

*Curriculum Vitae*  
**Sarah C. Davis**

*Mailing Address:*

Voinovich School of Leadership and Public Affairs  
Environmental Studies  
1 Ohio University  
Building 22, The Ridges  
Athens, OH 45701

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RESEARCH INTERESTS

- Sustainable bioenergy systems
- Biogeochemical and ecophysiological impacts of land use and global change
- Ecosystem modeling of carbon and nitrogen cycling in changing plant-soil-microbe communities to reconstruct historical dynamics and project future changes

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PUBLICATIONS

- Niechayev N, Jones A, Rosenthal D, **Davis SC**. 2018. A model of environmental limitations on production of *Agave americana* L. grown as a biofuel crop in semi-arid regions. *Journal of Experimental Botany* <https://doi.org/10.1093/jxb/ery383>.
- Davis SC**, Kloepper J, Mayer J, Cushman J. 2018. Diversifying Agriculture with Novel Crop Introductions to Abandoned Lands with Suboptimal Conditions. *In* *Climate Change and Crop Production: Foundations for Agroecosystem Resilience*. Edited by N Benkeblia, CRC Press, USA. 344 pages. ISBN 9781138032347.
- Davis SC**, Straker KC, Rodjom A, Grossman E, Jones A, Miller KE. 2018. Mismatch of life-cycle inventories for bioenergy, fossil fuel, and agricultural resource production. *In* *Green Chemistry for Sustainable Biofuel Production*. Edited by VG Gude, CRC Press and AAP, Ontario and New Jersey. 592 pages. ISBN 9781771886390.
- Black C, **Davis SC**, Hudiburg T, Bernacchi C, DeLucia EH. 2017. Elevated CO<sub>2</sub> and temperature increase soil C losses from a soy-maize ecosystem. *Global Change Biology* 23: 435-445.
- Davis SC**, Kuzmick ER, Niechayev N, Hunsaker DJ. 2016. Productivity and water use efficiency of *Agave americana* in the first field trial as bioenergy feedstock on arid lands. *GCB Bioenergy* doi: 10.1111/gcbb.12324.
- Davis SC**, Kauneckis D, Kruse NA, Miller KE, Zimmer M, Dabelko GD. 2016. Closing the loop: integrative systems management of waste in food, energy, and water systems. *Journal of Environmental Studies and Sciences* 6:11-24.
- Long SP, Karp A, Buckeridge MS, **Davis SC**, Jaiswal D, Moore PH, Moose SP, Murphy DJ, Agyeman SO, Vonshak A. 2015. Feedstocks for Biofuels and Bioenergy (Chapter 10) *In* *Bioenergy and Sustainability: bridging the gaps*. Edited by Mendes Souza G, Victoria RL, Joly CA, Verdade LM., SCOPE, FAPESP. Paris, France.
- Davis SC**, Ming R, Lebauer D, Long SP. 2015. Toward systems-level analysis of agricultural production from crassulacean acid metabolism (CAM): scaling from cell to commercial production. *New Phytologist* 208: 66-72.
- Yang X, Cushman, Borland, Edwards, Wullschlegler, Tuskan, Owen, Griffiths, Smith, De Paoli, Weston, Cottingham, Hartwell, **Davis S et al**. 2015. A roadmap for research on

- crassulacean acid metabolism (CAM) to enhance sustainable food and bioenergy production in a hotter, drier world. *New Phytologist* 207:491-504.
- Cushman JC, **Davis SC**, Yang X, Borland AM. 2015. Development and use of bioenergy feedstocks for semi-arid and arid lands. *Journal of Experimental Botany* 66: 4177-4193 doi:10.1093/jxb/erv087.
- Lin T, Rodriguez L, **Davis SC**, Khanna M, Yogendra S, Grift T, Long S, Ting KC. 2015. Biomass feedstock preprocessing and long-distance transportation logistics. *GCB Bioenergy*, doi: 10.1111/gcbb.12241.
- Hudiburg T, **Davis SC**, Parton WJ, DeLucia EH. 2015. Bioenergy crop greenhouse gas mitigation potential under a range of management practices. *GCB Bioenergy* 7: 366-374, doi: 10.1111/gcbb.12152.
- Bagley JE, **Davis SC**, Georgescu M, Hussain MZ, Miller J, Nesbitt SW, VanLoocke A, Bernacchi CJ. 2014. The biophysical link between climate, water, and vegetation in bioenergy agro-ecosystems. *Biomass and Bioenergy* 71:187-201.
- Davis SC**, LeBauer D, Long S. 2014. Light to liquid fuel: theoretical and realized energy conversion efficiency of plants using Crassulacean Acid Metabolism (CAM) in arid conditions. *Journal of Experimental Botany* (special issue: C4-CAM) 65: 3471-3478.
- O'Keefe K, Springer CJ, Grennell J, **Davis SC**. 2014. Biofuel Development from Cellulosic Sources *in Ecology and the Environment, The Plant Sciences* (Editor RK Monson) Volume 8, pp. 601-629. Springer, New York.
- Davis SC** and Long SP. 2014. Agave/Sisal, Chapter 9 *in Industrial Crops: Breeding for BioEnergy & Bioproducts*, M. Cruz and D. Dierig (Eds). Springer, New York. pgs 335-349.
- Davis SC**, Kucharik CJ, Fazio S and Monti A. 2013. Environmental sustainability of advanced biofuels. *Biofpr (Special Issue: An Atlantic bridge for comparing EU and US views on the prospects of second-generation biofuels)* 7(6): 638-646.
- Duval BD, Anderson-Teixeira KJ, **Davis SC**, Keough C, Long SP, Parton WJ and DeLucia EH. 2013. Predicting greenhouse gas emissions and soil carbon from changing pasture to an energy crop. *PLOS One* 8(8): e72019. doi:10.1371/journal.pone.0072019
- Davis SC**, R Boddey, B Alves, A Cowie, B George, SM Ogle, P Smith, M van Noordwijk, MT van Wijk. 2013. Management swing potential for bioenergy crops. *Global Change Biology Bioenergy* 5(6): 623-638, doi: 10.1111/gcbb.12042.
- Mao Y, AC Yannarell, **SC Davis**, RI Mackie. 2013. Impact of different bioenergy crops on N-cycling bacterial and archaeal communities in soil. *Environmental Microbiology* 15(3): 928-942. DOI: 10.1111/j.1462-2920.2012.02844.x.
- Davis SC**, M Dietze, E DeLucia, C Field, S Hamburg, S Loarie, W Parton, M Potts, B Ramage, D Wang, H Youngs, S Long. 2012. Harvesting carbon from eastern US forests: opportunities and impacts of an expanding bioenergy industry. *Forests (Special Issue: The Role of Forests for Carbon Capture and Storage)* 3:370-397.
- Smith P, Davies CA, Ogle S, Zanchi G, Bellarby J, Bird N, Boddey RM, McNamara NP, Powlson D, Cowie A, van Noordwijk M, **Davis SC**, Richter DD, Kryzanowski L, van Wijk MT, Stuart J, Kirton A, Eggar D, Newton-Cross G, Adhya TK, Braimoh AK 2012. Towards an integrated global framework to assess the impacts of land use and management change on soil carbon; current capability and future vision. *Global Change Biology* 18:2089-2101.
- Davis SC**, WJ Parton, SJ Del Grosso, C Keough, E Marx, P Adler, EH DeLucia. 2012.

- Impacts of second-generation biofuel agriculture on greenhouse gas emissions in the corn-growing regions of the US. *Frontiers in Ecology and the Environment* 10: 69-74  
*doi:10.1890/110003*.
- Del Grosso SJ, WJ Parton, PR Adler, **SC Davis**, C Keough, E Marx 2012. DayCent model simulations for estimating soil carbon dynamics and greenhouse gas fluxes from agricultural production systems. In: *Managing Agricultural Greenhouse Gases*, eds. M.A. Liebig, A.J. Franzluebbers, R.F. Follett; Academic Press (Elsevier); p.341-353.
- Davis SC** 2011. Ecological Dimensions of Biofuel Production. *ESA Bulletin. July Reports*: 303-308.
- Davis SC**, JI House, RA Diaz-Chavez, A Molnar, H Valin, EH DeLucia. 2011. How can land-use modelling tools inform bioenergy policies? *Journal of the Royal Society Interface Focus* 1:212-223. *doi:10.1098/rsfs.2010.0023*.
- Davis SC**, FG Dohleman, SP Long. 2011. The global potential for *Agave* as a bioenergy feedstock. *Global Change Biology Bioenergy* 3: 68-78.
- Davis SC**, H Griffiths, J Holtum, A Larque Saavedra, SP Long. 2011. The evaluation of feedstocks in GCBB continues with a special issue on agave for bioenergy. *Global Change Biology Bioenergy* 3:1-3.
- Drake JE, **SC Davis**, LM Raetz, EH DeLucia. 2010. Mechanisms of age-related changes in forest production: the influence of physiological and successional changes. *Global Change Biology*, **17**: 1522-1535.
- Somerville C, H Youngs, C Taylor, **SC Davis**, SP Long. 2010. Feedstocks for lignocellulosic biofuels. *Science* 329: 790-792.
- Davis SC**, WJ Parton, FG Dohleman, CM Smith, S Del Grosso, AD Kent and EH DeLucia. 2010. Comparative biogeochemical cycles of bioenergy crops reveal nitrogen-fixation and low GHG emissions in a *Miscanthus x giganteus* agro-ecosystem. *Ecosystems* 13: 144-156.
- Drake JE, LM Raetz, **SC Davis**, EH DeLucia. 2010. Hydraulic limitation not declining nitrogen availability causes the age-related photosynthetic decline in loblolly pine (*Pinus taeda* L.). *Plant, Cell & Environment* **33**: 1756-1766.
- Davis SC**, KJ Anderson-Teixeira, EH DeLucia. 2009. Life-cycle analysis and the ecology of biofuels. *Trends in Plant Science* 14: 140-146.
- Davis SC**, AE Hessel, C Scott, MB Adams and RB Thomas. 2009. Forest carbon sequestration changes in response to harvest. *Forest Ecology and Management* 258: 2101-2109.
- Davis SC**, KE Dragan, CR Buyarski, and RB Thomas. 2009. High foliar and soil nitrogen concentrations in Central Appalachian forests. *Ecosystems* 12: 46-56.
- Anderson-Teixeira KJ, **SC Davis**, MD Masters, and EH DeLucia. 2009. Changes in soil organic carbon storage under potential biofuel crops. *Global Change Biology BioEnergy* 1:75-96.
- Davis SC**, AE Hessel, and RB Thomas. 2008. A modified nitrogen budget for temperate deciduous forests in an advanced stage of nitrogen saturation. *Global Biogeochemical Cycles*, 22, GB4006, *doi:10.1029/2008GB003187*.
- Parker DC, AE Hessel, and **SC Davis**. 2008. Complexity, land-use modeling, and the human dimension: fundamental challenges for mapping unknown outcome spaces. *Geoforum* 39: 789-804.
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### PROFESSIONAL APPOINTMENTS

|                           |   |              |
|---------------------------|---|--------------|
| Associate Professor       | Voinovich School of Leadership and Public Affairs,<br>Ohio University       | 2017-present |
| Assistant Professor       | Voinovich School of Leadership and Public Affairs,<br>Ohio University       | 2013-2017    |
| Research Professor        | Department of Environmental and Plant Biology<br>Ohio University            | 2013-present |
| Bioenergy Analyst         | Energy Biosciences Institute,<br>University of Illinois at Urbana-Champaign | 2010-2012    |
| Adj. Assistant Professor  | Department of Plant Biology,<br>University of Illinois at Urbana-Champaign  | 2010-2012    |
| Post-doctoral Researcher  | Department of Plant Biology,<br>University of Illinois at Urbana-Champaign  | 2007-2009    |
| Research & Teaching Asst. | Department of Biology,<br>West Virginia University                          | 2003-2007    |
| Assistant Director        | Regional Math/Science Center,<br>Frostburg State University                 | 1999-2003    |
| Lab Research Intern       | USDA, Beltsville, MD  | 1994-1995    |

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### EDUCATION

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| Ph.D. in Biology, West Virginia University   | 2003-2007 |
| Specialization: Environmental and Evolutionary Biology   |           |
| Dissertation: Land use and forest productivity in the Central Appalachian region   |           |
| B.A. / B.S. in Wildlife and Fisheries, Frostburg State University  | 1995-1999 |
| Major specialization: Wildlife Management  |           |
| Minors: Biology, Spanish   |           |
| <i>Extra studies:</i> Environmental Issues in Ecuador (1998), Meteorology for Weather Education (2000), Web page design (2001), Ecological and Environmental Science Issues (2002) |           |
| <i>Honors/Award:</i> Magna Cum Laude, English Colloquium invitation, Service Leadership Award Nomination, 3 undergraduate academic scholarships, 1 study abroad scholarship        |           |

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### TEACHING

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| Ohio University, Voinovich School of Leadership and Public Affairs, Athens, OH |           |
| <i>ES 6820 Ecology and Environmental Issues</i>                                | 2013-2018 |
| <i>ES 4500 Capstone: Environmental Leadership, Science &amp; Communication</i> | 2018      |
| <i>ES 5710/4710 Bioenergy: Science, Policy, and Business</i>                   | 2017      |
| <i>ES 5900 Special Topics: Civil Discourse and Environmental Leadership</i>    | 2017      |
| <i>ES 4500 Capstone: Environmental Science &amp; Policy Literacy</i>           | 2016      |
| <i>ES 4500 Capstone: Carbon Connections</i>                                    | 2015      |
| <i>ES 2970T Environmental Studies Tutorial</i>                                 | 2015      |

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| <i>ES 6580 Graduate Colloquium</i>   | 2014       |
| <i>ES 6900 Special Topics: Bioenergy Science, Policy &amp; Business</i>    | 2013, 2015 |
| <i>Guest lecturer for P BIO Ecophysiology</i>                              | 2014-2016  |
| <i>Guest lecturer for CHE 4900 Special Topics in Chemical Engineering</i>  | 2013, 2015 |
| <i>Guest lecturer for ES 4500 Environmental Studies Capstone Seminar</i>   | 2013       |
| University of Illinois, Department of Plant Biology, Urbana-Champaign, IL  |            |
| <i>Guest Debate Coach for IB 440 Plants and Global Change</i>              | 2011       |
| <i>Guest lecturer for CPSC 415 Bioenergy Crops</i>                         | 2010       |
| <i>IB 452 Ecosystem Ecology</i>  | 2009       |
| <i>IB 100/101 Integrative Biology</i>                                      | 2007-2008  |
| West Virginia University, Department of Biology, Morgantown, WV            |            |
| <i>Guest Lecturer for Biol 361 Plant Ecology</i>                           | 2006       |
| <i>Teaching Assistant for Biol 361 Plant Ecology</i>                       | 2006       |
| <i>Teaching Assistant for Biol 321 Total Science Experience in Ecology</i> | 2005       |
| <i>Teaching Assistant for Biol 106 Environmental Biology</i>               | 2005       |
| <i>Teaching Assistant for Biol 115 Introduction to Biology</i>             | 2004-2005  |
| Frostburg State University, Regional Math/Science Center, Frostburg, MD    |            |
| <i>Science Teacher</i>   | 2004       |
| <i>Curriculum Coordinator</i>  | 1999-2003  |

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#### SERVICE ACTIVITIES

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|----------------------------------|---|
| <i>Grant Reviewer:</i>           | National Science Foundation; National Institute for Climate Change Research; Agriculture and Food Research Initiative, USDA; BBSRC, UK  |
| <i>Editorial Service:</i>        | Editorial Board member for PLOS ONE (2012-present)<br>Editorial Advisory Board member for Global Change Biology Bioenergy (2014-2017)<br>Guest Associate Editor for Global Change Biology Bioenergy (2011)  |
| <i>Journal Reviewer:</i>         | Nature Climate Change; Global Change Biology; Ecological Applications; Journal of Environmental Quality; Environmental Research Letters; Plant and Soil; Functional Ecology; GCB-Bioenergy; Journal of Environmental Management; Ecological Modeling; Tree Physiology; Applied Energy; Resources, Conservation & Recycling; Crop Science; Bioenergy Research; Journal of Experimental Botany; Global Environmental Change; Ecosphere; Biomass and Bioenergy; Frontiers in Plant Science |
| <i>Consultation:</i>             | Energy Technology Institute, LLP (2010-2012); BP (2013-2014)  |
| <i>Engagement/<br/>Outreach:</i> | Women Leading Ohio mentor (2018-19); Open OHIO Lead (2018-19); Civil Discourse Working Groups (2017); Waste-to-Fuel Advanced Bioenergy Open House (2016); Speaker at SOUL Meeting, OU (2014); Ohio Energy Project Speaker, OU (2013-14); Kanawha Project Speaker, OU (2013-14); Student Expo Judge, OU; Energy Farm Open House,   |

UIUC-EBI; Technology-Enhanced Teaching, Center for Teaching Excellence, UIUC, Illinois; Expanding Your Horizons- Outreach education for motivating young scientists, West Virginia; Energizing Schools (NESEA)- Conference for renewable energy design in schools, Maryland; Nature Conservancy, Maryland; Wildlife Society FSU Chapter, Maryland; Americorps Read to Succeed, Maryland

*Committees:* Challenging Dialogues Task Force (2018-19); University Professional Ethics Committee (2018-19); Faculty Merit Evaluation Committee (2017-18); Deans Evaluation Committee, Ohio Univ. (2015); Search Committee for Director of Center for Public and Social Innovation (2015); Ridges Land Use Planning Subcommittee (2014); Search Committee for Faculty member in Environmental Studies (2014); Goldwater Scholars Review Committee (2013); Faculty Ethics Committee, Voinovich School, (2013); Graduate Affairs Committee, Dept. of Plant Biology, UIUC: Retreat Planning Committee, Energy Biosciences Institute, UC Berkeley

*Professional Memberships:* American Association for the Advancement of Sciences, Ecological Society of America, American Geophysical Union, American Society of Plant Biologists

*Service Leadership Appointments:*

Chair of Agroecology Section at Ecological Society of America (2018-2019)  
Chair of Subcommittee for University Professional Ethics Committee (2018)

*Event, Workshop, and Conference Leadership:*

- Emerging Coproduction Systems for Sustainable Rural Economies Workshop. May 23-24, 2018, Ohio University, Athens, OH. – *lead organizer*
- BIOLOGY OF CAM PLANTS. April 9-13, 2018. Desert Botanical Gardens, Phoenix, AZ – *organizer and discussion facilitator*
- National Council for Science and the Environment 16<sup>th</sup> National Conference and Global Forum on Science, Policy and the Environment, 2016: Food-Energy-Water Nexus; January 19-21, 2016, Washington D.C. – *session organizer, moderator, and speaker*
- Waste-to-Fuel: Bioenergy Open House, October 7, 2015, Athens, OH - *organizer*
- Water in Bioenergy Agroecosystems Workshop, June 12-13, 2012, Chicago, IL – *organizer and discussion facilitator*
- International Soil Carbon Monitoring Standards and Methodologies Workshop, March 21-24, 2011, London, UK – *wrote synthesis paper (published)*
- Harvesting Carbon from Eastern US Forests Workshop, December 10, 2010, San Francisco, CA. – *organizer, discussion facilitator, and lead author of synthesis paper (published)*
- Ecological Dimensions of Biofuel Production Session, Ecological Society of America, August 1-6, 2010, Pittsburgh, PA, USA – *lead organizer and session moderator*
- Agave and Bioenergy Workshop, Guadalajara, Mexico, May 12-13, 2010 – *lead organizer, guest editor for synthesis in journal special issue (published)*
- Resolving land use change: Can biofuels be part of the solution for climate change? April 15-16, 2010, London, UK. – *lead author of synthesis paper (published)*

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FUNDED AWARDS

|            |   |
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| 2018-2019  | Open OHIO: \$44,780.  |
| 2018-2020  | Supporting Renewable Energy Research and STEM Education in Rural Appalachian Ohio (AEP Foundation): \$250,000 (co-PI; PI Jen Bowman)  |
| 2017-2018  | Reclaiming abandoned lands with coproduction of biofuels and high value bioproducts (Innovation Strategy): \$20,000 (PI)  |
| 2015-2016  | Voinovich Collections Fellowship: \$1000 (PI)   |
| 2015-2016  | <i>Sustainable Housing through Holistic Waste Stream Management and Algal Cultivation</i> (NSF 1230961): \$309,071 (co-PI; PI Ben Stuart)   |
| 2014-2016  | Anaerobic digestion system for multiple services: energy, greenhouse gas reduction, waste remediation, fertilizer, and economic returns (1804 Fund): \$75,000 (PI)                        |
| 2013-2017  | <i>Agave</i> as a feedstock crop in the southwestern US (EBI): \$400,000 (PI)   |
| 2013-2014  | <i>BP Biomass Handbook</i> (BP): \$17,208 (PI)  |
| 2014       | Resolving age-mediated responses of forest carbon sequestration to climate change (OU Research Council): \$7979 (PI)  |
| 2013       | Belowground carbon cycling response to climate change and forest age (OU Research Challenge Program): \$2500 (PI)   |
| 2013       | Integrated supply chain analysis for a second-generation bioenergy industry (OU Research Challenge Program): \$3500 (PI)  |
| 2013       | Developing environmentally compatible bioenergy production (OU Research Challenge Program): \$2500 (PI)   |
| 2012       | <i>Agave</i> as a feedstock crop in the southwestern US (EBI): \$61,878 (PI)  |
| 2011-2012  | Assessing the Carbon Footprint of Combined Corn and Cellulose Ethanol Production (EPA): \$15,000 (PI)   |
| 2010       | Harvesting Carbon from Eastern US Forests workshop (EBI): \$8000 (PI)   |
| 2010       | <i>Agave</i> for Bioenergy workshop (EBI): \$21,000 (PI)  |
| 2008, 2010 | American Society of Plant Biologists Travel Award: \$2000   |
| 2006-2007  | Eberly College Doctoral Stipend Enhancement Award: \$8000   |
| 2004-2007  | Eberly College Doctoral Student Research Grant: \$1500  |
| 2003       | US Dept of Education TRIO Upward Bound/ Math Science Competition Award co-authored with Project Director, Rita Hegeman, ED Grant Number P047M030035: \$294,375 annual budget through 2007 |

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PRESENTATIONS

- Davis SC**, Reza KE, Philipinanto D, Herman T, Rodjom A, Adjuik T. Modeling coproduction systems that improve agroecosystem resilience on degraded lands. American Geophysical Union Annual Meeting. December 11-14, 2018; Washington, D.C.
- Davis SC**, Martin R, Herman T. Science to Action: Empowering Ecologists to Engage in the Process of Translation for Informed Environmental Decision-making. American Geophysical Union Annual Meeting. December 11-14, 2018; Washington, D.C.
- Davis SC**. Enhancing Resource Use Efficiency of Agroecosystems. USDA-DOE Circular Carbon Economy Summit; July 24-25, 2018; Golden, CO, USA. (invited)
- Davis SC**. Coproduction Opportunities. Emerging Coproduction Systems for Sustainable Rural Economies. May 23-24, 2018. Ohio University, Athens, OH.

- Davis SC.** Opportunities and challenges for developing novel agroecosystems with CAM crops. Biology of CAM Plants 2018. April 9-13, 2018. Desert Botanical Gardens, Phoenix, AZ. (invited)
- Herman T and **Davis SC.** Using food waste and bioenergy crops to produce renewable natural gas. 1<sup>st</sup> Place Prize) Ohio University Student EXPO. April 12, 2018. Athens, OH.
- Rodjom A and **Davis SC.** Greenhouse gas fluxes of soil in a cellulosic bioenergy crop *Miscanthus x giganteus*. 1<sup>st</sup> Place Prize) Ohio University Student EXPO. April 12, 2018. Athens, OH
- Adjuik T, Rodjom A, and **Davis SC.** Effects of hydrochar, digestate, and synthetic fertilizer on soil greenhouse gas fluxes in *Miscanthus x giganteus* grown as advanced biofuel feedstock. Emerging Coproduction Systems for Sustainable Rural Economies. May 23-24, 2018. Ohio University, Athens, OH. (poster)
- Davis SC.** Managing Forests for Carbon Sequestration, Ohio Forests Summit. December 12-13, 2017. Vinton Furnace State Experimental Forest, McArthur, OH. (invited)
- Davis SC** and Miller KE. Integrated agriculture, energy, and waste management: Applying ecosystem science to improve nutrient use efficiency of humans. Ecological Society of America Annual Meeting. August 6-11, 2017. Portland, OR.
- Davis SC.** Contrasting theoretical and realized CO<sub>2</sub> assimilation by CAM plants in desert agriculture. Gordon Research Conference: CO<sub>2</sub> Assimilation in Plants from Genome to Biome. April 30 – May 5, 2017. Lucca, Italy. (invited)
- Jones A, **Davis SC.** Fuel yield potential of field grown *Agave America* (L.) based on water soluble carbohydrates, acid extractable carbohydrates, and enzymatic digestibility compared to other advanced biofuel feedstocks. (1<sup>st</sup> Place Prize) Ohio University Student EXPO. April 6, 2017. Athens, OH
- Filyaw T, **Davis SC.** An examination of mycorrhizal symbiosis in forest-grown American Ginseng (*Panax quinquefolius*), and the influence of mycorrhizal colonization on root ginsenoside content. (1<sup>st</sup> Place Prize) Ohio University Student EXPO. April 6, 2017. Athens, OH
- Rodjom A, **Davis SC.** Carbon cycling of the cellulosic bioenergy crop *Miscanthus x giganteus*. (1<sup>st</sup> Place Prize) Ohio University Student EXPO. April 6, 2017. Athens, OH
- Grossman E, Miller KE, **Davis SC.** Designing a gas control system for anaerobic digestion. Ohio University Student EXPO. April 6, 2017. Athens, OH
- Davis SC.** Potential of CAM crops for energy and bioproducts in a changing climate. Invited Seminar for College of Food, Agriculture, and Environmental Sciences; Ohio State University. February 28, 2017. Columbus, OH. (invited)
- Niechayev N and **Davis SC.** The environmental productivity and physiological light response of the CAM plant *Agave americana* (L.): a potential semi-arid biofuel feedstock. 5<sup>th</sup> PanAmerican Congress on Plants and Bioenergy. August 4-7, 2016. Santa Fe, NM. (poster).
- Davis SC** and Miller KE. Integrating energy, agriculture, and waste management for environmentally sustainable bioenergy production. 5<sup>th</sup> PanAmerican Congress on Plants and Bioenergy. August 4-7, 2016. Santa Fe, NM. (poster)
- Davis SC.** Integrating energy, agriculture, and waste management for multi-dimensional environmental solutions. EnergyPath 2016. July 28-29, 2016. State College, PA.



- Davis SC.** Introduction to World Café on Integrating Food, Energy and Water Systems to Eliminate Waste. 16<sup>th</sup> National Conference and Global Forum on Science, Policy and the Environment: The Food-Energy-Water Nexus. January 19-21, 2016. Washington, D.C.
- Filyaw T, **Davis S.** 2016. An examination of mycorrhizal symbiosis in forest grown American ginseng (*Panax quinquefolius*). Student EXPO, Ohio University, Athens, OH. April 6, 2016.
- Grossman E, Rodjom A, Miller K, **Davis S.** 2016. Giving life to waste: A review of anaerobic digestion. Student EXPO, Ohio University, Athens, OH. April 6, 2016.
- Niechayev N, **Davis S.** 2016. The environmental productivity and light response of *Agave americana*: a potential semi-arid biofuel feedstock. Student EXPO, Ohio University, Athens, OH. April 6, 2016. (Second place prize in Environmental Studies)
- Whittemore M, **Davis S.** 2016. Mapping and assessment of plant communities at Crane Hollow Nature Preserve. Student EXPO, Ohio University, Athens, OH. April 6, 2016. (First place in Environmental Studies)
- Davis SC,** Kuzmick ER, Niechayev N, Hunsaker D. 2015. Ecological benefits of Crassulacean Acid Metabolism (CAM) in agricultural production. Ecological Society of America Centennial Meeting. August 9-14, 2015, Baltimore, MD. (poster)
- Kuzmick ER, Miles D, **Davis SC.** Investigating the viability of *Agave americana* as a potential bioenergy feedstock and its relative impact on surrounding wildlife. Student Expo, Ohio University, Athens, OH. April 9, 2015. (poster)
- Kloepfer JE, **Davis SC,** Buckley G, Sinha G, Lucas R. Changes in ecosystem services of a street tree canopy over 24 years: A case study of Athens, Ohio. Student Expo, Ohio University, Athens, OH. April 9, 2015. (poster)
- Davis SC.** Land management and terrestrial carbon sequestration. Kanawha Project Panel Discussion. Athens, OH. March 21, 2015. (invited)
- Davis SC.** Sustainable landscapes in a changing climate. SOUL meeting, Ohio University, Athens, OH, November 12, 2015. (invited)
- Davis SC.** Sustainable bioenergy in a changing climate. Ecolunch in Department of Biological Sciences, Ohio University, Athens, OH. October 15, 2014. (invited)
- Davis SC.** Agave: a feedstock crop for a changing climate? 10<sup>th</sup> Annual Bioenergy Feedstocks Symposium. University of Illinois at Urbana-Champaign, Urbana, IL, September 24, 2014 (invited).
- Davis SC,** Miller K, Stuart B. *Finding an energy balance in anaerobic digestion.* NSF I/UCRC Center for the Sustainable Use of Greenhouse Gases Meeting; Columbus, OH; August 18, 2014.
- Davis SC,** Kuzmick E, Lebauer D, Long S. *Potential for converting light to liquid fuel using CAM crops in semi-arid regions.* 34<sup>th</sup> New Phytologist Symposium: Systems biology and ecology of CAM plants; Tahoe, CA; July 14-19, 2014. (Invited Keynote Speaker)
- Kuzmick E and **Davis SC.** *Investigating the potential for Agave americana as a bioenergy feedstock.* 34<sup>th</sup> New Phytologist Symposium: Systems biology and ecology of CAM plants; Tahoe, CA; July 14-19, 2014. (poster)
- Kuzmick E and **Davis SC.** *Potential for Agave americana as a bioenergy feedstock with low water requirements.* Pan-American Congress on Plants and Bioenergy. University of Guelph, Canada; June 4-7, 2014. (poster)
- Comisford S and **Davis SC.** *Effects of land use and forest age on the response of tree growth to climatic variation.* Ohio University Student Expo; Athens, OH; April 10, 2014. (poster)

- Kloepfer JE and **Davis SC**. *The importance of urban forests: A tree canopy assessment of Athens to quantify ecosystem services*. Ohio University Student Expo; Athens, OH; April 10, 2014. (poster)
- Kuzmick E and **Davis SC**. *Investigating the viability of Agave americana as a potential bioenergy feedstock and its relative impact on surrounding wildlife*. Ohio University Student Expo; Athens, OH; April 10, 2014. (poster)
- Grennell J and **Davis SC**. *Yield and carbon exchange of Sorghum grown as advanced biofuel feedstock on abandoned agricultural land in southeastern Ohio*. Ohio University Student Expo; Athens, OH; April 10, 2014. (poster)
- Davis S. C.** Bioenergy systems to mitigate environmental impacts of energy industries. Brown Bag Lunch Seminar Series of the Consortium for Energy, Economics, and Environment. Voinovich School of Leadership and Public Affairs, Ohio University, Athens, OH, October 4, 2013.
- Davis S. C.** Bioenergy systems that address climate change. Colloquium in Department of Chemical Engineering, Ohio University, Athens, OH, September 30, 2013 (invited).
- Davis S. C.** Terrestrial carbon dynamics: response to land use and climate change. Colloquium series in Department of Environmental and Plant Biology, Ohio University, Athens, OH, September 20, 2013 (invited).
- Davis S. C.** Agave: a potential bioenergy feedstock crop for semiarid agricultural land. 16<sup>th</sup> International Congress on Photosynthesis Research, St. Louis, MO, August 11-16, 2013 (invited).
- Davis S. C.** Agave: a potential bioenergy feedstock? C4-CAM Meeting, Urbana, IL, August 6-9, 2013 (invited).
- Davis S. C.** Terrestrial carbon dynamics: responses to land use and climate change. US Forest Service Northern Research Station, Delaware, OH, July 26, 2013 (invited).
- Davis S.C.** Managing bioenergy for ecological benefits. UC Berkeley Energy Biosciences Institute Seminar Series, Berkeley, CA, November 13, 2012. (invited)
- Davis S.C.** Effects of management choices on the ecological impact of biofuel crops. Ecological Society of America 97<sup>th</sup> Annual Meeting, Portland, OR, August 5-10, 2012. (invited)
- DeLucia E.H., Anderson-Teixeira K.J., Duval B.D., **Davis S.C.**, Bernacchi C.J., Parton W.J. Impacts of growing perennial grasses for biofuel in the U.S. corn belt. Ecological Society of America 97<sup>th</sup> Annual Meeting, Portland, OR, August 5-10, 2012. (invited)
- Black C. K., **Davis S.C.**, Bernacchi C.J., DeLucia E.H. Elevated temperature and carbon dioxide prime soil-specific increases in heterotrophic respiration. Ecological Society of America 97<sup>th</sup> Annual Meeting, Portland, OR, August 5-10, 2012.
- Paul, R. and **Davis S.C.** Optimizing agroecosystem landscapes for both bioenergy feedstocks and ecosystem services (poster). 3<sup>rd</sup> Pan American Congress on Plants and Bioenergy, Urbana, IL, July 15-18, 2012.
- Straker, K. and **Davis S.C.** Mismatch of life-cycle inventories for bioenergy production and agricultural resource production (poster). 3<sup>rd</sup> Pan American Congress on Plants and Bioenergy, Urbana, IL, July 15-18, 2012.
- Kampwerth, M. and **Davis S.C.** Production and water use efficiency of *Agave* spp. for bioenergy in the southwestern US. 3<sup>rd</sup> Pan American Congress on Plants and Bioenergy, Urbana, IL, July 15-18, 2012.

- Davis S.C.** Managing bioenergy agro-ecosystems for negative carbon emissions. GCEP Workshop on Energy Supply with Negative Carbon Emissions, Stanford University, June 15, 2012. (invited)
- Davis S.C.** Perspective on water cycling in ecosystem models. Water in Bioenergy Agro-ecosystems Workshop, Gleacher Center, Chicago, June 12-13, 2012. (invited)
- Davis S.C.** Managing bioenergy to mitigate climate change. IDEAS Bioenergy Symposium, UNC Charlotte, March 13-14, 2012. (invited)
- Parton W.J., **Davis S.C.**, Del Grosso S., Adler P.R., DeLucia E.H. Ecological modeling of bioenergy production systems using DayCent. Ecological Society of America 96<sup>th</sup> Annual Meeting, Austin, TX, August 7-12, 2011.
- Black C.K., **Davis S.C.**, Bernacchi C.J., DeLucia E.H. Heterotrophic respiration from soil increases with atmospheric carbon dioxide and temperature (poster). Ecological Society of America 96<sup>th</sup> Annual Meeting, Austin, TX, August 7-12, 2011.
- Duval, B.D., **Davis S.C.**, Parton W.J., Long S.P., DeLucia E.H. Greenhouse gas reduction with conversion from pasture to energy cane production. Ecological Society of America 96<sup>th</sup> Annual Meeting, Austin, TX, August 7-12, 2011.
- Davis S.C.**, Dohleman F.G., Long S.P. Global potential for *Agave* as a biofuel feedstock. Berkeley Bioeconomy Conference, March 24-25, 2011. (invited)
- Davis S.C.** Carbon dynamics: perspectives from ecosystem models. NSF INTERFACE Meeting: How do we improve earth system models? March 2-3, 2011. Captiva Island, FL. (invited)
- Davis S.C.**, Drake J.E., DeLucia E.H. Carbon sequestration in response to rising atmospheric CO<sub>2</sub> in active and abandoned pine plantations of the southeastern US (poster). American Geophysical Union Fall Meeting. December 13-17, 2010. San Francisco, CA.
- Davis S.C.**, W.J. Parton, S.J. Del Grosso, C. Keough, E. Marx, E. H. DeLucia. 2010. Second-generation biofuel feedstocks improve greenhouse gas economics of agriculture in the Mississippi watershed. 2<sup>nd</sup> Pan American Congress on Plants and Bioenergy, August 8-11, 2010, São Pedro, Brazil.
- Davis, S.C.** 2010 Carbon budgets of harvested ecosystems that vary in form and function: from monocultures to diverse deciduous forests. Ecological Society of America, August 1-6, 2010, Pittsburgh, PA, USA.
- Black C.K., **S.C. Davis**, C.J. Bernacchi, E. H. DeLucia. 2010. Response of soil respiration to ecosystem warming and elevated atmospheric carbon dioxide (poster). Ecological Society of America, August 1-6, 2010, Pittsburgh, PA, USA.
- Davis, S.** 2010. Greenhouse gas mitigation potential of bioenergy feedstock crops. Seventh Annual Bioenergy Feedstocks Symposium. Champaign, IL, January 11-12, 2010. (invited)
- Davis, S.**, T. Yannarell, M. Masters, K. Anderson-Teixeira, J. Drake, R. Darmody, R. Mackie, M. David, E. DeLucia. 2009. Restoration of soil organic carbon with cultivation of perennial biofuel crops (poster). American Geophysical Union. December 14-18, 2009. San Francisco, CA.
- Davis, S. C.** Tony C. Yannarell, Evan H. DeLucia. 2009. Carbon sequestration mediated by plant-soil-microbe interactions in tallgrass prairie communities (poster). American Society of Plant Biologists. Honolulu, HI, July 18-22, 2009.
- Kent, A. D., **S. C. Davis**, D. P. Keymer, N. R. Gottel. 2009. Ecology and exploitation of endophytic diazotrophic bacteria in biofuel crops. Energy Biosciences Institute Retreat. Champaign, IL, June 19-22, 2009.

- Yannarell, A. C., **S. C. Davis**, R. I. Mackie. 2009. Assessing the influence of two perennial grass biofuel crops on soil bacterial community composition. ASM, May 17-21, 2009.
- Davis, S. C.** Nitrogen budgets in a carbon-based economy. Department of Plant Biology Colloquium, Urbana, IL, April 3, 2009. (invited)
- Davis, S. C.** Sustainability of nutrient budgets in bioenergy agro-ecosystems. EBI Internal Discussion Seminar Series. March 6, 2009.
- Davis, S. C.** Nitrogen budgets in carbon based economy. Cary Institute of Ecosystem Studies, Millbrook, NY February 19, 2009. (invited)
- Davis, S.C.,** W.J. Parton, F.G. Dohleman, N R. Gottel, C. M. Smith, M. David, A. D. Kent and E.H. DeLucia. 2008. Projections of biofuel growth patterns reveal the potential importance of nitrogen fixation in *Miscanthus* productivity. American Geophysical Union Fall Meeting, San Fransisco, CA, December 2008. (invited)
- Davis, S.C.,** K.J. Anderson-Teixeira, E.H. DeLucia. 2008. Ecology, bioenergy, and life cycle analyses. Ecological Society of America. Milwaukee, WI, August 2008.
- Davis, S.C.,** K.J. Anderson-Teixeira, E.H. DeLucia. 2008. Ecology, bioenergy, and life cycle Analyses (poster). American Society of Plant Biologists Pan American Congress on Plants and BioEnergy. Merida, Mexico, June 2008.
- Davis, S.C.,** A.E. Hessel, R.B. Thomas. 2007. Productivity estimates of nitrogen-saturated forests with different harvesting histories: an adaptation of the PnET-CN model. Ecological Society of America Meeting, San Jose, CA, August 2007
- Davis, S.C.,** A. E. Hessel, R B. Thomas. 2007. Productivity of nitrogen saturated forests in the Central Appalachian region: an adaptation of the PnET-CN model (poster). Eberly College Poster Session, Morgantown, WV, May 2007.
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