Christopher M. Gough

Virginia Commonwealth University
Department of Biology
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ACADEMIC AND PROFESSIONAL BACKGROUND

Academic Interests: forest ecology, disturbance ecology, ecological succession, plant physiological and ecosystem ecology, carbon and nitrogen cycling, biogeochemistry, structural complexity, remote sensing of vegetation, plant-soil interactions, global change biology

Education

Ph.D. Forestry, Virginia Tech, 2003
Dissertation: *Physiology and quantification of carbon dynamics in intensively managed loblolly pine stands.*
M.S. Forestry, Virginia Tech, 2000
Thesis: *Environmental influences on gas exchange in fertilized and non-fertilized stands of loblolly pine.*
B.S. Biology major, Music minor, James Madison University, 1997
Honors Thesis: *The nucleotide sequence of an Arabidopsis alpha-glucosidase.*

Professional Experience

Professor (tenured); Virginia Commonwealth University; Biology Department; 2024 to present
Associate Professor (tenured); Virginia Commonwealth University; Biology Department; 2019 to 2024
Assistant Professor (tenure-track); Virginia Commonwealth University; Biology Department; 2017 to 2019
Research Assistant Professor and Adjunct Instructor (non-tenure track); Virginia Commonwealth University; Biology Department; 2015-2016
Adjunct/Volunteer Teaching and Research Faculty (mostly soft money); Virginia Commonwealth University; Biology Department; 2008-2015*
Research Faculty/Research Experience for Undergraduates mentor; University of Michigan Biological Station; Summers 2003-present
Lecturer; Ohio State University; Center for Life Sciences Education; Winter Quarter 2008
Post-doctoral Researcher; Ohio State University; Department of Evolution, Ecology, and Organismal Biology; 2003 – 2008
Graduate Research Assistant; Virginia Tech; Forestry Department; 1998 – 2003
Field assistant; USDA Forest Service Southeastern Tree Experimental Station; 1998, 1999
Laboratory Technician; James Madison University; Biology Department; 1997 – 1998
Part-time adjunct/stay-at-home Dad

HONORS AND AWARDS

VCU College of Humanities and Sciences Excellence in Scholarship Award 2018 (Math/Science)

VCU Graduate Organization of Biology Students Faculty Member of the Year, 2016, 2019
Virginia Commonwealth University, College of Humanities and Sciences, Research Excellence Award, 2014, 2015, 2016, 2017, 2018, 2019, 2022
Outstanding Reviewer, Forest Ecology & Management, 2015
National Society of Collegiate Scholars, Distinguished Member, Virginia Commonwealth University Chapter, 2015
Virginia Tech Gamma Sigma Delta Graduate Dissertation Award of Merit for 2004, awarded to one Virginia Tech Ph.D. graduate annually
Virginia Tech Outstanding Graduate Student Award 2002-2003, awarded to one graduate student annually from each college by the Virginia Tech Graduate School
Virginia Tech Forestry A.B. Massey Award 2002-2003, awarded to one graduate student annually from the Forestry Department
William J. Dann Graduate Fellowship, 2000-2003, awarded to an outstanding graduate student from the Forestry Department
Virginia Tech Graduate Student Association travel grant, 2000
Outstanding Undergraduate Presentation Award, American Society of Plant Physiologists Washington D.C. Section Meeting, 1998
Magna Cum Laude, James Madison University, 1997
Distinction in Biology, James Madison University, 1997

GRANTS (Total w/partners: = $10,307,769; VCU (Gough only) total: $3,105,653

Active Federal Research Grants (as of July 15, 2024)

The multidimensionality of forest carbon cycling and structure in the wake of disturbance: Does initial resistance foreshadow resilience and recovery? 2022-2026. PI with Bond-Lamberty B. (Pacific Northwest Laboratory); NSF Ecosystem Studies Program $597,648 total to VCU.

LTREB renewal: Drivers of forest C storage from canopy closure through successional time. 2019-2024. co-PI with Knute Nadelhoffer and Lucas Nave; NSF Ecosystem Studies/Long-Term Research in Environmental Biology Programs. $594,691 total (VCU, $145,786).

High-frequency Data Integration for Landscape Model Calibration of Carbon Fluxes Across Diverse Tidal Marshes. 2021-2024. Co-PI with Patty Oikawa (lead), Lisamarie Windham-Myers, Karina Schaefer, Rodrigo Vargas, Sara Knox, Genevieve Noyce, co-PIs. Department of Energy, Terrestrial Ecosystem Science. $998,274 total (VCU $104, 532)

Ameriflux Core Site long-term research grant, University of Michigan Biological Station. Department of Energy, Terrestrial Ecosystem Science. 2021-2026. Co-PI with Curtis P.S., Nave, L.E.., and Bohrer G. See: http://ameriflux.lbl.gov/. $1,234,236 total (VCU, $110,245).

Globally-Derived Measures of Structure Informed by Ecological Theory and Observation. 2022-2024. Co-PI with Keith Krause and Jan Van Aardt; NASA Decadal Survey Program. $665,000 total (VCU $224,444).

Rice Rivers Calibration and Validation Reference Network. 2022-2025. PI. NASA. $230,000 to VCU.

NASA Field Campaign at the VCU Rice Rivers Center: Student Airborne Research Program. Co-PI with Greg Garman. $74,237 total to VCU

Active International Grants

Predicting changes in carbon cycling services provided by soil arthropods, National Sciences and Engineering Council of Canada, unfunded collaborator/international partner with PI JP Lessard, $24,950.

Active Internal (VCU) Grants

VCU Breakthroughs Fund. $150,000 Integrating climate-driven environmental changes and public health outcomes. PIs: GC Garman and A Krist, Investigators: RB Franklin, PA Bukaveckas, R Sabo, T York, S Fong, CM Gough, and W Shuart. $150,000 Unfunded collaborator, not inl.

Completed Private Foundation Grants

Training Next Generation Environmental Scientists: An Open-Access Course for Experiential Education at the VCU Rice Rivers Center. $50,000. 2016-2017. Dominion Foundation. PI with Ellen Goodrich-Haentjens (Ph.D. student/advisee) and Scott Neubauer.

Completed Federal Research Grants

Thresholds of NEP resilience and decline following subtle disturbance: Why does one ecosystem recover and another one crash? 2017-2023. PI with Bond-Lamberty B. (Pacific Northwest Laboratory); NSF Ecosystem Studies Program $874,090.00 total to VCU.

Ameriflux Core Site long-term research grant, University of Michigan Biological Station. $756,745 total (VCU, $183,331). 2013-2020. Department of Energy, Terrestrial Ecosystem Science. Co-PI with Curtis P.S., Nadelhoffer, K.J., and Bohrer G.

LTREB: Drivers of forest C storage from canopy closure through successional time. $448,585 total (VCU, $80,543). 2014-2019. co-PI with Knute Nadelhoffer and Lucas Nave; NSF Ecosystem Studies/Long-Term Research in Environmental Biology Programs.

Collaborative Research: EAGER-NEON: Is canopy structural complexity a global predictor of primary production?: Using NEON to transform understanding of forest structure-function. $299,850 total ($180,047 to VCU) PI, with co-PIs Robert T. Fahey (University of Connecticut); Brady S. Hardiman (Purdue U.)

RESEARCH EXPERIENCE FOR UNDERGRADUATES (REU): University of Michigan Biological Station: Biosphere-Atmosphere-Hydrosphere Interactions in a Changing Global Environment; Senior Personnel with PIs Dave Karowe and Steve Bertman (Western Michigan University); NSF Ecosystem Studies Program.

COLLABORATIVE RESEARCH: Forecasting Carbon Storage as Eastern Forests Age: Joining Experimental And Modeling Approaches at the UMBS Ameriflux Site. $1,030,767 (VCU, $177,275). 2011-2014. Department of Energy, Terrestrial Ecosystem Science. Co-PI with Curtis P.S., Nadelhoffer, K.J., and Bohrer G.

COLLABORATIVE RESEARCH: Disturbance, succession and forest carbon dynamics: an ecosystem-scale experiment at the University of Michigan Biological Station (renewal). $424,899 (VCU, $59,637). 2009-2011. Department of Energy, National Institute for Climate Change Research. Co-PI with Curtis P.S., Vogel C.S., Bohrer G.

COLLABORATIVE RESEARCH: Disturbance, succession and forest carbon dynamics: an ecosystem-scale experiment at the University of Michigan Biological Station. $649,729. 2006-2009. Department of Energy, National Institute for Climate Change Research. Co-PI with Curtis P.S., Schmid H.P., Vogel C.S.

Mass and energy exchange in a northern mixed hardwood ecosystem. $280,997. 2005-2006. Department of Energy, National Institute for Global Environmental Change. Co-PI with Curtis P.S., Schmid H.P., Su H.B., and Vogel C.S.

Prior Internal (VCU) Grants

HEETF award: Eddy covariance flux system; Life Sciences; submitted with Dr. Scott Neubauer; $78,998.

VCU Council for Community Engagement March 13, 2009: Our Park, Our Environment. Co-PI with Anne Wright, Joy Ware, Robert Reilly, James Vonesh, Edward Crawford, Holly Houltz, and Andrew Garey. $19,000 awarded.

Prior Unfunded Named Participant/Collaborator in Funded Grant

Senior Personnel, NSF REU, Climate Change in the Great Lakes Region (Dave Karowe, Steve Bertman, PIs, Western Michigan University).

NSF Research Coordination Network-IDBR: Coordinating the Development of Terrestrial Lidar Scanning for Aboveground Biomass and Ecological Applications (Alan Strahler, PI, Boston University); I am co-lead of the "Ecological Applications" interest group.

NSF Macrosystems: Forest biodiversity and climate at the macro scale (Jim Clark, PI, Duke University)

PUBLICATIONS (*135 = 7 datasets + 125 research + 3 education*)

Peer-reviewed (CC BY 4.0) Carbon Flux and Meteorology *Datasets*

135. Haber, Lisa*, Bohrer, Gil, Neubauer, Scott, Gough, Chris,. *AmeriFlux FLUXNET-1F US-RRC Virginia Commonwealth University*. United States: N. p., 2023.
***PhD advisee**

134. Atkins JW*, Agee E, Barry A, Dahlin KM, Dorheim K, Grigri MS**, Haber LT***, Hickey LJ**, Kamoske AG, Mathes K***, McGuigan C****, Paris E, Pennington SC, Rodriguez C, Shafer A, Shiklomanov A, Tallant J, Gough CM, Bond-Lamberty B (2020). *The fortedata R package: open-science datasets from a manipulative experiment testing forest resilience*. R package version 1.0.2, https://github.com/FoRTExperiment/fortedata.
*Postdoc advisee
**MS advisee
***PhD advisee
****Undergrad advisee

133. **AmeriFlux BASE:** https://doi.org/10.17190/AMF/1246107
Citation: Christopher Gough, Gil Bohrer, Peter Curtis (2023), AmeriFlux BASE US-UMB Univ. of Mich. Biological Station, Ver. 20-5, AmeriFlux AMP, (Dataset). https://doi.org/10.17190/AMF/1246107

132. **AmeriFlux FLUXNET:** https://doi.org/10.17190/AMF/2204882
Citation: Christopher Gough, Gil Bohrer, Peter Curtis (2023), AmeriFlux FLUXNET-1F US-UMB Univ. of Mich. Biological Station, Ver. 3-5, AmeriFlux AMP, (Dataset). https://doi.org/10.17190/AMF/2204882

131. **AmeriFlux BASE:** https://doi.org/10.17190/AMF/1246134
Citation: Christopher Gough, Gil Bohrer, Peter Curtis (2023), AmeriFlux BASE US-UMd UMBS Disturbance, Ver. 14-5, AmeriFlux AMP, (Dataset). https://doi.org/10.17190/AMF/1246134

130. **AmeriFlux FLUXNET:** https://doi.org/10.17190/AMF/1881597
Citation: Christopher Gough, Gil Bohrer, Peter Curtis (2022), AmeriFlux FLUXNET-1F US-UMd UMBS Disturbance, Ver. 3-5, AmeriFlux AMP, (Dataset). https://doi.org/10.17190/AMF/1881597

129. Nadelhoffer, K., **C. Gough**, and L. Nave. 2020. Forest tree, woody debris, and soil inventory data from long-term research plots for LTREB at the University of Michigan Biological Station ver 4. Environmental Data Initiative. https://doi.org/10.6073/pasta/e43651bde3564e402cd0595e3ef26994.

Peer-Reviewed *Research* Publications (published or in press)

128. Gough, C. M., Buma, B., Jentsch, A., Mathes, K. C., & Fahey, R. T. (2024). Disturbance theory for ecosystem ecologists: A primer. *Ecology and Evolution*, 14, e11403. https://doi.org/10.1002/ece3.11403

127. Gough CM. 2023. Ecosystem capacitance: an integrative buffer against disturbance, Front. For. Volume 6 - 2023 | doi: 10.3389/ffgc.2023.1326569

126. Stuart-Haëntjens E*, Atkins JW**, Fotis A, Fahey RT, Hardiman BS, Alveshere BC**, Vogel C, **Gough CM**. 2023. Beech bark disease does not reduce the primary production of

Great Lakes forests in middle and late successional stages, *Forest Ecology and Management,* https://doi.org/10.1016/j.foreco.2023.121382
***PhD student**
****postdoc**

125. Haber LT*, Atkins JW**, Bond-Lamberty BP, **Gough CM**. 2023. Dynamic subcanopy leaf traits drive resistance of net primary production across a disturbance severity gradient, in press, *Frontiers in Ecology and Global Change,* https://doi.org/10.3389/ffgc.2023.1150209.
***PhD student**
****postdoc**

124. Mathes K*, Pennington S, Rodriguez C**, Bond-Lamberty B, Atkins J***, Vogel C, Gough C. 2023. Sustained three-year declines in forest soil respiration are proportional to disturbance severity. *Ecosystems,* https://doi.org/10.1007/s10021-023-00863-z.
***PhD student**
****REU mentee**
*****postdoc**

123. Atkins J*, Shiklomanov AN, Bond-Lamberty B, **Gough CM**. 2023. Effects of forest structural and compositional change on forest microclimates across a gradient of disturbance severity, in press, *Agricultural and Forest Meteorology,* https://doi.org/10.1016/j.agrformet.2023.109566
***Postdoc**

122. Castillo B, Franklin R, Amses K, Leite M, Kuramae E, Gough C, James T, Faller L, Syring J. 2023. Fungal Community Succession of *Populus grandidentata* (Bigtooth Aspen) During Wood Decomposition, *Forests,* https://doi.org/10.3390/f14102086

121. Hickey LJ,* Nave LE, Nadelhoffer KJ, Clay C*, Marini AI,** Gough CM. 2022. Mechanistically-grounded pathways connect remotely sensed canopy structure to soil respiration. Science of the Total Environment, https://doi.org/10.1016/j.scitotenv.2022.158267.
***MS student**
***undergrad advisee**

120. Clippard EA*, Haruna SI, Curtis PS, Clay C**, Bond-Lamberty B, Mathes K***, Vogel CS, Gough CM. Decadal Forest Soil Respiration Following Stem-Girdling. 2022. Trees, Structure and Function, https://doi.org/10.1007/s00468-022-02340-x..
***REU mentee**
****MS student**
*****PhD student**

119. Niedermaier Kerstin M., Jeff W. Atkins, Maxim S. Grigri, Ben Bond-Lamberty, Christopher M. Gough. 2022. Structural complexity and primary production resistances are coupled in a

temperate forest. Frontiers in Forests and Global Change. https://doi.org/10.3389/ffgc.2022.941851.

118. Kneeshaw D, Gough CM. 2022. North Temperate and Boreal Forests : The Challenges of Growing in the North. Frontiers in Forests and Global Change. https://doi.org/10.3389/ffgc.2022.956953.

117. Gough CM, Atkins JW*, Fahey RT, Curtis PS, Bohrer G, Hardiman BS, Hickey LJ**, Nave LE, Niedermaier KM**, Clay CS**, Tallant JM, Bond-Lamberty B. 2022. Disturbance has variable effects on the structural complexity of a temperate forest landscape. Ecological Indicators, https://doi.org/10.1016/j.ecolind.2022.109004.
***Former postdoc**
****MS graduate**

116. Clay C*, Nave L, Nadelhoffer K, Vogel C, Proposon B, Hickey LJ*, Barry A**., Gough CM. 2022. Fire after clear-cut harvesting minimally affected the recovery of ecosystem carbon pools and fluxes in a Great Lakes forest, Forest Ecology and Management, https://doi.org/10.1016/j.foreco.2022.120301.
***MS graduate**
***undergraduate researcher**

115. Aaron Teets, David J. P. Moore, M. Ross Alexander, Peter D. Blanken, Gil Bohrer, Sean P. Burns, Mariah S. Carbone, Mark J. Ducey, Shawn Fraver, Christopher M. Gough, David Y. Hollinger, George Koch, Thomas Kolb, J. William Munger, Kimberly A. Novick, Scott V. Ollinger, Andrew P. Ouimette, Neil Pederson, Daniel M. Ricciuto, Bijan Seyednasrollah, Christoph S. Vogel, Andrew D. Richardson. 2022. Coupling of Tree Growth and Photosynthetic Carbon Uptake Across six North American Forests. Journal of Geophysical Research — Biogeosciences, 127, e2021JG006690. https://doi.org/10.1029/2021JG006690.

114. D. Dwivedi, A.L.D. Santos, M.A. Barnard, T.M. Crimmins, A. Malhotra, K.A. Rod, K.S. Aho, S.M. Bell, B. Bomfim, F.Q. Brearley, H. Cadillo-Quiroz, J. Chen, C.M. Gough, E.B. Graham, C.R. Hakkenberg, L. Haygood, G. Koren, E.A. Lilleskov, L.K. Meredith, S. Naeher, Z.L. Nickerso, O. Pourret, H.-S. Song, M. Stahl, N. Tas, R. Vargas, and S. Weintraub-Leff. 2022. Biogeosciences Perspectives on Integrated, Coordinated, Open, Networked (ICON) Science, Earth and Space Science, https://doi.org/10.1029/2021EA002119.

113. Gough CM, Foster JR, Bond-Lamberty B, and Tallant JM. 2022. Inferring the effects of partial defoliation on the carbon cycle from forest structure: challenges and opportunities. Environmental Research Letters, https://doi.org/10.1088/1748-9326/ac46e9.

112. Dorheim K, Gough CM, Haber L*, Mathes KC*, Shiklomnanov A, Bond-Lamberty Ben. 2022. Climate drives modeled forest carbon cycling resistance and resilience in the Upper Great Lakes Region, USA. Journal of Geophysical Research - Biogeosciences. https://doi.org/10.1029/2021JG006587.
***VCU PhD candidate**

111. Atkins J*, Walter J, Stovall A, Fahey R, Gough C. 2022. Power-law scaling relationships link forest complexity and canopy height across forest types, Functional Ecology, https://doi.org/10.1111/1365-2435.13983.
***former postdoc**

110. Gough, C. 2021. Forest Carbon Sequestration Increases Following a Large-Scale Manipulation of Moderate Severity Disturbance. Bull Ecol Soc Am 102(4):e01923. https://doi.org/10.1002/bes2.1923.

109. Mirco Migliavacca, Talie Musavi, Miguel D. Mahecha, Jacob A. Nelson, Jürgen Knauer, Dennis D. Baldocchi, Oscar Perez-Priego, Karen Anderson, Michael Bahn, Andrew T. Black, Peter D. Blanken, Damien Bonal, Nina Buchmann, Silvia Caldararu, Arnaud Carrara, Nuno Carvalhais, Alessandro Cescatti, Jiquan Chen, James Cleverly, Edoardo Cremonese, Ankur R. Desai, Tarek S. El-Madany, M. Fernández-Martínez, Gianluca Filippa, Matthias Forkel, Marta Galvagno, Martha M. Gebhardt, **Christopher M. Gough**, Mathias Göckede, Andreas Ibrom, Hiroki Ikawa, Ivan A. Janssens, Martin Jung, Jens Kattge, Trevor F. Keenan, Alexander Knohl, Hideki Kobayashi, Guido Kraemer, Beverly E. Law, Michael J. Liddell, Xuanlong Ma, Ivan Mammarella, David Martini, Craig MacFarlaine, Giorgio Matteucci, Leonardo Montagnani, Daniel E. Pabon-Moreno, Cinzia Panigada, Dario Papale, Elise Pendall, Josep Penuelas, Richard P. Phillips, Peter B. Reich, Micol Rossini, Eyal Rotenberg, Russell L. Scott, Clement Stahl, Ulrich Weber, Georg Wohlfahrt, Sebastian Wolf, Ian J. Wright, Dan Yakir, Sönke Zaehle, and Markus Reichstein. 2021. The three major axes of terrestrial ecosystem function, Nature, 598, 468–472. https://doi.org/10.1038/s41586-021-03939-9.

108. Mathes KC*, Ju Y, Kleink C, Oldfield C, Bohrer G, Bond-Lamberty B, Vogel CS, Dorheim K, **Gough CM**. 2021. A multidimensional stability framework enhances interpretation and comparison of carbon cycling response to disturbance, 12(11): https://doi.org/10.1002/ecs2.3800.
*VCU PhD candidate

107. Fahey RT, Tanzer D, Atkins J, **Gough CM**, Hardiman BH. 2021 An experimental approach for crown to whole-canopy defoliation in forests. Canadian Journal of Forest Research. https://doi.org/10.1139/cjfr-2020-0527.

106. **Gough, C. M.,** Bohrer, G., Hardiman, B. S., Nave, L. E., Vogel, C. S., Atkins, J. W., Bond-Lamberty, B., Fahey, R. T., Fotis, A. T., Grigri, M. S., Haber, L. T., Ju, Y., Kleinke, C. L., Mathes, K. C., Nadelhoffer, K. J., Stuart-Haëntjens, E., and Curtis, P. S. 2021. Disturbance-accelerated succession increases the production of a temperate forest. *Ecological Applications* 00(00):e02417. 10.1002/eap.2417.

105. Agee, Elizabeth; Lingli He; Gautam Bisht; Valentin Couvreur; Parisa Shahbaz; Felicien Meunier; **Christopher Gough**; Ashley Matheny; Gil Bohrer; Valeriy Ivanov 2021. Root lateral interactions drive water uptake patterns under water limitation. Advances in Water Resources. 151: 103896. https://doi.org/10.1016/j.advwatres.2021.103896.

104. Chu, Housen; Xiangzhong Luo; Zutao Ouyang; W. Stephen Chan; Sigrid Dengel; Sébastien C. Biraud; Margaret S. Torn; Stefan Metzger; Jitendra Kumar; M. Altaf Arain; Tim J. Arkebauer; Dennis Baldocchi; Carl Bernacchi; Dave Billesbach; T. Andrew Black; Peter D. Blanken; Gil Bohrer; Rosvel Bracho; Shannon Brown; Nathaniel A. Brunsell; Jiquan Chen; Xingyuan Chen; Kenneth Clark; Ankur R. Desai; Tomer Duman; David Durden; Silvano Fares; Inke Forbrich; John A. Gamon; **Christopher M. Gough**; Timothy Griffis; Manuel Helbig; David Hollinger; Elyn Humphreys; Hiroki Ikawa; Hiroki Iwata; Yang Ju; John F. Knowles; Sara H. Knox; Hideki Kobayashi; Thomas Kolb; Beverly Law; Xuhui Lee; Marcy Litvak; Heping Liu; J. William Munger; Asko Noormets; Kim Novick; Steven F. Oberbauer; Walter Oechel; Patty Oikawa; Shirley A. Papuga; Elise Pendall; Prajaya Prajapati; John Prueger; William L Quinton; Andrew D. Richardson; Eric S. Russell; Russell L. Scott; Gregory Starr; Ralf Staebler; Paul C. Stoy; Ellen Stuart-Haëntjens; Oliver Sonnentag; Ryan C. Sullivan; Andy Suyker; Masahito Ueyama; Rodrigo Vargas; Jeffrey D. Wood; Donatella Zona. 2021. Representativeness of Eddy-Covariance Flux Footprints for Areas Surrounding AmeriFlux Sites. Agricultural and Forest Meteorology, 301-302: 108350: https://doi.org/10.1016/j.agrformet.2021.108350.

103. Niu B, Zhang X, Piao S, Janssens IA, Fu G, He Y, Zhang Y, Shi P, Dai E, Yu C, Zhang J, Yu G, Xu M, Wu J, Zhu L, Desai AR, Chen J, Bohrer G, Gough CM, Mammarella I, Varlagin A, Fares S, Zhao X, Li Y, Wang H, Ouyang Z. 2021. Warming homogenizes apparent temperature sensitivity of ecosystem respiration. Science Advances, 7, DOI: 10.1126/sciadv.abc7358.

102. Johnston ASA, Meade A, Ardö J, Arriga N, Black A, Blanken PD, Bonal D, Brümmer C, Cescatti A, Dušek J, Graf A, Gioli B, Goded I, **Gough CM**, Ikawa H, Jassal R, Kobayashi H, Magliulo V, Manca G, Montagnani L, Moyano FE, Olesen JE, Sachs T, Shao C, Tagesson T, Georg Wohlfahrt G, Wolf S, Woodgate W, Varlagin A, Venditti C. 2021. Temperature thresholds of ecosystem respiration at a global scale. Nature Ecology and Evolution, **5,** 487–494 (2021). https://doi.org/10.1038/s41559-021-01398-z.

101. Ely, Kim S, Alistair Rogers, Deborah A. Agarwal, Elizabeth A. Ainsworth, Loren Albert, Ashehad Ali, Jeremiah Anderson, Michael J. Aspinwall, Chandra Bellasio, Carl Bernacchi, Steve Bonnage, Thomas N. Buckley, James Bunce, Angela C. Burnett, Florian A. Busch, Amanda Cavanagh, Lucas A. Cernusak, Robert Crystal-Ornelas, Joan Damerow, Kenneth J. Davidson, Martin G. De Kauwe, Michael C. Dietze, Tomas F. Domingues, Mirindi Eric Dusenge, David S. Ellsworth, John R Evans, Paul P.G. Gauthier, Bruno O. Gimenez, Elizabeth P. Gordon, **Christopher M. Gough**, Aud H. Halbritter, David T. Hanson, Mary Heskel, J. Aaron Hogan, Jason R. Hupp, Kolby Jardine, Jens Kattge, Trevor Keenan, Johannes Kromdijk, Dushan P. Kumarathunge, Julien Lamour, Andrew D.B. Leakey, David S. LeBauer, Qianyu Li, Marjorie R. Lundgren, Nate McDowell, Katherine Meacham-Hensold, Belinda E. Medlyn, David J.P. Moore, Robinson Negrón-Juárez, Ülo Niinemets, Colin P. Osborne, Alexandria L. Pivovaroff, Hendrik Poorter, Sasha C. Reed, Youngryel Ryu, Alvaro Sanz-Saez, Stephanie C. Schmiege, Shawn P. Serbin, Thomas D. Sharkey, Martijn Slot, Nicholas G. Smith, Balasaheb V. Sonawane, Paul F. South, Daisy C. Souza, Joseph Ronald Stinziano, Ellen Stuart-Haëntjens, Samuel H. Taylor, Mauricio D. Tejera, Johan Uddling, Vigdis Vandvik, Charuleka Varadharajan, Anthony P. Walker, Berkley J Walker, Jeffrey M. Warren, Danielle A. Way, Brett T. Wolfe, Jin Wu, Stan D.

Wullschleger, Chonggang Xu, Zhengbing Yan, Dedi Yang. 2021. A reporting format for leaf-level gas exchange data and metadata. Ecological Informatics, 61: 101232. https://doi.org/10.1016/j.ecoinf.2021.101232

100. Grigri MS*, Atkins J**, Vogel C, Bond-Lamberty B, **Gough CM**. 2020. Aboveground wood production is sustained in the first growing season after phloem-disrupting disturbance. Forests, 11(12):1306, https://doi.org/10.3390/f11121306.
***VCU MS student**
****VCU Postdoc**

99. Jian J, **Gough CM**, Sihi D, Hopple AM, Bond-Lamberty B. 2020. Collar properties and measurement time confer minimal bias overall on annual soil respiration estimates in a global database. 2020. Journal of Geophysical Research -- Biogeosciences. 125: 12, https://doi.org/10.1029/2020JG006066.

98. Atkins, J. W.*, Agee, E., Barry, A., Dahlin, K. M., Dorheim, K., Grigri, M. S.**, Haber, L. T.***, Hickey, L. J.**, Kamoske, A. G., Mathes, K.***, McGuigan, C., Paris****, E., Pennington, S. C., Rodriguez, C.****, Shafer, A., Shiklomanov, A., Tallant, J., **Gough, C**. M., and Bond-Lamberty, B. 2020. The fortedata R package: open-science datasets from a manipulative experiment testing forest resilience, Earth Syst. Sci. Data Discuss., https://doi.org/10.5194/essd-2020-112.
***VCU Postdoc**
****VCU MS student**
*****VCU PhD student**
******NSF REU**

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[1]***undergraduate co-author (VCU B.S. 2010, VCU Undergraduate Research Colloquium)***

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[1]***M.S. recipient and advisee***

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[1]***Clover Hill High School student***

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7. **Gough C.M.**, and Seiler J.R. 2004. An intensive examination of belowground carbon dynamics in loblolly pine (*Pinus taeda* L.) immediately following diammonium phosphate fertilization. Tree Physiology 24: 845-851, https://doi.org/10.1093/treephys/24.7.845.

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4. Monroe J.D., **Gough C.M.**, Chandler L.E., Loch, J.E. Ferrante J.E., and Wright P.W. 1999. Structure, properties and tissue localization of apoplastic alpha-glucosidase in crucifers. Plant Physiology 119: 385-397, https://doi.org/10.1104/pp.119.2.385.

Peer-Reviewed *Education* Publications (*while employed by VCU only*)

3. White Syring, L., Gough, C. M. (2023). Forests for the Future: How Can Trees Offset Carbon Emissions?. QUBES Educational Resources. doi:10.25334/65Q1-G267

2. Gough, C. M., Giffen, C., Woodward, T. W. 2018. Environmental Drivers of Ecosystem Carbon Fluxes from Minutes to Years. NEON Faculty Mentoring Network 2018, QUBES. doi:10.25334/Q4VD7W (internally reviewed by NEON Faculty Mentoring Network participants)

1. **Gough C.M.** 2011. Terrestrial primary production: Fuel for life. Nature Education Knowledge (by invitation from *Nature* Publishing) (see: http://www.nature.com/scitable/knowledge/library/terrestrial-primary-production-fuel-for-life-17567411; **accessed > 54,000 times;** externally reviewed)

Other Research or Policy Publications

Gough C., Seiler J., and Wiseman E. 2004. Predicting soil CO_2 efflux in the loblolly pine ecosystem across the region. Proceedings of the 12th Biennial S. Silviculture Conference.

Maier C.A., Johnsen K., Seiler J., **Gough C.**, and Selig M. 2004. Carbon Budgets of Managed Loblolly Pine Forests: Case Study for Greenhouse Gas Accounting Rules and Guidelines for Forestry. Section 1605(b) of the Energy Policy Act of 1992 (EPACT), 42 U.S.C. 13385(b).

Maier C.A., **Gough, C.**, Seiler, J., Sampson D.A., Johnsen, K., and Dougherty, P. 2003. Effects of forest management on soil CO_2 evolution in loblolly pine plantations. Project report meeting book of the NCASI Southern Regional Meeting. Asheville, NC.

Gough C., Seiler J., Johnsen K. and Sampson D.A. 2002. GPP in loblolly pine: a monthly comparison of empirical and process models. Proceedings of the 11th Biennial S. Silviculture Conference.

Monroe J.D., **Gough. C.**, Ferrante J, Chandler L., Loch C., and Stephen A. 1997. Characterization of the alpha-glucosidase gene family from *Arabidopsis thaliana*: gene structure and properties of enzymes. Plant Physiology 114(s):884. ASPP National Meeting, Vancouver BC.

Monroe J.D., Hall B.D., **Gough C.M.**, and Stephen A.L. 1997. Nucleotide sequence of an alpha-glucosidase gene (Accession No AFO14806) from *Arabidopsis thaliana*. Plant Phys. 115: 863.

PRESENTATIONS

Select Invited Oral Presentations

Gough CM, Atkins JW, Fahey RT, Hardiman BS, LaRue E, Krause K, Van Aardt. 2022, December. B26B-01The multiple dimensions of diversity: Advancing the science and application of structural diversity-ecosystem function interactions. In Fall Meeting 2022. AGU.

Gough, Chris. 3-23-22. Forest carbon cycling responses to biotic disturbances: Coupled field-modeling experiments at the University of Michigan Biological Station. ORNL Integrated Ecosystem Experiments to Advance Earth System Predictability Workshop"

Gough C.M. University of Tennessee – Forestry and Wildlife, October 13, 2021: "Forest carbon sequestration stability in an era of rapid change: Lessons from large-scale experiments and observations"

Gough C.M. Open science networks. ESA 2020., Annual Meeting – Invited speaker/panelist of special symposium: "Open Science Networks: What are they and why join?"

Gough C.M., All-DOE E3SM webinar, July 23, 2019. https://www.youtube.com/watch?v=d7sVosXLGAE&feature=youtu.be

Gough C.M. Invited Lehigh University Department of Environmental Sciences seminar, November 24, 2019.

Gough CM, Fahey RF, Atkins J, Hardiman BS. The imperative of network ecology to advancing continental knowledge of carbon cycling-ecosystem structure relationships. Ecological Society of American Annual Meeting, New Orleans, LA, August 6, 2018. (Symposium)

Gough C.M. Does intermediate disturbance enhance forest growth and carbon storage?: A tale of thresholds, shifting complexity, and resource redistribution. University of Georgia, Plant Sciences Department, April 23, 2018.

Gough C.M. Disturbance, succession, and forest carbon sequestration: Confronting ecological theory with experiments and observations. James Madison University Biology, BioSymposium Keynote. April 13, 2018.

Gough C.M. Does intermediate disturbance enhance forest growth and carbon storage?: A tale of thresholds, shifting complexity, and resource redistribution. Ohio State University, Department of Evolution, Ecology, and Organismal Biology. November 16, 2017.

Gough C.M. The surprising role of disturbance in maintaining forest carbon sequestration: Implications for science, policy and management. University of Michigan Biological Station. July 26, 2017.

Gough C.M. Can aging and disturbed forests soak up our carbon emissions?: Challenging old theories with new science. Linfield College Endowed Lecture. April 28, 2016

Gough C.M. Carbon sequestration in aging and disturbed forests: Old theories, new science. St. Mary's College of Maryland Biology Seminar Series. March 11, 2015.

Gough C.M. Forest Carbon Cycling Across Gradients of Disturbance Severity: Patterns and Underlying Mechanisms. AGU Fall Meeting 2014. December 15, 2014

Gough C.M. Overview of the UMBS forest C cycle research program: motivation and findings. USDA Forest Service International Study Tour: Measuring belowground carbon pools and fluxes. Pellston, MI, August 1, 2013.

Gough C.M. Resilience of forest carbon storage to low-intensity disturbance: Insights from a large-scale experiment within a long-term AmeriFlux site in the upper Great Lakes. DOE Terrestrial Ecosystem Science PI meeting, Plenary Session, May 15, 2013.

Gough C.M. Can forests reduce our carbon footprint?: Lessons from the Midwest's north woods. Kent State Biology Department, Kent, OH, December 10, 2012.

Gough C.M. Can forests reduce our carbon footprint?: Lessons from the north woods and central Virginia. Randolph-Macon College Biology Department, Ashland, VA. November 28, 2011

Gough C.M. Forest carbon storage for greenhouse gas mitigation: Lessons from the north woods. University of Mary Washington Biology Department, Fredericksburg, VA, October 24, 2011.

Gough C.M. Sustained carbon storage in old forests: Emerging mechanisms from the Forest Accelerated Succession ExperimenT (FASET), Virginia Department of Forest Resources and Environmental Conservation, Blacksburg, VA, March, 25, 2011.

Gough C.M. Forest carbon sequestration: Challenges and emerging opportunities. Society of American Foresters Rappahannock Chapter Meeting, Mechanicsville, VA, Nov. 17, 2010.

Gough C.M. Forest carbon cycling during a century of change: Lessons from the north woods. Joint Global Change Research Institute, Univ. of Maryland, College Park, MD, May 4, 2009.

Gough C.M. Controls on annual forest carbon storage: lessons from the past and predictions for the future. Department of Natural Resources, North Carolina State University, Raleigh, NC, November 24, 2008.

Gough C.M. The human footprint in a forested ecosystem: Carbon cycling during a century of change. Department of Biology, Homecoming Seminar, James Madison University, Harrisonburg, VA, October 31, 2008.

Gough C. Carbon Storage in the North Woods of the Midwest: A Century of Change. Department of Biology, Virginia Commonwealth University, Richmond, VA, January 28, 2008.

Gough C. Carbon Storage in the North Woods of the Midwest: A Century of Change. Department of Biological Sciences, University of Wisconsin-Parkside, Kenosha, WI, December 10, 2007.

Gough C. Forest carbon storage and prospects for mitigating climate change. Department of Environmental Sciences Spring 2007 Seminar Series, The University of Toledo, Toledo, OH, April 13, 2007.

Gough C. Carbon cycling in the north woods of Michigan: A century of change. Department of Biology. Central Michigan University, Mt. Pleasant, MI, January 11, 2007.

Gough C. Forest carbon storage and prospects for mitigating climate change. Department of Evolution, Ecology, and Organismal Biology Winter Seminar Series, The Ohio State University, Columbus, OH, February 23, 2006.

Gough C., Seiler J., Wiseman E., and Selig M. 2003. Soil CO_2 efflux over a pine chronosequence. MeadWestvaco Pine Additivity Meeting. Summerville, SC.

Gough C., Seiler J., Johnsen K, Maier C, Sampson D.A., and Butnor J. 2001. Modeling soil CO_2 efflux in managed loblolly pine ecosystems. James Madison University Biology Department Seminar. Harrisonburg, VA.

Gough C., Seiler J., Johnsen K., and Sampson D.A. 2001. GPP in loblolly pine: a monthly comparison of empirical and process models. N.C. State Forest Nutrition Cooperative Annual Meeting. Raleigh, NC.

Select Other Presentations

Gough CM. Sustaining forest carbon sequestration following disturbance: What have we learned from a quarter century of coupled field-modeling experiments? IUFRO World Congress. Stockholm, Sweden. Sub-Plenary. June 28, 2024.

PY Oikawa, J Silberman, M Matsumura, CM Gough, L Haber*, S Tenda**. Constraining CO2 and CH4 fluxes from Diverse Tidal Wetlands: Measurements and modeling across a network of eddy covariance sites in North America. AGU23.
***MS and *PhD advisees**

L Haber*, S Knox, K Poppe, S Russell, AE Stapel, E Stuart-Haentjens, C Gough
Fluxes in the Tidal Fresh: Assessing hourly to annual drivers of coupled CH4 and CO2 fluxes in a tidal freshwater wetland. AGU23.
***PhD advisee**

Migliavacca, M. and the major axes of terrestrial ecosystem functions collaborators: The major axes of terrestrial ecosystem functions derived from ecosystem scale flux observations, EGU General Assembly 2022, Vienna, Austria, 23–27 May 2022, EGU22-2150, https://doi.org/10.5194/egusphere-egu22-2150, 2022.

Oikawa PY, Matsumura M, Shahan J, Silberman J, Gough CM, Haber L, Tenda S, Schafer KV, Dhakal, S, Knox S and Poppe K. 2022, December. B13B-02 Constraining CO 2 and CH 4 fluxes from Diverse Tidal Wetlands: Standardizing measurements and analysis across a network of eddy covariance sites in North America and Canada. In Fall Meeting 2022. AGU.

Haber LT, Stuart-Haentjens E, Tenda S, Gough CM. 2022, December. B35C-1416Ecosystem Functional Recovery Following Disturbance: Drivers of Carbon Flux in a Restored Tidal Freshwater Wetland. In Fall Meeting 2022. AGU.

Johnson A, Niedermaier K, Clay C, Bond-Lamberty BP, Gough CM. 2022, December. B45L-1877Linkages Between Forest Composition and Primary Production Across a Disturbance Severity Gradient

Gough CM, Bond-Lamberty BP, Mathes KC, Haber L, Dorheim K, Niedermaier K, Clay C, Atkins JW, Nalliah L, Tatum D. 2022, December. B52B-07Cellular to ecosystem processes drive forest carbon cycling resistance to increasing disturbance severity. In Fall Meeting 2022. AGU.

Krause K, Aardt JA, Gough CM. 2022, December. GC15A-04 Evaluation of Lidar Data Collected from Different Platforms and Spatial Scales for Use in the Measurement of Forest Structure. In Fall Meeting 2022. AGU.

Mathes KC, Delaney TW, Nalliah E, Gough CM. 2022, December. GC26D-07Unraveling the short-term mechanisms driving rhizosphere carbon and nitrogen cycling responses to phloem-disrupting disturbance. In Fall Meeting 2022. AGU.

Nalliah E, Mathes KC, Delaney TW, Gough CM. 2022, December. GC32K-0732 Linking nitrogen cycling with forest soil respiration following a simulated insect disturbance. In Fall Meeting 2022. AGU.

Delaney TW, Mathes KC, Bertman SB, Gough CM. 2022, December. GC32K-0735 Non-Structural Carbohydrate Dynamics Regulate Soil Respiration Following Phloem-Girdling,. In Fall Meeting 2022. AGU.

Atkins J, Bohrer G, Clay C, Curtis PS, Gough CM, Haber L, Stuart-Haëntjens E, Matheny A, Mathes K, Nave L, Schmidt HP, Vogel CS. A quarter century of UMBS-flux: what have learned from 25 years of data? Poster, 9/2022. AmeriFlux PI Meeting: 25 Years of AmeriFlux – Past, Present and Future, UMBS, MI.

Laura Hickey (MS Student): B25I-1589 - Digging deeper into above and belowground relationships: linking canopy and root structure with soil respiration, https://agu.confex.com/agu/fm21/meetingapp.cgi/Paper/959741; Tuesday, 14 December 2021; 17:00-19:00; Convention Center - Poster Hall, D-F

Kalyn Dorheim (Postbacc): B42A-10 - Modeling FoRTE, the Forest Resilience Threshold Experiment, https://agu.confex.com/agu/fm21/meetingapp.cgi/Paper/856276; Thursday, 16 December 2021; 11:33-11:38; Online only

Kerstin Niedermaier (MS Student): B45P-04 - Is net primary production resistance to disturbance in forests mediated by structural legacies?, https://agu.confex.com/agu/fm21/meetingapp.cgi/Paper/997115; Thursday, 16 December 2021; 17:00 - 18:15; Online Only

Lisa Haber (PhD Candidate): B52B-06 - Integrating divergent above- and belowground carbon flux responses to rising disturbance severity, https://agu.confex.com/agu/fm21/meetingapp.cgi/Paper/1000898; Friday, 17 December 202, 11:10-11:15, Convention Center – Room 238-239.

Cameron Clay (MS graduate from lab): B55A-1195 - Net ecosystem production is similar across disturbance types in a century old North American eastern temperate forest chronosequence, https://agu.confex.com/agu/fm21/meetingapp.cgi/Paper/996950; Friday, 17 December 2021, 17:00 - 19:00, Convention Center - Poster Hall, D-F

Kayla Mathes (PhD Candidate): B55A-1194 - Unraveling mechanisms underlying coupled above and below-ground carbon flux responses to increasing disturbance, https://agu.confex.com/agu/fm21/meetingapp.cgi/Paper/957262; Friday, 17 December 2021, 17:00-19:00; Convention Center – Poster Hall, D-F.

Chris Gough: B55A-1193 - Divergent patterns of forest carbon uptake and loss stabilize net carbon balance as disturbance severity increases, https://agu.confex.com/agu/fm21/meetingapp.cgi/Paper/831458; Friday, 17 December 2021; Convention Center – Poster Hall, D-F

Ellen Stuart-Haëntjens: B35G-1497 - How elevation influences carbon dioxide and methane fluxes from tidal fresh and saltwater wetlands, https://agu.confex.com/agu/fm21/meetingapp.cgi/Paper/989021; Wednesday, 15 December 2021; 17:00-19:00; Convention Center – Poster Hall, D-F

Clay C[1], Nave L, Nadelhoffer K, Gough C. Net ecosystem production across successional time in a North American Eastern temperate forest chronosequence. North American Carbon Program 2021 Meeting.
[1]MS advisee

Grigri M[1], Bond-Lamberty B, Gough CM. Forest compensatory growth stabilizes carbon sequestration after disturbance. North American Carbon Program 2021 Meeting.
[1]MS advisee.

Mathes K[1], Yang Ju, Oldfield CA, Bohrer G, Vogel C, Bond-Lamberty, Gough CM. A multidimensional framework enhances interpretation and comparison of carbon cycling response to disturbance. North American Carbon Program 2021 Meeting.
[1]PhD advisee, won "Best Student Presentation" Award.

Haber L, Atkins J, Bond-Lamberty B, Grigri M, Gough C. Subcanopy leaf functional trait response to disturbance in an ecosystem-scale experiment and implications for production stability. North American Carbon Program 2021 Meeting.
[1]PhD advisee

Kalyn Dorheim, Ben Bond-Lamberty, Chris Gough, Lisa Haber, and Alexey Shiklomanov Modeling FoRTE, the Forest Resilience Threshold Experiment. European Geophysical Union 2021.

Dahlin K, Shen M, Atkins J, Gough C, Bond-Lamberty B, Serbin S., Stark S. Biodiversity and ecosystem function in three dimensions: Using NEON airborne remote sensing to understand ecosystem patterns and processes in a temperate forest. Ecological Society of America Annual Meeting, 2021.

Elizabeth LaRue[1], Franklin Wagner[1], Songlin Fei[1], Jeffrey Atkins[2], Robert Fahey[3], Christopher Gough[4] and Brady Hardiman[1] Compatibility of aerial and terrestrial LiDAR for quantifying structural diversity in forest macrosystems. ESA 2020.

***Brady Hardiman**[1], Elizabeth LaRue[1], Jeffrey Atkins[2], Robert Fahey[3], Christopher Gough[4] and Songlin Fei[1]* A consensus definition of structural diversity and its utility as a predictor of ecosystem function. ESA 2020.

Atkins, Gough, Bond-Lamberty. B041-07Does Existing System Complexity Convey Resistance?: Canopy Structural Change During the First Two Years of the Forest Resistance Threshold Experiment (FoRTE)***. AGU 2020.***

***Lisa Haber**[1], Jeff Atkins[2], Ben P Bond-Lamberty[3], Maxim Simon Grigri[4], Alexandra Barry[4], Laura Jane Hickey[4], Autym Shafer[4] and Christopher Michael Gough[5]* B064-0016Subcanopy leaf functional trait response to disturbance at different severities and implications for ecosystem production stability. *AGU 2020.*

Clay, Nave, Gough. B064-0019Net ecosystem production across successional time in a North American eastern temperate forest chronosequence***. AGU 2020.***

***Christopher Michael Gough**[1], Ben P Bond-Lamberty[2], Lucas E Nave[3], Cameron Clay[4], Kayla Cerise Mathes[5], Lisa Haber[5], Maxim Simon Grigri[4], Elizabeth Agee[6], Kalyn Dorheim[7],*

*Stephanie Pennington[2], Alexey N Shiklomanov[8], Jason Tallant[3], Robert Timothy Fahey[9], Peter Curtis[10], Knute J Nadelhoffer[11], Ellen JoAnne Stuart-Haëntjens[5], Brady S Hardiman[12] and Gil Bohrer[13]*B064-0020Dynamic mechanisms support forest carbon cycling stability following disturbance*. AGU 2020.*

***Kayla Cerise Mathes**, Christoph S Vogel, Yang Ju, Gil Bohrer, Ben P Bond-Lamberty, and Christopher Michael Gough* B064-0022A multidimensional framework enhances interpretation of carbon (C) cycling stability following disturbance. *AGU 2020.*

***Stephanie C Pennington**[1], Jeff Atkins[2], Roy Rich[3], Anya Hopple[3,4], Christopher Michael Gough[2] and Ben P Bond-Lamberty[1]* IN016-12From Field to Analysis: Two Models for Data Distribution in a Standardized and FAIR Way *AGU 2020.*

Linking field, model, and remote sensing methods to understand when tree mortality breaks the forest carbon cycle. BP Bond-Lamberty, CM Gough, AN Shiklomanov, JW Atkins, L Haber, et al. AGU Fall Meeting 2019.

Rapid assessment of forest canopy structural resistance to disturbance along an increasing gradient of severity JW Atkins, L Haber, BP Bond-Lamberty, E Paris, AN Shiklomanov, et al. AGU Fall Meeting 2019.

Below-ground structural and ecohydrological feedbacks across disturbance severity gradients. E Agee, JW Atkins, CM Gough, BP Bond-Lamberty, KC Mathes, et al.AGU Fall Meeting 2019.

Canopy Structure-Carbon Sequestration Relationships in Plantation and Naturally Regenerated Red Pine. LJ Hickey, JW Atkins, RT Fahey, MR Kreider, S Wales, CM Gough. AGU Fall Meeting 2019.

Structural and parameter uncertainty in centennial-scale simulations of community succession in Upper Midwest temperate forests. AN Shiklomanov, BP Bond-Lamberty, JW Atkins, CM Gough. AGU Fall Meeting 2019.

Does canopy structure affect carbon cycling resistance to disturbance?: Insights from an ecosystem experiment. CM Gough, JW Atkins, BP Bond-Lamberty, AN Shiklomanov, MS Grigri et al. AGU Fall Meeting 2019.

Soil respiration across a disturbance severity gradient: Assessing thresholds of belowground carbon cycling resistance. KC Mathes, C Rodriguez, S Pennington, BP Bond-Lamberty, CM Gough. AGU Fall Meeting 2019.

Does compensatory growth offset declines from dying trees?: An experimental approach to unraveling mechanisms underlying forest production resistance to disturbance. MS Grigri, E Paris, JW Atkins, BP Bond-Lamberty, CM Gough. AGU Fall Meeting 2019.

Spatial and temporal dynamics of leaf physiological response to rising disturbance severity. L Haber, JW Atkins, BP Bond-Lamberty, CM Gough. AGU Fall Meeting 2019.

Lessons from a 15-year eddy-covariance dataset: could changing soil water content tip the temperate forest carbon balance. EJA Stuart-Haėntjens, BS Hardiman, RT Fahey, G Bohrer. et al. AGU Fall Meeting 2019.

Understanding the influence of forest canopy structure on ecosystem functions at continental scales. BS Hardiman, EA LaRue, J Atkins, CM Gough, RT Fahey, KM Dahlin. 2019 ESA Annual Meeting (August 11--16).

Understanding and managing forest canopy structure to promote ecosystem functioning and resilience. RT Fahey, B Alveshere, J Atkins, CM Gough, BS Hardiman/ 2019 ESA Annual Meeting (August 11--16)

Teets, Aaron, David J. P. Moore, M. Ross Alexander, Peter D. Blanken, Sean P. Burns, Mariah S. Carbone, Mark J. Ducey, Shawn Fraver, Christopher M. Gough, David Y. Hollinger, Kimberly

A. Novick[1], Scott V. Ollinger, Andrew P. Ouimette, Neil Pederson, Christoph S. Vogel, Andrew D. Richardson, Identifying lags between annual net ecosystem productivity and aboveground biomass increment: A synthesis across six AmeriFlux sites, Ameriflux Annual Meeting 2019.

Gough CM, ****Atkins J, Fahey RT, Hardiman B, ***Haber L, *Hickey L, ***Stuart-Haentjens E, **Wales S. When Does Shifting Species Diversity and Canopy Structure Matter for the Land Carbon Sink?: A Cross-Scale Analysis. American Geophysical Union Fall Meeting 2018, December 11, 2018.

***Undergrad, **MS, ***PhD and ****Postdoc advisees**

Hardiman BS, LaRue E, Atkins JW*, Gough CM, Fahey RT, Dahlin K, Wagner F, Fei Songlin. Large-Scale Patterns And Landscape Variability Of Forest Canopy Structure. American Geophysical Union Fall Meeting 2018, December 12, 2018.

***Postdoc advisee**

Domke, G., C. A. Williams, R. Birdsey, J. Coulston, A. Finzi, C. Gough, B. Haight, J. Hicke, M. Janowiak, B. de Jong, W. A. Kurz, M. Lucash, S. Ogle, M. Olguín-Álvarez, Y. Pan, M. Skutsch, C. Smyth, C. Swanston, P. Templer, D. Wear, and C. W. Woodall. Recent trends, drivers, and projections of carbon cycle processes in forests of North America. American Geophysical Union Fall Meeting 2018, December 13, 2018.

Bond-Lamberty BP, Bailey VL, Chen M, Gough CM, Vargas R. Detection and Attribution of Climate-Driven Changes in Terrestrial Soils. American Geophysical Union Fall Meeting 2018, December 14, 2018.

JW Atkins, A Stovall, G Clark, BH Hardiman, CM Gough, "Quantifying forest structure, complexity, and biomass using the Leica BLK360 terrestrial laser scanner," ForestSAT Conference, College Park, MD

*Postdoc advisee

JW Atkins, RT Fahey, BH Hardiman, E LaRue, E Stuart-Haëntjens, B McNeil, D Orwig, L Turner, A Stovall, CM Gough, "Structural Signatures of Forest Disturbance," ForestSAT Conference, College Park, MD

*Postdoc advisee

JW Atkins, RT Fahey, CM Gough, BS Hardiman "The forest and the trees: A look at how ecosystem complexity is shaped by landscape and disturbance," University of Virginia Forest and Water Use Symposium

*Postdoc advisee

LaRue EA, Atkins J*, Dahlin KM, Fahey RT, Fei S, Gough CM and Hardiman BS. Linking Landsat to terrestrial LIDAR: Spectral indices of greenness and brightness are correlated with canopy structural complexity. Ecological Society of American Annual Meeting, New Orleans, LA, August 8, 2018.

***Postdoc advisee**

Atkins J*, Fahey RT, Hardiman BS, Gough CM. Coupling ecosystem complexity with leaf to canopy light and carbon cycling dynamics. Ecological Society of American Annual Meeting, New Orleans, LA, August 8, 2018.

***Postdoc advisee**

Stuart-Haentjens E*, De Boeck H, Lemoine N, Mänd P, Kröel-Dulay G, Schmidt I, Jentsch A, Stampfli A, Anderegg W, Bahn M, Kreyling J, Wohlgemuth T, Lloret F, Classen A, Gough C, Smith M. 2018. Divergent patterns of primary production resistance and resilience following extreme drought across a global precipitation gradient. Ecological Society of American Annual Meeting, New Orleans, LA, August 8, 2018.

***PhD student advisee**

Haber L*, Atkins J*, Gough CM. Ecosystem structure and function: (e)merging models across scales. Ecological Society of American Annual Meeting, New Orleans, LA, August 9, 2018.

***PhD and Postdoc advisees**

Gough C.M., Bond-Lamberty B.P., Stuart-Haentjens E.*, Atkins J.*, Haber L.*, Fahey R.T. Carbon cycling at the tipping point: Does ecosystem structure predict resistance to disturbance? American Geophysical Union Fall Meeting 2017, New Orleans, LA, December 11, 2017.

***PhD and Postdoc advisees**

Atkins JW*, Fahey RT, Hardiman BS, Gough CM. Canopy structural complexity predicts forest canopy light absorption at continental scales. American Geophysical Union Fall Meeting 2017, New Orleans, LA, December 12, 2017.

***Postdoc advisee**

Atkins J*, Fahey RT, Gough, CM, Hardiman BS. Canopy structural complexity and carbon cycling relationships at the continental scale. Silvilaser. October 10, 2017.

***PhD advisee**

Strahler A, Atkins J*, Béland M, Crawford D, Danson M, Disney M, Elsharif A, Gaulton R, Gough C, Jovanovic T, Schaaf C, Stovall A. Early scanner data and structure retrievals from TLS calibrated by destructive sampling at Harvard Forest. Silvilaser. October 10, 2017.

***PhD advisee**

Ellen Stuart-Haentjens*, Christopher M. Gough, Jeff Atkins*, Robert T. Fahey and Brady S Hardiman, Mechanisms linking canopy structural complexity with primary production: Findings and implications from a survey of Eastern US forests. Ecological Society of America Annual Meeting, August 7, 2017. (Talk)

***PhD and Postdoc advisees**

Lisa Haber*. Canopy structural complexity shapes ecosystem function: The case for adding canopy complexity into Earth System Models. Ecological Society of America Annual Meeting, August 11, 2017. (Talk)

***PhD advisee**

Christopher Gough, Gil Bohrer, Peter Curtis, Ben Bond-Lamberty, Ellen JoAnne Stuart-Haentjens[1], Brady S Hardiman, Robert Fahey, Jeff Atkins[2], Ben Sagara[3], Lisa Haber[3]. The surprising role of disturbance in maintaining forest carbon sequestration: Implications for carbon science, policy and management. 2017 Joint NACP and Ameriflux Principal Investigators Meeting, Bethesda MD, March 30, 2017.

[1]VCU ILS PhD advisee
[2]VCU postdoc advisee
[3]VCU MS advisee

Gough C, Lucash M, Fahey R, Atkins J[1], Hardiman B. Forest Carbon Management in the 21st Century: What have we learned and where do we go from here? 19th Biennial Southern Silvicultural Research Conference, Blacksburg, VA, March 14, 2017.

[1]VCU postdoc advisee

Jeff Atkins, Robert T. Fahey, Christopher M. Gough, and Brady Hardiman, Portable Canopy LiDAR (PCL) and Canopy Structural Complexity (CSC), Meeting of Terrestrial Laser Scanning International Interest Group (NSF-RCN) at University College London, London, UK, March 1, 2017 (Invited Talk)

[1]VCU postdoc advisee

BS Hardiman, MR Saunders, JW Atkins[1], CM Gough, RT Fahey. Applying emerging technologies to applied forest ecology and forest management planning. 11th North American Forest Ecology Workshop, Alberta, Canada, June 20, 2017

[1]VCU postdoc advisee

Fahey RT, JW Atkins, BS Hardiman, CM Gough. Quantifying forest structural complexity: approaches, metrics, and a conceptual framework. 11th North American Forest Ecology Workshop, Alberta, Canada, June 20, 2017

[1]VCU postdoc advisee

Jeff Atkins, **Christopher M. Gough**, Paul Bukaveckas and Michael Beck. Canopy complexity and chronic nitrogen amendments constrain the primary production of a Mid-Atlantic forest: A long-term study at the nexus of environmental and ecological change. Ecological Society of America Annual Meeting, Ft. Lauderdale, August 9, 2016

[1]Postdoc advisee

Brady S Hardiman, **Christopher M. Gough**, Robert T. Fahey and Jeff Atkins[1], Is canopy complexity a global predictor of forest growth? Using NEON to understand ecosystem structure-production relationships across broad spatial scales. Ecological Society of America Annual Meeting, Ft. Lauderdale, August 10, 2016

[1]Postdoc advisee

Metheny AM, Bohrer G, Mirfenderesgi G, Morin TH, Sanchez CR, Vogel CS, **Gough CM**, Curtis P. Plant hydrodynamics help govern forest water cycling response to intermediate severity disturbance. AGU Fall Meeting 2016, December 12, 2016

Bohrer G, Matheny AM, Mirfenderesgi G, Morin TH, Sanchez CR, **Gough CM**, Vogel CS, Nadelhoffer KJ, Curtis P. Forest disturbance spurs growth of modeling and technology. AGU Fall Meeting 2016, December 15, 2016

Atkins JW[1], Fahey RT, **Gough CM**, Hardiman BS. Canopy structural complexity as a continental predictor of primary production: Using NEON to transform understanding of forest structure-function AGU Fall Meeting 2016, December 15, 2016 (Invited Talk)

[1]Postdoc advisee

Fahey RT, Tallant J, **Gough CM**, Hardiman BS, Atkins J, **Scheuermann CM[1]**. Comparison of Aerial and Terrestrial Remote Sensing Techniques for Quantifying Forest Canopy Structural Complexity and Estimating Net Primary Productivity. AGU Fall Meeting 2016, December 15, 2016 (Talk)

[1]VCU MS advisee

Domke, G., Williams C. , Richard Birdsey (USFS/WHRC), Adrien Finzi (BU), Melissa Lucash (PSU), Christopher Woodall (USFS), Margaret Skutsch (CIGA), Werner Kurz (NRC), Carolyn Smyth (NRC), Pamela Templer (BU), **Christopher Gough** (VCU), John Coulston (USFS), Dave Wear (USFS), Jeff Hicke (UI), Ben de Jong (CFS), Bob Haight (USFS), Chris Swanston (USFS), Maria Janowiak (USFS), Yude Pan (USFS), Stephen Ogle (CSU). Recent trends, drivers, and projections of carbon cycle processes in forests of North America. American Geophysical Union Fall Meeting. San Francisco, California, 12-16 Dec 2016.

Gough C.M., Curtis P.S., Bond-Lamberty B, Hardiman B, Scheuermann C, Nave L, Nadelhoffer K. Forest carbon uptake in North America's aging temperate deciduous forests: A data-theory-model mismatch? AGU Fall Meeting 2015, December 14, 2015.

Frasson R.P.M., Bohrer, G., Medvidy D., Vogel C., **Gough C.**, Curtis P. Representing Sub-Plot Canopy Heterogeneity Improves Model Prediction of Net Ecosystem Exchange in a Mixed-Deciduous Forest. AGU Fall Meeting 2014, December 17, 2014.

Curtis P.S., **Gough C.M.**, Bohrer G., Nadelhoffer K.J., Ivanov V.Y. Tree Death Leading To Ecosystem Renewal? Forecasting Carbon Storage As Eastern Forests Age. American Geophysical Union Fall Meeting, San Francisco, VA, December 8, 2013.

Hardiman B.S., **Gough C.M.**; Halperin A.[1]; Hofmeister K.[1]; Nave L.E.; Vogel C.S.; Curtis P.S. Mechanisms maintaining productivity in old forests of the upper Great Lakes. American Geophysical Union Fall Meeting, San Francisco, VA, December 5, 2011.
[1]***NSF Research Experience for Undergraduates advisee***

Curtis P.S., **Gough C.M.**, Nave L.E., Hardiman B.S., Bohrer G., Halperin A., Vogel C.S., Maurer K., Nadelhoffer K., and Le Moine J.. Disturbance dynamics and the maintenance of sustained carbon storage in aging forests of the upper Great Lakes region. Ecological Society of America, Austin, TX, August 10, 2011.

Nave L.E., Nadelhoffer K.J., Le Moine J.M., Hardiman B.S., Sparks J.P., Strahm B.D., Munoz A.B., **Gough C.M.**, Vogel C.S., Curtis P.S. Disturbance and decoupling of belowground carbon and nitrogen cycles in a northern temperate forest. Ecological Society of America, Austin, TX, August 10, 2011.

Seiler, J.R., J.P. Stovall, T.R. Fox, M.C. Tyree, N.A. King and **C.M. Gough**. 2009. Physiological understanding of loblolly pine growth: fertilization, clonal and interactive responses. 7th North American Forest Ecology Workshop, Logan Utah, June 22-26.

Curtis P.S., **Gough C.M.**, Vogel C.S., Schmid H.P., Dragoni D. 2007. Ecosystem Processes and Interannual Variability in Fluxes At the University of Michigan Biological Station. Annual Ameriflux Meeting. Boulder, CO, October 17, 2007.

Curtis P.S., **Gough C.M.**, Vogel C.S., Schmid H.P., Dragoni D. 2007. Ecosystem Processes and Interannual Variability in Fluxes At the University of Michigan Biological Station. Annual Ameriflux Meeting. Boulder, CO, October 17, 2007.

Gough, C.M., Vogel C.S., Schmid, H.P., Curtis, P.S. 2007. Forest Carbon Storage in the Upper Midwest: Connecting the Past with the Future. 19th Biennial North American Forest Biology Workshop, Bloomington, IN, May 23, 2007.

Maier, C., Sampson, D.A., Teskey, R., Johnsen, K., **Gough, C.** 2006. Ecosystem Respiration: Components and Processes. Critical Processes and Properties Regulating Carbon Cycling in Southern Forests, Crowne Plaza Hotel, Asheville, NC May 31 - June 2, 2006.

Gough, C.M., Seiler, J.R., and Selig, M.F. 2004. Soil CO_2 efflux in loblolly pine plantations: impacts of forest management, stand age, climate and productivity. 18th Biennial North American Forest Biology Workshop. Houghton, MI.

Sampson, D.A., and **Gough, C.M.** 2004. Carbon exchange and sequestration of pine ecosystems: simulations from the process model SECRET_3PG. 2004. 18th Biennial North American Forest Biology Workshop. Houghton, MI.

Gough C., Seiler J., and Wiseman E. 2003. Predicting soil CO_2 efflux in the loblolly pine ecosystem across the region. The 12th Biennial Southern Silviculture Conference. Biloxi, MS.

Gough C., Seiler J, Johnsen K, and Maier C. 2002. Influences on soil CO_2 efflux in intensively managed loblolly pine stands. 17th Biennial North American Forest Biology Workshop. Pullman, WA.

Gough C., Seiler J., Johnsen K, Maier C, Sampson D.A., and Butnor J. 2001. A model for soil carbon efflux in managed loblolly pine ecosystems. Southern Forest Science Conference. Atlanta, GA.

Gough C., Seiler J., Johnsen K., and Sampson D.A. 2001. GPP in loblolly pine: a monthly comparison of empirical and process models. The 11th Biennial Southern Silviculture Conference. Knoxville, TN.

Gough C., Seiler J. and Johnsen K. 2000. Environmental influences on gas exchange in fertilized and non-fertilized loblolly pine. 16th Biennial North American Forest Biology Workshop. Merida, Yucatan, Mexico.

Gough C., and Monroe J. 1998. Purification and properties of acidic alpha-glucosidase from crucifers. Washington Area Section of American Society of Plant Physiologists. Baltimore, MD.

Monroe J.D., **Gough C.M.**, Chandler L.E., and Loch C.M. 1998. Localization and properties of an acidic alpha-glucosidase in vegetative tissue of broccoli and arabidopsis. ASPP National Meeting, Madison, WI.

Gough C., Hall B., Stephen A. and Monroe J. 1997. Cloning and sequencing of two divergent alpha-glucosidase genes from *Arabidopsis*. Washington Area Section of American Society of Plant Physiologists. Washington, DC.

Select Poster Presentations

S Sunil*, KC Mathes**, A Johnson**, CM Gough. Soil respiration response to increasing disturbance severity in a manipulative forest experiment. AGU23.
***NSF REU and **PhD advisees**

A Johnson*, K Niedermaier**, BP Bond-Lamberty, C Clay**, CM Gough. Moderate severity disturbances from insects can increase temperate forest diversity and minimally impact net primary production. AGU23.
***PhD and **MS advisees**

CM Gough, BP Bond-Lamberty, KC Mathes*, L Haber*, A Johnson*. Resist!: What factors sustain forest carbon cycling processes following disturbance? AGU23.
***PhD advisees**

K Dorheim, CM Gough, L Haber*, BP Bond-Lamberty. Assessing models' complexity versus predictive capability using an ecosystem disturbance experiment. AGU23.
***PhD advisee**

G Verity*, CM Gough, L Haber**, M Priddy**. Contrasting Natural vs Anthropogenic Methane Sources Using Aircraft and Satellites: A NASA Student Airborne Research Program Project. AGU23.
***NASA SARP-E undergrad and PhD advisees**

M Weil*, CM Gough, M Priddy**, W Shuart, A Stovall. From the Ground to the Air and Satellites: Unraveling Wetland Restoration with Remote Sensing Techniques during NASA SARP 2023. AGU23.
***NASA SARP-E undergrad and PhD advisee**

Wales S*, Kreider M, Atkins JW**, Fahey RT, Nave KJ, Nadelhoffer KJ, Gough CM. Mechanisms underlying production stability in temperate deciduous forests. American Geophysical Union Fall Meeting 2018, December 10, 2018.
***MS and **Postdoc advisees**

Atkins JW**, Fahey RT, Stuart-Haentjens EJ, Turner L*, LaRue E, McNeil BE, Orwig D, Stovall AE, Tallant J, Gough CM, Hardiman BS. Unique Canopy Structural Signatures of Moderate Disturbance Derived from Terrestrial LiDAR. American Geophysical Union Fall Meeting 2018, December 10, 2018.
***PhD and **Postdoc advisees**

Stuart-Haentjens EJ*, Atkins JW**, Fahey RT, Fotis AT, Ricard RD, Hardiman BS, Gough CM. Using Terrestrial LiDAR to Examine Forest Structural Complexity Following Disturbance. American Geophysical Union Fall Meeting 2018, December 12, 2018.

***PhD and **Postdoc advisees**

Haber L*, Gough CM, Bond-Lamberty BP, Atkins JW**. The Forest Resilience Threshold Experiment (FoRTE): An ecosystem experiment examining disturbance severity-production interactions. American Geophysical Union Fall Meeting 2018, December 12, 2018.

***PhD and **Postdoc advisees**

Fer I, Dietze M, Desai AR, Gough CM, Novick KA, Arain MA, Chen J. How can hierarchical Bayesian calibration of a dynamic vegetation model help with ecological forecasts? American Geophysical Union Fall Meeting 2018, December 13, 2018.

Stuart-Haentjens E*, De Boeck H, Lemoine N, Mänd P, Kröel-Dulay G, Schmidt I, Jentsch A, Stampfli A, Anderegg W, Bahn M, Kreyling J, Wohlgemuth T, Lloret F, Classen A, Gough C, Smith M. Global resistance and resilience of primary production following extreme drought are predicted by mean annual precipitation American Geophysical Union Fall Meeting 2017, New Orleans, LA, December 13, 2017. (Poster)

***PhD advisee**

Fahey RT, Atkins J*, Gough CM, Hardiman BS, Haber L*, Stuart-Haentjens E,* Orwig, D, Campbell JL, Rustad L, Duffy M. Effects of different types of moderate severity disturbance on forest structural complexity and ecosystem functioning: A story of ice and fire. American Geophysical Union Fall Meeting 2017, New Orleans, LA, December 15, 2017. (Talk)

***PhD and Postdoc advisees**

Benjamin Tai Sagara[1], Robert Fahey, Christopher Vogel, Peter Curtis, Christopher Gough Looking within the forest landscape mosaic: Moderate disturbances effect on forest structure, composition, and carbon storage, 19th Biennial Southern Silvicultural Research Conference, Blacksburg, VA, March 14, 2017.

[1]VCU MS advisee

Jeff W Atkins[1], Robert Fahey, Brady Hardiman, Christopher Gough. Continental scale forest structural complexity-carbon cycling relationships. 2017 Joint NACP and Ameriflux Principal Investigators Meeting, Bethesda MD, March 30, 2017.

[1]VCU Postdoctoral advisee

Lisa Turner Haber[1], Robert Fahey, William Currie, Shea Wales, Christopher Gough, Structural complexity and primary production resilience across a gradient of disturbance in a Great Lakes forest ecosystem. 2017 Joint NACP and Ameriflux Principal Investigators Meeting, Bethesda MD, March 30, 2017.

[1]VCU MS advisee

Benjamin Tai Sagara[1], Robert Fahey, Christopher Vogel, Peter Curtis, Christopher Gough. Looking within the forest landscape mosaic: Moderate disturbances effect on forest structure, composition, and carbon storage. 2017 Joint NACP and Ameriflux Principal Investigators Meeting, Bethesda MD, March 30, 2017.

[1]VCU MS advisee

Ellen JoAnne Stuart-Haentjens[1], Raleigh D Ricart, Alexander T Fotis, Robert T Fahey, Brady S Hardiman, Jason Tallant, Luke Nave, Knute Nadelhoffer, Christopher M Gough Disturbance may stimulate carbon sequestration in a late-successional forest. 2017 Joint NACP and Ameriflux Principal Investigators Meeting, Bethesda MD, March 30, 2017.

[1]ILS PhD advisee

Ellen Stuart-Haentjens1, **Christopher Gough**, Brady Hardiman, Christoph Vogel, Gil Bohrer, Tim Morin, Peter Curtis. Ecological and environmental controls on multi-decadal carbon

cycling processes in the University of Michigan Biological Station forest. September 30, 2016

[1]ILS PhD advisee

Agee E, Lingli H, Bisht G, **Gough CM**, Couvreur V, Methany AM, Bohrer G, Ivanov VY. Root water uptake and lateral interactions among root systems in a temperate forest. AGU Fall Meeting 2016, December 12, 2016

Nave LE, **Gough CM**, Nadelhoffer KJ. Landform and soils control successional trajectories of forest composition and biomass accumulation in a north-temperate forest landscape. AGU Fall Meeting 2016, December 13, 2016

Stuart-Haentjens EJ[1], Ricart RD, Fahey RJ, Fotis AT, **Gough CM**. Using Remote Sensing Technologies to Quantify the Effects of Beech Bark Disease on the Structure, Composition, and Function of a Late-Successional Forest. AGU Fall Meeting 2016, December 15, 2016

[1]ILS PhD advisee

Zhang Y, Xiao X, Cescatti A, Wolf S, Wu J, Wu X, Gioli B, Wohlfahrt G, Zhou Sha, Steinbrecher R, **Gough CM**. Global convergence of maximum light use efficiency using fraction of PAR absorbed by chlorophyll. AGU Fall Meeting 2016, December 15, 2016

Gough CM, Curtis P, Nave LE, Nadelhoffer KJ, Bohrer G, Bond-Lamberty BP, Scheuermann, Stuart-Haentjens E, Turner L, Sagara B. Canopy complexity's role in (re)shaping carbon cycling following disturbance and with age: Do new observations support old theories? AGU Fall Meeting 2016, December 15, 2016

Hardiman BS, Atkins J, Dahlin K, Fahey RT, **Gough CM**. Canopy structural complexity influences forest canopy reflectance: linking terrestrial lidar with Landsat observations. AGU Fall Meeting 2016, December 15, 2016

Fiorella R, Poulsen CJ, Matheny AM, Sanchez CR, Fotis AT, Morin TH, Vogel CS, **Gough CM**, Aron P, Bohrer G. Forest Canopy Water Cycling Responses to an Intermediate Disturbance Revealed Through Stable Water Vapor Isotopes. AGU Fall Meeting 2016, December 15, 2016

Scheuermann C, Gough C, Nave L, Nadelhoffer K. Ground-Based Lidar Measurements of Forest Canopy Structure as Predictors of Net Primary Production Across Successional Time. AGU Fall Meeting 2015, December 18, 2015.

[1]*VCU M.S. advisee*

Van Aardt J, Romanczyk P, Kelbe D, van Leeuwen, Cawse-Nicholson K, Gough C, Scheuermann C, Kampe T. Waveform- and Terrestrial Lidar Assessment of the Usual (Structural) Suspects in a Forest Canopy (Invited). AGU Fall Meeting 2015, December 18, 2015.

[1]*VCU M.S. advisee*

Agee E, Ivanov V, He L, Bisht G, Shahbaz P, Fatichi S, Gough C, Couvreur V, Matheny A, Bohrer G. Compensatory root water uptake of overlapping root systems. AGU Fall Meeting 2015, December 17, 2015.

Schmid A.[1], Franklin R., Vogel C., Liebman E., Curtis P., **Gough C.** Biological and Physical Drivers of Coarse Woody Debris Respiration Following Moderate Forest Disturbance. AGU Fall Meeting 2014, December 16, 2014.

[1]*VCU M.S. advisee*

Gough C.M. Ecological and Environmental Controls over Fifteen-Year Forest Net Ecosystem Production at the University of Michigan Biological Station. AGU Fall Meeting 2014, December 18, 2014.

Bond-Lamberty B., Fisk J., Holm J., Bailey V., **Gough C.** Moderate forest disturbance as a stringent test for gap and big-leaf models. AGU Fall Meeting 2014, December 16, 2014.

Goodrich-Stuart E.J.[1], Fahey R.T., Vogel C.S., Curtis C.S., **Gough C.M.** Forest Net Primary Production Across a Gradient of Moderate Disturbance. AmeriFlux Annual Principal Investigators Meeting, Potomac, MD, May 5, 2014.
[1]***VCU M.S. advisee***

Scheuermann C.M.[1], **Gough C.M.**, Curtis P.S., Hardiman B.S. Carbon storage over stand development in North America's temperate deciduous forests. AmeriFlux Annual Principal Investigators Meeting, Potomac, MD, May 5, 2014.
[1]***VCU M.S. advisee***

Goodrich-Stuart EJ[1], Fahey R., De La Cruz Aubrie, **Gough C.M.** Disturbance severity and net primary production resilience of a Great Lakes forest ecosystem. American Geophysical Union Fall Meeting, San Francisco, CA, December 8, 2013.
[1]***VCU M.S. advisee***

Gough C.M., Curtis P.S., Scheuermann C.M.[1], Hardiman B.S. Revised paradigms of forest production over stand development: Why does carbon storage increase as trees die in aging mixed temperate forests? American Geophysical Union Fall Meeting, San Francisco, CA, December 8, 2013.
[1]***VCU M.S. advisee***

Goodrich-Stuart EJ[1], Fahey R., De La Cruz Aubrie, **Gough C.M.** Disturbance severity and net primary production resilience of a Great Lakes forest ecosystem. American Geophysical Union Fall Meeting, San Francisco, CA, December 8, 2013.
[1]***VCU M.S. advisee***

Gough C.M., Curtis P.S., Scheuermann C.M., Hardiman B.S. Revised paradigms of forest production over stand development: Why does carbon storage increase as trees die in aging mixed temperate forests? American Geophysical Union Fall Meeting, San Francisco, CA, December 8, 2013.

Gough C.M., Hardiman B.S., Nave L.E., Bohrer G., Maurer K.D., Vogel C.S., Nadelhoffer KJ, Curtis P.S. Defying the decline: Carbon storage resistance to moderate disturbance in a temperate forest. American Geophysical Union Fall Meeting, San Francisco, CA, December 5, 2012.

Gough CM, Curtis PS, Bohrer G, Nadelhoffer K. Sustained canopy light-use efficiency supports forest carbon storage resistance to moderate disturbance. 4/2012. Department of Energy, Terrestrial Ecosystem Science PI meeting, Washington, DC.

Hardiman BS, Curtis PS, Bohrer G, **Gough CM**. Maintaining high rates of carbon storage in old forests: A mechanism linking canopy structure to forest function. 4/2012. Department of Energy, Terrestrial Ecosystem Science PI meeting, Washington, DC.

Gough C.M.; Hardiman B.S.; Bohrer G.; Maurer K.; Nave L.E.; Vogel C.S.; Curtis P.S. Enhanced light use efficiency as a mechanism for forest carbon storage resilience following disturbance. American Geophysical Union Fall Meeting, San Francisco, CA, December 6, 2011.

Nave L.E.; Nadelhoffer K.; Le Moine J.; Hardiman B.S.; Sparks J.P.; Strahm B.D.; Munoz A.[1]; **Gough C.M.**; Vogel C.S.; Curtis P.S.. Disturbance and decoupling of belowground carbon and nitrogen cycles in a northern temperate forest. American Geophysical Union Fall Meeting, San Francisco, CA, December 7, 2010.
[1]***NSF Research Experience for Undergraduate***

Gough C.M., Nave L.E., Hardiman B., Bohrer G., Halperin A.[1], Vogel C.S., Maurer K., Nadelhoffer K, Le Moine J., and Curtis P.S. 2010.High rates of carbon storage in old deciduous forests: Emerging mechanisms from the Forest Accelerated Succession ExperimenT (FASET). American Geophysical Union Fall Meeting, San Francisco, CA, December 16, 2010.
[1]*NSF Research Experience for Undergraduates advisee*

Goedhart Nietz J., Bohrer G., Detto M., Maurer K., **Gough C.M.**, Vogel C., Curtis P.S. Linking GPP and soil respiration during partial forest canopy senescence. Ecological Society of America Annual Meeting, Pittsburgh, PA, August 4, 2010.

Hardiman B.S., **Gough C.M.**, Bohrer G., Vogel C.S., and Curtis P.S. Biological and structural diversity increase NPP resilience during forest succession. Ecological Society of America Annual Meeting, Pittsburgh, PA, August 4, 2010.

Hardiman, B.S., G. Bohrer, **C.M. Gough**, C.S. Vogel, and P.S. Curtis. 2009. Net primary productivity is positively correlated with canopy structural complexity in a northern hardwood forest. in Ecological Society of America, 94th Annual Meeting, Albuquerque, NM, August 9, 2009.

Curtis P.S., **Gough C.M.**, Hardiman B., Vogel C.S., Bohrer G., Nave L.E. Mechanisms for sustained carbon storage in old forests: Early results from the Forest Accelerated Succession ExperimenT (FASET). American Geophysical Union Fall Meeting, San Francisco, CA, December 18, 2009.

Gough C.M., Flower C.E.**[1]**, Vogel C.S., Dragoni D., Curtis P.S. Whole-Ecosystem Labile Carbon Production in a North Temperate Deciduous Forest. American Geophysical Union Fall Meeting, San Francisco, CA, December 17, 2008.
[1]*M.S. student and advisee*

Curtis P.S., **Gough C.M.**, Vogel C.S., Hardiman B., Bohrer G., Nave L.E. Projecting carbon cycling trajectories in forests of the upper Midwest, USA: Has carbon storage peaked? American Geophysical Union Fall Meeting, San Francisco, CA, December 17, 2008.

Vogel, C.S., **Gough C.M.**, Curtis P.S. Do continuous data improve estimates of annual soil respiration?: The importance of measurements during rapid weather changes. Automated Soil Respiration Workshop, Durham, NH, September 11, 2007.

Flower, C.E.**[1]**, **Gough, C.M.**, Vogel, C.S., Curtis, P.S. Seasonal Patterns of Carbohydrate Allocation in Mature Aspen and Oak: Reconciling Above-canopy Measurements of CO_2 Exchange and Allometric Measurements of Tree Growth. 19th Biennial North American Forest Biology Workshop, Bloomington, IN, May 23, 2007.
[1]*M.S. student and advisee*

Wood C.**[1]**, Hardimann B., **Gough C.**, Curtis P. Factors influencing soil carbon dynamics in Ohio prairies. OSU College of Biological Sciences Undergraduate Research Colloquium, Columbus, OH, April 27, 2007.
[1]*Outstanding Poster Award, OSU Undergraduate Research Colloquium*; *undergraduate lead author and advisee*

Curtis P.S., **Gough C.**, Vogel C., Schmid H.P. Disturbance, succession and forest carbon dynamics: Re-examining Odum's theory of ecosystem development with the tools of Fluxnet. North American Carbon Program Investigators Meeting. Colorado Springs, CO, January 22, 2007.

Gough C.M., Vogel C.S., Kazanski C.**[1]**, Nagel L.**[1]**, Flower, C.E., and Curtis P.S. Coarse Woody Debris and Ecosystem Carbon Dynamics in a North Temperate Forest. The American Geophysical Union, Fall Meeting 2006. San Francisco, CA, December 15, 2006.

[1]***undergraduate co-author, NSF Research Experience for Undergraduates advisee***

Curtis P.S., Vogel C.S., Schmid H.P., and **Gough C.M.** Disturbance, succession and forest carbon dynamics: an ecosystem-scale experiment at the University of Michigan Biological Station. The American Geophysical Union, Fall Meeting 2006. San Francisco, CA, December 15, 2006.

Nave, L.E. Vogel C.S., **Gough C.M.,** Curtis P.S. The Nitrogen Budget of a Northern Hardwood Forest: Sources and net Primary Productivity Requirements The American Geophysical Union, Fall Meeting 2006. San Francisco, CA, December 12, 2006.

Gough C.M., Vogel C.S., Schmid H.P., and Curtis P.S. Disturbance, succession and forest carbon dynamics: an ecosystem-scale experiment at the University of Michigan Biological Station. New Research at UMBS~Flux. Annual Ameriflux Meeting. Boulder, CO, October 16, 2006.

Herman J.[1]**, Gough C.**, Curtis P. Roots in the Prairie: Unraveling the belowground performance of non-native plant species in an experimental prairie restoration. OSU College of Biological Sciences Undergraduate Research Colloquium, Columbus, OH, May 1, 2006.
[1]***Outstanding Poster Award, OSU Undergraduate Research Colloquium*; *undergraduate lead author and advisee***

Gough C.M., Vogel C.S., Harrold K.[1], George K.[1], and Curtis P.S. The legacy of forest harvest and burning on ecosystem carbon storage in the northern Midwest, USA. American Geophysical Union, Fall Meeting 2005. San Francisco, CA.
[1]***undergraduate co-author, NSF Research Experience for Undergraduates advisee***

Curtis P.S., **Gough C.M.**, and Vogel C.S. Forest carbon storage in the northern midwest, USA: a bottom-up scaling approach combining local meteorological and biometric data with regional forest inventories. American Geophysical Union, Fall Meeting 2005. San Francisco, CA.

Gough C.M., Vogel C.S., Curtis P.S., Schmid H.P. and Su H.-B. 2005. Carbon storage in the upper Midwest, USA. Seventh International Carbon Dioxide Conference. Boulder, CO.

Sampson D.A., **Gough C.M.**, Seiler J.R. 2005. Rotation-length carbon storage in managed loblolly pine (*Pinus taeda* L.) forests of the southeastern United States. Seventh International Carbon Dioxide Conference. Boulder, CO.

Gough C.M., Vogel C.S., Curtis P.S., Schmid H.P. and Su H.-B. 2005. Carbon sequestration in northern Great Lakes forests. Fourth Annual Conference On Carbon Capture & Sequestration: Developing Potential Paths Forward Based on the Knowledge, Science and Experience to Date. Alexandria, VA.

Gough C.M., Vogel C.S., Curtis P.S., Schmid H.P. and Su H.-B. 2004. Reconciling differences between eddy-covariance and biometric based estimates of annual C storage. American Geophysical Union Fall Meeting. San Francisco, CA.

Desai A.R., Normeets A., Bolstad P.V., Chen J., Cook B.D., Curtis P.S., Davis K.J., Euskirchen E., **Gough C.**, Martin J., Ricciuto D.M., Schmid H.P., Tang J., Su H., Vogel C. 2004. Impact of vegetation cover and stand age on scaling carbon fluxes in the upper Midwest: a multiple eddy flux site study. American Geophysical Union Fall Meeting. San Francisco, CA.

Gough C.M., Curtis P.S., Vogel C.S., Schmid H.P. and Su H.-B. 2004. Annual carbon storage from 1999 through 2002 in a northern hardwood forest assessed using eddy-covariance and biometric methods. Annual Ameriflux Meeting. Boulder, CO.

Gough C.M., Curtis P.S., Vogel C.S., Schmid H.P. and Su H.-B. 2004. Annual carbon storage over 4 years in a northern hardwood forest assessed using eddy-covariance and biometric methods. 18th Biennial North American Forest Biology Workshop. Houghton, MI.

Gough C. M., Seiler J. R., Wiseman P.E. and Maier C.A. 2003. Impacts of Forest Management, Climate, and Productivity on Soil CO_2 Efflux from Loblolly Pine (Pinus taeda L.) stands located on the Virginia Piedmont and the South Carolina coastal plain. American Geophysical Union Fall Meeting. San Francisco, CA.

Seiler J., **Gough C.**, Selig M., and Maier C. 2003. Estimating soil CO_2 efflux in managed loblolly pine ecosystems: what we know and how we can apply it to carbon sequestration. Second Annual Conference on Carbon Sequestration: Developing and Validating the Technology Base to Reduce Carbon Intensity. Alexandria, VA.

Gough C., Selig M., and Seiler J. 2002. Opportunities for reducing carbon turnover in managed loblolly pine stands: effects of fertilization and thinning. USDA Symposium on Natural Resource Management to Offset Greenhouse Gas Emissions. Raleigh, NC.

TEACHING AND MENTORING

Instructor of Record

Name	Inst.	Cr.	Term	Enrolled	**Course Rating (5 = high)**	**Instructor Rating (5 = high)**	Comments
Graduate Seminar: Disturbance Ecology, BIOL 693	V	1	Spring 2019	12	4.75	4.88	Developed & instructed
Graduate Seminar: Old Theories, New Data, BIOL 693	V	1	Fall 2021	10	4.90	5.00	Developed & instructed
Eco-techniques, BIOL 491 https://rampages.us/ecotechniques/	V	4	Summer 2017	15	4.92	5.00	Co-develop. & co-inst.
Forest Ecology, BIOL 519	V	4	Summer 2011, 2012, 2013, 2014, 2015; Fall 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022	16, 17, 16, 16, 9, 16, 14, 14, 15, 15, 16, 17, 13, 10, 9, 10, 14, -, 9	4.87, 4.73, 4.92, 4.55, 4.44, 4.70, 4.77, 4.55, 5.00, 4.18, 4.91, 4.55, 4.75, 4.67, 4.78, 4.50, 4.48, 5.00, 5.00	5.00, 4.80, 5.00, 4.45, 4.89, 4.90, 5.00, 4.82, 5.00, 4.91, 5.00, 4.55, 4.88, 4.50, 5.00, 4.67, 5.00, 4.94, 5.00	Developed & instructed
Advanced Forest Ecology, BIOL 691	V	4	Fall 2017	5	4.8	4.2	
Global Change Biology, BIOL 491	V	3	Fall 2010, 2011, 2012	58, 31, 39	4.81, 4.59, 4.61	4.82, 4.83	Developed & instructed

BIOL 690: Biology Seminar	V	1	Spring 2018, Spring & Fall 2018, 2019, 2020, 2021, 2022, Spring 2023	22, 24, 19, 17, 19, 20, 16, 14, 7	3.92, 3.69, 4.36, 4.29, 4.40, 4.89, 4.76, 4.78, 4.50	4.67, 4.92, 4.55, 4.71, 4.90, 4.97, 4.79, 4.89, 5.00	
Biology Capstone: Science and Society, BIOL 475	V	1	Spring 2010, 2011, 2013, 2014, 2015	16, 16, 13, 16, 17	4.50, 4.83, 4.86, 4.58, 4.70	5.00, 5.00, 4.86, 4.67, 4.80	Developed & instructed
Biology Capstone: Urban Ecology, BIOL 475; See: https://vcu.exposure.co/a-shot-of-color	V	1 or 2	Spring 2011, 2012, 2013, 2014, 2016, 2017, 2019, 2020, 2021, 2022, 2023	17, 15, 16, 15, 15, 16, 12, 12, 11, 18, 14	4.75, 4.31, 4.91, 4.90, 5.00, 4.56, 4.00, 4.67, 4.43, 4.48, 5.00	4.75, 4.77, 5.00, 4.90, 4.91, 4.56, 4.63, 5.00, 4.14, 4.54, 5.00	Developed & instructed
Mid-Atlantic Glob. Change Biology, ENVS 591	V	1	Spring 2010	14	4.89	5.00	Developed & instructed
Human biology: A Case Study Approach, BIO 102	O	3	Winter 2008	400	4.6 (4.2 = university mean)		Instructed

V – Virginia Commonwealth University; O – Ohio State University

Mentoring Experience (Note *superscript* student achievements)

Post-doc advisee (VCU)
Dr. Jeff Atkins, VCU 2015-2020 (now with USDA Forest Service)[3,5]

M.S. and/or Ph.D. advisees for whom I've served as chair (VCU)
Mindy Priddy, VCU Integrated Life Sciences Ph.D. student, 2027 expected
Angela Reynolds, M.S. Biology, 2025 expected
Erin-Darby McClain, M.S. Biology, 2025 expected
Sara Tenda, M.S. Biology, 2024 expected
Ariel Johnson, Ph.D., VCU Integrated Life Sciences Ph.D. student, 2026 expected
Ellen Stuart-Haëntjens, M.S., 2014[3,5,8,10]; VCU Integrated Life Sciences Ph.D. student, 2019 expected[9]
Lisa Turner, M.S. 2017[3],[10]; VCU Integrated Life Sciences Ph.D. student, 2021 expected3,[9,10]
Kayla Mathes, VCU Integrated Life Sciences Ph.D., 2023[3],[9,10]
Laura Hickey, M.S. Biology, 20223,[3,10]
Kerstin Niedermaier, M.S. Biology, 2022[3,11]
Cameron Clay, M.S., Biology, 2021
Max Grigri, M.S., 2020[3, 10]

Shea Wales, M.S. Biology, 2019[3]
Ben Sagara, M.S. Biology, 2017[5]
Cynthia Sheuermann, M.S. 2016[3,5,8]
Amy Schmid, M.S. Biology, 2015[3,5]
Lisa Collins, VCU (CES), M.ENVS.[1]

M.S. or Ph.D. student committees (VCU)
Baron Lin, M.S. student (VCU)
Alexander Brown, M.S. student (VCU)
Joe Famularo, M.S. student (VCU)
Rebecca Piri, M.S. student (VCU)
Elsa Chen, M.S. student (VCU)
Lauren Jurczak, ILS student (VCU)
Abigail Walter, M.S. candidate (VCU)
Michael Sinclair, M.S. candidate (VCU)
Jane Remfort, Ph.D. ILS student (VCU)
Lauren Wood, Ph.D. ILS student (VCU)
Ben Nickley, M.S. candidate (VCU)
Mike Beck, M.ENVS., 2017
Jessica Reese, M.S. 2017 (VCU)
Connie Bolte, M.S. 2017 (VCU), Ph.D. ILS 2022 (VCU)
Ben Dows (VCU)
Brandon Lind, Ph.D. 2018 (VCU)
Joseph Thompson, M.S., 2016 (VCU)
Abigail Nelson, M.S., 2016 (VCU)
Ethan Harwood, M.S., 2015 (VCU)
John Wajcikiewicz, M.S., 2014 (VCU)
Joe Wood, M.S., 2011 (VCU)

Post-baccalaureate advisee (VCU)
Ariel Johnson, 2021-2022, NSF REPS Fellow in residence

Ph.D. student committees (Other)
Callie Oldfield (U. Georgia)
Alma D. Vázquez-Lule (U. Deleware)
Charles Flower, M.S., 2007 (Ohio State)
Suparna Biswas, M.S., 2005 (Ohio State)

Undergraduate (and 1 high school) students researchers trained (VCU, OSU, UMBS)
Erin-Darby McClain, VCU field tech, 2023
Sona Sunil, VCU REU, 2023
Gwenny Verity, NASA SARP-E mentee, 2023 (VCU)
Matt Weil, NASA SARP-E mentee, 2023 (Ithaca College)
Cohen Parent, NASA SARP-E mentee, 2023 (U. Louisiana, Monroe)
Karla Lemus, NASA SARP-E mentee, 2023 (U. Colorado, Boulder)
Shristi Nadkarni, VCU directed study, 2023
Tatum Delaney, UMBS REU, 2022, UCLA

Lisa Nalliah, UMBS REU, 2022, Goshen College
Logan Russell, VCU lab volunteer, 2022-2022
Emily Mance, VCU lab volunteer, 2022
Akhil Valluri, VCU work study, 2021-2022
Daulton White, VCU work study, 2021
Sydney Russell, VCU work study, 2021
Hiba Kamal, VCU directed study, 2022
Brianna Gardner, VCU directed study, 2022
Hallie Bruce-Ross, VCU lab volunteer, 2022
Erkia Masis Laverde, VCU independent study, artist in residence, VCU, 2021
Olu Johnson, VCU work study, 2021
Alexis Spencer, VCU work study, 2021
Leah Capili, REU and VCU directed study, 2021
Alex Marini, VCU field/lab tech, 2021
Kirsten Street, VCU field/lab technician, 2020-2021
Carol-Anne Petit, VCU field/lab technician, 2020
Keith Dickerson, VCU field/lab technician, 2020
Elizabeth Clippard, REU, 2020, Middle Tennessee State University
Carly Rodriguez, UMBS, REU, 2019, W. Colorado University
Laura Hickey, UMBS REU, 2018, VCU
Alex Mathews, UMBS REU, 2018, Rutgers University
Alley Barry, VCU field/lab technician, 2017
Sheryl Yaconiello, VCU field/lab technician, 2018
Chase Hershberger, VCU field/lab technician, present
Catherine Mcquigan, VCU scientific illustrator for two manuscripts, 1 now published; field technician, 2018
Carina Tatleman, VCU field technician, 2017
Nadia Bangura, VCU directed study, 2017
Mark Kreider, UMBS REU, 2017, Goshen College
Ben Crumrine, VCU field technician, 2016
Shea Wales, UMBS REU, 2016, Fort Lewis College
Samuel Reed, UMBS REU, 2015, Ohio State University
Nicolas Correa, UMBS REU, 2015, University of Puerto Rico
Julia Yang, UMBS REU, 2014, University of Kansas[3]
Aubrie De La Cruz, UMBS REU, 2013, University of California
Eli Liebman, UMBS REU, 2013, Macalester University[3]
Liz Stockton, UMBS REU, 2012, Tufts University
Chris Gayler, VCU independent study, 2012
Katy Hofmeister, UMBS REU, 2011, Hampshire College[3]
Abby Halperin, UMBS REU, 2010, Oberlin University[3,6]
Hunter Elliot, VCU independent study, 2010-2011[2,3]
Eliza Fritz, Clover Hill High School, school year 2008-2009[3, 7]
Chris Wood, OSU independent study, 2006-2007[4,5]
Brad Ewing, OSU independent study, 2003-2006
Jennifer Herman, OSU independent study, 2005-2006[4,5]
Clare Kazanski, UMBS REU, 2006, Carleton College[3]
Laura Nagel, UMBS REU, 2006, Allegheny College[3]

Sarah Yeskel, UMBS undergraduate, 2005, University of Michigan
Claire Baldeck, UMBS REU, 2005, Ohio State
Katie Harrold, UMBS REU, 2005, Middlebury College[3,6]
Kristen George, UMBS REU, 2004, St. Cloud State University[3,6]
[1]Rice Center research award recipient; [2]VCU undergraduate colloquium presenter [3]co/author of peer-reviewed manuscript; [4]Outstanding Poster Award, OSU Undergraduate Research Colloquium; [5]lead author of presentation; [6]co-author of presentation; [7]First place in Environmental Sciences and Outstanding Research Award at Virginia Junior Science and Humanities Symposium (2009), Best in show in Chesterfield Co. Science Fair; [8]Sigma Xi Scientific Research Society Grants-in-Aid of Research Award; [9]Outstanding Ecology ILS PhD Student & 3rd Place University-wide in 3-minute thesis competition; [10]Outstanding MS/PhD Environmental Studies or Biology Student, [11]Outstanding TA of the Year

ELECTED POSTS AND SERVICE

VCU (University, College, Department), partial list

Level	Committee name or type of service	Brief description of duties and time commitment
University	Strategic Research Priorities Plan, Implementation Committee	Recommended VCU-wide research priorities to S. Rao
University	Institutional Biosafety Committee (IBC)	Meet monthly to approve IBC protocols submitted by faculty
College	Co-Chair, CHS Faculty Graduate Advisory Committee	Advise CHS on graduate-related issues
College	Promotion and Tenure Committee of Tracey Dawson-Cruz, Fall 2017	Co-reviewed and summarized Dawson-Cruz's scholarship performance in support of her promotion to Full Professor
College	Space Committee	Helped draft CHS space policy document
Department	Chair, Seminar Committee	Organize and coordinate research seminar
Department	Instructor Search Committee, Spring 2017	Served on hiring committee for 5 new instructional faculty members
Dept	Zinnert P&T Committee, Chair	Chaired Zinnert P&T Committee
Dept	Graduate Committee	Member, vote on policies and admission
Department	Third-Year Review of Joseph Battestilli, Fall 2017	Summarized Battestilli's teaching evaluations and co-evaluated his performance in support of his 3rd year review

Department	Bylaws Committee, Ongoing	Meet as needed to discuss revision and amendments to Departmental bylaws
Department	Faculty learning community, 2008-2009	BIOL 101 reorganization
Other	Rice Rivers Center Research Advisory Committee, Ongoing	Meet as needed to discuss scholarship development at the RRC

Professional (partial list)

Site visit/panelist for a large Department of Energy National Lab project, July 2023
Associate Editor for *Ecosystems*, 2022-
Chair, National Ecological Observatory Network (NEON) Terrestrial Plant Productivity and Biomass Technical Working Group Technical Working Group, 2019-present
DOE EES Panelist, Spring 2022
North American Carbon Program 2021 Virtual Meeting Student Presentation Judge
Co-led breakout at Department of Energy Land-Atmosphere Workshop 2021
Michigan Tech University Carbon Mitigation Training Video, Presenter/Speaker
Organized two sessions at AGU Fall Meeting, 2019:

Disturbance Impacts on Ecological and Biogeochemical Processes in Coastal Wetlands I. KV Schafer, I Forbrich, CM Gough, R Vargas. AGU Fall Meeting 2019.

Observing and Modeling the Influence of Disturbance on Ecological, Biogeochemical, and Hydrological Processes: Toward a Predictive Understanding II Posters. L Haber, KC Mathes, JA Shabaga, J Stegen, CM Gough. AGU Fall Meeting 2019.

North American Carbon Program, National Science Investment Plan, co-author, Processes & Attribution review committee
NSF LTER synthesis proposal panelist 2019 – reviewed 6 full proposals and attended panel.
National Science Foundation Advisory Panel, Fall 2017, reviewed 17 proposals and delivered oral summary of each at NSF headquarters, Fall 2017
Academic Editor for Journal *Forests*, made final publication decisions on dozens of publications
NSF/Batelle NEON Plant Working Group Advisory panel, Ongoing
NOAA Sea Grant reviewer, 2017
NSF OPUS reviewer, 2016
Guest Editor of Special Issue, *Forests*
Referee for: *Global Change Biology, New Phytologist, Tree Physiology, Journal of Geophysical Research – Atmospheres, Journal of Tropical Forest Science, Applied Soil Ecology, Annals of Forest Science, Ecosystems*, *Forest Ecology and Management*, *Annals of Botany*, *Pedosphere, Environmental Management, Boreal Environment Research, Agricultural and Forest Meteorology, Plant Ecology, Canadian Journal of Forest Research, Ecological Applications, Sustainability, Trees - Structure and Function, Ecosphere, Global Ecology and Biogeography, Nature Education, Journal of Geophysical Research—Biogeoscience; Urban Ecosystems; PLoS One; Applied Soil Ecology; European Journal of Forest Research, Biogeocsiences; Journal of Environmental Quality, Ecology, Journal of Applied Ecology, Agriculture, Ecosystems and Environment, Oecologia, Remote Sensing and Environment, Nature Communications, BIOS, Nature, Ecology Letters, Geophysical Research Letters, Frontiers in Forests and Global Change, Journal of Ecology, Science Advances*
Department of Energy Terrestrial Ecosystem Science 2015 Proposal Reviewer and Panelist

Swiss National Science Foundation Proposal Reviewer
Outstanding Student Paper Award Section Coordinator &/or Judge, American Geophysical Fall Meeting 2013, 2014, 2015, 2016
Convener of American Geophysical Fall Meeting 2013 Session entitled "Emerging Frontiers in Biogeosciences"
PBS NOVA education content reviewer, Fall 2013
Convener of American Geophysical Fall Meeting 2012 Session entitled "Disturbance Impacts and Responses"
Host of PBS's (WOSU) Bio Bits video for high school science education
Reviewer for: "Forest Carbon Working Group Accounting for Forest Carbon in Life Cycle Analysis" for the Environmental Paper Network (http://www.environmentalpaper.org/).
Quoted by and provided consultation to the Richmond Times Dispatch for story titled "Area Pounded by Pollen" by Chris L. Young, April 8, 2010. VCU Biology Department cited in story.
Spearheaded Biology's contribution to the VCU Year of the Environment: "Invasive Species Day"
DOE National Institute for Climate Change Research pre-proposal reviewer, 2009
Virginia Commonwealth University Faculty learning community for Bio 101 reorganization; 2008-2009
Professional consulting on forest carbon crediting provided to Baker Botts Law Firm L.L.P.
Proposal reviewer, USDA Graduate Women in Science Fellowships, 2008-2009
Developer of VCU Biology Research Capstone Course, in University review, 2008
Proposal reviewer, National Science Foundation, Ecosystem Studies Program, 2005, 2006 (2), 2007 (2), 2010
Tree Physiology Editorial Review Board, 2005
Proposal reviewer for U.S. Civilian Research & Development Foundation, 2005
Ohio State College of Biological Sciences Undergraduate Student Research Fair Judge, 2004, 2005, 2006, 2007
Forestry Dept Budget and Planning Committee, Graduate Student Representative, 2001-2003
Graduate Student Association, Forestry Department Representative, 2001-2002
Forestry Depart Graduate Affairs Committee, Graduate Student Representative, 2001-2003
University Graduate Honor Court Panelist, College of Natural Resources Rep., 2002-2003
Graduate Student Orientation Committee, Forestry Department Representative, 2002
Forestry Department Graduate Student Mentoring Program Chair, 2002
University Board of Visitors Graduate Student Representative Selection Committee, 2002
4-H Natural Resources Student Presentations – Judge, 1999
Virginia High School Science Fair – Judge, 1998

PROFESSIONAL MEMBERSHIPS

American Geophysical Union
Ecological Society of America
The National Society of Collegiate Scholars
Phi Sigma, Biological Research Honor Society
Phi Kappa Phi National Honor Society

RESEARCH OUTREACH AND APPLICATION

Research in the popular press (not exhaustive)

From surf, turf and sky, NASA and VCU's Rice Rivers Center deliver an immersive summer experience for undergraduates**.** https://vcu.exposure.co/from-surf-turf-and-sky-nasa-and-vcus-rice-rivers-center-deliver-an-immersive-summer-experience-for-undergraduates

Forest ecology, illustrations and jam sessions: How arts and science mix in Chris Gough's lab. https://news.vcu.edu/article/2021/08/forest-ecology-illustrations-and-jam-sessions-how-arts-and-science-mix-in-chris-goughs-lab

NSF Discovery Feature: Structural complexity in forests improves carbon capture: https://nsf.gov/discoveries/disc_summ.jsp?cntn_id=299355&org=NSF&from=news

VCU State of the University, 2019: https://www.youtube.com/watch?v=KbQUjdtlo1g

UMBS Research Spotlight: FoRTE explores forest resilience and carbon storage https://lsa.umich.edu/umbs/news-events/all-news/search-news/umbs-research-spotlight--forte-explores-how-carbon-storing-fores.html

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