolek, MS (Geography) "The effects of fire severity, seed source, and shrub cover on tree regeneration after wildfires in the southern Cascades," 2022
- Cody Dems, MS (Geography), "Igniting change: measuring prescribed fire effects in a central Pennsylvania hardwood forest," 2020.

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Anthony Zhao, MS (Geography) "Modeling prescribed fire effects on vegetation dynamics in pitch pine and mixed-oak forests," 2020.

Conner Chapman, MS (Geography) "The role of soil moisture in warm-season convective precipitation for the midwestern United States corn belt," 2020.

Weiming Hu, MS (Geography) "Designing optimized unstructured grid (DOUG) for analog ensemble of numeric weather predictions using evolutionary algorithms," 2018

Megan Baumann, MS (Geography), "Farmer landscape knowledge in north-central Nicaragua." 2017

Amy Thissel, MS (Geography), "The role of plant traits in determining flammability in southern Amazon forests," 2014.

Lucas Harris, MS (Geography), "Modelling drivers of fire severity: The case of the 2013 Rim Fire, Yosemite National Park," 2014.

Russel Hedberg, MS (Geography), "Reassembling the landscape: A holistic study of polylepis forest cover change in colina, Tunari National Park, Bolivia," 2013.

Catherine Airey, MS (Geography), "Fire and the persistence and decline of montane chaparral in mixed-conifer forests in the Southern Cascades, Lassen Volcanic National Park, CA," 2012.

James Metz, MS (Geography), "Fire disturbance and the spatial and temporal dynamics of an old growth Jeffrey Pine forest in the Southern Cascades, Lassen Volcanic National Park, CA," 2012

External Advisees

Mamma Sawaneh, Ph.D., visiting WASCAL scholar, University of Gambia, 2019

Cyanne Young, Nelson Mandela University, South Africa, 2017-2019

Undergraduate Mentorship

- Clare Gibson (2023) - NSF-Research Experience for Undergraduates: Climate Science
- Miriam Bartleson (2022) – NSF-Research Experience for Undergraduates: Climate Science
- Patricia Vidal (2021) – SEAS Alliance Bridge Program
- Malaz Alhirsh (2020) – NSF-Research Experience for Undergraduates: Climate Science
- Bryce Buck (2018) – Schreyers Honors Project
- Caroline Cabeza (2018) – NSF-Research Experience for Undergraduates: Climate Science
- Curtis Wilhelmi (College of Menominee Nation) – NSF-Research Experience for Undergraduates (NSF-CNH award)
- Nicholas Schwitzer (U Wisconsin – Stout) – NSF-Research Experience for Undergraduates (NSF-CNH award)
- Jacob Schwitzer (U Wisconsin – Stout) – NSF-Research Experience for Undergraduates (NSF-CNH award)
- Roseanne Torrez, Environmentors Program – (Fall 2019- Spring 2020)

Service

Department

2023-2024	Chair, Promotion and Tenure Committee Faculty Search Committee, Climate Risk
2022-2023	Geography Coffee Hour Colloquium Graduate Student Ombudsperson
2020-2021	Committee on Equity, Inclusion, and Diversity, Member Graduate Student Ombudsperson
2015-2021	Geography Promotion and Tenure Committee

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2019-2020	Geography Coffee Hour Colloquium, Co-organizer Faculty Advisory Committee, Member
2018-2019	Geography Faculty Search Committee (Physical Geography)
2017-2019	Graduate Student Ombudsperson
2016-2017	Undergraduate Curriculum Committee
2015-2016	Awards committee
2013-2014	Miller Fellowship Committee
2011-2012	Geography Faculty Search Committee (Energy Policy) Graduate Programs Committee Future Directions Working Group Undergraduate Curriculum Committee Society for Women in Geography Fellowship Committee
2010-2011	Geography Coffee Hour Colloquium, Co-organizer Miller Lecture Committee
2009-2010	Faculty Advisory Committee, Department of Geography, Member SWG Fellowship Committee Chair Miller Lecture Committee
2008-2009	Geography Faculty Search Committee (GIScience) Geography Graduate Admissions Committee Miller Lecture Committee
2007-2008	Geography Graduate Admissions Committee Miller Lecture Committee

College

2021-2022	Distinguished Professor and Evan Pugh Selection Committee
2021-2022	Earth and Environmental Systems Institute (EESI) Broader Impacts Committee
2020-2022	Search Committee, Energy Institute Director
2020-2021	EMS Sustainability Council, member (Ad hoc)
2016-2019	Earth and Environmental Systems Institute (EESI) Advisory Committee
Fall 2015	Search Committee, Associate Dean for Educational Equity
2013-2016	College of Earth and Mineral Sciences Faculty Advisory Committee
Fall 2015	Organizer, EESI Earth Talks, The Next 100 Years of Conservation
2012-2014	Geosciences Faculty Search Committee (Hydrogeology)
2011-2012	EESI Frontiers in Earth Systems Ecology Annual Lecture Committee
2010-2011	EESI Earth Talks Lecture Series Committee, Member “Embracing Change: Resilience and Adaptation in Turbulent Times”
2010-2011	Ad Hoc, EMS Committee on Research Infrastructure, Member
2009-2010	EMEX Geography Faculty Representative
2008-2009	EESI Earth Talks Lecture Series Committee, Member “Quenching the Thirst: Water Resources for a Changing Planet”

Campus

2021-2022	Faculty Search Committee, Ecosystem Science and Management
2017–present	Strategic Steering Committee, Human Dimensions of Natural Resources and Environment (HNDRE)
2017-present	Graduate Faculty, HNDRE
2014-2022	Intercollege Graduate Degree Program in Ecology, Program Committee
2014-2017	Steering Committee, Ecology Institute, The Pennsylvania State University

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2019-2020 Faculty Search Committee, Anthropology/Archaeology Faculty, IEE representative
2009-2017 Intercollege Graduate Degree Program in Ecology, Candidacy Committee
2014-2015 Member, Deployable Energy and Environmental Sustainability Laboratory Committee
2012-2014 Chair, Intercollege Graduate Degree Program in Ecology, Candidacy Committee
2012-2013 LIME (Laboratory for Isotopes and Metals in the Environment) Advisory Board

University

2023-2024 Africa Advisory Board, Penn State Global
2021-2022 **Presidential Task Force on Reducing Carbon Emissions**
2021-2022 Official Nominator, Earthshot Prize
2016-2021 **Stewarding our Planet's Resources Subcommittee for University Strategic Plan**
2019-2020 University Health Sciences Council, IEE representative
2013-2014 **Presidential Task Force on University Child Care**
2010-2018 **Faculty Senator, University Faculty Senate (8 years)**
Senate Council, EMS Representative (2016-2018)
Vice-chair, Benefits Subcommittee (2016-2018)
Member, Benefits Subcommittee (2015-2016)
Vice Chair, Undergraduate Education Subcommittee (2013-2014)
Chair, Undergraduate Education Subcommittee on Academic Standards (2013-2014)
Member, Undergraduate Education Subcommittee (2010-2014)
Member, Undergraduate Education Subcommittee on Academic Standards (2010-2014)
2009-2010 Ad Hoc Member, Global Community Engagement GEN Taskforce, Office of Global Programs

Featured Media [Selected]

- **CBS TV Talk Pittsburgh**, "[Books to keep kids excited about learning about the natural world](#)" June 2024
- **WPSU** with Sydney Roach, [Climate change is making heatwaves like this week's more common and severe in PA](#), June 2024
- **Penn Live**: [Expect more extreme weather threats in PA](#), Nov 17, 2023
- **NBC Universal Bay Area TV Interview**: [Climate in Crisis: AGU conference in San Francisco this week](#), Dec 12 2023
- **Grist**, [From Jane to the Octonauts, children's TV is taking on the climate crisis](#), Sept 23, 2023
- **Penn Live**: [Climate Change strains Pa. Farmers with extreme heat, floods, droughts](#), Aug 29, 2023.
- **WRAL**: [Back to School: Moms push for climate change education](#), Aug 25 2023.
- **WPSU with Anne Danahy**: [A Penn State expert on learning to live with wildfires, as climate change heats up](#), July 14, 2023.
- **Philadelphia Inquirer**: [Philly had its worst 'fine particle' air pollution day on record](#) (June 7 2023)
- **NBC News**: [Air Quality Index: What's in a number?](#)
- **Nightly News with Lester Holt**: [64 million Under Air Quality Alerts](#) June 9 2023
- **Penn Live**: [Air quality in Pa. reaches historically bad levels from wildfire smoke](#), June 9, 2023.
- **Washington Post**: [What's actually in all that smoke you're breathing](#). This article was also picked up by Yahoo, SFGate, and the New Hampshire Union Leader, June 8 2023
- **Scranton Times-Tribune**: Where there's fire... (June 11 2023) This article was also picked up by Yahoo.

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- **Milwaukee Journal Sentinel:** ['This is on our doorstep now': Wildfire smoke a reminder that climate change impacts human health](#). This article was also picked up by The Fond du Lac Reporter, Marshfield News Herald, Sheboygan Press, Stevens Point Journal, Post-Crescent, Green Bay Press-Gazette, Wisconsin Rapids Daily Tribune, and Wisconsin Watch, and the Cedar Rapids Gazette in IA. (June 9 2023)
- **KDKA (CBS 2 Pittsburgh):** [Canadian wildfire smoke: What is in the air, and what is the impact on you?](#) June 8 2023
- **Philadelphia Inquirer Opinion:** [Climate Change is a parenting issue](#) Sept 15 2022
- Invited guest, “**Kelly Corrigan IGTV Live**”, (ScienceMoms and communicating climate change) (Sept 22 2021)
- Featured Panelist, Advertising about Climate Change, Advertising Week, **Ad Council**, October 2021
- Invited guest, “**Digging Deeper**” conversation with President Barron (climate change) (August 2021)
- Featured speaker, **Tufts Tell Me More Podcast** (Seven Stories of Regeneration), Dec 29, 2020
- Phys.org, Virtual reality forests could help understanding of climate change: <https://phys.org/news/2020-11-virtual-reality-forests-climate.html>, Nov 2020
- Interviewed, **BBC Earth** “Extremes” 2020
- Invited expert guest, **WPSU** Interview for **Take Note: Drawdown**
- Invited expert guest, **WPSU Conversation Live: Climate** (TV and FM Radio), April 2017
- Interviewed and filmed for **WPSU** documentary “Managing Risk in a Changing Environment” <http://wpsu.psu.edu/changingclimate/>
- **WPSU** documentary “Carbon and Conservation in South Africa”, November 4, 2015, hosted on YouTube <https://www.youtube.com/watch?v=sqTdsCgaAGQ>
- Featured in WPSU documentary (WiSciFiles) about **Women in Science profiles** <https://wpsu.psu.edu/digital/women-in-science-profiles/>
 - WiSciFiles video was featured on Penn State’s main home page (pennstate.edu)
- SciWri2019: Annual ScienceWriters meeting, **National Association of Science Writers and the Council for the Advancement of Science Writing**, October 27th, Nittany Lion Inn, 18 journalists, Invited. National.
- [Dr. Erica Smithwick of Science Moms: Five Strategies We Are Using to Tackle Climate Change and Become More Sustainable](#), Medium.com/**Authority Magazine**, October 3, 2021.
- [The People’s Forests](#), **Orion Magazine**, Dec 2018
- [Use of Switchgrass is growing in popularity for Ag Conservation](#), Chesapeake Bay Journal
- “Our best bet against tick infestations might be fire” **Popular Science, MSN News**
- <https://www.popsci.com/story/science/controlled-fires-ticks-northeast/>
- <https://www.msn.com/en-us/news/technology/our-best-bet-against-tick-infestations-might-be-fire/ar-BBX0tCt>
- [“Northeast Christmas tree farmers get drought in their stockings”](#) **Christian Science Monitor**, December 8, 2016,
- [“Erica Smithwick sets out on a ‘grand adventure’](#) **Centre Daily Times**, March 11, 2017
- [“Penn State climatologists screen “before the flood”; talk climate change”](#), **Centre Daily Times**, Nov 2, 2016
- [NSF Press Release: “NSF awards \\$16.7 million for research on how humans, environment interact:](#)
- [“Deer turn up their noses at some invasive species.”](#) **Futurity**, April 16, 2016

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- [“How fire could change the face of the West”](#) **Wired Magazine**, July 6, 2012
- [“Why Big, Intensive Wildfires are the New Normal.”](#) **National Geographic**, August 30, 2013,
- [“Climate change to increase Yellowstone wildfires dramatically,”](#) July 25, 2011, **ScienceDaily**
- [“Wildfire!”](#) **WhyFiles**, July 7, 2011

Featured in **Penn State News** [selected]

- [Collaborative landscape design approach may improve resiliency, human well-being](#)
- [LandscapeU program connects graduate students with Navajo Nation](#)
- [Smithwick appointed new director of Earth and Environmental Systems Institute](#)
- [Climate-related projects awarded seed funding through RISE support](#)
- [New Administrative Fellow will bring Ecological approach to her experience](#)
- [Virtual reality forests could help understanding of climate change](#)
- [Advanced biofuels show promise for replacing some fossil fuels](#)
- [New IEE leaders mindful of energy-environmental challenges](#)
- [South African forests show pathways for a sustainable future](#)
- [Controlled burn: EarthTalks examines fire as management tool in the mid-Atlantic](#)
- [NSF funds \\$3 million Graduate Training Program focused on Food-Energy-Water Nexus](#)
- [How land use affects the spread of disease, Sept 8, 2016](#)
- [Professor awarded Fulbright to study tree carbon storage, teach in South Africa, October 30, 2015](#)
- [Local women in STEM-related professions to be highlighted in new WPSU web series, Feb 13, 2017](#)
- [Climate change impacts on Menominee nation’s forest home focus of NSF funding:](#)
- [Interactive videos used to explore complexities of conservation in online course:](#)
- [“Taste test?” Deer preferences seem to help non-native invasive plants spread, April 25, 2016](#)
- [“Interactive video quizzes prove successful for student engagement.” October 7, 2016,](#)

Professional Presentations

*indicates Smithwick advisee or post-doc

- 2023 Kotikot, SM*, **Smithwick, EAH**, Helen Greatrex, Jedidah Nankaya, Sarah Gergel, Karl Zimmerer, Romulus Abila. 2023. Spatial-temporal characterization of rainfall variability in Kenya highlights vulnerability for agro-pastoral livelihoods, American Geophysical Union, Annual Meeting, San Francisco, CA.
- 2023 **Smithwick, EAH**, Towards regenerative landscape futures: the role of policy legacies, environmental stress, and landscape change, American Geophysical Union, Annual Meeting, San Francisco, CA.
- 2023 Hamilton, CW*, **Smithwick, EAH**, Spellman, KV, Baltensperger, AP, Spellman BT, Chi G. 2023. Predicting the suitable habitat distribution of berry plants under climate change. Western Alaskan Interdisciplinary Science Conference, Anchorage AK.
- 2023 Hamilton CW*, **Smithwick EAH**, Spellman KV, Baltensperger AP, Spellman BT, Chi G Predicting berry plant habitat under climate change in Bristol Bay, AK. Ecological Society of America Annual Meeting, Portland Oregon, August 10, 2023
- 2023 Spencer O*, **Smithwick EAH**, Machtinger E, Evans JR, Kreye J. Potential co-benefit of prescribed fire for blacklegged tick control in mid-Atlantic forests. Ecological Society of America Annual Meeting, Portland Oregon, August 9, 2023

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- 2023 Kotikot, SM*, **Smithwick EAH**, Greatrex H, Nankaya J, Gergel S, Zimmerer K, Abila R. Spatial-temporal characterization of rainfall variability in Kenya highlights vulnerability for agropastoral livelihoods. International Association of Landscape Ecology, World Congress, Nairobi, Kenya, July 13, 2023
- 2023 **Smithwick EAH** and Gergel, S. Moving from sustainable to regenerative landscape designs: key challenges and approaches. International Association of Landscape Ecology, World Congress, Nairobi, Kenya, July 13, 2023
- 2022 **Smithwick EAH**. Disturbance Dynamics. Penn State Climate Dynamics Seminar, October 26, 2022.
- 2022 **Smithwick EAH**. Visualizing landscape futures: designing regenerative social and natural systems under climate change. Penn State Alumni Association, October 25 2022.
- 2022 **Smithwick EAH**. Penn State Department of Meteorology Colloquium, October 19, 2022.
- 2022 **Smithwick EAH**. Firescapes of the mid-Atlantic: challenges and opportunities for implementing prescribed burning as a land management strategy. Oak Woodlands and Forests Fire Consortium and the North Atlantic Fire Science Exchange [Webinar, January 11, Invited].
- 2022 **Smithwick EAH** and Obonyo, E. Reflections from COP26. Penn State Global. January 2022.
- 2022 **Smithwick EAH**. Why we need to change the climate narrative: takeaways from COP26th. Earth and Environmental Systems Institute. January 2022 [Invited]
- 2022 Spencer, O.*, **Smithwick EAH**. Annual meeting of the North American Chapter of the International Association of Landscape Ecology, San Diego, CA, April 2022.
- 2022 Hamilton, C*, **Smithwick EAH**. Annual meeting of the North American Chapter of the International Association of Landscape Ecology, San Diego, CA, April 2022.
- 2021 **Smithwick EAH**. Research on Tap. January 26, 2021. [Virtual, Invited]
- 2021 **Smithwick EAH**. Expanding the Solution Space in the Chesapeake Bay. 2021 National Science Foundation Research traineeship (NRT) Annual Meeting “Shaping 21st Century STEM Graduate Education, Jan 28-29
- 2021 **Smithwick EAH**. LandscapeU, Annual Meeting, 2021 National Science Foundation Research traineeship (NRT) Annual Meeting “Shaping 21st Century STEM Graduate Education, Jan 28-29 [Poster]
- 2021 **Smithwick EAH**. Panel. Meeting the Moment: Harnessing the Untapped Potential of Universities in Building Community Resilience, Texas A & M, PRIMR, Feb 2 [Virtual] [Invited]
- 2021 **Smithwick EAH**. Conversations with Colleagues, The Village at Penn State, March 25 [Invited].
- 2021 Kotikot SM* and **Smithwick EAH**. 2021. Scale mismatches between rainfall and vegetation productivity response in agropastoral landscape of Narok, Kenya. International Association of Landscape Ecology Annual Meeting.
- 2021 **Smithwick EAH** and Kaye JP. 2021. Reinvigorating graduate education to address 21st century environmental challenges. Penn State Biodiversity Conference: Mainstreaming Biodiversity in the Decade of Action, April, 2021. [Invited]
- 2021 **Smithwick EAH**. Envisioning a Climate Consortium: What is a University’s role in combatting climate change? Earth Systems Science Center, Climate Dynamics Seminar, April 21, 2021.
- 2021 **Smithwick EAH**. THE Innovation and Impact Summit, Panel, April 20 [Invited, International]
- 2021 Hamilton, C*, **Smithwick EAH**. Predicting berry plant occurrence in Bristol Bay, AK. Western Alaskan Interdisciplinary Science Conference, May 5 2021 [virtual presentation]
- 2021 **Smithwick EAH**, Srinivasan V, Keller K, Helgeson C, Tuana N, Lucash MS, Klippel A, Huang J, Scheller RM, Nicholas R, Fregien N. Visualizing Forest Futures: transdisciplinary approaches to forest management under climate change by integrating immersive virtual reality, modeling, and tradeoff analysis. Ecological Society of America Annual Meeting, August [Virtual]

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- 2021 Kotikot SM* and **Smithwick EAH**. A multi-level description of the connection between vegetation productivity and precipitation in the agropastoral landscape of Narok, Kenya. Annual Meeting of the American Geophysical Union [Virtual], December
- 2021 **Smithwick EAH**. THE Climate Impact Forum, October 28 [Invited, International]
- 2021 **Smithwick EAH**. Firescapes in the mid-Atlantic: mismatches between social perceptions and prescribed fire use (16-2-02-5). JFSP Project Reporting Forum to the JFSP Program Office and Governing Board, November 10 [Invited]
- 2020 **Smithwick, EAH**. Regenerative Landscape Systems: What is the role of spatial pattern in regenerative landscape systems. Transforming the Resilience of Critical Infrastructure Systems and Communities, Oct 19-22, 2020.
- 2020 **Smithwick EAH**, Taylor AH, Kreye J, Zipp K, Wu H, Kaye M, Newman P, Webber J, Battersby J, Bearer S. Barriers and Opportunities for science-policy coordination in mid-Atlantic firescapes. North-American International Association of Landscape Ecology Annual Meeting, May.
- 2020 **Smithwick EAH**, Lucash MS, Klippel A, Jiawei H, Stacey O, Scheller R, Caldwell C. Modeling and visualizing forest resilience in response to disturbance and climate. Annual meeting of the Ecological Society of America [virtual], August 2020.
- 2020 Peeler JL and **Smithwick EAH**. Live seed source and terrain have scale-dependent effects on post-fire tree recovery. Ecological Society of America Meeting [Virtual]. August 2020.
- 2020 **Smithwick EAH**, Taylor A, Kreye J, Zipp K, Wu H, Newman P, Webber J, Battersby J, Bearer S. North America Chapter of the International Association of Landscape Ecology Annual Meeting [Virtual], May 2020.
- 2019 **Smithwick EAH**, Zipp K, Wu H, Kaye M, Taylor A, Miller Z, Shr, Y-H, Zhao, A, Dems C, Newman P. Burning mismatches in firescapes of the mid-Atlantic. Annual meeting of the American Geophysical Union, San Francisco, California, (December 11, 2019), Accepted, National.
- 2019 *Peeler J, **Smithwick EAH**. Scale-dependent effects of landscape context on post-fire forest regeneration in the Northern Rockies. (December 13, 2019), Accepted, National.
- 2019 *Peeler J, **Smithwick EAH**. Convergence research on landscape and seascape resilience in the Anthropocene. 10th International Association of Landscape Ecology (IALE) World Congress, University of Milano-Bicocca, Milan, Italy, July 1-5.
- 2019 Lucash M, Huang J, Keller K, Klippel A, Nicholas R, **Smithwick EAH**. Using robust decision-making and virtual reality to evaluate management tradeoffs under climate change. 10th International Association of Landscape Ecology (IALE) World Congress, University of Milano-Bicocca, Milan, Italy, July 1-5.
- 2019 **Smithwick EAH**. Impactful partnerships among graduate students and managers for regenerative landscape design. 10th International Association of Landscape Ecology (IALE) World Congress, University of Milano-Bicocca, Milan, Italy, July 1-5.
- 2019 **Smithwick, EAH**. 2019. Nutrient Flows in the Landscape. American Association of Geographers Annual Meeting, Washington D.C., April 5.
- 2019 **Smithwick EAH**, Zipp K, Wu H, Kaye M, Taylor A, Miller Z, Shr, Y-H, Zhao, A, Dems C, Newman P. Firescapes in the mid-Atlantic: mismatches between social perceptions and prescribed fire use. Pennsylvania Prescribed Fire Council, Gettysburg PA, February 6. [Invited Plenary]
- 2019 *Olson, S, **Smithwick EAH**, Lucash M. Shifts in forest structure and composition induced by emerald ash borer under a changing climate. US-IALE Annual Meeting, Fort Collins, CO, April 7-11.
- 2018 Keller, K. (presenter), **Smithwick EAH**, Klippel A, Nicholas R, Helgeson C, Lucash M, and Radke N. How do biodiversity and human values shape forest management under climate change? Some preliminary lessons from an interesting (read hard) problem. Invited talk at the Society for Decision Making Under Deep Uncertainty Meeting. Culvert City (CA), November 13 (2018)

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- 2018 Cabeza, CA, Peeler JL*, **Smithwick EAH**. Climate and topographic effect on wildfire burn severity in the Greater Yellowstone Ecosystem American Geophysical Union Annual Meeting, Washington, DC.
- 2018 Peeler JL* and **Smithwick EAH**. Network theory and post-fire landscapes: linking connectivity to forest reorganization in the Greater Yellowstone Ecosystem. North American Regional Association of the International Association for Landscape Ecology Annual Meeting, Chicago IL.
- 2018 **Smithwick EAH**, Zipp K, Wu H, Kate M, Taylor A, Newman P, Shr Y-H, Zhao A, Dems C, Miller, Z. Firescapes in the mid-Atlantic: Mismatches between social perceptions and prescribed fire use. The Nature Conservancy, MD Chapter, September 11, 2018. [Invited]
- 2018 **Smithwick EAH** Panel Discussant: Sustain WHAT?: Wrestling with the Truths of Sustainability and Climate Science, The Humanities Institute, April, 2018 [Invited]
- 2018 **Smithwick EAH** Author Meets Critics Panel for Handbook of Critical Physical Geography. Association of American Geographers Annual Meeting, New Orleans, LA, April 11, 2018 [Invited]
- 2018 **Smithwick EAH**, Zipp K, Wu H, Kate M, Taylor A, Newman P, Shr Y-H, Zhao A, Dems C, Thurston E. Firescapes in the mid-Atlantic: Mismatches between social perceptions and prescribed fire use. Association of American Geographers Annual Meeting, New Orleans, LA, April 11, 2018
- 2018 **Smithwick EAH**, Zipp K, Wu H, Kate M, Taylor A, Newman P, Shr Y-H, Zhao A, Dems C, Miller, Z. Firescapes in the mid-Atlantic: Mismatches between social perceptions and prescribed fire use. Eastern States Section of the Combustion Institute annual meeting, The Pennsylvania State University, March 4-7, 2018 [Invited Plenary]
- 2017 **Smithwick EAH**. Dreaming about the future: integrating traditional and technological visualizations about future forests. Resilience 2017, Stockholm, Sweden, 22 August [Oral Presentation, Accepted]
- 2017 *Peeler, J and **Smithwick EAH**. Exploring invisibility with species distribution modeling: how does fire promote cheatgrass invasion within lower montane forests? Ecological Society of America Annual Meeting, Portland OR, USA, 10 August [Oral Presentation, Accepted]
- 2017 Hedberg II RJ, **Smithwick EAH**, White C. A soil health approach to phosphorus cycling and soil fertility resilience in a Mid-Atlantic local food system initiative. Ecological Society of America Annual Meeting, Portland OR, USA, 7 August [Oral Presentation, Accepted]
- 2017 Horn KJ, Thomas RQ, Pardo LH, Clark CM, Fenn ME, Larence GB, Perakis SS, **Smithwick EAH**, Baldwin D, Braun S, Nardin A, Perry CH, Phelan JN, Schaberg PG, St. Clair SB, Warby R, Watmough S. Continental scale impact of concurrent atmospheric sulfur and nitrogen deposition on individual tree species Ecological Society of America Annual Meeting, Portland OR, USA, 10 August [Oral Presentation, Accepted]
- 2017 **Smithwick EAH**. World on fire: using models to forecast ecosystem state change from human-climate-fire interactions. Ecological Society of America Annual Meeting, Portland OR, USA, 10 August [Oral Presentation, Invited]
- 2017 **Smithwick EAH** and Klippel A. Visualizing forest futures under climate uncertainty by integrating multiple ways of knowing. Exploring visualization tools for communicating Natural Resource Management Information, U.S. Forest Service, Portland OR, U.S.A. [Online Oral Presentation, Invited], 19 April
- 2017 **Smithwick, EAH**, Caldwell C, Klippel A, Scheller RM, Tuana N, Bird R, Keller K, Lucash M, Nicholas R. Visualizing Forest Futures under Climate Uncertainty by Integrating Multiple Ways of Knowing, American Association of Geographers Annual Meeting, Boston, MA, USA, 7 April [Oral Presentation, Invited]

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- 2017 *Peeler J, **Smithwick EAH**. Predicting spread of cheatgrass (*Bromus tectorum*) on a landscape scale in Shoshone National Forest, WY. American Association of Geographers Annual Meeting, Boston, MA, USA, 7 April [Oral Presentation, Accepted]
- 2016 Klippel A, Simpson M, Keller K, **Smithwick EAH**, Wallgrun JO, Garner G, Huang J, Oprean D, Bansal S. iVR for Climate Change Visualizations. Connecting Cognitive Science and Climate Science, British Computer Society, London, England, 10-11 November [Oral Presentation, Accepted]
- 2016 **Smithwick EAH**, *Baldwin DC, *Naithani KJ. Quantifying spatial patterns in grassland response to nutrient additions." Savanna Science Network Meeting, Kruger National Park, Skukuza, South Africa, 15 March [Oral Presentation, Accepted]
- 2016 Naithani KJ, Konzelman C, Tschakert P, and **Smithwick EAH**. Exploring the Buruli Ulcer Incidence across a socio-ecological landscape in Ghana. American Geophysical Union annual meeting, San Francisco, CA, USA, 12-16 December. [Poster, Accepted]
- 2016 Konzelman C, *Wu J, Tschakert P, **Smithwick EAH**, and *Naithani KJ. Exploring the Buruli Ulcer Incidence in Ghana in Response to Landscape Disturbance, Climate, and Social Factors. Arkansas Water Resources Center Annual Water Conference, Fayetteville AK, USA, 26 July. [Poster, Accepted]
- 2015 **Smithwick EAH**, *Baldwin DC, Pardo LH, Thomas RQ, Horn KT, Lawrence GB, Bailey, DW, Brau S, Clar CM, Fenn M, Nordin A, Perakis SS, Perry CH, Phelan JN, Schaberg PG, St.Clair S, Warby R, Watmough S. Linking plants and soils to understand ecosystem thresholds in response to N deposition at a continental level. Ecological Society of America Annual Meeting, Baltimore MD, USA, 13 August [Invited, symposium]
- 2015 *Baldwin DC, Lin H, Manfred S, **Smithwick EAH**. Downscaling satellite data for predicting catchment-scale root zone soil moisture with ground-based sensors and an ensemble Kalman filter. American Geophysical Union, San Francisco, CA, USA, December [Oral Presentation, Accepted]
- 2015 *Baldwin DC, Lin H, Manfred S, **Smithwick EAH**. Mapping high resolution catchment-scale root zone soil moisture content with ground-based sensor and satellite data. Soil Science Society of America Annual Meeting Minneapolis MN, USA November [Oral Presentation, Accepted]
- 2015 *Wu J, Tschakert P, Kluste E, Ferring D, Ricciardi V, Hausermann H, Oppong J, **Smithwick EAH**. Land cover and Buruli ulcer disease in southwest Ghana. American Association of Geographers Annual Meeting, Chicago, IL, USA, April [Oral Presentation, Accepted]
- 2015 *Taber E, Smithwick EAH. Do protected areas influence malaria prevalence in sub-Saharan Africa? American Association of Geographers Annual meeting, Chicago IL, USA, April [Oral Presentation, Accepted]
- 2015 *Naithani KJ, Davis K, Keller K, **Smithwick EAH**. Incorporation of landscape disturbance in probabilistic upscaling of CO₂ fluxes and associated uncertainties. Ecological Society of America Annual Meeting, Baltimore MD, USA 15 August [Oral Presentation, Accepted]
- 2015 *Baldwin DC, *Aaron D, **Smithwick EAH**. How regional patterns of soil moisture are correlated with inter-annual climate variability. American Association of Geographers Annual meeting, Chicago IL, USA, April [Oral Presentation, Accepted]
- 2015 *Davis E, Kemanian A, **Smithwick EAH**. Ecological Society of America Annual Meeting, Baltimore MD, USA, 13 August [Oral Presentation, Accepted]
- 2015 Moon JB, Wardrop DH, *Naithani KJ, Fennessy MS, **Smithwick EAH**. Effects of human-induced stressors on microbial community landscapes in forested headwater wetlands: are their clear links to process? Ecological Society of America Annual Meeting, Baltimore MD, USA 13 August [Oral Presentation, Accepted]

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- 2015 *Averill K, Mortensen D, **Smithwick EAH**. Influence of white-tailed deer and forest fragmentation on invasive introduced plants. Ecological Society of America Annual Meeting, Baltimore MD, USA 13 August [Oral Presentation, Accepted]
- 2015 *Naithani KJ, Kennedy RE, Davis KJ, Keller D, Baldwin D, Masek J, Xiao J, **Smithwick EAH**. Understanding and quantifying uncertainties in upscaling CO₂ fluxes and its implications for carbon management. NACP PI Meeting. Washington DC, USA, 27 January, [Oral Presentation, Invited, Plenary talk]
- 2014 *Naithani KJ, Kennedy RE, Davis KJ, Keller D, *Baldwin D, Masek J, **Smithwick EAH**. Incorporation of landscape disturbance in probabilistic upscaling of CO₂ fluxes and associated uncertainties. Ecological Society of America Annual Meeting, Sacramento CA, USA, 10-15 August [Oral Presentation, Accepted]
- 2014 **Smithwick EAH**, *Baldwin DC, Horn KJ, Pardo LH, Thomas RQ. Integrating plant responses with soil chemistry at a continental scale, North American Deposition Program: The global connection of air and water, Indianapolis, IN, USA, 21-24 October [Oral Presentation, Accepted]
- 2014 *Baldwin DC and **Smithwick EAH**. Improving estimates of root-zone soil water content using soil physical properties and remotely sensed soil moisture, American Association of Geographers Annual Meeting, Tallahassee FL, USA, 9 April [Oral Presentation, Accepted]
- 2013 *Baldwin DC, Miller D, Singha K, Davis KJ, and **Smithwick EAH**. Improving estimates of root-zone soil water content using soil hydrologic properties and remotely sensed soil moisture. American Geophysical Union Annual Meeting, San Francisco CA, USA, December [Oral Presentation, Accepted]
- 2013 **Smithwick EAH**, Kennedy R, Naithani K, Davis K, Keller K, Parker L, MacEachren A. Influence of landscape disturbance patterns on modeled carbon fluxes and associated uncertainty. American Geophysical Union Annual Meeting, San Francisco CA, USA, December [Oral Presentation, Accepted]
- 2013 *Naithani KJ, *Baldwin DC, **Smithwick EAH**, Davis KJ, Keller K, Kennedy RE, and Masek JG. Incorporation of disturbance and seasonality in terrestrial carbon flux upscaling. Postdoctoral Research Exhibition, The Pennsylvania State University, University Park, PA, USA, 12 September [Poster, Accepted]
- 2013 *Naithani KJ, Davis K, Keller K, **Smithwick EAH**. Comparison of three probabilistic approaches to upscale CO₂ fluxes and associated uncertainties. American Geophysical Union Annual Meeting, San Francisco CA, USA, December [Oral Presentation, Accepted]
- 2013 *Naithani KJ, *Baldwin DC, **Smithwick EAH**, Davis KJ, Keller K, Kennedy RE, and Masek JG. Incorporation of disturbance and seasonality in terrestrial carbon flux upscaling. CarbonEARTH Conference, The Pennsylvania State University, University Park, PA, USA, 23 February [Poster, Accepted]
- 2013 *Wilberding S and **Smithwick EAH**. Modeling municipal level green infrastructure runoff mitigation using EPA SUSTAIN. Ecological Society of America Annual Meeting, Minneapolis, MN, USA, 7 August [Oral Presentation, Accepted]
- 2013 **Smithwick EAH**, *Crisfield EA. Bridging paleo- and neo-perspectives in conservation management: a tale of two mountain landscapes. Ecological Society of America Annual Meeting, Minneapolis, MN, USA, 6 August [Oral Presentation, Invited]
- 2013 **Smithwick EAH**, *Naithani KJ, Davis KJ, Kennedy RE, Bianchetti R., Parker L, *Baldwin DC, Keller K, Masek JG. Incorporating disturbance and associated uncertainty into diagnostic terrestrial carbon flux upscaling. 2013 NASA Terrestrial Ecology Science Team Meeting, La Jolla, California, USA April 30-May 2 [Poster, Accepted]

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- 2013 *Naithani KJ, *Baldwin DC, **Smithwick EAH**, Davis KJ, Keller K, Kennedy RE, and Masek JG. Incorporation of disturbance and seasonality in terrestrial carbon flux upscaling. The 4th NACP All-Investigators Meeting, Albuquerque, NM, USA. 4-7 February [Poster, Accepted]
- 2012 *Crisfield EA and **Smithwick EAH**. Predicting Fire-Climate Feedbacks and Changing Forest Composition in the Appalachian Mountains, U.S.A. In Symposium entitled Forest Regeneration and Climate Change, organized by M Kaye and F Valladares, EcoSummit, Columbus, Ohio, USA, 1-5 October [Oral Presentation, Accepted]
- 2012 *Naithani KJ, *Baldwin DC, **Smithwick EAH**, Davis KJ, Keller K, Kennedy RE, and Masek JG. Incorporation of disturbance and seasonality in terrestrial carbon flux upscaling. American Geophysical Union Fall Meeting, San Francisco, California, USA, December [Oral Presentation, Accepted]
- 2012 *McCormack ML, Adams TS, **Smithwick EAH**, and Eissenstat DM. Fine Root Turnover: A Story of Root Production and Root Phenology. American Geophysical Union Fall Meeting, San Francisco, California, USA, December [Oral Presentation, Accepted]
- 2012 *Hanson, S and **Smithwick EAH**. Psidium Guajava: Spatial Distribution of Invasive Guava along Roadways and Trail Ways within the Dwesa-Cwebe Nature Reserve. Ecological Society of America Annual Meeting, Portland, Oregon, USA, 5-10 August [Poster, Accepted]
- 2012 *Bulick SM, **Smithwick EAH**, and Crane RG. Scientific Engagement within Informal and Transformative Learning Environments in a Global Context. Ecological Society of America Annual Meeting, Portland, Oregon, USA, 5-10 August [Poster, Accepted]
- 2012 *McCormack ML, *Crisfield EA, Raczka B, Pritchard SG, Eissenstat DM, and **Smithwick EAH**. Fine Root Lifespan and Turnover at Ecosystem and Landscape Scales: Sensitivity of Four Ecological Models and New Strategies for Model Incorporation. Ecological Society of America Annual Meeting, Portland, Oregon, USA, 5-10 August [Oral Presentation, Accepted]
- 2012 *Naithani KJ, **Smithwick EAH**, Davis KJ, Keller K, Kennedy RE, and Masek JG. Incorporation of Disturbance and Seasonality in Regional Terrestrial Carbon Flux Upscaling. ForestSAT, Oregon State University, Corvallis, Oregon, USA, 11-14 September [Oral Presentation, Accepted]
- 2012 *Naithani KJ, **Smithwick EAH**, Davis, KJ, Keller K, Kennedy RE, and Masek JG. Incorporation of Disturbance in Regional Terrestrial Carbon Flux Upscaling. Ecological Society of America Meeting, Portland, Oregon, USA, 5-10 August [Poster, Accepted]
- 2012 Clay N, **Smithwick EAH**, Tschakert P, Hausermann H, Ferring D. Landscape Disturbance and disease emergence: thresholds of spatial and temporal interaction. Annual Meeting of the US-Chapter of the International Association of Landscape Ecology, Newport RI, USA, 9 April [Oral Presentation, Accepted]
- 2012 **Smithwick EAH**, Turner MG, Westerling AL, Romme WH, Ryan MG. Modeling carbon tipping points in the Greater Yellowstone Ecosystem: Lessons Learned. Annual Meeting of the US-Chapter of the International Association of Landscape Ecology, Newport RI, USA, 11 April [Oral Presentation, Accepted]
- 2012 *Crisfield EA, **Smithwick EAH**. Integrating a DGVM (MC1) with a statistical habitat suitability model (DISTRIB) to explore feedbacks between fire, climate change, and tree species composition. Annual Meeting of the US-Chapter of the International Association of Landscape Ecology, Newport RI, USA, 11 April [Oral Presentation, Accepted]
- 2012 *Crisfield EA, **Smithwick EAH**. Topographic Complexity in the Appalachian Mountains (U.S.) with Implications for Biodiversity Conservation and Climate Change Adaptation. Annual Meeting of the US-Chapter of the International Association of Landscape Ecology, Newport RI, USA, 9 April [Oral Presentation, Accepted]

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Workshop Participation

- 2022 ERVA: The role of Engineering in Addressing Climate Change [session facilitator]
- 2020 POLARIS community meeting, Dillingham Alaska, Feb 2020
- 2016 Visualizing forest futures. ViFF Workshop, College of Menominee Nation, November 30.
- 2015 Landscape disturbance and Buruli Ulcer. Ghana Teacher Symposium for reBUild (Research and Education on Buruli Ulcer, Inundations, and Land Disturbance), University Park, PA, USA.
- 2015 Improving the representation of mycorrhizal dynamics in terrestrial models. KNAW Academy Colloquium: Climate models revisited: the biogeochemical consequences of mycorrhizal dynamics, Amsterdam, The Netherlands, 8-10 April [Invited]
- 2015 "Flipping the switch: ecological perspectives on resilience" presented at Santa Fe Institute Workshop: Reinventing the Grid: Designing Resilient, Adaptive and Creative Power Systems, Santa Fe Institute, Santa Fe, NM, USA, 13-17 April [Invited]
- 2014 *Richard, T*, Jacobson M, Smithwick EAH. Energy security and human development: Pathways to Sustainability. Global Sustainable Bioenergy and LACAf, Kruger National Park, April 1 [Invited]
- 2014 What is the pace of changes in disturbance regimes and consequences for biogeochemical processes and ecosystem function? NOVUS Workshop: Fort Collins CO, USA 8 September [Invited]
- 2013 Smithwick EAH and Kemanian A. Global Sustainable Bioenergy and LACAf workshop, Itatiba/Sao Paolo, Brazil, November 12-14 [Invited]
- 2012 Nitrogen cycling in Yellowstone National Park. PROBE Workshop. Paleo Reconstructions of Biogeochemical Environments. Manhattan, Kansas, USA, April
- 2012 Smithwick EAH, *Naithani KJ, and *Baldwin DC. Incorporation of disturbance and seasonality in regional terrestrial carbon flux upscaling. The ChEAS 2012 Meeting, "Observing and simulating carbon cycle impacts of forest management and climate variability in heterogeneous landscapes", Kemp Natural Resources Station, Woodruff, WI, USA, 27 June
- 2012 Representation of roots/root processes in models: from ecosystem-scales to GCM DOE- funded workshop, Scaling Root Processes: Global Impacts, Washington DC March 7-9 [Invited]

Invited Seminars, Colloquia

- 2022 Smithwick EAH. Oak Woodlands and Forest Fire Consortium, [Webinar], Jan 11, 2022 [Invited]
- 2020 Smithwick EAH, Zipp K, Wu H, Kaye M, Taylor A, Miller Z, Dems C, Zhao A, Shr Y-H, Newman P. Firescapes of the mid-Atlantic. Center for Private Forests Webinar, February 11, 2020. [Invited]
- 2019 Smithwick, E. A. H., Zipp, K. Y., Wu, H., Kaye, M. W., Taylor, A. H., Miller, Z., Shr, Y.-H. (Iowa State University), Zhao, A. *, & Dems, C. * New Jersey Forest Fire Service – All Staff Meeting, Island Beach State Park, New Jersey, September 12, 2019, Invited. Regional.
- 2019 Smithwick, E. A. H., Zipp, K. Y., Wu, H., Kaye, M. W., Taylor, A. H., Miller, Z., Shr, Y.-H. (Iowa State University), Zhao, A. *, & Dems, C. * (September 11, 2019). "Firescapes in the mid-Atlantic: mismatches between social perceptions and managed fire use," Central Appalachians Fire Learning Network Workshop, Central Appalachians Fire Learning Network, McHenry, Maryland, 100 in attendance, Invited. Regional.
- 2019 Smithwick, E. A. H., Zipp, K. Y., Wu, H., Kaye, M. W., Taylor, A. H., Miller, Z., Shr, Y.-H. (Iowa State University), Zhao, A. *, & Dems, C. * (July 23, 2019). "Burning misMatches in Firescapes of the mid-Atlantic," The sixth Fire in Eastern Oak Forests Conference, Oak Woodlands & Forests Fire Consortium; Consortium of Appalachian Fire Managers and Scientists, State College, PA, 100 in attendance, peer-reviewed/refereed. Regional. [Invited Plenary]
- 2018 The Nature Conservancy, Maryland Chapter, September 11, 2018.
- 2017 Lehigh University, PA. September 29, 2017

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- 2017 Digital Storytelling through interactive video. COIL Conversations Live, The Pennsylvania State University, University Park, PA, USA, March
- 2017 Molo to Muti: evolving adventures in transformative global engagement in South Africa. Fulbright Seminar Series, The Pennsylvania State University, University Park, PA, USA, 20 March
- 2017 Landscape ecology as a framework to understand socio-ecological systems. SCRiM Seminar Series, The Pennsylvania State University, University Park, PA, USA, March
- 2016 Recreation, Parks, and Tourism Management Seminar, The Pennsylvania State University, University Park, PA, USA 14 October
- 2016 Thinking spatially and socially: enhancing landscape management under rapid ecological change. Big Questions Ecology Colloquium, The Pennsylvania State University, University Park, PA, USA, 3 October
- 2016 Perceiving Forest change: bridging indigenous knowledge and virtual ecology. Department of Environmental Studies, Rhodes University, South Africa, June 15
- 2016 Landscape ecology as a scientific framework to address socio-ecological systems in Africa. Department of Botany, Rhodes University, South Africa, March 2
- 2015 Linking plants and soils to understand ecosystem thresholds in response to nitrogen deposition. University of Maryland Center for Environmental Science, Appalachian Laboratory, February 12
- 2014 Scaled productivity response of nutrient additions in South African Grasslands, 2nd Africa-IALE webinar on Landscape Ecology, May 29
- 2014 Shifting geographies of resilience: fire, climate, and vegetation of Yellowstone National Park. Department of Botany, Rhodes University, Grahamstown, South Africa, April 7
- 2014 Shifting geographies of disturbance: managing for ecological resilience in a changing world. Department of Geography, Texas A & M University, College Station, TX, USA, 31 January
- 2013 Department of Forest Resources and Environmental Conservation Seminar, Virginia Tech University, Blacksburg VA, USA October 7
- 2012 NE Chapter of Society of Restoration Ecology, New York, USA March 23 **[Keynote]**
- 2010 Fire in the Eastern U.S. Symposium, Penn State Environmental Law Review, The Pennsylvania State University, University Park, PA, USA April [Invited Panelist]
- 2010 Department of Geology and Geography, Colloquium, University of West Virginia, Morgantown, WV, USA, April
- 2010 Department of Geosciences Colloquium speaker, The Pennsylvania State University, University Park, PA, USA November
- 2010 Department of Anthropology Colloquium, The Pennsylvania State University, University Park, PA, USA April
- 2009 Cary Institute for Ecosystem Studies Seminar Speaker, Millbrook NY, USA, February 12
- 2009 Department of Geography Seminar Series, The Pennsylvania State University, University Park, PA, USA March 20
- 2009 Department of Forest Resources Seminar Series, The Pennsylvania State University, University Park, PA, USA March 20
- 2008 “Unifying Concepts of Landscapes: Finding Common Ground.” Department of Biology Seminar Series, The Pennsylvania State University, University Park, PA, USA, September 30
- 2007 Ecosystem Dynamics of Fire, USDA course for prescribed fire managers, sponsored by the Fish and Wildlife Service, Stevens Point, WI, USA
- 2007 Seeing Through the Smoke: Understanding Fire in Yellowstone National Park. Environmental Issues in National Parks Lecture Series, public lecture and high school outreach program, Ashland University, Ashland OH, USA, April

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Outreach and Community Service

- Climate Science talk, Mount Nittany Middle School, 2023
- Mentor, Environmentors K-12 STEM program, 2019-2020
- WiSciFiles Live Chat (Facebook) with two middle school classrooms in PA, March 2016:
<http://wpsu.psu.edu/live-wiscifiles/>
- Mentor, Summer Experience in Earth and Mineral Sciences (SEEMS), a research program for underrepresented high school students, "Pennsylvania Soils: From Landscape to Field Plots and Back Again," Penn State University, Summer 2012
- Instructor, "Our breathing planet: Introduction to the Carbon Cycle", MathOptions program for 7th grade girls, Penn State DuBois, DuBois, Pennsylvania, May 2011
- Participant and Speaker, Remote sensing of land use change and Buruli Ulcer, Penn State University, September 2013
- Participant and Speaker, Experiencing Authentic Science as Process, Penn State University, May 2011
- Participant and Speaker, Teacher Workshop and Kickoff Meeting for Ghana Buruli Ulcer project, Penns Valley High School, December 2010
- Speaker, Complex System Science: Yellowstone Ecosystem and Buruli Ulcer, Penns Valley High School, December 2010
- Participant and speaker, Penns Valley Teacher Workshop, Complex Systems Science, Penn State University, November 2010
- Instructor, "Seeing Through the Smoke: Understanding Fire in Yellowstone National Park" Environmental Issues in National Parks Lecture Series, public lecture and high school outreach program, Ashland University, Ashland, Ohio, April 2007
- Instructor and Mentor, Summer Experience in Earth and Mineral Sciences (SEEMS), a research program for underrepresented high school students, "Nitrogen Cycling in the Bald Eagle Watershed", Summer 2008
- Instructor, "Our breathing planet: Introduction to the Carbon Cycle", MathOptions program for 7th grade girls, Penn State DuBois, DuBois, Pennsylvania, May 2008
- Featured Scientist, [ScienceMoms](#)
- Invited Speaker, The Village, Fall 2021
- Research on Tap, Invited speaker, Schlow Regional Library, Dec 15, 2020.
- Department of Geography, Underdogs, Invited speaker, Oct 9, 2020.
- Member, Pennsylvania Prescribed Fire Council, 2019-present.
- Schlow Library Research Unplugged Speaker Series, Oct 3, 2019. "Firescapes of the mid-Atlantic: A Promethean Promise." Penn State Office of Government and Community Relations and Schlow Library, State College, PA, 100 in attendance, Invited. Local.
- Panelist – Women in Science Mixer, The Pennsylvania State University (Nov 2019)
- Panelist for Discussion of Documentary "The Most Unknown," The Pennsylvania State University (Oct 2018)
- Panelist for Discussion of Documentary "Managing Risk in a Changing Environment", State Theatre (Spring 2017)
- Panelist for Discussion of Documentary "Before the Flood", University Park, PA (Fall 2016)
- Pennsylvania State Wildlife Action Plan Revision Climate Change Committee, 2013 - 2015
- Pennsylvania Natural Resources Working Group for Climate Change Adaptation member, PA Department of Environment, The Nature Conservancy, others, 2010-2012
- Invited U.S. Senate Science Briefing: H.R. 4200 (salvage logging legislation), 2006

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- Instructor Ecosystem Dynamics of Fire, USDA course for prescribed fire managers, sponsored by the Fish and Wildlife Service, Stevens Point, WI, 2007