

Chris Hollister Wilson

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a) Professional Preparation

- August 2017 **PhD** in Interdisciplinary Ecology (concentration in Agronomy). *Ecology and management of soil carbon on ranchlands of Florida, USA.*
S. Luke Flory, School of Natural Resources and Environment, University of Florida.
- May 2009 **BA** in Ecology. *A review of habitat management for arthropod pest control and farmscaping at Geraldson Community Farm: a pilot project.*
Margaret Lowman, Environmental Studies, New College of Florida.

b) Professional Appointments

- July 2018 – **Assistant Professor**, Agronomy Department, University of Florida. *Global Change Agroecologist.*
Present 60T/40R.
- March 2018- **Postdoctoral Fellow**, USDA NIFA ELI. *The interactive effects of plant composition and carbon*
July 2018 *input quality on nutrient mineralization and stabilization of carbon in pastureland soils.*
Michael S. Strickland, University of Idaho
Stefan Gerber, University of Florida
- Fall 2017 **Lecturer.** *Taught Research Skills in Agrobiolgy. Primary faculty for two sections of a novel project-driven course for graduate students focused on developing interdisciplinary, group-based problem-solving skills in agricultural sciences.* Agronomy Department, University of Florida.
- 2012-2017 **Graduate Research Fellow.** University of Florida.

c) Publications (Published* with an asterisk indicates pre-print)

- In review Pappo E*, **Wilson CH**, Flory SL. Enhancing climate change education through links to agricultural. *American Biology Teacher.*
- In review **Wilson CH**, Gerber S. Theoretical insights from upscaling Michaelis-Menten microbial dynamics in biogeochemical models: a dimensionless approach. *Biogeosciences.*
- In press Bashyal M, Mulvaney MJ, Lee D, Iboyi JE, Leon RG, Landry GM, **Wilson CH**, Boote KJ (2021). Brassica carinata biomass, yield and seed chemical composition response to nitrogen rates and timing on southern Coastal Plain soils in the United States. *GCB Bioenergy.*

- In press **Wilson CH**, Vendramini JM, Sollenberger LE, Flory SL (2021). Root production in a subtropical pasture is mediated by cultivar and defoliation severity. *Tropical Grasslands – Forajjes Tropical* (forthcoming in May edition)
- Published Pappo E*, **Wilson CH**, Flory SL (2021). Hybrid coffee cultivars may enhance agroecosystem resilience to climate change, *AoB PLANTS*, plab010, <https://doi.org/10.1093/aobpla/plab010>
*Advisee paper
- Published Gloaguen R, Rowland D, **Wilson CH**, Brym Z, Chun HC, Langham R (2021). Developing an irrigation decision support system for regionally introduced crops and its importance for drought tolerant species. *Agricultural Water Management* 243: 106435. <https://doi.org/10.1016/j.agwat.2020.106435>
- Published Caughlin TT, Barber CAB, Asner G, Glenn N, Bohlman S, **Wilson CH** (senior author) (2021). Monitoring tropical forest succession at landscape scales despite uncertainty in the Landsat time series. *Ecological Applications* 31(1): e2208. <https://doi.org/10.1002/eap.2208>
- Published Estrada JE, **Wilson CH**, Flory SL (2020). Clonal integration enhances performance of an invasive grass. *Oikos*. 10.1111/oik.07016
- Published* **Wilson CH**, Gerber S (2020). Insight into biogeochemical models from Scale Transition Theory: a dimensionless, scale-free approach. *bioRxiv* <https://doi.org/10.1101/2020.04.13.039818>
(submitted *Biogeochemistry*)
- Published Tarbox B, Swisher M, Calle Z, **Wilson CH**, Flory SL (2020). Decline in local knowledge in the Columbian Andes may constrain silvopastoral tree diversity. *Restoration Ecology*. <https://doi.org/10.1111/rec.13153>
- Published* **Wilson CH**, Vendramini JM, Sollenberger LE, Flory SL (2019). Root production in a subtropical pasture is mediated by cultivar and defoliation severity. *bioRxiv*. <https://doi.org/10.1101/763128>
(currently in press at *Tropical Grasslands*)
- Published West TAP, **Wilson CH**, Vracholi M, Grogan K (2019). Carbon payments for extended rotation lengths on timber plantations: a curious case of conflicting objectives for ecological economics. *Ecological Economics* 163: 70-76.
- Published **Wilson CH**, Strickland MS, Hutchings JA, Bianchi TS, Flory SL (2018). Grazing enhances belowground carbon allocation, microbial biomass, and soil carbon in a subtropical grassland. *Global Change Biology* 24(7): 2997-3009.
- Published **Wilson CH**, Caughlin TT, Rifai SW, Mack MC, Boughton EH, Flory SL. (2017). Multi-decadal time series of remotely sensed vegetation improves prediction of soil carbon stock in a subtropical grassland. *Ecological Applications*, 27(5):1646-1656.
- Published Estrada, J.A., **Wilson C.H.**, Hiatt D., & Flory, S.L. (2017). Different factors drive emergence and persistence in an invasive grass. *International Journal of Plant Science and Management*, 178(5):406-410.
- Published Estrada, J.A., **Wilson C. H.**, NeSmith J.E., & Flory, S.L. (2016). Propagule quality mediates invasive plant establishment. *Biological Invasions*, 18(8):2325-2332.

Published **Wilson, C. H.**, Caughlin, T. T., Civitello, D. J., & Flory, S. L. (2015). Combining mesocosm and field experiments to predict invasive plant performance: a hierarchical Bayesian approach. *Ecology*, *96*(4), 1084-1092.

d) Grants

- NSF, 2015. DISSERTATION RESEARCH: Does grazing stimulate root exudation and accumulation of soil carbon in perennial grasslands? Division of Environmental Biology. **Wilson CH** and Flory SL co-PIs. \$19,017.00
- USDA NIFA, 2018. The interactive effects of plant composition and carbon input quality on nutrient mineralization and stabilization of carbon in pastureland soils. ELI postdoctoral fellowship. **Wilson CH (PI)**, Strickland M, Gerber S. \$163622.
- NPB/SPRI, 2019. From root form to function: developing stress-tolerant peanut cultivars from the ground up. **Wilson CH (PI)**, \$11200.
- USDA OREI 2020. Quantifying the nitrogen cycling benefits of different cover crops across different Florida organic vegetable production systems. Maltais-Landry G (PI), **Wilson CH**, Zhao X, Grabau Z, Strauss S. \$496271(\$61,699 Wilson share).
- USDA SARE Graduate Student Grant 2020. Agroecological intensification of warm-season pastures for improved productivity and delivery of ecosystem services. Hannah Rusch (graduate student), **Wilson CH (PI/PD)**. \$16173.
- USDA/NSF 2020. SiTS: Hyperspectral Signals in the Soil. Zare A (PI), Koppal S, **Wilson CH**, Gerber S, Rowland D. \$ 1197342 (\$548374 Wilson share).
- NPB/SPRI 2021. Stressful memories: investigating the physiological and epigenetic bases for priming, cross priming, and transgenerational inheritance of stress priming acclimation in peanut. **Wilson CH (PI)**, Rowland D, Bassil E. \$8400.
- NPB/SPRI 2021. Chemical priming to improve water stress tolerance in peanut. Bassil E (PI), Rowland D, Wilson CH. \$8400.

Total Funding to date: \$1,920,425 (\$828,485 Wilson share)

e) Synergistic Activities

- Reviewer for Plant and Soil, Journal of Ecology, Ecology, Diversity and Distributions, Biological Invasions, Journal of Applied Ecology, Agronomy Journal.
- Co-director of research initiatives, Center For Stress Resilient Agriculture, University of Florida. Organizing transdisciplinary research that links climate-related stress to crop/plant physiology, ecosystem function and agricultural sustainability.
- Collaborator, Plant Root Science Consortium, University of Florida. Development of novel isotopic and statistical methods for quantifying root function and architecture.
- Teaching Scholarship: graduate and undergraduate courses taught in agroecology, ecosystem ecology, quantitative methods, and project-focused curricula.