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Profession

Research Biogeochemist. Expertise in Ecosystem Ecology, Biogeochemical Cycling, Microbial Ecology and Global Change.

Employment

2010-present Deputy Director, Smithsonian Environmental Research Center, MD
2000-present Senior Scientist, Smithsonian Environmental Research Center, MD
1996-2000 Assistant Professor of Biology, George Mason University, Fairfax, VA
1985-1990 Research Associate, Savannah River Ecology Laboratory, Aiken, SC

Appointments

2000-present George Mason University, Environmental Science & Policy, Affiliate Faculty
2001-2007 Old Dominion University, Biology Department, Affiliate Faculty
2004-present University of Maryland, MEES Graduate Program

Professional Preparation†

Old Dominion University	Biology	B.S.	1982
Old Dominion University	Ecosystem Ecology (Chair: Frank Day, Jr.)	M.S.	1986
Duke University	Biogeochemistry (Chair: Bill Schlesinger)	Ph.D.	1996

†No Postdoctoral Institution

Awards & Fellowships

2020 Mercator Fellow of the German Research Foundation
2019 Fellow of the Society of Wetland Scientists
2018 SERC Directors Appreciation for Excellence in Science
2015 SERC Directors Appreciation for Excellence in Science
2015 Fellow of the Ecological Society of America
2012 Fellow of the Soil Science Society of America
2010 W.H. Patrick Memorial Lectureship, Soil Science Society of America
2009 Merit Award, Soil and Water Conservation Society
2009 Outstanding Achievement Award, Renewable Natural Resources Foundation
2008 Presidential Citation of the Soil Science Society of America
2009 Smithsonian Institution Secretary's Research Prize
1996 Smithsonian Institution Post-Doctoral Fellowship (declined)
1993 NASA Climate Change Graduate Fellowship
1993 NSF Dissertation Improvement Grant

Publications

(JPM as corresponding author or lead co-author in bold; undergraduates underlined)

I. Journals and Books

136. Pennington, SC, NG McDowell, JP Megonigal, JC Stegen, B Bond-Lamberty. In press. Localized basal area affects soil respiration temperature sensitivity in a coastal deciduous forest. *Biogeosciences*.

135. Windham-Myers, L, JP **Megonigal**. In review. Physical constraints on the stabilization of coastal carbon. *Nature Communications*.

134. Kauffman, JB, MF Adame, VB Arifanti, LM Schile-Beers, AF Bernardino, RK Bhomia, DC Donato, IC Feller, TO Ferreira, M del Carmen Jesus Garcia, RA MacKenzie, JP Megonigal, D Daniel Murdiyarso, L Simpson, H Hernández Trejo. In press. Total ecosystem carbon stocks of mangroves across broad global environmental and physical gradients. *Ecological Monographs*.

133. Bond-Lamberty, B, SC Pennington, J Jian, JP Megonigal A Sengupta, and N Ward. 2019. Soil respiration variability and correlation across a wide range of temporal scales. *Journal of Geophysical Research Biogeosciences*. <https://doi.org/10.1029/2019JG005265>

132. **Megonigal** JP, PE Brewer, KL Knee. 2019. Radon as a natural tracer of gas transport through trees. *New Phytologist*. DOI: <https://doi.org/10.1111/nph.16292>

131. Noyce, GL, ML Kirwan, RL Rich and JP **Megonigal**. 2019. Asynchronous nitrogen supply and demand produce non-linear plant allocation responses to warming and elevated CO₂. *Proceedings of the National Academy of Sciences*. <https://doi.org/10.1073/pnas.1904990116>

130. Macreadie, P, A Anton, J Raven, N Beaumont, R Connolly, D Friess, J Kelleway, H Kennedy, T Kuwae, P Lavery, C Lovelock, D Smale, E Apostolaki, T Atwood, J Baldock, T Bianchi, G Chmura, B Eyre, J Fourqurean, J Hall-Spencer, M Huxham, I Hendriks, D Krause-Jensen, D Laffoley, T Luisetti, N Marba, P Masqué, K McGlathery, P Megonigal, D Murdiyarso, B Russell, R Santos, O Serrano, B Silliman, K Watanabe, and C Duarte. 2019. The Future of Blue Carbon Science. *Nature Communications*. 10:3998. <https://doi.org/10.1038/s41467-019-11693-w>

129. Lu M., ER Herbert, JA Langley, ML Kirwan, and JP **Megonigal**. 2019. Nitrogen status regulates morphological adaptation of marsh plants to elevated CO₂. 9:764-768. *Nature Climate Change*.

128. Komatsu KJ, ML Avolio, NP Lemoine, F Isbell, E Grman, GR Houseman, SE Koerner, DS Johnson, KE Wilcox, JM Alatalo, JP Anderson, R Aerts, SG Baer, AH Baldwin, J Bates, C Beierkuhnlein, RT Belote, J Blair, JMG Bloor, PJ Bohlen, EW Bork, EH Boughton, WD Bowman, AJ Britton, JF Cahill Jr., E Chaneton, NR Chiariello, J Cheng, SL Collins, JHC Cornelissen, G Du, A Eskelinen, J Firn, B Foster, L Gough, K Gross, LM Hallett, X Han, H Harmens, MJ Hovenden, A Jagerbrand, A Jentsch, C Kern, K Klanderud, AK Knapp, J Kreyling, W Li, Y Luo, RL McCulley, JR McLaren, JP Megonigal, JW Morgan, V Onipchenko, SC Pennings, JS

Prevéy, JN Price, PB Reich, CH Robinson, FL Russell, OE Sala, EW Seabloom, MD Smith, NA Soudzilovskaia, L Souza, K Suding, KB Suttle, T Svejcar, D Tilman, P Tognetti, R Turkington, S White, Z Xu, L Yahdjian, Q Yu, P Zhang, and Y Zhang. 2019. Global change effects on plant communities are magnified by time and the number of global change factors imposed. 2019. *Proceedings of the National Academy of Sciences*. 116 (36) 17867-17873; DOI: 10.1073/pnas.1819027116 (75 authors).

127. Rogers K, JJ Kelleway, N Saintilan, JP Megonigal, JB Adams, JR Holmquist, M Lu, L Schile-Beers, A Zawadzki, D Mazumder, and CD Woodroffe. 2019. Wetland carbon storage controlled by millennial-scale variation in relative sea-level rise. *Nature*. 567: 91-95. <https://doi.org/10.1038/s41586-019-0951-7>

126. Covey KR and **Megonigal** JP. 2018. Methane Production and Emissions in Trees and Forests. *New Phytologist*. doi: 10.1111/nph.15624

125. Schile-Beers L, **Megonigal** JP, Kauffman JB, Crooks S, Fourqurean JW, Campbell J, Dougherty B, Glavan J. 2018. Carbon Sequestration in Arid Blue Carbon Ecosystems: A Case Study from the United Arab Emirates. In: *A Blue Carbon Primer: The State of Coastal Wetland Carbon Science, Practice, and Policy*, Windham-Myers L-M, Crooks S, Troxler-Gann T (eds), CRC Press: Boca Raton, London, pp: 327-339.

124. **Megonigal** JP, Chapman S, Langley A, Crooks S, Dijkstra P, Kirwan M. 2018. Coastal Wetland Responses to Warming. In: *A Blue Carbon Primer: The State of Coastal Wetland Carbon Science, Practice, and Policy*, Windham-Myers L-M, Crooks S, Troxler-Gann T (eds), CRC Press: Boca Raton, London, pp: 133-144.

123. Needelman BA, Emmer IM, Oreska MPJ, Megonigal JP. 2018. Blue carbon accounting for carbon markets. In: *A Blue Carbon Primer: The State of Coastal Wetland Carbon Science, Practice, and Policy*, Windham-Myers L-M, Crooks S, Troxler-Gann T (eds), CRC Press: Boca Raton, London, pp: 283-292.

122. Barba J, Bradford M, Brewer P, Bruhn D, Covey K, van Haren J, Megonigal P, Teis M, Pangala S, Pihlatie M, Poulter B, Rivas-Ubach A, Schadt C, Terazawa K, Warner D, Zhang Z, Vargas, Rodrigo. 2018. Methane emissions from tree stems: a new frontier in the global carbon. 2019. *New Phytologist* 222: 18–28. doi: 10.1111/nph.15582

121. **Megonigal**, JP and SC Neubauer. 2019. Biogeochemistry of tidal freshwater wetlands. Pages 641-683 in *GME Perillo, E Wolanski, DR Cahoon, CS Hopkinson (editors) Coastal Wetlands: An Integrated Ecosystem Approach*. 2nd Edition. Elsevier Science, The Netherlands.

120. Walker A, M De Kauwe, B Medlyn, S Zaehle, C Iversen, S Asao, B Guenet, A Harper, T Hickler, B Hungate, A Jain, Y Luo, X Lu, M Lu, K Luus, P Megonigal, R Oren, E Ryan, S Shu, A Talhelm, Y Wang, J Warren, C Werner, J Xia, B Yang, D Zak, and R Norby. 2019. Decadal biomass increment in early secondary successional woody ecosystems is increased by CO₂ enrichment. *Nature Communications*. 10: 454. DOI: 10.1038/s41467-019-08348-1

119. Holmquist, J, L Windham-Myers, B Bernal, KB Byrd, S Crooks, ME Gonneea, N Herold, SH Knox, K Kroeger, J McCombs, JP Megonigal, L Meng, JT Morris, AE Sutton-Grier, TG Troxler, and D Weller. 2018. Uncertainty in United States coastal wetland greenhouse gas inventorying. *Environmental Research Letters* 13: 115005. doi: 10.1088/1748-9326/aae157

118. Langley JA, SK Chapman, KJ La Pierre, M Avolio, WD Bowman, DS Johnson, F Isbell, KR Wilcox, BL Foster, MJ Hovenden, AK Knapp, SE Koerner, CJ Lortie, JP Megonigal, PCD Newton, PB Reich, MD Smith, KB Suttle, D Tilman. 2018. Ambient changes exceed treatment effects on plant species abundance in long-term global change experiments. *Global Change Biology*. 24(12): 5668-5679. doi: 10.1111/gcb.14442
117. Needelman, BA, IM Emmer, S Emmett-Mattox, S Crooks, JP Megonigal, D Myers, MPJ Oreska, K McGlathery. 2018. The Science and Policy of the Verified Carbon Standard Methodology for Tidal Wetland and Seagrass Restoration. *Estuaries and Coasts* 41(8): 2159-2171. doi:10.1007/s12237-018-0429-0
116. Oreska, MPJ, KJ McGlathery, IM Emmer, BA Needelman, S Emmett-Mattox, S Crooks, JP Megonigal, and D Myers. 2018. Comment on Geoengineering with seagrasses: is credit due where credit is given? *Environmental Research Letters*, 13(3): 038001 doi:10.1088/1748-9326/aaae72
115. Holmquist, JR, L Windham-Myers, N Bliss, S Crooks, JT Morris, JP Megonigal and 28 others. 2018. Accuracy and precision of tidal wetlands soil carbon mapping in the conterminous United States. *Scientific Reports*. 8(1):9478. doi: 10.1038/s41598-018-26948-7.
114. Kim, S, J Kang, JP Megonigal, H Kang, J Seo, W Ding. 2018. Impacts of *Phragmites australis* Invasion on Soil Enzyme Activities and Microbial Abundance of Tidal Marshes. *Microbial Ecology*. 10.1007/s00248-018-1168-2
113. Oreska, MPJ, KJ McGlathery, IM Emmer, BA Needelman, S Emmett-Mattox, S Crooks, JP Megonigal, and D Myers. 2018. Comment on Geoengineering with seagrasses: is credit due where credit is given? *Environmental Research Letters* 13: 038001, <https://doi.org/10.1088/1748-9326/aaae72>
112. Pitz, SL, JP **Megonigal**, C-H Chang, K Szlavecz. 2018. Methane fluxes from tree stems and soils along a habitat gradient. *Biogeochemistry*. <https://doi.org/10.1007/s10533-017-0400-3>.
111. Wilcox, KR, AT Tredennick, SE Koerner, E Grman, LM Hallett, ML Avolio, KJ La Pierre, GR Houseman, F Isbell, DS Johnson, JM Alatalo, AH Baldwin, EW Bork, EH Boughton, WD Bowman, AJ Britton, JF Cahill Jr., SL Collins, G Du, A Eskelinen, L Gough, A Jentsch, C Kern, K Klanderud, AK Knapp, J Kreyling, Y Luo, JR McLaren, P Megonigal, V Onipchenko, J Prev y, JN Price, CH Robinson, OE Sala, MD Smith, NA Soudzilovskaia, L Souza, D Tilman, SR White, Z Xu, L Yahdjian, Q Yu, P Zhang, Y Zhang. 2017. Asynchrony among local communities stabilises ecosystem function of metacommunities. *Ecology Letters*. 20: 1534–1545, doi: 10.1111/ele.12861
110. Nelson, N, R Mu oz-Carpena, P.J. Neale, M Tzortziou, JP Megonigal. 2017. Temporal variability in the importance of hydrologic, biotic, and climatic descriptors of dissolved oxygen dynamics in a shallow tidal-marsh creek. *Water Resources Research*. 53, doi:10.1002/2016WR020196.
109. Lee, S-H, PJ Megonigal, AJ Langley, H Kang. 2017. Elevated CO₂ and nitrogen addition affect the microbial abundance but not the community structure in salt marsh ecosystem. *Applied Soil Ecology*. 117: 129-136. doi:10.1016/j.apsoil.2017.04.004
108. Schile, LM, JB Kauffmam, S Crooks, JW Fourqurean, J Glavan, JP **Megonigal**. 2017. Limits on Carbon Sequestration in Arid Blue Carbon Ecosystems. *Ecological Applications*. DOI: 10.1002/eap.1489

107. Pitz, SA and JP **Megonigal**. 2017. Temperate Forest Methane Sink Diminished by Tree Emissions. *New Phytologist*. 214 (4): 1432-1439. DOI: 10.1111/nph.14559
106. Pastore, MA, JP Megonigal, and JA Langley. 2017. Elevated CO₂ and nitrogen addition accelerate net carbon gain in a brackish marsh. 133:73-87. *Biogeochemistry*. DOI 10.1007/s10533-017-0312-2
105. **Megonigal**, JP, S Chapman, S Crooks, P Dijkstra, M Kirwan, A Langley. 2016. Impacts and effects of ocean warming on tidal marsh and tidal freshwater forest ecosystems. In: Laffoley, D, & Baxter, JM (editors). Explaining ocean warming: Causes, scale, effects and consequences. Gland, Switzerland: IUCN. pp. 105-122.
104. Bernal, B, JP Megonigal and TJ Mozdzer. 2017. An Invasive Wetland Grass Primes Deep Soil Carbon Pools. *Global Change Biology*. 23: 2104-2116. doi: 10.1111/gcb.13539
103. Lu, M, JS Caplan, JD Bakker, JA Langley, TJ Mozdzer, BG Drake, JP **Megonigal**. 2016. Allometry data and equations for coastal marsh plants. *Ecology* 97(12): 3554-3554 doi: 10.1002/ecy.1600
102. Morris, JT, DC Barber, JC Callaway, R Chambers, SC Hagen, CS Hopkinson, BJ Johnson, P Megonigal, SC Neubauer, T Troxler, and C Wigand. 2016. Contributions of organic and inorganic matter to sediment volume and accretion in tidal wetlands at steady state. *Earth's Future*. 4. doi:10.1002/2015EF000334.
101. Bernal, B, DC McKinley, BA Hungate, PM White, TJ Mozdzer and JP **Megonigal**. 2016 Limits to soil carbon stability: Deep, ancient soil carbon decomposition stimulated by new labile organic inputs. *Soil Biology and Biochemistry*. doi:10.1016/j.soilbio.2016.04.007
100. Mueller, P, RN Hager, JE Meschter, TJ Mozdzer, JA Langley, K Jensen, JP **Megonigal**. 2016. Complex invader-ecosystem interactions and seasonality mediate the impact of non-native *Phragmites* on CH₄ emissions. *Biological Invasions*. doi: 10.1007/s10530-016-1093-6
99. Wang, ZP, Q. Gu, FD Deng, JH Huang, JP Megonigal, Q Yu, XT Lü, LH Li, S Chang, YH Zhang, JC Feng and XG Han. 2016. Methane emissions from the trunks of living trees on upland soils. *New Phytologist*. 211: 429-439. DOI: 10.1111/nph.13909
98. Pastore, MA, JP Megonigal, and JA Langley. 2016. Elevated CO₂ promotes long-term nitrogen accumulation only in combination with nitrogen addition. *Global Change Biology*. 22:391–403.doi: 10.1111/gcb.13112
97. Mueller, P., K. Jensen, and P. **Megonigal** (2016) Plants mediate soil organic matter decomposition in response to sea level rise. *Global Change Biology* 22(1): 404-414. doi: 10.1111/gcb.13082
96. Caplan, JS, RN Hager, JP Megonigal and TJ Mozdzer. 2015. Global change accelerates carbon assimilation by a wetland ecosystem engineer. *Environmental Research Letters*. 10 (2015) 115006. doi:10.1088/1748-9326/10/11/115006.
95. Neubauer, SC and JP **Megonigal** (2015). Moving beyond global warming potentials to quantify the climatic role of ecosystems. *Ecosystems* 18:1000-1013. doi: 10.1007/s10021-015-9879-4

94. **Megonigal**, JP and M Rabenhorst (2013). Reduction-oxidation potential and oxygen. Pages 71-86 in RD DeLaune, KR Reddy, CJ Richardson and JP Megonigal (editors) *Methods in Biogeochemistry of Wetlands*. 1004 pages. Soil Science Society of America Book Series number 10. Soil Science Society of America, Madison, WI. doi: 10.2136/sssabookser10.c1.
93. Kirwan, ML and JP **Megonigal** (2013). Tidal wetland stability in the face of human impacts and sea-level rise. *Nature*. 504: 53-60. doi:10.1038/nature12856
91. Hungate, BA, FP Day, P Dijkstra, BD Duval, CR Hinkle, JA Langley, JP Megonigal, P Stiling, DW Johnson and BG Drake (2013). Fire, hurricane and carbon dioxide: effects on net primary production of a subtropical woodland. *New Phytologist*. doi: 10.1111/nph.12409
90. Hungate, BA, P Dijkstra, Z Wu, BD Duval, FP Day, DW Johnson, JP Megonigal, ALP Brown, JL Garland (2013). Cumulative response of ecosystem carbon and nitrogen stocks to chronic CO₂ exposure in a subtropical oak woodland. *New Phytologist*, doi: 10.1111/nph.12333
89. Geatz, GW, BA Needelman, RR Weil and JP Megonigal (2013). Nutrient availability and soil organic matter decomposition response to prescribed burns in mid-Atlantic brackish marshes. *Soil Science Society of America Journal*. 77: 1852–1864. doi: 10.1007/s13157-013-0417-x
88. Mozdzer, TJ and JP **Megonigal** (2013). Increased methane emissions by an introduced *Phragmites australis* lineage under global change. *Wetlands*. doi: 10.1007/s13157-013-0417-x
87. Langley, JA, TJ Mozdzer, KA Shepard, SB Hagerty and JP **Megonigal** (2013). Tidal marsh responses to elevated CO₂, nitrogen fertilization and sea level rise. *Global Change Biology*. doi: 10.1111/gcb.12147
86. Kirwan, ML, JA Langley, GR Guntenspergen, and JP Megonigal (2013). The impact of sea-level rise on organic matter decay rates in Chesapeake Bay brackish tidal marshes. *Biogeosciences*. 10: 1869-1876 doi: 10.5194/bg-10-1869-2013
85. Baldwin, AH, PJ Kangas, JP Megonigal, MC Perry and DF Whigham (2012). Coastal wetlands of the Chesapeake Bay. Pages 29-43 in DP Batzer and AH Baldwin (editors) *Wetland habitats of North America*. University of California Press, Berkeley, CA. 389 pages.
84. Mozdzer, TJ and JP **Megonigal** (2012). Jack-and-master trait responses to elevated CO₂ and N: A comparison of native and introduced *Phragmites australis*. *PLoS One*. 7(10): e42794. doi:10.1371/journal.pone.0042794
83. Bullock, A, A Sutton-Grier, J **Megonigal**. 2013. Anaerobic Metabolism in Tidal Freshwater Wetlands: III. Temperature Regulation of Iron Cycling. *Estuaries and Coasts*, 36 (3): 482-490. doi: 10.1007/s12237-012-9536-5
82. Keller, J, A Sutton-Grier, A Bullock and JP **Megonigal** (2013). Anaerobic metabolism in tidal freshwater wetlands: I. Plant removal effects on iron reduction and methanogenesis. *Estuaries and Coasts*. 36 (3):457-470. doi: 10.1007/s12237-012-9527-6

81. Emerson, D, W Bellows, JL Keller, CL Moyer, A Sutton-Grier, and JP **Megonigal** (2013). Anaerobic Metabolism in Tidal Freshwater Wetlands: II. Effects of Plant Removal on Archaeal Microbial Communities. *Estuaries and Coasts*. 36 (3): 471-481. doi 10.1007/s12237-012-9496-9
80. Langley, JA and JP **Megonigal** (2012). Field-based radiometry to estimate tidal marsh plant growth in response to elevated CO₂ and nitrogen addition. *Wetlands*. doi 10.1007/s13157-012-0292-x
79. Pendleton, L, DC Donato, BC Murray, S Crooks, WA Jenkins, S Sifleet, C Craft, JW Fourqurean, JB Kauffman, N Marbà, P Megonigal, E Pidgeon, D Herr, D Gordon, A Baldera (2012). Estimating global "blue carbon" emissions from conversion and degradation of vegetated coastal ecosystems. *PLoS ONE* 7(9): e43542. doi:10.1371/journal.pone.0043542
78. Dunbar, J, SA Eichorst, L Gallegos-Graves, S Silva, G Xie, NW Hengartner, RD Evans, BA Hungate, RB Jackson, JP Megonigal, CW Schadt, R Vilgalys, DR Zak, and CR Kuske (2012). Common bacterial responses in six ecosystems exposed to ten years of elevated atmospheric carbon dioxide. *Environmental Microbiology*. doi 10.1111/j.1462-2920.2011.02695.x
77. Richter, D, AR Bacon, ML Mobley, CJ Richardson, SS Andrews, L West, S Wills, S Billings, CA Cambardella, N Cavallaro, JE DeMeester, AJ Franzluebbers, S Grandy, S Grunwald, J Gruver, AS Hartshorn, H Janzen, M Kramer, JK Ladha, K Lajtha, GC Liles, D Markewitz, JP Megonigal, AR Mermut, C Rasmussen, DA Robinson, P Smith, C Stiles, RL Tate, III, A Thompson, AJ Tugel, H van Es, D Yaalon, T Zobeck (2011). Human-soil relations are changing rapidly: Proposals from SSSA's Cross-Divisional Soil Change Working Group. *Soil Science Society of America Journal*. 75(6):2079-2084.
76. White, KP, Langley, JA, Cahoon, DR, Megonigal, JP (2012). C₃ and C₄ biomass allocation responses to elevated CO₂ and nitrogen: Contrasting resource capture strategies. *Estuaries & Coasts* 35: 1028-1035, 10.1007/s12237-012-9500-4.
75. Weber, CF, DR Zak, BA Hungate, RB Jackson, R Vilgalys, RD Evans, SW Schadt, JP Megonigal and CR Kuske (2011). Responses of soil cellulolytic fungal communities to elevated atmospheric CO₂ are complex and variable across five ecosystems. *Environmental Microbiology* 13(10): 2778-2793. doi 10.1111/j.1462-2920.2011.02548.x
74. Duval, BD, P Dijkstra, SM Natali, JP Megonigal, MT Ketterer, BG Drake, MT Lerdau, G Gordon, AD Anbar, BA Hungate (2011). Plant-soil distribution of potentially toxic elements in response to elevated CO₂. *Environmental Science & Technology* 45: 2570-2574, doi 10.1021/es102250u
73. Tzortziou, M, PJ Neale, JP Megonigal, CL Pow, M Butterworth (2011). Spatial gradients in dissolved carbon due to tidal marsh outwelling into a Chesapeake Bay estuary. *Marine Ecology Progress Series* 426: 41-56. doi 10.3354/meps09017
72. Brantley, SL, JP Megonigal, FN Scatena, Z Balogh-Brunstad, RT Barnes, MA Bruns, P van Cappellen, K Dontsova, H Hartnett, T Hartshorn, A Heimsath, E Herndon, L Jin, CK Keller, JR Leake, WH McDowell, FC Meinzer, TJ Mozdzer, S Petsch, J Pett-Ridge, KS Pregitzer, P Raymond, CS Riebe, K Shumaker, A Sutton-Grier, R Walter, K Yoo (2011). Twelve testable hypotheses on the geobiology of weathering. *Geobiology*. doi 10.1111/j.1472-4669.2010.00264.x

71. Sutton-Grier, AE, JK Keller, R Koch, C Gilmour and JP **Megonigal** (2011). Electron donors and acceptors influence anaerobic soil organic matter mineralization in tidal marshes. *Soil Biology and Biochemistry*. 43(7): 1576-1583. doi:10.1016/j.soilbio.2011.04.008
70. Sutton-Grier, AS, JP **Megonigal** (2011). Plant species traits regulate methane production in freshwater wetland soils. *Soil Biology and Biochemistry* 43(2): 413-420. doi 10.1016/j.soilbio.2010.11.009
69. Poffenbarger, HJ, BA Needelman, JP **Megonigal** (2011). Salinity influence on methane emissions from tidal marshes. *Wetlands*. 31: 831-842. doi 10.1007/s13157-011-0197-0
68. **Megonigal**, JP and EJ Megonigal (2010). News from Online—Smithsonian’s *Dig It!* web site shows that soil is not a dirty, four-letter word. *Chemical Education Today*. 87 (2): 133-134. doi 10.1021/ed8000667
67. Langley, JA and JP **Megonigal** (2010). Ecosystem response to elevated CO₂ levels limited by nitrogen-induced plant species shift. *Nature* 466(7302): 96-99. doi 10.1038/nature09176
66. **Megonigal**, JP, B Stauffer, S Starrs, P Pakarik, P Drohan, J Havlin (2010). “Dig It!”: How an Exhibit Breathed Life into Soils Education. *Soil Science Society of America Journal* 74(3): 706-716, doi 10.2136/sssaj2009.0409
65. Drohan, PJ, JL Havlin, JP Megonigal, HH Cheng (2010). The “Dig It!” Smithsonian Soils Exhibition: Lessons Learned and Goals for the Future. *Soil Science Society of America Journal* 74 (3): 697-705, doi 10.2136/sssaj2009.0017.
64. Rabenhorst, MC, JP **Megonigal** and JK Keller (2010). Synthetic iron oxides for documenting sulfide in marsh pore water. *Soil Science Society of America Journal*. 74(4): 1383-1388. doi10.2136/sssaj2009.0435
63. Keller, JK, AA Wolf, PB Weisenhorn, BG Drake and JP **Megonigal** (2009). Elevated CO₂ affects porewater chemistry in a brackish marsh. *Biogeochemistry* 96(1-3): 101-117. doi 10.1007/s10533-009-9347-3
62. Whigham, DF, JTA Verhoeven, V Samarkin, JP Megonigal (2009). Responses of *Avicennia germinans* (black mangrove) and the soil microbial community to nitrogen addition in a hypersaline wetland. *Estuaries and Coasts*. 32(5): 926-936.
61. Fierer, N., KM Carney, MC Horner-Devine and JP Megonigal (2009). The biogeography of ammonia-oxidizing bacterial communities in soil. *Microbial Ecology*. 58(2):435-445. doi 10.1007/s00248-009-9517-9
60. Keller, JK, PB Weisenhorn and JP **Megonigal** (2009). Humic acids as electron acceptors in wetland decomposition. *Soil Biology and Biochemistry*. 41(7): 1518-1522. doi 10.1016/j.soilbio.2009.04.008
59. McKinley, DC, JC Romero, BA Hungate, BG Drake and JP **Megonigal** (2009). Does soil N availability sustain long-term ecosystem response to elevated CO₂? *Global Change Biology* 15(8): 2035-2048. doi 10.1111/j.1365-2486.2008.01836.x

58. **Megonigal**, JP and SC Neubauer (2009). Biogeochemistry of tidal freshwater wetlands. Pages 535-562 in GME Perillo, E Wolanski, DR Cahoon, M Brinson (editors) *Coastal Wetlands: An Integrated Ecosystem Approach*. Elsevier Science, The Netherlands.
57. Langley, JA, KL McKee, DR Cahoon, JA Cherry, JP **Megonigal** (2009). Elevated CO₂ stimulates marsh elevation gain, counterbalancing sea-level rise. *Proceedings of the National Academy of Sciences*. 106(15): 6182-6186. doi 10.1073.pnas.0807695106
56. Langley, JA, MV Sigrist, J Duls, DL Cahoon, JC Lynch, JP **Megonigal** (2009). Global change and marsh elevation dynamics: Experimenting where land meets sea and biology meets geology. In: Lang, MA, IG Macintyre and K Rützler (eds.). Pages 391-400 in *Proceedings of the Smithsonian Marine Sciences Symposium. Contributions to the Marine Sciences, No. 38*. Smithsonian Institution Scholarly Press, Washington, DC.
55. Langley, JA, DC McKinley, AA Wolf, BA Hungate, BG Drake, JP **Megonigal** (2009). Priming depletes soil carbon and releases nitrogen in a scrub-oak ecosystem exposed to elevated CO₂. *Soil Biology and Biochemistry*. 41(1): 54-60, doi 10.1016/j.soilbio.2008.09.016
54. Neubauer, SC, D Emerson and JP Megonigal (2008). Microbial oxidation and reduction of iron in the root zone and influences on metal mobility. Pages 339-371 in A Violante, PM Huang, and GM Gadd (editors). *Biophysico-Chemical Processes of Heavy Metals and Metalloids in Soil Environments*. John Wiley & Sons, New Jersey, USA.
53. **Megonigal**, JP (2008). Frontiers in Wetland Biogeochemistry. *Archives of Agronomy and Soil Science* 54(3): 237-238.
52. Ma, S, GW Luther, III, J Keller, AS Madison, E Metzger, D Emerson and JP Megonigal (2008). Solid-State Au/Hg microelectrode for the investigation of Fe and Mn cycling in a freshwater wetland: Implications for methane production. *Electroanalysis* 20(3): 233-239.
51. **Megonigal**, JP and AKT Guenther (2008). Methane emissions from upland forest soils and vegetation. *Tree Physiology* 28:491-498.
50. Tzortziou, M, PJ Neale, CL Osburn, JP Megonigal, N Maie, and R Jaffé (2008). Tidal marshes as a source of optically and chemically distinctive colored dissolved organic matter in the Chesapeake Bay. *Limnology and Oceanography* 53(1):148-159.
49. Cheng, W, K Yagi, H Akiyama, S Nishimura, S Sudo, T Fumoto, T Hasegawa, AE Hartley, JP Megonigal (2007). An empirical model of soil chemical properties that regulate methane production in Japanese rice paddy soils. *Journal of Environmental Quality* 36: 1920-1925. doi 10.2134/jeq2007.0201
48. Weiss, JV, JA Rentz, T Plaia, SC Neubauer, M Merrill-Floyd, T Lilburn, C Bradburne, JP Megonigal, and D Emerson (2007). Characterization of neutrophilic Fe(II)-oxidizing bacteria isolated from the rhizosphere of wetland plants and description of *Ferritrophicum radicolica* gen. nov. sp. nov., and *Sideroxydans paludicola* sp. nov. *Geomicrobiology Journal* 24:559-570. doi: 10.1080/01490450701670152

47. Wolf, AA, BG Drake, JE Erickson, and JP **Megonigal** (2007). An oxygen-mediated positive feedback between elevated CO₂ and soil organic matter decomposition in a simulated anaerobic wetland. *Global Change Biology* 13(9): 2036-2044. doi 10.1111/j.1365-2486.2007.01407.x
46. Carney, KM, BA Hungate, BG Drake, and JP **Megonigal** (2007). Altered soil microbial community at elevated CO₂ leads to loss of soil carbon. *Proceedings of the National Academy of Sciences* 104:4990-4995. doi 10.1073/pnas.0610045104
45. Cornell, JA, CC Craft and JP **Megonigal** (2007). Ecosystem gas exchange across a created salt marsh chronosequence. *Wetlands* 27(2):240-250.
44. Neubauer, SC, GE Toledo-Durán, D Emerson and JP **Megonigal** (2007). Returning to their roots: Iron-oxidizing bacteria enhance short-term plaque formation in the wetland-plant rhizosphere. *Geomicrobiology* 24:65-73. doi 10.1080/01490450601134309
43. Erickson, JE, JP Megonigal, G Peresta, BG Drake (2007). Salinity and sea level mediate elevated CO₂ effects on C₃-C₄ plant interactions and tissue nitrogen in a Chesapeake Bay tidal wetland. *Global Change Biology* 13:202-215. doi 10.1111/j.1365-2486.2006.01285.x
42. Bodelier, PLE, P Frenzel, HL Drake, T Hurek, K Küsel, C Lovell, P **Megonigal**, B Reinhold-Hurek and B Sorrell (2006). Ecological Aspects of Microbes and Microbial Communities Inhabiting the Rhizosphere of Wetland Plants. Pages 205-238 in Verhoeven, JTA, B Beltman, R Bobbink, and DF Whigham (Eds). *Wetlands and Natural Resource Management*. Springer Berlin Heidelberg.
41. Bridgham, SD, JP **Megonigal**, JK Keller, NB Bliss, and C Trettin (2006). The carbon storage of North American wetlands. *Wetlands* 26:889-916.
40. Hines, J, JP Megonigal and RF Denno (2006). Nutrient subsidies to belowground microbes impact aboveground food web interactions. *Ecology* 87(6):1542-1555.
39. Burdt, AC, JM Galbraith and JP Megonigal (2006). Using CO₂ efflux rates to indicate below-ground growing seasons by land-use treatment. *Wetlands Ecology and Management* 14:133-145.
38. Hungate, BA, DW Johnson, P Dijkstra, G Hymus, P Stiling, JP Megonigal, AL Pagel, JL Moan, F Day, H Li, CR Hinkle, and BG Drake (2006). Nitrogen cycling during seven years of atmospheric CO₂ enrichment in a scrub oak woodland. *Ecology* 87: 26-40.
37. Saunders, CJ, JP Megonigal and JF Reynolds (2006). Comparison of belowground biomass in C₃- and C₄-dominated mixed communities in a Chesapeake Bay brackish marsh. *Plant and Soil* 280:305-322.
36. Neubauer, SC, K Givler, S Valentine, and JP **Megonigal** (2005). Seasonal patterns and plant-mediated controls of subsurface wetland biogeochemistry. *Ecology* 86:3334-3344.
35. Marsh, AS, DP Rasse, BG Drake, and JP **Megonigal** (2005). Effect of elevated CO₂ on carbon pools and fluxes in a brackish marsh. *Estuaries* 28:694-704.
34. Weiss, JV, D. Emerson, and JP **Megonigal** (2005). Rhizosphere iron(III) deposition and reduction in a *Juncus effusus* L.-dominated wetland. *Soil Science Society of America Journal* 69:1861-1870.

33. **Megonigal**, JP, CD Vann and AA Wolf (2005). Flooding constraints on tree (*Taxodium distichum*) and herb growth responses to elevated CO₂. *Wetlands* 25(2): 430-438.
32. Garnet, KN, JP **Megonigal**, C Litchfield, and GE Taylor (2005). Physiological control of leaf methane emission from wetland plants. *Aquatic Botany* 81:141-155.
31. Lim C, M Kafatos M, and JP Megonigal (2004). Correlation between atmospheric CO₂ concentration and vegetation greenness in North America: CO₂ fertilization effect. *Climate Research* 28 (1): 1616-1572.
30. Morse, JL, JP Megonigal, and MR Walbridge (2004). Sediment nutrient accumulation and nutrient availability in two tidal freshwater marshes along the Mattaponi River, Virginia, USA. *Biogeochemistry* 69(2): 175-206.
29. **Megonigal**, JP, ME Hines, and PT Visscher (2004). Anaerobic Metabolism: Linkages to Trace Gases and Aerobic Processes. Pages 317-424 in Schlesinger, W.H. (Editor). *Biogeochemistry*. Elsevier-Pergamon, Oxford, UK.
28. Pendall, E, S Bridgham, PJ Hanson, B Hungate, DW Kicklighter, DW Johnson, BE Law, Y Luo, JP Megonigal, M Olsrud, MG Ryan, S Wan (2004). Below-ground process responses to elevated CO₂ and temperature: A discussion of observations, measurement methods, and models. *New Phytologist* 162: 311-322.
27. Weiss, JV, D Emerson and JP **Megonigal** (2004). Geochemical control of microbial Fe(III) reduction potential in wetlands: comparison of the rhizosphere to non-rhizosphere soil. *FEMS Microbiology Ecology*. 48(1): 89-100.
26. Craft, C, P **Megonigal**, S Broome, J Stevenson, R Freese, J Cornell, L Zheng and J Sacco (2003). The pace of ecosystem development of constructed *Spartina alterniflora* marshes. *Ecological Applications* 13(5): 1417-1432
- *25. Weiss, JV, D Emerson, SM Backer and JP **Megonigal** (2003). Enumeration of Fe(II)-oxidizing and Fe(III)-reducing bacteria in the root zone of wetland plants: Implications for a rhizosphere iron cycle. *Biogeochemistry*. 64: 77-96.
24. Darke, AK and JP **Megonigal** (2003). Control of sediment deposition rates in two mid-Atlantic coast tidal freshwater wetlands. *Estuarine and Coastal Shelf Science* 57(1): 255-268
23. Vann, CD and JP **Megonigal** (2003). Elevated CO₂ and water depth regulation of methane emissions: Comparison of woody and non-woody wetland plant species. *Biogeochemistry* 63: 117-134
22. Vann CD and JP **Megonigal** (2002). Productivity responses of *Acer rubrum* and *Taxodium distichum* seedlings to elevated CO₂ and flooding. *Environmental Pollution* 116: S31-S36
21. Neubauer, SC, D Emerson, and JP Megonigal (2002). Life at the energetic edge: Kinetics of circumneutral iron oxidation by lithotrophic iron-oxidizing bacteria isolated from the wetland-plant rhizosphere. *Applied and Environmental Microbiology* 68: 3988-3995.

20. **Megonigal**, JP and WH Schlesinger (2002). Methane-limited methanotrophy in tidal freshwater swamps. *Global Biogeochemical Cycles*. 16(4), 1088, doi10.1029/2001GB001594
19. Oren, R, JS Sperry, BE Ewers, DE Pataki, N Phillips and JP Megonigal (2001). Sensitivity of mean canopy stomatal conductance to vapor pressure deficit in a flooded *Taxodium distichum* forest: hydraulic and non-hydraulic effects. *Oecologia* 126: 21-29.
18. Gitay, H and 47 coauthors including JP Megonigal (2001). Ecosystems and their goods and services. Pages 235-342 In McCarthy, J.J, OF Canziani, NA Leary, DJ Dokken, and KS White (Editors). *Climate Change 2001: Impacts, Adaptation, and Vulnerability. Contribution of Working Group II to the Third Assessment Report of the Intergovernmental Panel on Climate Change*. Cambridge University Press, Cambridge.
17. Day, FP and JP **Megonigal** (2000). Plant organic matter dynamics in the Dismal Swamp. Pages 51-57 in Rose, RK (ed.) *The Natural History of the Great Dismal Swamp*. Old Dominion University Press, Norfolk, VA.
16. Schlesinger, WH, JP Winkler and JP Megonigal (2000). Soils and the global carbon cycle. Pages 93-101 in Wigley, TML and DS Schimel (eds.) *The Carbon Cycle*. Cambridge University Press, Cambridge, UK.
15. Najjar, RG, HA Walker, PJ Anderson, EJ Barron, RJ Bord, JR Gibson, VS Kennedy, CG Knight, JP Megonigal, RE O'Conner, CD Polsky, MP Psuty, BA Richards, LG Sorenson, EM Steele, and RS Swanson (2000). The potential impacts of climate change on the mid-Atlantic coastal region. *Climate Research*. 14: 219-233.
14. **Megonigal**, JP, SC Whalen, DT Tissue, BD Bovard, DB Albert and AS Allen (1999). A plant – soil – atmosphere microcosm for tracing radiocarbon from photosynthesis through methanogenesis. *Soil Science Society of America Journal* 63: 665-671.
13. Emerson, D, JV Weiss and JP Megonigal. 1999. Iron-oxidizing bacteria are associated with ferric hydroxide precipitates (Fe-Plaques) on the roots of wetland plants. *Applied and Environmental Microbiology* 65: 2758-2761.
12. Oren, R, N Phillips, BE Ewers, DE Pataki and JP Megonigal (1999). Sap flux-scaled transpiration responses to light, vapor pressure deficit, and leaf area reduction in a flooded *Taxodium distichum* forest. *Tree Physiology* 19: 337-347.
11. **Megonigal**, JP and WH Schlesinger (1997). Enhanced CH₄ emissions from a wetland soil exposed to elevated CO₂. *Biogeochemistry* 37: 77-88.
10. Tissue, DT, JP Megonigal, RB Thomas (1997). Nitrogenase activity and N₂ fixation are stimulated by elevated CO₂ in a tropical N₂-fixing tree. *Oecologia* 109: 28-33.
9. **Megonigal**, JP, WH Conner, S Kroeger, RR Sharitz (1997). Aboveground production in southeastern floodplain forests: A test of the subsidy-stress hypothesis. *Ecology* 78: 370-384.
8. **Megonigal**, JP, SP Faulkner, and WH Patrick (1996). The microbial activity season in southeastern hydric soils. *Soil Science Society of America Journal* 60: 1263-1266.

7. **Megonigal**, JP, WH Patrick, and SP Faulkner (1993). Wetland identification in seasonally flooded forest soils: Soil morphology and redox dynamics. *Soil Science Society of America Journal* 57: 140-149.
6. Young, PJ, JP **Megonigal**, RR Sharitz, and FP Day (1993). False ring formation in bald cypress (*Taxodium distichum*) saplings under two flooding regimes. *Wetlands* 13: 293-298.
5. Day, FP and JP **Megonigal** (1993). The relationship between variable hydroperiod, production allocation, and belowground organic turnover in forested wetlands. *Wetlands* 13(2): 115-121.
4. **Megonigal**, JP and FP Day (1992). Effects of flooding on root and shoot production in large experimental enclosures. *Ecology* 73: 1182-1193.
3. Day, FP, JP Megonigal and LC Lee (1989). Cypress root decomposition in experimental wetland mesocosms. *Wetlands* 9(2): 263-282.
2. **Megonigal**, JP and FP Day (1988). Organic matter dynamics in four seasonally flooded forests of the Great Dismal Swamp. *American Journal of Botany* 75: 1334-1343.
1. **Megonigal**, JP (1985). Field Notes: *Agkistrodon contortrix mokasen* (Northern Copperhead) and *Lampropeltis getulus getulus* (Eastern Kingsnake). *Catesbeiana* 5(1): 16.

II. Data Sets

Holmquist, JR, L Windham-Myers, B Bernal, KB Byrd, S Crooks, ME Gonnee, N Herold, SH Knox, K Kroeger, J McCombs, JP Megonigal, L Meng, JT Morris, AE Sutton-Grier, T Troxler, and D Weller. 2019. Coastal Wetland Elevation and Carbon Flux Inventory with Uncertainty, USA, 2006-2011. ORNL DAAC, Oak Ridge, Tennessee, USA. <https://doi.org/10.3334/ORNLDAAAC/1650>

Schile, LM and JP Megonigal. 2016. [Dataset:] Abu Dhabi Blue Carbon Demonstration Project Smithsonian Environmental Research Center. <https://repository.si.edu/handle/10088/31949>

III. Other Publications

Report: USDOE. 2017. Research Priorities to Incorporate Terrestrial-Aquatic Interfaces in Earth System Models: Workshop Report, DOE/SC-0187, U.S. Department of Energy Office of Science. Bailey, V., J.P. Megonigal, J. Rowland, T. Troxler (eds). https://tes.science.energy.gov/files/TAI_Workshop2016.pdf.

Edited Book: DeLaune, R.D., K.R. Reddy, C.J. Richardson, and J.P. Megonigal (eds). (2013). *Methods in Biogeochemistry of Wetlands*. Soil Science Society of America, Madison, WI.

Report: Schlesinger, WH, VP Aneja, FS Chapin, N Comerford, JP Gibbs, T Hrabik, JP Megonigal, MG Turner, J Whitaker (2009). *Strategic Plan for Scientific Research in Isle Royale National Park*. Report to Isle Royale National Park.

Newsletter: Megonigal, JP (2008). *President's Address: Wetland Science Leadership*. *Society of Wetland Scientists Bulletin* 25 (1): 4-5.

Report: Bridgman, SD, JP **Megonigal**, JK Keller, NB Bliss, and C Trettin (2007). Wetlands. In: The First State of the Carbon Cycle Report (SOCCR): The North American Carbon Budget and Implications for the Global Carbon Cycle. A Report by the U.S. Climate Change Science Program and the Subcommittee on Global Change Research [King, A.W., L. Dilling, G.P. Zimmerman, D.M. Fairman, R.A. Houghton, G. Marland, A.Z. Rose, and T.J. Wilbanks (eds.)]. National Oceanic and Atmospheric Administration, National Climatic Data Center, Asheville, NC, USA, pp. 139-148.

Letter to Editor: *Wetlands play role in reducing CO₂*. Baltimore Sun (19 October 2007).
<http://www.baltimoresun.com/news/opinion/letters/bal-ed.le.19oct19,0,3502396.story>

Science Curriculum: Content editor for *Nourishing the Planet in the 21st Century* (2007). A Curriculum Module for Middle School Life Science. The Nutrients for Life Foundation.

Newsletter: Megonigal, P. (2007). Of mud and microbes. Jug Bay Wetlands Sanctuary News. 20(4): 4.

Popular Book: Content editor for *Ecosystems* (2004). Published by The National Academy of Science and the Smithsonian Institution.

Encyclopedia: Megonigal, JP (2004). [Global natural cycles in Earth's system](#) EOLSS Publishers.

Popular Book: Special Editor for one-third of *Earth*. JF Luhr (editor-in-chief) (2003). Published by Dorling Kindersley, Ltd., UK

Report: Botkin, DB, JP **Megonigal** and N Sampson (1997). *Management-Scale Ecosystem Research: Findings and Recommendations*. Report to the Strategic Environmental Research and Development Program and the U.S. Department of Defense.

Dissertation: Megonigal, J. Patrick (1996). Methane production and oxidation in a future climate. Duke University, Durham, NC. 151 pp.

Popular Magazine: WH Schlesinger and JP Megonigal (1996). Biogeochemistry. Geotimes 41: 40.

Popular Magazine: Megonigal, JP and WH Schlesinger (1995). Biogeochemistry. Geotimes 40: 39-40.

Popular Magazine: Megonigal, JP and WH Schlesinger (1994). Biogeochemistry. Geotimes 39: 19-20.

Thesis: Megonigal, JP (1986). Organic matter budgets and models for four plant communities in the Great Dismal Swamp. Old Dominion University, Norfolk, VA. 155 pp.

Grants Awarded

(both total award and funds to JPM shown)

2018-2021	\$1,000,000. Department of Energy. Coastal Wetland Carbon Processes in a Warmer Climate. (PI: \$799,653)
2018-2021	\$671,160. National Science Foundation. New Estimates of Atmospheric pCO ₂ for the Paleocene-Eocene (Co-PI: \$161,556).

2017-2020 \$586,669. National Science Foundation. Eco-evolutionary Dynamics of Coastal Marsh Responses to Rising CO₂. (Co-PI: \$216,080)

2017-2022 \$499,982. National Science Foundation. RCN: Building a Collaborative Network for Coastal Wetland Carbon Cycle Synthesis. (Co-PI: \$499,982).

2016-2019 \$544,159. National Science Foundation. Ecosystems on the Edge - Tidal wetland-estuary margins as buffers, reactors, and transformers of organic C and N. (Co-PI: \$305,433).

2015-2018 \$1,500,000. Department of Energy. *Coastal Wetland Carbon Sequestration in a Warmer Climate* (PI: \$867,666).

2015-2018 \$1,496,498. National Aeronautic and Space Administration. Upscaling Coastal Carbon Monitoring from Points of Polygons: Using Satellite Data to Improve "Blue Carbon" (Co-PI: \$225,854).

2014-2017 \$730,795. National Aeronautic and Space Administration. Tidal wetlands as sources and sinks of carbon in a changing world: Remote Sensing, Measurements. (Co-PI: \$143,421).

2015 \$89,000. National Science Foundation. *LTREB: Twenty-three years of tidal marsh response to environmental change*. (PI: total award \$89,711).

2013-2014 \$105,995. GRID-Arendal. Abu Dhabi Global Environmental Data Initiative: Blue Carbon Demonstration Project. (PI; part of a larger award).

2012-2014 \$257,000. Maryland Sea Grant College. *Phragmites australis invasion in the Chesapeake Bay: Implications of nitrogen pollution, elevated CO₂, and genotypic variation for tidal marsh management*. (Grant SA7528114-WW; PI; same as total award).

2012-2014 \$206,000. Department of Energy. *Archiving data to support data synthesis of DOE sponsored elevated CO₂ experiments*. (Grant DE-SC0008339; PI; same as total award).

2012-2014 \$150,000. Department of Energy. *Sources, Sinks and Processes Regulating Cryptic Methane Emissions from Upland Ecosystems*. (Grant DE-SC0008165; PI; same as total award).

2010-2012 \$1,690,423. National Science Foundation. *Smithsonian's Global Change Research Facilities for Large-Scale Ecological Forecasting*. (Grant DEB 0963388; Co-PI; same as total award).

2010-2011 \$30,000. Smithsonian Marine Science Network. *Genetic Constraints on Phragmites australis Invasion in a Changing Environment*. (PI; total award \$30,000).

2010-2015 \$413,711. National Science Foundation. *LTREB: Twenty-three years of tidal marsh response to environmental change*. (PI: total award \$413,711).

2010-2011 National Center for Ecological Analysis and Synthesis. *Tidal Wetland Carbon Sequestration and Greenhouse Gas Emissions Model*. (Grant DEB-0950080; Co-PI; funds were not distributed to PI institutions; total award \$83,150).

2010-2011 \$14,000. Maryland Sea Grant College Program. *Phragmites Australis Invasion at Elevated Atmospheric CO₂: Implications for Tidal Marsh Vulnerability*. (Awards SA7528082-CC & SA7528082-TT; PI; total award \$14,000).

2009-2013 \$112,204. US Geological Survey. *Tidal Marsh Elevation Change in Response to Elevated Carbon Dioxide and Nitrogen Pollution* (Coop Agreement G10AC00675; PI).2009-2011. \$8,640. National Oceanographic and Atmospheric Administration. *Prescribed burns in the sustainable conservation and restoration of tidal marshes*. (Co-PI; total award \$136,436).

2008-2011 \$92,368. National Science Foundation. *Why does the efficiency of methane production vary dramatically among wetlands?* (Grant DEB-0816575; Co-PI; total award \$1,078,281) 8/1/2008-7/31/2008.

2008-2012 \$374,952. Tulane University (on behalf of the Department of Energy-National Institute for Climate Change Research; award TUL-561-07/08). *Elevated CO₂, Sea Level Rise and The Biotic Controls On Marsh Soil Elevation Change* (Co-PI) 4/1/2008-3/31/2010.

- 2007-2010 \$332,409. National Science Foundation. *Freshwater and Salt Tidal Marshes as a Source of Dissolved Organic Matter in the Chesapeake Bay Estuary* (Grant DEB-0742195; Co-PI) 9/1/07-8/31/10
- 2005-2008 \$390,000. National Science Foundation. *Plant Regulation of Competition Between Methanogens and Iron Reducing Bacteria in Freshwater Wetlands* (Grant DEB-0516400; **PI**; total award \$813,926) 8/1/05-7/31/08.
- 2005-2008 \$208,763. National Science Foundation. *Progressive nitrogen limitation in terrestrial ecosystems: empirical test of a biogeochemical paradigm* (Grant DEB-0445324; Co-PI; total award \$836,322). 4/1/05 - 3/31/08.
- 2004-2007 \$319,302 Department of Energy. *Rising CO₂ and Long-term Carbon Storage in Terrestrial Ecosystems: An Empirical Carbon Budget Validation* (Grant DE-FG02-97ER62458; **PI**; total award \$621,924).
- 2003-2008 \$473,077. US Geological Survey. *Predicting the persistence of coastal wetlands to global change effects* (Award 41A23020248; Coop Agreements 06-2302-0047, 06ERAG0011; Co-PI; total award 3,500,000).
- 2001-2004 \$444,200 Department of Energy. *Rising CO₂ and Long-term Carbon Storage in Terrestrial Ecosystems: An Empirical Carbon Budget Validation* (Grant DE-FG02-97ER62458; **PI**; total award \$444,200).
- 2000-2003 \$313,000 National Science Foundation. *Iron-Oxidizing Bacteria in the Wetland Plant Rhizosphere: Characterization of a Novel Microbial Niche* (Grant DEB-9986981; **PI**; total award \$382,000).
- 1998-2000 \$95,000 The Nature Conservancy's Ecosystem Research Program/Mellon Foundation. *Critical Components of Hydrologic Variability In Tidal Freshwater Wetlands: Vegetation and Hydrogeomorphology of the Mattaponi River, Virginia.* (Grant HO-STEW-041598-VA; **PI**; total award \$195K).
- 1998-1999 \$19,900 Thomas F. Jeffress and Kate Miller Jeffress Memorial Trust. *Role of Rhizosphere and Associated Iron-Oxidizing Bacteria in Iron Oxidation.* (Grant J-467; **PI**).
- 1997-2000 \$234,465 Department of Energy. *Rising CO₂ and Long-term Carbon Storage in Terrestrial Ecosystems: An Empirical Carbon Budget Validation.* (Grant DOE-98-59-MP-4; Smithsonian Institution subcontract; Co-PI with Bert Drake; total award \$418K).
- 1997-2000 \$106,000 Environmental Protection Agency. *Wetland Restoration in Urbanizing Coastal Watershed: Applying Successional Theory to the Development of Wetland Structure/Function Over Time.* (Grant EPA-R-826111-01-0; Indiana University subcontract; co-PI with Chris Craft; total award \$535K).
- 1995-1996 \$10,000 Carolina Federation of Environmental Programs. *Plant-microbe interactions in wetland methane production and emission.* (co-PI with S. Whalen).
- 1993-1996 \$66,000 NASA Global Change Fellowship Program. *Feedbacks of temperature and elevated CO₂ on methane emissions from temperate swamps.* (Grant NASA-4159-GC93-0238; **PI**).
- 1993-1996 \$14,000. National Science Foundation, Dissertation Improvement Program. *Effects of elevated CO₂ and temperature on methane cycling.* (Grant DEB-9311143; **PI**).

Invited Seminars, Symposia, and Workshop Presentations

- 2020 **Plenary Lecture:** BIOGEOMON 2020: 10th International Symposium on Ecosystem Behavior, University of Tartu, Estonia. *Biogeochemical limits and opportunities for managing wetlands to benefit climate* (26-30 Jul).

- 2019 **Invited Speaker:** Oak Ridge National Lab Coastal Research Workshop. *Smithsonian's Global Change Research Wetland: A Long-Term Investment DOE Investment at the Terrestrial-Aquatic Interface* (Sep 19th).
- 2019 **Invited Speaker:** SWS Asia Chapter-Korean Wetland Society Joint Meeting, Suncheon, Korea. *Opposing effects of temperature and elevated CO₂ on tidal wetland methane emissions* (Aug 20th).
- 2019 **Keynote Lecture:** SWS Asia Chapter-Korean Wetland Society Joint Meeting, Suncheon, Korea. Physical constraints on the stabilization of coastal carbon (Aug 19th).
- 2019 **Invited Lecture:** Viikki Plant Science Centre (ViPS), University of Helsinki, Finland. *Methane Production and Emissions in Trees and Forests* (May 15th).
- 2019 **Keynote Lecture:** Chowan University Student Research Forum, Murfreesboro, NC. *The Surprising Ability of Coastal Wetlands to Survive Sea Level Rise* (Apr 23rd).
- 2019 **Keynote Lecture:** Chowan University Academic Forum, Murfreesboro, NC. *Ecosystem Drivers of Climate Change* (Apr 22nd).
- 2019 **Invited Lecture:** American Public Gardens Association Annual Meeting, Des Moines, Iowa. *Lessons from Dig It! The Secrets of Soils* (Apr 3rd).
- 2019 **Invited Lecture:** Texas A&M Ecosystem Science and Management Department. *Methane Production and Emissions in Trees and Forests* (Apr 2nd).
- 2019 **Invited Lecture:** SERC Evening Lecture Series. *Methane: The More Powerful Greenhouse Gas*. (Feb 26th).
- 2018 **Invited Lecture:** Washington College Environmental Science Honor Society. *Sea Level Rise and the Fate of Chesapeake Wetlands* (Mar 7th)
- 2018 **Public Lecture:** Smithsonian Environmental Research Center Public Lecture Series. *Sea Level Rise and the Fate of Chesapeake Wetlands* (Jan 23rd)
- 2018 **Seminar:** University of Massachusetts. *Interactions Regulate Greenhouse Gas Feedbacks to Global Change in a Model Tidal Marsh* (Jan 31st)
- 2017 **Seminar:** Oak Ridge National Laboratory. *Global Change Impacts on Tidal Wetland Carbon Cycling* (May 1st)
- 2017 **Seminar:** Argonne National Laboratory. *Plant-Microbe Interactions Regulate Greenhouse Gas Feedbacks to Global Change in a Model Tidal Marsh* (Mar 4th)
- 2017 **Seminar:** Department of Plant Science and Landscape Architecture's Lecture Series, University of Maryland. *Plant-Microbe Interactions Regulate Greenhouse Gas Feedbacks to Global Change in a Model Tidal Marsh* (Mar 16th).
- 2016 **Seminar:** Joint NRE/EEB Seminar Series, University of Connecticut. *Plant Traits and Sea Level Rise Dominate Tidal Marsh Response to Global Change* (Oct 28).
- 2016 **Seminar:** M. Gordan Wolman Seminar, Johns Hopkins University. *Tidal Marsh Stability in a Future Climate* (Feb 17th).
- 2015 **Seminar:** Rosenberg Institute. Title: *Global Change Impacts on Wetland Vulnerability to Sea Level Rise* (Sep 2nd).
- 2014 **Seminar:** Chesapeake Biological Laboratory. Title: *Global Change Impacts on Wetland Vulnerability to Sea Level Rise* (Oct 1st).
- 2014 **Invited Lecture:** Smithsonian Institution *Anthropocene: Life in the Age of Humans* series. Title: *Coastal Legacies*.
- 2014 **Seminar:** University of Delaware. Title: *Global Change Impacts on Wetland Vulnerability to Sea Level Rise* (Apr 14th).
- 2013 **Keynote Speaker:** Estuarine and Wetland Research Graduate School of Hamburg Final Conference. University of Hamburg (Oct 25th).

- 2013 **Invited Speaker:** Shell Gabon Community Seminar. Title: The Smithsonian's Marine Global Earth Observatory network (Apr 3rd).
- 2013 **Seminar:** Virginia Commonwealth University. Title: *Global Change Impacts on Wetland Vulnerability to Sea Level Rise* (Sep 9th).
- 2013 **Invited Speaker:** Smithsonian Castle Lecture Series. Title: *The Coastal Anthropocene* (May 15th).
- 2012 **Speaker:** Russell E. Palmer Leadership Development Program Commencement Ceremony. National Museum of the American Indian (Dec 12th).
- 2012 **Seminar:** Old Dominion University. Title: *Global Change Impacts on Wetland Vulnerability to Sea Level Rise* (Sep 28th).
- 2012 **Symposium:** INTECOL Wetlands Conference symposium on *Measurement of Greenhouse Gas Emissions from Wetlands*. Title: *Approaches and Limitations to Quantifying Plant Regulation of Methane Emissions*. Orlando, FL (Jun 3rd).
- 2012 **Workshop Organizer:** *The Science of Blue Carbon*. INTECOL Wetlands Conference, Orlando, FL (June 4-6).
- 2011 **Seminar:** University of Indiana-Bloomington. Title: *Global Change Impacts on Wetland Vulnerability to Sea Level Rise* (Nov 3rd).
- 2011 **Seminar:** University of Florida. Title: *Global Change Impacts on Wetland Vulnerability to Sea Level Rise* (Oct 3rd).
- 2011 **Seminar:** Cary Institute of Ecosystem Studies. Title: *Global Change Impacts on Wetland Vulnerability to Sea Level Rise*. (Apr 21).
- 2011 **Keynote Speaker:** 2011 Environmental Chemistry Student Symposium at Penn State. Title: *Global Change Impacts on Wetland Vulnerability to Sea Level Rise* (Apr 8).
- 2011 **Seminar:** Duke University School of the Environment. Title: *Global Change Impacts on Wetland Vulnerability to Sea Level Rise* (Apr 6).
- 2011 **Seminar:** Louisiana State University. Title: *Will Wetland Responses to Elevated CO₂ Amplify or Attenuate Climate Change?* (Mar 25).
- 2010 **Seminar:** University of Maryland-Baltimore County. Title: *Will Wetland Responses to Elevated CO₂ Amplify or Attenuate Climate Change?* (Dec 1).
- 2010 **William H. Patrick Memorial Lecturer:** Title: *Will Wetlands Responses to Elevated CO₂ Amplify or Attenuate Climate Change?* Annual Meeting of the Soil Science Society of America, Long Beach, CA (Nov 1).
- 2010 **Lecture:** Durham Museum of Omaha Teachers Night. Title: *Dig It!: How an Exhibit Breathed Life into Soils*. Omaha, NE (Oct 8)
- 2010 **Workshop Organizer:** *Tidal Wetland Carbon Sequestration and Greenhouse Gas Emissions Model*. National Center for Ecological Analysis and Synthesis, Santa Barbara, CA (Mar 23-26).
- 2010 **Seminar:** Georgia Southern University Biology Seminar Series. Title: *Estuaries in a World of Elevated CO₂*. Statesboro, GA (Apr 26).
- 2010 **Seminar:** Swiss Federal Institute of Aquatic Science and Technology Seminar Series. Title: *Coastal Wetlands of the Future: Responses to Rising CO₂, Rising Nitrogen and Rising Sea Level*. University of Maryland Baltimore County (Feb 4th). Zurich, Switzerland (Feb 25th).
- 2010 **Seminar:** Maryland Association of Professional Soil Scientists Annual Meeting. Title: *Elevated CO₂, Elevated Nitrogen and Rising (or Sinking?) Tidal Marshes*. Annapolis, MD (Feb 10).
- 2010 **Seminar:** Duke University Wetlands Student Association. Title: *Coastal Wetlands of the Future: Responses to Rising CO₂, Rising Nitrogen and Rising Sea Level*. Durham, NC (Feb 4th).
- 2009 **Public Seminar:** Smithsonian Environmental Research Center Evening Lecture Series. Title: *Dig It!: How an Exhibit Breathed Life into Soils*. Edgewater, MD (May 20)
- 2009 **Plenary Speaker:** 3rd Wetland Pollutant Dynamics and Control meeting. Title: *Wetland Ecosystem Responses to Carbon Dioxide Pollution*. Barcelona, Spain (Sep 24).

- 2009 **Public Seminar:** Smithsonian Congress of Scholars Lecture Series. Title: *Dig It!: How an Exhibit Breathed Life into Soils*. Smithsonian Institution (Sep 17)
- 2009 **Meeting Co-Chair.** Annual meeting of the Society of Wetland Scientists. Madison, WI. (Jun 22-26)
- 2009 **Workshop Organizer & Speaker:** *Smithsonian Science: Dig It! The Secrets of Soil*. National Science Teachers Association Annual Meeting, New Orleans (Mar 21).
- 2009 **Workshop Organizer & Speaker:** *Frontiers in Exploration of the Critical Zone II: The Geobiology of Weathering and Erosion*. NSF-sponsored, Wash., DC (Oct 5-7)
- 2009 **Keynote Speaker:** Alberta Soil Science Workshop: An Earth Sciences Perspective on Soils. Title: *Soil Planet: Designing the Smithsonian Exhibition Dig It! The Secrets of Soil*. University of Alberta, Canada (Feb 18)
- 2008 **Lecturer:** 2nd Annual Merck Lecturer in Chemistry and Biology. Title: *Rhizosphere Ferrous Wheels: The Influence of Wetland Plants on Microbial Iron Cycling and Climate*. Augustana College, IL (Nov 20)
- 2008 **Lecturer:** 2nd Annual Merck Lecturer in Chemistry and Biology. Title: *Soil Planet: Designing the Smithsonian Exhibition Dig It! The Secrets of Soil*. Augustana College, IL (Nov 20)
- 2008 **Speaker:** Association of Ecosystem Research Centers Annual Meeting. Title: *Carbon In, Methane Out: The Greenhouse Gas Balance of North American Wetlands*. (Sep 25).
- 2008 **Keynote Speaker:** Illinois Conference on Soil and Water Science: Our Science and Society. Title: *Soil Planet: Designing the Smithsonian Exhibition Dig It! The Secrets of Soil* (Sep 16)
- 2008 **Prichard Lecturer:** *2008 International Annual Conferences of the Soil and Water Conservation Society*. Title: *Dig It! The Secrets of Soil*. Tucson, AZ (Jul 28)
- 2008 **Plenary Speaker:** 2008 National Association of Conservation Districts Legislative Conference. Title: *Dig It! The Secrets of Soil*. Washington, D.C. (July 21)
- 2008 **Press Conference Speaker:** Opening of *Dig It! The Secrets of Soil*. National Museum of Natural History, Washington, DC (Jul 17)
- 2008 **Keynote Speaker.** *Effects of Climate Change on Mid-Atlantic Coastal Wetlands: Science and Conservation*. Title: *Estuaries in a World of Elevated CO₂*. Atlantic Estuarine Research Society Meeting (Mar 14)
- 2007 **Seminar:** *Johns Hopkins University Biology Department Seminar Series*. Title: *Priming the microbial pump: Enhanced soil organic matter decomposition at elevated CO₂*. Johns Hopkins University, Baltimore, MD (Nov 26)
- 2007 **Seminar:** *Duke University Program in Ecology Seminar Series*. Title: *Priming the microbial pump: Enhanced soil organic matter decomposition at elevated CO₂*. Duke University, Durham, NC (Oct 12)
- 2007 **Seminar:** *Penn State Program in Ecology Seminar Series*. Title: *Priming the microbial pump: Enhanced soil organic matter decomposition at elevated CO₂*. Penn State University, University Park, PA (Feb 26)
- 2006 Workshop: *Mid-Atlantic Region Ecological Observatory Planning Meeting*, Front Royal, VA. (Feb 28)
- 2006 **Symposium:** Where temperate meets tropical: habitat stability and functional response of coastal wetlands to nutrient enrichment. *Rising CO₂, rising sea level and rising (or sinking?) coastal wetlands*. International Society of Wetland Scientists, Cairns, Australia. (Jul 11)
- 2006 **Seminar:** *Smithsonian Congress of Scholars Seminar Series*, Washington, DC (Jan 11).
- 2006 **Seminar:** *Lamont-Doherty Seminar Series in Biology*. Title: *Rhizosphere Ferrous Wheels: The Influence of Wetland Plants on Microbial Iron Cycling and Climate*. Lamont-Doherty Earth Observatory of Columbia University, NY (Dec 1)

- 2006 **Seminar:** *Colloquium in Geologic Sciences*. Title: *Rhizosphere Ferrous Wheels: The Influence of Wetland Plants on Microbial Iron Cycling and Climate*. Wright State University (May 11)
- 2006 **Keynote Speaker:** *Regional Forest Responses to Environmental Change*. Title: *Methane cycling in upland forests: New findings and implications for forest-climate interactions*. Black Rock Forest, New York. International Union of Forest Research Organizations Meeting. (Oct 12)
- 2005 **Workshop Participant:** *Coastal Ecosystems of Indian River Lagoon/Cape Canaveral Region: Collaborative Research Priorities* (April 21-22).
- 2005 **Symposium:** Soil Science Society of American, Salt Lake City (Nov 9). *Denitrification in the Riparian-Stream Continuum*
- 2005 **Symposium:** Estuarine Research Federation Conference Special session on *Integrated Observing Systems and their Applications* (Oct 16)
- 2005 **Speaker:** *Mobile Oil Scientists in the Classroom Series*. A series of eight lectures and related activities (2 hours each) on energy and climate to middle school students in Harlingen, TX (May 4-6).
- 2005 **Speaker:** Maryland Association of Professional Soil Scientists (Smithsonian Soils Exhibit).
- 2005 **Seminar:** University of Maryland, Appalachian Research Lab, Frostburg, MD
- 2005 **Seminar:** Smithsonian Congress of Scholars
- 2005 **Plenary Speaker:** International Union of Microbiological Societies, San Francisco (Jul 25).
- 2005 **Symposium:** 9th Symposium on Wetland Biogeochemistry, Baton Rouge LA (Mar 23)
- 2004 **Symposium:** Soil Science Society of America Meeting, Seattle, WA (Wetlands and Climate Change)
- 2004 **Symposium:** 7th Intecol Wetlands Conference, Utrecht, The Netherlands. Title: *Microbially-mediated iron cycling in the wetland plant rhizosphere*.
- 2004 **Seminar:** Smithsonian Environmental Research Center, MD
- 2004 **Seminar:** Old Dominion University, VA (Biology Department Seminar Series)
- 2004 **Seminar:** First Congress on Geosciences, National Astronomy and Ionosphere Center, Arecibo Observatory, Puerto Rico
- 2003 **Symposium:** Estuarine Research Federation Meeting, Seattle, WA
- 2003 **Seminar:** West Virginia University, WV (Biology Department Seminar Series)
- 2003 **Seminar:** University of Maryland, Biology Department Seminar Series
- 2003 **Seminar:** National Wetland Research Center, Lafayette, LA
- 2002 **Workshop:** Joint US/Canadian Workshop on Wetlands, Carbon Sequestration and CH₄ (NY)
- 2002 **Seminar:** Savannah River Ecology Laboratory, University of Georgia, Aiken, SC
- 2001 **Seminar:** Virginia Technological University, Blacksburg, VA. (Botany Seminar Series)
- 2001 **Seminar:** Cornell University, Ithaca, NY. (Biogeochemistry Seminar Series)
- 2000 **Workshop:** USGS Workshop on Wetlands, Carbon Cycling and Future Climate Change (MD)
- 2000 **Symposium:** INTECOL Meetings (Quebec)
- 2000 **Seminar:** Smithsonian Environmental Research Center, MD
- 2000 **Seminar:** College of William & Mary, VA (Biology Department/VIMS Seminar Series)
- 1999 **Seminar:** University of Indiana, Bloomington, IN. (SPEA Seminar Series)
- 1999 **Seminar:** University of Georgia, Athens, GA. (Institute of Ecology Seminar Series)
- 1999 **Seminar:** National Invitational Workshop on Wetlands and Climate Change. (MD)
- 1999 **Seminar:** Horn Point Environmental Lab, MD
- 1999 **Seminar:** American Type Culture Collection, VA. (ATCC Seminar Series)
- 1998 **Workshop:** EPA/MARA workshop on the Mid-Atlantic climate change assessment (PA)
- 1998 **Seminar:** University of Illinois at Chicago, IL
- 1998 **Seminar:** Smithsonian Environmental Research Center, MD
- 1997 **Seminar:** University of Illinois at Urbana-Champaign, IL

- 1996 **Seminar:** University of North Carolina at Chapel Hill, NC
- 1996 **Seminar:** State University of New York at Brockport, NY
- 1996 **Seminar:** Northern Arizona University, AZ
- 1996 **Seminar:** George Mason University, VA

Professional Service

I. Scientific Community Service

- 2019 Advisory Committee to the Georgia Coastal Ecosystems LTER
Committee: Conservation International Expert Working Group on Blue Carbon
Committee: SPRUCE Advisory (Spruce and Peatland Responses Under Changing Environments)
Curator of the *Dig It! DIY*, a do-it-yourself version of the exhibit *Dig It! The Secrets of Soils*
- 2018 Committee: SPRUCE Advisory (Spruce and Peatland Responses Under Changing Environments)
Committee: Conservation International Expert Working Group on Blue Carbon
- 2017 Committee: Conservation International Expert Working Group on Blue Carbon
Committee: US National Committee for Soil Science of the US National Academies
Committee: Co-Chair of *Soils: The Foundation of Life* Workshop
Committee: SPRUCE Advisory
- 2016 Curator: *Dig It! The Secrets of Soil*
Committee: Conservation International Expert Working Group on Blue Carbon
Committee: US National Committee for Soil Science of the US National Academies
Committee: SPRUCE Advisory
- 2015 Curator: *Dig It! The Secrets of Soil*
Committee: Conservation International Expert Working Group on Blue Carbon
Committee: US National Committee for Soil Science of the US National Academies
- 2014 Curator: *Dig It! The Secrets of Soil*
Committee: Conservation International Expert Working Group on Blue Carbon
Committee: US National Committee for Soil Science of the US National Academies
- 2013 Curator: *Dig It! The Secrets of Soil*
Committee: Conservation International Expert Working Group on Blue Carbon
Committee: US National Committee for Soil Science of the US National Academies
- 2012 Curator: *Dig It! The Secrets of Soil*
Chair: Information Technology and Communications Committee of SWS
Committee: Conservation International Expert Working Group on Blue Carbon
Committee: US National Committee for Soil Science of the US National Academies
Chair: Editor Search Committee for Global Biogeochemical Cycles
Committee: Scientific Advisory Board of Jug Bay Wetland Sanctuary
Panelist: Advisory Panel for the Louisiana Carbon Offset Market Initiative
- 2011 Curator: *Dig It! The Secrets of Soil*
Chair: Information Technology and Communications Committee of SWS
Committee: Conservation International Expert Working Group on Blue Carbon
Committee: US National Committee for Soil Science of the US National Academies
Chair: Editor Search Committee for Global Biogeochemical Cycles
Committee: Scientific Advisory Board of Jug Bay Wetland Sanctuary

- Panelist: Advisory Panel for the Louisiana Carbon Offset Market Initiative
- 2010 Committee: Conservation International Expert Working Group on Blue Carbon
Curator: *Dig It! The Secrets of Soil*
Chair: Information Technology and Communications Committee of SWS
Committee: US National Committee for Soil Science of the US National Academies
Chair: Editor Search Committee for Global Biogeochemical Cycles
Committee: Scientific Advisory Board of Jug Bay Wetland Sanctuary
- 2009 Curator: *Dig It! The Secrets of Soil*
Chair: Information Technology and Communications Committee of SWS
Panelist: National Blue Ribbon Panel on Wetland Carbon Offsets
Committee: Scientific Advisory Board of Jug Bay Wetland Sanctuary
Chair: 11th Symposium on Wetland Biogeochemistry, Annapolis, MD
- 2008 Curator: *Dig It! The Secrets of Soil*
Past-President: Society of Wetland Scientist
Chair: Information Technology and Communications Committee of SWS
Past-Chair: Wetland Soils Section of the Soil Science Society of America
Panelist: Blue Ribbon review committee for Isle Royale National Park Research programs
- 2007 Curator: *Dig It! The Secrets of Soil*
Member: Soil Science Society of America Member of the Smithsonian Exhibit Design Committee
President: Society of Wetland Scientist (SWS)
Chair: Information Technology and Communications Committee of SWS
Chair: Wetland Soils Section of the Soil Science Society of America
Chair: 10th Symposium on Wetland Biogeochemistry, Annapolis, MD
- 2006 Curator: *Dig It! The Secrets of Soil*
Member: Soil Science Society of America Member of the Smithsonian Exhibit Design Committee
President-Elect: Society of Wetland Scientist
Chair-Elect: Wetland Soils Section of the Soil Science Society of America
- 2005 Curator: *Dig It! The Secrets of Soil*
Member: Soil Science Society of America Member of the Smithsonian Exhibit Design Committee
Chair: Student Grants Committee and Board Member of SWS
Panelist: "How to Succeed in Ecology" session at the ESA annual meeting
- 2004 Curator: *Dig It! The Secrets of Soil*
Advisor: Consortium for Atlantic Regional Assessment
Advisor: Ukranian government on greenhouse gas inventories
Member: National Science Foundation Ecosystems Panel (Spring, Fall)
Chair: Student Grants Committee and Board Member of SWS
Coordinator: SWS student oral and poster presentation competition
Chair: Student Grants Committee and Board Member of SWS
- 2003 Advisor: Consortium for Atlantic Regional Assessment.
Member: National Science Foundation Ecosystems Panel (Spring, Fall)

- Advisor: Ukrainian government on greenhouse gas inventories
Chair: Student Grants Committee and Board Member of SWS
- 2002 Member: National Science Foundation Ecosystems Panel (Spring)
Panelist: MD Impacts and Vulnerability Study of the Joint Global Change Research Institute
Chair: Program Committee for *Wetland Restoration: Addressing Asian Issues Through International Collaboration*, Nanjing, China
Advisor: Ukrainian government on greenhouse gas inventories
Chair: Student Grants Committee and Board Member of SWS
- 2001 Chair: Southeast Chapter of the Society of Wetland Scientists
Member: National Science Foundation Ecosystems Panel (Spring and Fall)
Reviewer: National Climate Change Technology Initiative Report on Terrestrial Offsets
Advisor: Ukrainian government on greenhouse gas inventories
- 2000 Chair: Southeast Chapter of the Society of Wetland Scientists
- 1999 Chair: Southeast Chapter of the Society of Wetland Scientists
- 1998 Panelist: Professional Evaluation of Dr. Don Weller, SERC
- 1997 Testimony: VA Dept. Nat. Res. on Water Permit 95-0153 for Auburn, VA dam
- 1990 Chair: Society of Wetland Scientists, Poster and Exhibitor Committee
- 1991 Chair: Society of Wetland Scientists, Poster and Exhibitor Committee
- 1989 Chair: Society of Wetland Scientists, Poster and Exhibitor Committee

II. George Mason University Service

- 2000 Biology Department Seminar Organizer
- 1999 Search Committee for Conservation Ecologist
- 1999 Environmental Science and Public Policy Ph.D. Executive Committee
- 1999 Biology Department Seminar Organizer
- 1998 Ad Hoc Grade Appeal Committee, member
- 1998 University Committee on Hazardous Materials Management, member
- 1998 Biology Department Seminar Organizer
- 1997 Environmental Science and Public Policy Ph.D. Executive Committee

III. Smithsonian Institution Service

- 2012 Committee: Ecosystem Interactions Working Group of the US Global Change Research Program
Administration: Rotational Supervisor for Amy Van Allen, Palmer Leadership Program
OUSS Committee: Awards Committee
- 2011 Committee: Ecosystem Interactions Working Group of the US Global Change Research Program
OUSS Committee: Awards Committee
- 2010 Committee: Ecosystem Interactions Working Group of the US Global Change Research Program

- 2009 Committee: Ecosystem Interactions Working Group of the US Global Change Research Program
Chair: SERC Seminar Series
- 2008 Committee: Ecosystem Interactions Working Group of the US Global Change Research Program
Chair: SERC Seminar Series
- 2007 Committee: Ecosystem Interactions Working Group of the US Global Change Research Program
Chair: NEON working group
Chair: SERC Seminar Series
- 2006 Committee: Ecosystem Interactions Working Group of the US Global Change Research Program
Chair: NEON working group
Chair: SERC Seminar Series
- 2005 Committee: Ecosystem Interactions Working Group of the US Global Change Research Program
Chair: NEON working group
Chair: SERC Seminar Series
- 2004 Committee: Ecosystem Interactions Working Group of the US Global Change Research Program
Chair: NEON working group
Panelist: Molecular Evolution Fellowship Panel
Committee: SI representative on the CCTP Sequestration Working Group
Chair: SERC Seminar Series
- 2003 Committee: Smithsonian Institution strategic planning retreat
Chair: SERC Seminar Series
- 2002 Committee: Prepared proposal for a stable isotope laboratory to be located at SERC
Committee: Ecosystem Interactions Working Group of the US Global Change Research Program
Chair: SERC Seminar Series
- 2001 Lecturer: Scientific writing for interns
Chair: SERC Seminar Series

Public Outreach Via Media

2019

Blog: [What's the Perfect Temperature to Bake Your Soil?](#) (15 Nov 2019). By Kristen Minogue.

Web: [Plants Receive Nitrogen Boost in Hotter Climes](#) (05 Nov 2019). By Kate Ravilious.

Radio: [Climate Change Experiment Fast-Forwards the Chesapeake Bay to the Year 2100](#) (06 Oct 2019). By Pamela D'Angelo of Virginia Public Radio.

Radio: [The Complicated Effect of Phragmites in the Chesapeake Bay](#) (07 Oct 2019). By Pamela D'Angelo of Virginia Public Radio.

Newsletter: [As Sea Level Rises, Wetlands Crank Up Their Carbon Storage](#) (06 Mar 2019). By Kristen Minogue of SERC.

Press Release: [As Sea Level Rises, Wetlands Crank Up Their Carbon Storage](#) (06 Mar 2019). By Kristen Minogue of SERC.

Web: [Wetland Mud is 'Secret Weapon' Against Climate Change](#) (06 Mar 2019). By Victoria Gill of the BBC.

Radio: [Coastal Wetlands Could be Secret Weapon Against Climate Change](#) (07 Mar 2019). By Thomas Oriti of ABC radio (Australia).

Web: [Coastal Wetlands Capture More Carbon as Seas Rise](#) (07 Mar 2019). By New Zealand Herald.

Web: [Rising Seas Allow Coastal Wetlands to Store More Carbon](#) (06 Mar 2019). By Kerrylee Rogers, Jeff Kelleway, and Neil Saintalin.

2018

Quoted: [Methane uptake from forest soils has 'fallen by 77% in three decades](#) (6 Aug). By Daisy Dunne. CarbonBrief.

Blog: [800 Million Tons of Blue Carbon May Lie Buried in U.S. Tidal Wetlands](#) (21 Jun). By Kristen Minogue. Shorelines: Life and science at the Smithsonian Environmental Research Center.

Web: [U.S. tidal areas could hold 800M tons of carbon — study](#) (22 Jun). By Cecelia Smith-Schoenwalder. E&E News/Greenwire

Web: [Decades-long climate study flies "under the radar"](#) (17 Jul). By Cecelia Smith-Schoenwalder. E&E News/Greenwire

2017

Print: *Invasive Reed Releases Deep Carbon from Lockup* (Winter 2017). By Kristin Minogue. On The Edge (News from the Smithsonian Environmental Research Center).

Print and Web: [Growing Acidification Of The Chesapeake Bay Threatens Crabs, Oysters, Other Life](#) (5 Oct 2017). By Scott Dance. The Baltimore Sun.

2016

Web: *For the World's Wetlands, It May Be Sink or Swim. Here's Why It Matters*. Smithsonian Magazine (13 Jan 2016). By Kimbra Cutlip. <http://www.smithsonianmag.com/smithsonian-institution/worlds-wetlands-it-may-be-sink-or-swim-heres-why-it-matters-180957808/?no-ist>

Blog: [*Cranking Up the Heat in the "Wetland of the Future"*](#) (24 Jun 2016). By Joe Dawson.

Blog: [*Climate Change Could Release Ancient Soil Carbon*](#) (1 Jul 2016). By Kristen Minogue.

Web: [*Clean energy vital in a world of worsening drought and floods*](#) eNews Channel Africa (07 Jun 2016). By Bianca Ackroyd. (also accompanying [video](#))

2015

Blog: *Phragmites vs. Climate Change: Invasive Reed Better at Taking Up Carbon* (22 Dec 2015). Posted by Kirsten Minogue at <http://sercblog.si.edu/?p=6948>

Blog: Remembering Hurricane Katrina by Studying Marshes of the Future (31 Aug 2015). Posted by Heather Soulen at <http://sercblog.si.edu/?p=6500>

Smithsonian Science News: Smithsonian Scientists Working to Stop Invasions (13 Oct 2015). By Johnny Gibbons. <http://smithsonian-science.si.edu/2015/10/smithsonian-scientists-working-to-stop-invasions/>

2013

Radio: *Humans Doing More Harm Than Good In Protecting Wetlands From Rising Water*. Johathan Wilson interview of Pat Megonigal (aired 06 Dec on WAMU).

[http://wamu.org/news/13/12/06/humans doing more harm than good in trying to protect wetlands against rising water](http://wamu.org/news/13/12/06/humans_doing_more_harm_than_good_in_trying_to_protect_wetlands_against_rising_water)

Web: *Humans Threaten Wetlands' Ability to Keep Pace With Sea-Level Rise*. ScienceDaily post on Nature review paper. <http://www.sciencedaily.com/releases/2013/12/131204132024.htm>

Radio: *Time Machines" Predict the Future of Plants With Climate Change*. Tom Pelton interview of Bert Drake (aired 8/14/13 on WYPR, WYPO and WYPF).

<http://www.wypr.org/EnvironmentFocus.html>

Video: *Ecosystems On The Edge: Wetlands Of The Future*. Posted to YouTube on 1 Jul 2013. Smithsonian Institution. <http://www.youtube.com/watch?v=iG9wCAoRE7w>

Blog: *Marsh Rovers: Research at the SERC Marsh*. By Katie Sinclair (27 Jun 2013). Posted by Kristen Minogue at <http://sercblog.si.edu/>

Print: *Coast Guard: A Field Study Predicts How Wetlands Will Respond to Climate Change*. Smithsonian Magazine (Oct 2013). <http://www.youtube.com/watch?v=iG9wCAoRE7w>

Web: *Marshes in a Changing World: Part 1. A Two-Decade-Long Study Explores How Marshes Take Up Carbon Dioxide* (Oct 2013). By Daniel Strain (22 Oct 2013).

<http://www.mdsg.umd.edu/news/marshes-changing-world-part-1>

Podcast: *Marshes in a Changing World: Part 2. Invasive Plant Could Help Marshes Fight Sea Level Rise*. Sea Grant Maryland. By Daniel Strain (22 Oct 2013).

<http://www.mdsg.umd.edu/news/marshes-changing-world-part-2-podcast>

2012

Press Release: Announcing the publication of our PLoS One paper “Jack-and-Master” plants better suited to climate change (<http://newsdesk.si.edu/releases/jack-and-master-plants-better-suited-climate-change>) (11/5/2012).

Print: *That Sinking Feeling*. Chesapeake Bay Magazine. By Marty LeGrand (Nov 2012).

<http://www.chesapeakeboating.net/Media/Feature-Stories/That-Sinking-Feeling.aspx>

Web: Interview by reporter Sara Reardon on upcoming *Science* article for *New Scientist*. *Fungi could thwart carbon capture efforts*. <http://www.newscientist.com/article/dn22228-fungi-could-thwart-carbon-capture-efforts.html>

Web: Interview by reporter Matthew Weaver for the Capital Press. *Exhibit unearths mysteries of soil* (2/23/2012):

2011

Web: *Wetlands of the Future*. YouTube video on research at the Global Change Research Wetland produced by the Smithsonian Institution. (has not been released).

2010

1. Web: Interview by columnist and blogger Melanie Kaplan for SmartPlanet (1/29/10):

<http://www.smartplanet.com/people/blog/pure-genius/ten-misconceptions-about-soil/1577/?tag=content;col1>

2. Briefing: Addressed congressional staff on the topic of *Resilient Wetlands = Prosperous Economies*. Organized by the Environmental Law Institute, US Capitol Visitor Center (5/19/10)

3. Radio: *The Salt Marsh of the Future is HERE, NOW!*. Audio piece by Sabri Ben-Achour on WAMU radio (aired 10/4/10). <http://wamu.org/news/10/10/04.php#37706>

4. Briefing: Presented congressional staffer Jason Grey an overview of SERC. SERC (10/5/10)

5. Web: Interview by reporter Jane O'Brien for the BBC. *The world's longest running carbon dioxide experiment* (11/4/2010): <http://www.bbc.co.uk/news/world-us-canada-11685516>

6. TV: Interview by reporter Tyler Suiters for ABC program *EnergyNow!* (12/12/2010): <http://www.energynow.com/video/2010/12/11/cancun-wrap-daryl-hannah-and-co2-experiment>

2009

1. TV: Interviewed about *Dig It!* by Fox Morning News (Aired Live 3/3/09):
http://www.myfoxdc.com/dpp/mornings/holly_live/030309_holly_morris_dig_it_secrets_of_soil
2. TV: Interviewed about *Dig It!* for the American Institute of Physics series *Discoveries and Breakthroughs Inside Science* (3/2009):
<http://www.ivanhoe.com/science/story/2009/03/552a.html>
3. Web: *Climate Change Found To Have Paradoxical Effects In Coastal Wetlands*, Science Daily (3/26/09):
<http://www.sciencedaily.com/releases/2009/03/090323212035.htm>
4. Web: *Mixed News For Marshes* by Liz Kalaugher, Environmental Research Web (4/1/09):
<http://environmentalresearchweb.org/cws/article/research/38528>
5. Web: *Marsh Attacks* by Anna Barnett, *Nature Reports* (4/9/09):
<http://www.nature.com/climate/2009/0905/full/climate.2009.32.html>
6. Web: *Climate Change Creates Paradox for Wetlands*, Environmental Science & Technology Online News by Noreen Parks (4/22/09)
7. Radio: *The Bubble City* by Tom Pelton, public radio stations WYPR, WYPO and WYPF (aired 4/29/09). <http://www.wypr.org/EnvironmentFocus.html>
8. Newspaper: *Waist-deep in fieldwork* by Timothy B. Wheeler, The Baltimore Sun (9/29/09)
<http://www.baltimoresun.com/features/green/bal-md.gr.climate26sep29,0,5893905.story>

2008

1. Newspaper: *Role Call* on the *Dig It!* exhibit (published 7/24/08)
2. Newspaper: *The Capital* on the *Dig It!* exhibit (published 7/27/08)
3. Newspaper: *Associated Press* on the *Dig It!* exhibit (press release on 7/19/2008)
4. Magazine: *Crop, Soils and Agronomy News* on the *Dig It!* exhibit (published 9/2008)
5. Magazine: *Time for Kids* magazine on the *Dig It!* exhibit (published 9/12/08)
6. Magazine: *Environmental Science & Technology* on wetland carbon sequestration (9/26/08)

2007

1. TV: Interviewed by Howard Bernstein reports on WUSA morning news at a ceremony celebrating the creation of a soil monolith (intact slice of soil) that will represent DC in the upcoming SI-NMNH exhibition on soils (Aired 4/23/07). It covered an Earth Day event that featured the USDA Secretary of Agriculture:
http://www.wusa9.com/news/news_article.aspx?storyid=57856
2. Radio: Interviewed by a BBC radio program called "leading Edge" (Aired 12 Jul 2007):

<http://www.bbc.co.uk/radio4/science/leadingedge.shtml>

3. Video: Featured as the Lead Curator in a promotional video produced by the Fertilizer Institute on the Smithsonian Soils Exhibit: <http://www.nutrientsforlife.org/>

4. TV: Smithsonian on Demand feature on elevated CO₂-N experiment

Teaching and Advising:

Courses

General Ecology (undergraduate)
Wetland Ecology (graduate)
Global Change Seminar (graduate)
Soil Biogeochemistry (graduate)

Graduated Students (PM as the Major Advisor or Co-Advisor)(8 total)

2018	Scott Pitz, Ph.D. Candidate	Johns Hopkins University, MD
2017	Kyle Derby, M.S.	University of Maryland, MD
2016	Justin Meschter, M.S.	University of Maryland, MD
2006	David Bailey, M.S.	The College of William & Mary (VIMS)
2004	Kristy Garnett, M.S.	George Mason University
2002	Stephanie Backer, M.S.	George Mason University
2002	Johanna Weiss, Ph.D.	George Mason University
2001	Jeffrey Cornell, M.S.	George Mason University
1999	Cheryl Vann, M.S.	George Mason University

Current Students as Committee Member

Alex Smith, PhD Candidate, Virginia Institute of Marine Science, VA
Anna Kottkamp, MS Candidate, University of Maryland, MD
Brian Scott, PhD Candidate, University of Maryland, MD
Barrett Wessel, PhD Candidate, University of Maryland, MD

Past Student Committee Member (18 total; reverse chronology)

Jenny Allen, Ph.D. Candidate, University of Maryland, MD
Benjamin Duval, Ph.D. Candidate, Northern Arizona University, AZ
Christian Hauser, MS Candidate, The College of William & Mary (VIMS)
Lisa Craig, Ph.D. Candidate, University of Maryland, College Park, MD
Christina Powell, Ph.D. Candidate, Wright State University, OH
James Martin, Ph.D. Candidate, George Mason University, VA
Alisha Pagel, PhD Candidate, Old Dominion University, VA
Karen Phemister, M.S. Candidate, University of Maryland, College Park, MD
Patrick Morton, M.S. Candidate, University of Maryland, College Park, MD
Molly Roggero, M.S. Candidate, The College of William & Mary (VIMS)
Rebecca Arenson, M.S. Candidate, The College of William & Mary (VIMS)
Chai Lim, Ph.D. Candidate, Computational Sciences and Informatics
Terry Slonecker, Ph.D. Candidate, George Mason University
Alexander Wooten, Ph.D. Candidate, George Mason University
Jennifer Morse, M.S. George Mason University, VA

Patrick Dougherty, Ph.D. Candidate, George Mason University, VA
Traci Guynup, Ph.D. Candidate, George Mason University, VA
Nick Moghari, Ph.D. Candidate, George Mason University, VA

Undergraduate Directed Studies

1999 Sonya Washington
1998 Clair Carroll
1998 Tran Nguyen
1997 Jeri Thomas
1997 Johanna Weiss
1996 Helen Budnick

Undergraduate Interns (*under-represented; †publication; 54 total; 26 REU; 13 under-represented)

2019 Lainey Reed, Cornell University
2019 Allegra Tashjian, Carleton College (NSF-REU)
2018 Maya Bhalla-Ladd, Bryn Mawr College
2018 Madeline Peterson, Bennington College (NSF-REU)
2018 Chris Adkinson, University of Texas San Antonio
2018 Nicoletta Brazzola, Eberhard Karls Universität Tübingen
2017 Audrey Geise, West Virginia University (NSF-REU)
2017 Maya Bhalla-Ladd, Bryn Mawr College
2017 Helena Kleiner, Grinnell College
2016 Sarah Freda, Bryn Mawr College
2016 Eliza Bonner, Cornell University
2016 Charlie Mettler, Wabash College (NSF-REU)
2016 *Jason Swartz, McDaniel College (NSF-REU)
2015 Yaamini Venkataraman, UC San Diego (NSF-REU)
2015 Emily Geoghegan, Bryn Mawr College
2015 *Moises Umazor, University of Maryland (NSF-REU)
2014 Brendan Kelly, Villanova University (NSF-REU)
2014 *Andrew Sample, University of Arkansas (NSF-REU)
2013 Rachel Hager, Bryn Mawr University, PA (NSF-REU)
2013 Kyle King, Roanoke College, VA (NSF-REU)
2013 Catherine Pannier, Warren Wilson College
2012 Jessica Mosolf, Chapman University, CA (NSF-REU)
2011 Stephanie Sharuga
2011 Shannon Hagerty, Villanova University, PA
2011 Fred Teasley, University of Maryland, MD
2011 *Lillian Aoki, Cornell University, NY (NSF-REU)
2010 Matthew Seal, University of Southern Mississippi, MI (NSF-REU)
2010 *Susanna Gomez, Virginia Tech, VA (NSF-REU)
2009 Rachel Koch†, University of Notre Dame, IN
2009 Katie Shepard, Villanova University, Philadelphia, PA
2009 *David Gonzales, University of California-Irvine, CA (NSF-REU)
2008 Nicolas Mudd, Frostburg State University, MD
2008 Kevin White, University of Pennsylvania, PA (NSF-REU)
2008 Andrea Martin, University of North Carolina, Chapel Hill, NC
2008 Allyson Bullock, California State University, San Marcos, CA

2008 *María Clemencia-Cerón, Universidad de los Andes, Bogotá
 2007 Kyle Chambers, Ohio State University, OH
 2007 Katie Drumm, Kalamazoo College, MI
 2007 Eric Pfoust, Salisbury State University, MD
 2007 Emma Sage, Hampshire College, MD (NSF-REU)
 2007 Andrea Martin, University of North Carolina, Chapel Hill, NC
 2007 †Pamela Weisenhorn, Louisiana State University, LA
 2007 *Lucinda Attakumah, University of Maryland (NSF-REU)
 2007 *†Julio Romero, University of New Mexico, Albuquerque, NM (NSF-REU)
 2007 Parker Kraus, Colorado College, CO
 2006 Emma Sage, Hampshire College, MD (NSF-REU)
 2006 *Lucinda Attakumah, University of Maryland (NSF-REU)
 2005 Tera Levin, Oberlin College, OH (NSF-REU)
 2005 Robin Larkin, Saint Mary's College, MD (NSF-REU)
 2004 *Carlos Panterjo, University of Puerto Rico-Arecibo
 2003 Sanpisa Sritairat, Rensselaer Polytechnic Institute, NY
 2003 Amber Boles, Warren Wilson College, NC
 2003 *†Gloried Toledo-Duran, Univeristy of Puerto Rico-Arecibo
 2002 Mary Shockley (now Rogalski), William and Mary College, VA (NSF-REU)
 2002 James Maltese, Harvard University, MA
 2002 †SaraKeith Valentine, Warren Wilson College, NC
 2001 Sandra Smith, Shippensburg State University, PA (NSF-REU)
 2001 Kimberly Givler, Northern Arizona University, AZ

Volunteers

2018 Sharon
 2018 Mara Collinson
 2018 Ed Ambrosio
 2018 Taylor Vogel
 2015 Phil Christensen
 2013 Jack Hays
 2013 Christine Garrahan
 2012 Colby Hause
 2011 Shannon McGrath
 2011 Deborah Honnecker

Undergraduates Employed in Research (15 total)

2014-2016 Thomas Lanier, Towson University, MD
 2005 David Bates, Frostburg State University, MD
 2005-2010 Nicolas Mudd, Frostburg State University, MD
 2000 Shamus Goss, George Mason University
 2000 Priyanka Shukla, George Mason University
 2000 Gary Stone, George Mason University
 2000 John Vandervoort, George Mason University
 2000 Shiva Rajaram, George Mason University
 2000 Rebecca Moss, George Mason University
 2000 Andrew Nguyen, George Mason University
 2000 Scott Fanello, George Mason University

1998-1999	Angela Dodson, George Mason University
1999	Jessica Arant, George Mason University
1997-1998	James Nolen, George Mason University
1997-1998	Patrick Auben, George Mason University

Research Associates with Bachelors or Masters Degrees (19 total)

2019	Adam Dunn
2018-2019	Johanna Hripto
2017-	Evan Phillips
2017-2018	Kyle Derby
2017-2018	Anna Lienesch
2017-2018	Nicati Rabidoux
2016-2017	Melissa Day
2016-2017	Evan Phillips
2016-2017	Janelle Whitman
2014	Jack Hays
2010-present	Andrew Peresta
2012-2014	Fred Teasley
2010-2012	Nicholas Mudd
2008-present	Allyson Bullock
2005-2008	Marc Sigrist
2005	Ron Ortel
2002-2003	Mei Mei Chang
2001-2003	Laura Lipps
2000-2004	Amelia Wolf
1998-2000	Lynn Kristinson
2000-2003	Kimberly Givler
1997-2000	Kristin Fitzgerald

Post-Doctoral Research Associates (21 total)

2019-	Dr. Anya Hopple
2017-2018	Dr. Paul Brewer
2017-	Dr. Teri O'Meara
2016-	Dr. Genevieve Noyce
2016-2019	Dr. Andrew Pinsonneault
2015-	Dr. James Holmquist
2014-2018	Dr. Sunghyun Kim
2014-2016	Dr. Grace Cott
2014-2016	Dr. Lisa Schile
2013-2018	Dr. Meng Lu
2013-2016	Dr. Blanca Bernal
2012-2013	Dr. Lisa Schile
2009-2012	Dr. Thomas Mozdzer
2008-2010	Dr. Ariana Sutton-Grier
2006-2008	Dr. Jason Keller
2006-2008	Dr. Duncan McKinley
2005-2010	Dr. Adam Langley
2004-2005	Dr. Karen Carney

2001	Dr. Vladimir Samarkin
2000-2004	Dr. Scott Neubauer
1999-2000	Dr. Bill Kornicker
1997-2000	Dr. Arlene Darke