

# KYLA MARIE DAHLIN

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& Spatial Sciences  
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|------------------|------|---|
| <b>EDUCATION</b> | 2012 | PhD, Biology, Stanford University<br><i>Dissertation:</i> Ecosystem assembly in California: Linking pattern to process at the landscape scale<br><i>Advisors:</i> Chris Field & Greg Asner  |
|                  | 2004 | Masters of Environmental Management, Yale School of Forestry & Environmental Studies<br><i>Masters Project:</i> Crotona Park (NYC) Urban Forest Management Plan<br><i>Advisor:</i> Mark Ashton  |
|                  | 2003 | BS, Yale University, Ecology & Evolutionary Biology<br><i>Thesis:</i> Kauri ( <i>Agathis australis</i> ) growth in planted and natural stands: A promising native timber species for New Zealand<br><i>Thesis advisor:</i> Florencia Montagnini |

## RESEARCH FOCUS

Dr. Dahlin and the Ecological Remote Sensing and Modeling (**ERSAM**) Lab aim to understand and quantify ecological patterns and processes from local to global scales through the application of emerging technologies, including air- and space-borne remote sensing, spatial statistics, and process-based modeling.

## POSITIONS HELD

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|----------------|--|
| 2022 - present | Visiting Researcher, NASA Jet Propulsion Laboratory ( <b>JPL</b> ), on sabbatical  |
| 2022 - present | Associate Professor, Michigan State University, Department of Geography, Environment, & Spatial Sciences<br>Affiliated faculty in the program in Ecology, Evolution, & Behavior ( <b>EEB</b> ), the Environmental Science & Policy Program ( <b>ESPP</b> ) and AgBioResearch |
| 2015 - 2022    | Assistant Professor, Michigan State University, Department of Geography, Environment, & Spatial Sciences   |
| 2012 - 2014    | Advanced Study Program Postdoctoral Fellow, National Center for Atmospheric Research ( <b>NCAR</b> ), Boulder, Colorado  |
| 2009 - 2012    | Interdisciplinary Graduate Fellow, Stanford University, California   |
| 2007 - 2009    | Kennedy Graduate Fellow, Stanford University, California   |
| 2005 - 2007    | Instructor, San Francisco City College, San Francisco, California  |
| 2005 - 2007    | GIS & Resource Management Technician, Golden Gate National Parks Conservancy, San Francisco, California  |
| 2003 - 2005    | Urban Forester, NYC Department of Parks & Recreation, New York   |

## LEAVES & MODIFIED DUTIES

|             |  |
|-------------|--|
| 2022 - 2023 | Year-long sabbatical at JPL  |
| 2017        | Second child born, teaching release fall 2017, one-year tenure clock extension |
| 2014        | First child born, 12 weeks parental leave at NCAR                              |

## HONORS & AWARDS

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|--|-----------|
| Exemplary rating for teaching activity 'Remote Sensing of Plants and Topography in R' by the National Association of Geoscience Teachers ( <b>NAGT</b> ) | 2022      |
| NSF CAREER Faculty Early Career Development Award  | 2021-2026 |
| Editors' Citation for Excellence in Refereeing for <i>JGR-Biogeosciences</i>   | 2019      |
| Ecography Award for Excellence in Ecology and Evolution (E4 Award) runner up   | 2016      |
| Climate and Global Change Postdoctoral Fellow, National Oceanic and Atmospheric Administration, <i>offered &amp; declined</i>                            | 2014      |
| Society of Fellows Postdoctoral Fellow, University of Michigan, <i>offered &amp; declined</i>  | 2014      |
| Advanced Study Program Postdoctoral Fellow, NCAR   | 2012-2014 |
| Interdisciplinary Graduate Fellow, Stanford University   | 2009-2012 |
| Excellence in Teaching Award, Stanford University, Department of Biology   | 2008      |

## RESEARCH

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### PEER-REVIEWED PUBLICATIONS<sup>+</sup>

- 2023 Atkins JW, Costanza J, **Dahlin KM**, Dannenberg M, Elmore AJ, Fitzpatrick MC, Hakkenberg CR, Hardiman BS, \*Kamoske AG, LaRue E, Silva CA, Stovall AEL, & EK Tielens. Scale dependency of lidar-derived forest structural diversity. *Methods in Ecology and Evolution*. DOI: 10.1111/2041-210X.14040 [Q1 - Ecological Modeling]
- 2022 \*Akanga D, **Dahlin KM** & N Moore. Accelerating agricultural expansion in the Greater Mau Forest Complex, Kenya. *Remote Sensing Applications: Society and Environment*. 28: 100860 DOI: 10.1016/j.rsase.2022.100860 [Q1 - Geography, Planning, and Development]
- 2022 †Shirkey G, John R, Chen J, **Dahlin KM**, Abraha M, †Sciusco P, †Lei C & DE Reed. Fine resolution remote sensing spectra improve estimates of gross primary production of agricultural lands. *Agricultural and Forest Meteorology*. 326: 109175. DOI: 10.1016/j.agrformet.2022.109175 [Q1 - Global and Planetary Change]
- 2022 \*Kamoske AG, **Dahlin KM**, Read QD, Record S, Serbin SP, Stark SC, & PL Zarnetske (in revision). Towards mapping biodiversity from above: Can fusing lidar and hyperspectral remote sensing predict taxonomic, functional, and phylogenetic tree diversity in temperate forests? *Global Ecology & Biogeography*. [Q1 - Ecology]
- 2022 Cavender-Bares J, Schneider F, Santos MJ, Armstrong A, Carnaval A, **Dahlin KM**, Fatoyinbo L, Hurtt GC, Schimel D, Townsend PA, Ustin SL, Wang Z & AM Wilson Integrating remote sensing with ecology and evolution to advance biodiversity conservation. *Nature Ecology & Evolution*. [Q1 - Ecology]
- 2021 Reed DE, †Poe J, Abraha M, **Dahlin KM**, & J Chen. Modeled Surface-Atmosphere Fluxes from Paired Sites in the Upper Great Lakes Region Using Neural Networks. *Journal of Geophysical Research: Biogeosciences*. 126(8): e2021JG006363. DOI: 10.1029/2021JG006363 [Q1 - Ecology]
- 2021 Smith AC, **Dahlin KM**, Record S, Costanza JK, Wilson AM & PL Zarnetske. The geodiv R package: tools for calculating surface gradient metrics. *Methods in Ecology and Evolution*. DOI: 10.1111/2041-210X.13677 [Q1 - Ecological Modeling]

<sup>+</sup> \* = ERSAM Lab student throughout CV; † = other student; [Q# - Category] = Quartile from SCImago Journal Rank in specific category for publication year, see <https://www.scimagojr.com/>

- 2021 **Dahlin KM**, Zarnetske PL, Read QD, †Twardochleb LA, \*Kamoske AG, Cheruvellil KS, & PA Soranno. Interactions between biodiversity and ecosystem function among terrestrial and aquatic realms. *Frontiers in Environmental Science*. 9(692401): 1-10. DOI: 10.3389/fenvs.2021.692401 [Q1 – Environmental Science]
- 2021 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 and B Bond-Lamberty. The *fortedata* R package: open science data sets for a manipulative experiment testing forest resilience. *Earth System Science Data*. 13: 943-952. DOI: 10.5194/essd-2020-112 [Q1 – Earth & Planetary Sciences]
- 2021 \*Kamoske AG, **Dahlin KM**, Serbin SP, & SC Stark. Leaf traits and canopy structural heterogeneity together explain canopy functional diversity: Mapping whole canopy traits with a fusion of hyperspectral imagery and lidar. *Ecological Applications*. 31(2): e02230. DOI: 10.1002/eap.2230 [Q1 – Ecology]
- 2021 Cawse-Nicholson K, Townsend PA, Schimel D, Assiri AM, Blake PL, Buongiorno MF, Carmon N, Casey KA, Correa-Pabon RE, **Dahlin KM**, Dashti H, Dennison P, Dierssen H, Erickson A, Fisher JB, Frouin R, Gatebe CK, Gholizadeh H, Gierach M, Glenn NF, Goodman JA, Griffith DM, Guild L, Hakkenberg CR, Hochberg EJ, Holmes TRH, Hu C, Hulley G, Huemmrich KF, Kudela RM, Kokaly RF, Lee CM, Martin R, Miller CE, Moses WJ, Muller-Karger FE, Ortiz JD, Otis DB, Pahlevan N, Painter TH, Pavlick R, Poulter B, Qi Y, Realmuto VJ, Roberts D, Schaepman ME, Schneider FD, Scwandner FM, Serbin SP, Shiklomanov AN, Stavros EN, Thompson DR, Torres-Perez JL, Turpie KR, Tzortziou M, Ustin S, Yu Q, Yusup Y, Zhang Q, and the SBG Algorithms Working Group. NASA's Surface Biology and Geology Designated Observable: A Perspective on Surface Imaging Algorithms. *Remote Sensing of Environment*. 257: 112349. DOI: 10.1016/j.rse.2021.112349 [Q1 – Computers in Earth Sciences]
- 2021 Tromboni F, Liu J, Thompson K, **Dahlin KM**, LaRue E, Dodds W, Thorp JH, Vina A, Maasri A, Chandra S, Yang H, Fei S, Breshears DD, Ziaco E & M Lague. Macrosystems as meta-coupled human and natural systems. *Frontiers in Ecology & the Environment*. 19(1): 20-29. DOI: 10.1002/fee.2289 [Q1 – Ecology]
- 2021 LaRue E, Dodds WK, Rohr J, Rose K, Tromboni F, Hardiman B, Johnson J, **Dahlin KM**, Atkins JW, Fahey RT, Thorp JH, Rodriguez-Gonzalez MI, Parker G, Keller M, Chandra S, Knott J, SanClements M, & S Fei. The evolution of macrosystems biology. *Frontiers in Ecology & the Environment*. 19(1): 11-19. DOI: 10.1002/fee.2288 [Q1 – Ecology]
- 2021 †Komoto K, Soldo L, Tang Y, Chilvers ML, **Dahlin KM**, Guentchev G, Rill L & JA Winkler. Climatological characteristics of persistent high relative humidity: An example for the Lower Peninsula of Michigan, USA. *International Journal of Climatology*. 41(S1): E2517-2536. DOI: 10.1002/joc.6861 [Q1 – Atmospheric Science]
- 2020 **Dahlin KM**, \*Akanga D, Lombardozzi DL, Reed DE, †Shirkey G, †Lei C, Abraha M & J Chen. Challenging a global land surface model in a local socio-environmental system. *Land*. 9(398): 1-21. DOI: 10.3390/land9100398 [Q2 – Global & Planetary Change]
- 2020 †Poe J, Reed DE, Abraha M, Chen J, **Dahlin KM** & AR Desai. Spatial and temporal coherence of land atmosphere exchange. *Agricultural & Forest Meteorology*. 295: 108188. DOI: 10.1016/j.agrformet.2020.108188 [Q1 – Atmospheric Science]

- 2020 †Wanyama D, Moore NJ & **KM Dahlin**. Persistent vegetation greening and browning trends driven by natural and human activities in the Mount Elgon Ecosystem. *Remote Sensing*. 12(2113): 1-27. DOI:10.3390/rs12132113. [Q1 - Earth & Planetary Sciences]
- 2020 \*Desanker G, **Dahlin KM** & AO Finley. Environmental controls on phenoregions across an eastern African megatransect. *Ecosphere*. 11(5): e03143. 10.1002/ecs2.3143 [Q1 - Ecology]
- 2020 \*Nagelkirk RL & **KM Dahlin**. Woody cover fractions in African savannas from Landsat and high-resolution imagery. *Remote Sensing*. 12: 813. DOI: 10.3390/rs12050813 [Q1 - Earth & Planetary Sciences]
- 2020 Read QD, Zarnetske PL, Record S, **Dahlin KM**, Costanza JK, Finley AO, Gaddis KD, Grady JM, Hobi ML, Latimer AM, Malone SL, Pau S, Ollinger SV & AM Wilson. Beyond counts and averages: How are different levels and dimensions of biodiversity connected to geodiversity? *Global Ecology & Biogeography*. 29(4): 696-710. DOI: 10.1111/geb.13061 [Q1 - Ecology]
- 2020 Kattge J, Diaz S, Lavorel S, Prentice IC, Leadley P, Bonisch G, Tautenhahn S, Werner G, Wirth C, ... **Dahlin KM** ... & C Wirth (>700 authors). TRY plant trait database - enhanced coverage and open access. *Global Change Biology*. 26(1): 119-188. DOI: 10.1111/gcb.14904 [Q1 - Ecology]
- 2019 Lawrence DM, Fisher RA, Koven CD, Oleson KW, Swenson SC, Bonan G, Collier N, Ghimire B, van Kampenhout L, Kennedy D, Kluzek E, Lawrence PJ, Li F, Li H, Lombardozzi D, Riley WJ, Sacks WJ, Shi M, Vertenstein M, Wieder WR, Xu C, Ali A, Badger AM, Bisht G, Broxton P, Brunke MA, Burns SP, Buzan J, Clark M, Craig A, **Dahlin KM**, Drewniak B, Fisher JB, Flanner M, Fox AM, Gentine P, Hoffman F, Keppel-Aleks G, Knox R, Kumar S, Lenaerts J, Leung LR, Lipscomb WH, Lu Y, Pandey A, Pelletier JD, Perket J, Randerson JT, Ricciuto DM, Sanderson BM, Slater A, Subin ZM, Tang J, Thomas RQ, Tilmes S, Martin MV, Vitt F, & X Zeng. The Community Land Model version 5: Description of new features, benchmarking, and impact of forcing uncertainty. *Journal of Advances in Modeling Earth Systems*. DOI: 10.1029/2018MS001583 [Q1 - Global & Planetary Change]
- 2019 **Dahlin KM**, Zarnetske PL & S Record. Hear every voice - Working groups that work. *Frontiers in Ecology & the Environment*. 17(9) 493-494. DOI: 10.1002/fee.2115 [Q1 - Ecology]
- 2019 Pearson AL, Shortridge A, Delamater PL, Horton TH, **Dahlin KM**, †Rzotkiewicz A, & MJ Marchiori. Effects of freshwater blue spaces may be beneficial for mental health: A first, ecological study in the North American Great Lakes region. *PLOS-ONE*. 14(8): e0221977 DOI: 10.1371/journal.pone.0221977 [Q1 - Medicine]
- 2019 Schrodtt F, Bailey JJ, Kissling WD, Rijdsdijk KF, Seijmonsbergen H, Ree Dv, Hjort J, Lawley RS, Williams CN, Anderson M, Beier P, Beukering Pv, Boyd DS, Brilha J, Carcavilla L, **Dahlin KM**, Gill JC, Gordon J, Gray M, Grundy M, Hunter ML, Lawler J, Monge-Ganuzas M, Royse KR, Stewart I, Record S, Turner W, Zarnetske PL & R Field. To advance sustainable stewardship, we must document not only biodiversity but geodiversity. *Proceedings of the National Academy of Sciences USA*. 116(33): 16155-16158. DOI: 10.1073/pnas.1911799116 [Q1 - Multidisciplinary]

- 2019 Reed DE, Chen J, Abraha M, Robertson GP & **KM Dahlin**. The shifting role of mRUE for regulating ecosystem production. *Ecosystems*. DOI: 10.1007/s10021-019-00407-4 [Q1 - Ecology]
- 2019 †Shiklomanov A, Bradley B, **Dahlin KM**, Fox A, Gough C, Hoffman F, Middleton E, Serbin SP, Smallman L & WK Smith. Enhancing global change experiments through integration of remote sensing techniques. *Frontiers in Ecology & the Environment*. 17(4): 215-224. DOI: 10.1002/fee.2031 [Q1 - Ecology]
- 2019 Zarnetske PL, Read QD, Record S, Gaddis K, Pau S, Hobi M, Malone SL, Costanza J, - **Dahlin KM**, Latimer A, Wilson AM, Grady JM, Ollinger S & AO Finley. Connecting biodiversity and geodiversity with remote sensing across scales. *Global Ecology & Biogeography*. DOI: 10.1111/geb.12887 [Q1 - Ecology]
- 2019 \*Kamoske AG, **Dahlin KM**, Stark SC, and SR Serbin. Leaf area density from airborne LiDAR: Comparing sensors and resolutions in a temperate broadleaf forest ecosystem. *Forest Ecology & Management*. 433: 364-375. DOI: 10.1016/j.foreco.2018.11.017 [Q1 - Forestry]
- 2018 LaRue E, Atkins J, **Dahlin KM**, Fahey RT, Gough CM, & B Hardiman. Linking terrestrial LiDAR with Landsat: Canopy structural complexity is associated with vegetation indices and spectral reflectance. *International Journal of Applied Earth Observation and Geoinformation*. 73: 420-427. DOI: 10.1016/j.jag.2018.07.001 [Q1 - Global & Planetary Change]
- 2018 **Dahlin KM** & TR Ault. Global linkages between climate variability and the terrestrial biosphere. *International Journal of Applied Earth Observation and Geoinformation*. 69: 56-63 DOI: 10.1016/j.jag.2018.02.017 [Q1 - Global & Planetary Change]
- 2017 **Dahlin KM**, \*Del Ponte D, \*Setlock E & \*R Nagelkirk. Global patterns of drought deciduous phenology in semi-arid and savanna-type ecosystems. *Ecography*. 40(2): 314-323. DOI: 10.1111/ecog.02443 [Q1 - Ecology] Ecography E4 Award Paper runner up.
- 2016 **Dahlin KM**. Spectral diversity area relationships for assessing biodiversity in a wildland-agriculture matrix. *Ecological Applications*. 26(8): 2758-2768. DOI: 10.1002/eap.1390 [Q1 - Ecology]
- 2015 **Dahlin KM**, Fisher RA & PJ Lawrence. Environmental drivers of drought deciduous phenology in the Community Land Model. *Biogeosciences*. 12: 5061-5074. DOI: 10.5194/bg-12-5061-2015 [Q1 - Earth-Surface Processes]
- 2015 Taylor PG, Asner GP, **Dahlin KM**, Anderson C, Knapp D, Martin R, Mascaro J, Chazdon RL, Cole RJ, Wanek W, Hofansel F, Malavassi E, Vilchez-Alvarado B, & AR Townsend. Landscape-scale controls on aboveground forest carbon stocks on the Osa Peninsula, Costa Rica. *PLOS-ONE*. 10(6): e0126748. DOI: 10.1371/journal.pone.0126748 [Q1 - Agricultural & Biological Sciences]
- 2015 Cleveland CC, Taylor P, Chadwick KD, **Dahlin KM**, Doughty CE, Malhi Y, Smith WK, Sullivan BW, Wieder WR & AR Townsend. A comparison of plot-based, satellite and Earth system model estimates of tropical NPP. *Global Biogeochemical Cycles*. 29(50): 626-644. DOI: 10.1002/2014GB005022 [Q1 - Global & Planetary Change]

- 2014 **Dahlin KM**, Asner GP & CB Field. Linking vegetation patterns to environmental gradients and human impacts in a mediterranean-type island ecosystem. *Landscape Ecology*. 29(9): 1571-1585. DOI: 10.1007/s10980-014-0076-1 [Q1 - Ecology]
- 2013 **Dahlin KM**, Asner GP & CB Field. Environmental and community controls on plant canopy chemistry in a Mediterranean-type ecosystem. *Proceedings of the National Academy of Sciences USA*. 110(17): 6895-6900. DOI: 10.1073/pnas.1215513110 [Q1 - Multidisciplinary]
- 2012 **Dahlin KM**, Asner GP & CB Field. Environmental filtering and land-use history drive patterns in biomass accumulation in a mediterranean-type landscape. *Ecological Applications*. 22:104-118. DOI: 10.1890/11-1401.1 [Q1 - Ecology]
- 2011 Mascaro J, Asner GP, Muller-Landau HC, van Breugel M, Hall J, & **KM Dahlin**. Controls over aboveground forest carbon density on Barro Colorado Island, Panama. *Biogeosciences*. 8:1615-1629. DOI: 10.5194/bg-8-1615-2011 [Q1 - Earth-Surface Processes]
- 2010 Bendick R, **Dahlin KM**, Smoliak BV, Kumler L, Jones SS, Aktipis A, Fugate E, Hertog R, Moberg C & D Scott. Choosing carbon mitigation strategies using ethical deliberation. *Weather, Climate, & Society*. 2: 140-147. DOI: 10.1175/2010WCAS1036.1 [Q4 - Social Sciences; new journal in 2010]

#### BOOK CHAPTERS

- 2020 Record S, **Dahlin KM**, Zarnetske PL, Read Q, Malone SL, Gaddis K, Grady JM, Costanza, J, Hobi M, Latimer A, Pau S, Wilson AM, Finley A, & S Ollinger. Remote sensing of geodiversity and biodiversity. In *Remote Sensing of Plant Biodiversity: Using spectral signals of plants to understand the biology and biodiversity of plants, plant communities, ecosystems, and the tree of life*. Cavender Bares J, Gamon J, & P Townsend (Eds) Springer Remote Sensing/Photogrammetry Series. DOI: 10.1007/978-3-030-33157-3
- 2018 Mitchell JJ, Glenn NF, **Dahlin KM**, Ilangakoon NT, Dashti H & MC Maloney. Integrating hyperspectral and LiDAR data in the study of vegetation. In *Hyperspectral Remote Sensing of Vegetation, Volume I, 2<sup>nd</sup> Edition*. Thenkabail PS, Lyon JG, & A Huete (Eds) CRC Press - Taylor & Francis Group, New York & London. p. 449.

#### PUBLISHED DATASETS & CODE PACKAGES

- 2020 \*Kamoske AG, **Dahlin KM**, Serbin SP, Stark SC. 2018 Talladega National Forest: Leaf level reflectance spectra and foliar traits. EcoSIS Spectral Library. <https://data.ecosis.org/dataset/2018-talladega-national-forest--leaf-level-reflectance-spectra-and-foliar-traits>
- 2020 Smith AC, Zarnetske PL, **Dahlin KM**, Wilson AM & AM Latimer. geodiv: Methods for calculating gradient surface metrics. R package. <https://cran.r-project.org/web/packages/geodiv/index.html>
- 2019 \*Nagelkirk RL & **Dahlin KM**. Data from: Woody cover fractions in African savannas from Landsat and high-resolution imagery. Mendeley Data 1. DOI: 10.17632/26djkgjzhf.1
- 2018 **Dahlin KM** & TR Ault. GeoTIFFs for 'Global linkages between climate variability and the terrestrial biosphere' International Journal of Applied Earth Observations and Geoinformation, accepted. Figshare. DOI: 10.6084/m9.figshare.5948404

- 2016 **Dahlin KM**, Lepine LC, & SV Ollinger. Data from: Spectral diversity area relationships for assessing biodiversity in a wildland-agriculture matrix. Dryad Digital Repository. DOI: 10.5061/dryad.r5b51

**GRANTS (FUNDED, EXTERNAL; TOTAL: \$2,987,530)**

- 2021 NSF BIO DEB. CAREER: *Plant traits link disturbance history to carbon uptake across spatiotemporal scales*. 6/1/2021 – 5/31/2026. **PI: KM Dahlin**. \$1,159,366.
- 2019 NSF GSS Doctoral Dissertation Research Improvement. *Doctoral Dissertation Research: Regional Ecogeographical Impacts of Large Herbivores on Savanna Ecosystems*. 8/1/2019-5/31/2022. **PI: KM Dahlin**, Co-PI: RL Nagelkirk (PhD candidate). \$17,994.
- 2018 USDA NIFA Alfalfa and Forage Research Program. *Precision agriculture tools for optimizing alfalfa production and marketing*. 9/30/2018-9/29/2022. PD: Kim Cassida (MSU Extension), Co-PDs: Y Newman (UWisc – River Falls), AP Nejadhashemi (MSU BAE), **KM Dahlin**. \$299,977.
- 2017 NSF MacroSystems Biology. *MSB-ECA: Ecosystems in four dimensions: Measuring changes to forest structure and function in the Anthropocene*. 8/15/2017 – 1/31/2023. **PI: KM Dahlin**, Co-PIs: SC Stark (MSU FOR), SR Serbin (Brookhaven National Lab). \$299,950 + \$84,445 (supplement awarded 6/13/2019).
- 2017 NASA Carbon Cycle Science. *Socioecological carbon production in managed agricultural-forest landscapes*. 1/13/2017 – 1/12/2021. PI: J Chen (MSU GEO), Co-Is: **KM Dahlin**, R John (MSU CGCEO). \$975,357
- 2016 NASA Biodiversity. *Connecting biodiversity, geodiversity, and remote sensing across scales*. 8/12/2016 – 8/11/2019. PI: P Zarnetske (MSU FOR & FW), Co-Is: **KM Dahlin**, S Record (Bryn Mawr College). \$150,441.

**GRANTS (FUNDED, INTERNAL; TOTAL: \$492,324)**

- 2021 MSU Strategic Partnership Grant. *The Institute for Biodiversity, Ecology, Evolution, and Macrosystems (IBEEM)*. PI: PL Zarnetske (IBIO). Core team: KS Cheruvellil (LB & FW), E Zipkin (IBIO), **KM Dahlin**, G Bradburd (IBIO), & J Robinson (FW). \$480,000.
- 2016 MSU ESPP VISTAS travel grant. *Linking intraspecific trait variation with ecosystem function at the continental scale*. P Zarnetske (MSU FOR & FW; lead), **KM Dahlin**, Q Read (MSU FOR), J Grady (Bryn Mawr College). \$2,324.
- 2015 MSU WaterCube. Group: **KM Dahlin** (lead), P Soranno, KS Cheruvellil, PL Zarnetske. \$20,000 per investigator, \$80,000 total.
- 2014 MSU ESPP-AgBioResearch ITBI. *A team for coupled human and environmental macrosystems (TeamCHEMS) in a changing globe*. Co-leaders J Chen & E Moran, team member: **KM Dahlin**, et al. \$10,000 total

**INVITED SEMINARS & PANELS**

- 2022 MSU Kellogg Biological Station Seminar (3/4/2022)
- 2021 NEON/NCAR Working Group Plenary Talk (*virtual*). (11/9/2021)
- 2021 Science Education Resource Center (**SERC**) at Carleton College - Project EDDIE ‘Meet the Author’ presentation (*virtual*). (10/7/2021)

- 2021 Workshop presenter: WK 19383: NEON Education: Integrating Open Data and R into the Undergraduate Classroom. Ecological Society of America Annual Meeting (*virtual*). (8/6/2021)
- 2020 Environmental & Climate Sciences Department seminar, Brookhaven National Lab, NY (1/23/2020)
- 2019 Department of Forestry seminar, MSU, East Lansing, MI (10/22/2019)  
NSF BIO Directorate Advisory Committee NEON User Panel speaker (9/20/2019)
- 2019 Workshop Panelist: WK 31: Beyond Data: Navigating NEON Resources. Ecological Society of America Annual Meeting, Louisville, KY (8/15/2019)
- 2019 Department of Geography seminar, University of California, Santa Barbara (2/14/2019)
- 2018 Department of Global Ecology seminar, Carnegie Institution for Science, Stanford, CA (5/15/2018)
- 2018 Department of Forestry & Natural Resources seminar, Purdue University, West Lafayette, IN (3/27/2018)
- 2017 Department of Geography, University of Wisconsin, Madison: workshop and panel titled 'Graduate Professionalization in a Changing Institutional Climate' (3/10/2017)
- 2017 Department of Biological Sciences seminar – student selected speaker, Wayne State University, Detroit, MI (11/13/2017)
- 2016 Ecology & Evolutionary Biology Department seminar, University of Michigan, Ann Arbor, MI (1/21/2016)
- 2016 Geography Department seminar, Western Michigan University, Kalamazoo, MI (2/26/2016)
- 2016 Ecology, Evolutionary Biology & Behavior Program seminar, Michigan State University, East Lansing, MI (4/28/2016)
- 2014 Geography Department seminar, Indiana University, Bloomington, IN (1/22/2014)
- 2014 Geography Department seminar, University of Colorado, Boulder, CO (1/30/2014)
- 2014 Biology Department seminar, University of New Mexico, Albuquerque, NM (2/13/2014)
- 2014 Department of Geography seminar, Michigan State University, East Lansing, MI (2/27/2014)
- 2014 Division of Geological and Planetary Sciences seminar, CalTech, Pasadena, CA (10/8/2014)
- 2013 National Ecological Observatory Network seminar, Boulder, CO (4/11/2013)
- 2013 'Trailblazing: Stanford's Jasper Ridge and Global Environmental Challenges' talk, Stanford, CA (5/9/2013)
- 2012 Chevron Corporation seminar, San Ramon, CA (3/28/2012)
- 2012 San Francisco Botanical Garden Society seminar, San Francisco, CA (7/14/2012)
- 2011 Jasper Ridge Biological Preserve Monthly Seminar, Woodside, CA (11/8/2011)

### CONFERENCE PRESENTATIONS

(first author is presenting author unless otherwise indicated)

- 2022 \*Akanga D, Moore N & **KM Dahlin**. Advancing socioecological sustainability among vulnerable populations in a changing climate. American Geophysical Union (**AGU**) Fall meeting, Chicago, IL.
- 2022 **Dahlin KM**, \*Nagelkirk RL, Mudumba T, Chadwick KD, Chlus A, Townsend PA & RA Montgomery. Biodiversity and woody cover change in East Africa: Integrating field and



- remote data collection to monitor change in a savanna ecosystem. AGU Fall meeting, Chicago, IL.
- 2022 **Dahlin KM**. Let's brainstorm about a hyperspectral satellite mission! Ecological Society of American (**ESA**) annual meeting. Montreal, Canada.
- 2022 **Dahlin KM**. A voxel-based view of forest canopies and the canopy light environment. Gordon Research Conference – Multiscale Plant Vascular Biology. Sunday River, Maine.
- 2021 \*Akanga DO & **KM Dahlin**. Shrinking forests in topographically heterogeneous landscapes: The role of elevation and slope gradients in determining where forests change. AGU Fall meeting. *Presentation given virtually due to COVID-19 pandemic.*
- 2021 †Hovis C, **Dahlin KM**, Roloff G, Wu W & J Liu. Hidden consequences of international food trade for biodiversity. AGU Fall meeting. *Presentation given virtually due to COVID-19 pandemic.*
- 2021 \*Shen M, **Dahlin KM**, \*Kamoske AG, Kobayashi H, Stark SC & SP Serbin. How do canopy structure and leaf properties influence reflectance in a temperate forest? A radiative transfer and imaging spectrometer data-model approach. AGU Fall meeting. *Presentation given virtually due to COVID-19 pandemic.*
- 2021 **Dahlin KM**, \*Kamoske AG, Atkins J, Bond-Lamberty B, Gough C, Serbin SP, \*Shen M, Stark SC, Tallant J. Biodiversity and ecosystem function in three dimensions: Using NEON airborne remote sensing to understand ecosystem patterns and processes in a temperate forest. ESA annual meeting. *Meeting held online and presentation given virtually due to COVID-19 pandemic.*
- 2020 **Dahlin KM**, \*Kamoske AG, Read QD, Record S, Serbin SP, Stark SC and PL Zarnetske. Mapping dimensions of biodiversity in forested ecosystems with lidar and imaging spectroscopy fusion. AGU Fall meeting. *Meeting held online and presentation given virtually due to COVID-19 pandemic.*
- 2020 **Dahlin KM**, \*Kamoske AG, \*Shen M, Serbin SP and SC Stark. A voxel based view of forest canopy function. ESA annual meeting. *Meeting held online and presentation given virtually due to COVID-19 pandemic.*
- 2020 Zarnetske PL, Record S, Baiser B, Strecker AL, Smith AC, Read QD, Van Doninick J, Knott J, **Dahlin KM**, Latimer AM, Wilson A & KM Thibault. Local- to continental-scale drivers of biodiversity across NEON. ESA annual meeting. *Meeting held online and presentation given virtually due to COVID-19 pandemic.*
- 2020 \*Kamoske AG, **Dahlin KM**, Serbin SP, & Stark SC. Leaf functional diversity is not equivalent to canopy functional diversity: Mapping whole canopy traits with imaging spectroscopy and lidar fusion. European Geophysical Union General Assembly – *abstract accepted but not presented in person due to COVID-19 pandemic.*
- 2020 **Dahlin KM**, \*Kamoske AG, Serbin SP, Stark SC. Mapping Plant Functional Diversity Within and Among Forest Canopies. World Biodiversity Forum, Davos, Switzerland. [KMD invited]
- 2019 **Dahlin KM**, \*Akanga D, Lombardozzi D, Reed D, †Shirkey G, Abraha M, & J Chen. A watershed-scale approach to understanding socio-ecological systems: Combining multiple data streams to assess a land surface model. AGU Fall Meeting, San Francisco, CA, USA. [KMD invited]

- 2019 \*Kamoske AG, **Dahlin KM**, Serbin SR & SC Stark. Patterns and drivers of total canopy nitrogen (g/m<sup>2</sup>) in a southeastern US mixed temperate forest: a three-dimensional remote sensing approach to ecosystem function. AGU Fall Meeting, San Francisco, CA, USA.
- 2019 Bond-Lamberty BP, CM Gough, Shiklomanov AN, Atkins JW, †Haber L, †Mathes KC, †Grigri MS, Tallant J, \*Kamoske AG & **KM Dahlin**. Linking field, model, and remote sensing methods to understand when tree mortality breaks the forest carbon cycle. AGU Fall Meeting, San Francisco, CA, USA.
- 2019 Chen J, †Sciucosco P, Xu D, Abrahama M, Shao C, †Lei C, †Shirkey G, Karnieli A, John R, Dong G, Reed D, Li F, Henebry G, Wang X, **Dahlin KM**, & Xin X. Remote sensing modeling of ecosystem productivity and evapotranspiration: new insights from VENμS. The 4<sup>th</sup> COSPAR Symposium, Herzliya, Israel.
- 2019 **Dahlin KM**. Luring the NEON airborne observation platform away from NEON sites: an assignable asset odyssey. Ecological Society of America (ESA) Annual Meeting, Louisville, KY, USA. [*KMD invited*]
- 2019 Hardiman BS, LaRue EA, Atkins J, Gough CM, Fahey RT, **Dahlin KM**, Wagner F & S Fei. Understanding the influence of forest canopy structure on ecosystem functions at continental scales. ESA Annual Meeting, Louisville, KY, USA.
- 2019 LaRue EA, Dodds Wk, Rohr JR, **Dahlin KM**, Thorp JH, Johnson JS, Hardiman BS, Rodriguez-Gonzalez M, Keller M, Fahey RT, Knott J, SanClements MD, Atkins J, Tromboni F, Parker GG, Liu J, & S Fei. The evolution of macrosystems biology. ESA Annual Meeting, Louisville, KY, USA.
- 2019 Zarnetske PL, Smith A, Read QD, Record S, **Dahlin KM**, Latimer A, Costanza JK, Pau S, Gaddis K, Hobi ML & AM Wilson. Dimensions of biodiversity and geodiversity across scales. International Biogeography Society (IBS) Annual Meeting, Quito, Ecuador.
- 2019 Smith A, Zarnetske PL, **Dahlin KM**, Latimer A, Record S, Costanza JK, Pau S, Gaddis K, Hobi ML & AM Wilson. Using gradient metrics to determine landscape traits that enhance biodiversity. IBS Annual Meeting, Quito, Ecuador.
- 2019 **Dahlin KM**. Does understanding ecological diversity improve forecasts of the Earth system? NCAR/NEON Workshop: Predicting life in the Earth system: linking the geosciences and ecology. Boulder, CO, USA.
- 2019 †Komoto K, Soldo L, Winkler J, Tang Y, Chilvers M & **KM Dahlin**. A climatology of the frequency and duration of high relative humidity events for the lower peninsula of Michigan. Association of American Geographers (AAG) annual meeting, Washington, DC, USA.
- 2018 **Dahlin KM**, \*Kamoske AG, Serbin SP & SC Stark. Within-canopy leaf functional traits from airborne remote sensing. AGU Fall Meeting, Washington, DC, USA. [*KMD invited*]
- 2018 **Dahlin KM**, Zarnetske PL, Record S, Read QD, Cooper LA, Costanza J, Finley A, Gaddis K, Grady JM, Hobi ML, Latimer A, Malone SL, Ollinger SV, Pau S & AM Wilson. Remotely sensed geodiversity for identifying and predicting biodiverse landscapes. AGU Fall Meeting, Washington, DC, USA.
- 2018 Hardiman B, LaRue E, Atkins J, Gough C, Fahey R, **Dahlin KM**, Wagner F & S Fei. Large-Scale Patterns and Landscape Variability of Forest Canopy Structure. AGU Fall Meeting, Washington, DC, USA.

- 2018 \*Kamoske AG, **Dahlin KM**, Stark SC & SR Serbin. Leaf area density from airborne LiDAR: Comparing sensors and resolutions in a temperate broadleaf forest ecosystem. ForestSat 2018 Conference, College Park, MD, USA.
- 2018 \*Nagelkirk RL & **KM Dahlin**. Woody cover through the trees: How much woody cover are we overlooking in African Savannas? ForestSat 2018 Conference, College Park, MD.
- 2018 **Dahlin KM**, \*Kamoske AG, Serbin SP & SC Stark. Mapping leaf traits within and among forest canopies with airborne remote sensing. Ecological Society of America (ESA) annual meeting [*KMD invited*], New Orleans, LA, USA.
- 2018 LaRue EA, Atkins J, **Dahlin KM**, Fahey RT, Fei S, Gough CM & BS Hardiman. Linking Landsat to terrestrial LiDAR: Spectral indices of greenness and brightness are correlated with canopy structural complexity. ESA annual meeting, New Orleans, LA, USA.
- 2018 Record S, Read QD, Zarnetske PL, **Dahlin KM**, Costanza J, Gaddis K, Grady JM, Finley AO, Latimer AM, Malone S, Hobi ML, Ollinger S, Pau S & AM Wilson. The relationship between biodiversity and geodiversity along gradients of geodiversity and anthropogenic stress. ESA annual meeting, New Orleans, LA, USA.
- 2018 Stark SC, Prohaska N, Smith M, Shao G, Wu J, Albert L, **Dahlin KM**, Serbin SP & S Saleska. Towards remote estimation of phylloenvironments to assess forest function and dynamics in tropical forests. ESA annual meeting, New Orleans, LA, USA.
- 2018 †Twardochleb L, Read QD, Zarnetske PL, †Hiltner E, **Dahlin KM**, Cheruvilil K, Soranno P, & \*A Kamoske. Scaling relationships between freshwater insect diversity and the terrestrial environment. Society for Freshwater Science annual meeting. Detroit, MI, USA.
- 2018 Reed DE, Chen J, Abraha M, Robertson GP & **KM Dahlin**. Multiple resource use efficiency (mRUE) in agriculture systems. 33<sup>rd</sup> Conference on Agricultural and Forest Meteorology. Boise, ID, USA.
- 2018 Read QD, Record S, **Dahlin KM**, Zarnetske PL, Malone SL, Gaddis K, Grady JM, Costanza J, Hobi ML, Latimer A, Pau S, Wilson AM, Finley A & S Ollinger. Geodiversity explains biodiversity. US International Association for Landscape Ecology annual meeting. Chicago, IL, USA.
- 2017 **Dahlin KM** & \*RL Nagelkirk. Landscape- and regional scale controls on phenological diversity across East Africa. ESA annual meeting, Portland, Oregon, USA. [*KMD invited*]
- 2017 Record S, Zarnetske PL, **Dahlin KM**, Costanza JK, Finley AO, Gaddis K, Grady JM, Hobi ML, Malone S, Ollinger S, Pau S, Read QD, Turner W & AM Wilson. Connecting biodiversity, geodiversity, and remote sensing across scales. ESA annual meeting, Portland, Oregon, USA.
- 2017 **Dahlin KM** & \*RL Nagelkirk. Modeling leaf phenological diversity across East Africa. Annual meeting of the Association for Tropical Biology and Conservation, Merida, Mexico. [*KMD invited*]
- 2017 Record S, Zarnetske PL & **KM Dahlin**. Connecting biodiversity, geodiversity, and remote sensing across scales. NASA Biodiversity Team meeting, Washington, DC, USA.
- 2017 Chen, J, **Dahlin KM**, John R, †Shirkey G, Wu SR, Robertson P, Hamilton S, Cooper L, Lusch D, Karnieli A, Laforteza R, & GS Labini. Socioecological Carbon Production in

- Managed Agricultural-Forest Landscapes. 2017 Joint NACP & AmeriFlux PI Meeting, North Bethesda, MD, USA.
- 2017 Chen, J, **Dahlin KM**, John R, †Shirkey G, Wu SR, Robertson P, Hamilton S, Cooper L, Lusch D, Karnieli A, Laforzezza R, & GS Labini. Socioecological Carbon Production in Managed Agricultural-Forest Landscapes. Worldcover 2017 Conference, Rome, Italy.
- 2016 **Dahlin KM**, Swenson SC, Lombardozzi D & \*A Kamoske. Seasonality of semi-arid and savanna-type ecosystems in an Earth system model. American Geophysical Union (AGU) Fall Meeting, San Francisco, California. [*KMD invited*]
- 2016 **Dahlin KM**, Asner GP, Mascaro J & P Taylor. Varying influence of environmental gradients on vegetation patterns across biomes. AGU Fall Meeting, San Francisco, California. [*KMD invited*]
- 2016 Hardiman BS, Atkins J, **Dahlin KM**, Fahey RT, & CM Gough. Canopy structural complexity influences forest canopy reflectance: linking terrestrial lidar with Landsat observations. AGU Fall Meeting, San Francisco, California.
- 2016 **Dahlin KM**, \*Del Ponte D, \*Setlock E & \*R Nagelkirk. Global patterns of phenology in semi-arid and savanna-type ecosystems: a meta-analysis. ESA Annual Meeting, Ft. Lauderdale, Florida.
- 2015 **Dahlin KM** & TR Ault. Climate teleconnections and the biosphere. AGU Fall Meeting, San Francisco, California.
- 2015 **Dahlin KM**. Hyperspectral imagery for biodiversity mapping in a wildland-agriculture matrix. ESA Annual Meeting, Baltimore, Maryland.
- 2015 Wasser LA, Serbin SP, **Dahlin KM**, Roth KL, Leisso N & S Petroy. From point to pixel: Using in situ measurements to validate and derive higher level NEON hyperspectral data products. ESA Annual Meeting, Baltimore, Maryland.
- 2015 **Dahlin KM**, RA Fisher & PJ Lawrence. Ecological consequences of altering the drought deciduous phenology algorithm. Community Land Model Working Group Winter Meeting, Boulder, Colorado.
- 2014 **Dahlin KM**. What is hyperspectral remote sensing? An introduction (Ignite talk). ESA Annual Meeting, Sacramento, California.
- 2014 **Dahlin KM** & RA Fisher. Impacts of changing drought deciduous phenology in the Community Land Model. ESA Annual Meeting, Sacramento, California.
- 2014 **Dahlin KM** & RA Fisher. Stress deciduous phenology in the CLM. Community Land Model Working Group Winter Meeting, Boulder, Colorado.
- 2013 **Dahlin KM** & RA Fisher. Phenology of forest-grassland transition zones in the Community Land Model. AGU Fall Meeting, San Francisco, California.
- 2013 Townsend AR, Cleveland CC, Taylor PG, **Dahlin KM**, Wieder WR, Smith WK, Sullivan BW, Chadwick KD & CE Doughty. An inter-comparison of plot-scale, satellite and earth system model estimates of tropical net primary productivity. AGU Fall Meeting, San Francisco, California.
- 2013 **Dahlin KM** & RA Fisher. Seasonal patterns in forest-grassland transition zones predicted by the Community Land Model. ESA Annual Meeting, Minneapolis, Minnesota.

- 2013 **Dahlin KM** & RA Fisher. Seasonal vegetation patterns in the Community Land Model. 18<sup>th</sup> Annual Community Earth System Model Workshop, Breckenridge, Colorado.
- 2012 **Dahlin KM**, Asner GP & CB Field. Environmental controls on plant chemical traits: Using the CAO-VSWIR to characterize patterns in a mediterranean-type ecosystem. AGU Fall Meeting, San Francisco, California.
- 2012 **Dahlin KM**, Asner GP & CB Field. Remote sensing of canopy chemistry and community composition in a mediterranean-type landscape using high-fidelity imaging spectroscopy from the Carnegie Airborne Observatory. ForestSAT Conference, Oregon State University, Corvallis, Oregon.
- 2012 **Dahlin KM**, Asner GP & CB Field. Ecosystem assembly meets geostatistics: Using airborne remote sensing and simultaneous autoregression to understand vegetation patterns in a recently disturbed landscape. ESA Annual Meeting, Portland, Oregon.
- 2011 **Dahlin KM**, Anderegg W, Hernandez RR, Hiza N, Johnson JE, Maltais-Landry G, Wolf A & N Zimmerman. Prospects for integrating utility-scale solar photovoltaics and industrial agriculture in the U.S. AGU Fall Meeting, San Francisco, California.
- 2011 **Dahlin KM** & GP Asner. Plant species mapping using integrated airborne lidar and hyperspectral imagery across multiple functional groups. ESA Annual Meeting, Austin, Texas.
- 2011 Mascaro J, Asner GP, Muller-Landau HC, van Breugel M, Hall J & **KM Dahlin**. Controls over aboveground forest carbon density on Barro Colorado Island, Panama. ESA Annual Meeting, Austin, Texas.
- 2011 Klosterman S, **Dahlin KM**, Field C, Berry J, Hebert T, Easter S & R Genova. Using hyperspectral and digital camera images to quantify yellow star-thistle invasion of a California grassland eddy covariance site. Fluxnet Workshop, University of California, Berkeley.
- 2011 **Dahlin KM**, Asner GP & CB Field. Vegetation Patterns in California Ecosystems. Chi Conference, Stanford University, California.
- 2010 **Dahlin KM** & GP Asner. Integrated airborne remotes sensing and multiple endmember spectral mixture analysis (MESMA) for plant species mapping across multiple functional groups. AGU Fall Meeting, San Francisco, California.
- 2010 **Dahlin KM**, Asner GP & CB Field. Quantifying the effects of topography, substrate, and land-use history on aboveground biomass in a California ecosystem. ESA Annual Meeting, Pittsburgh, Pennsylvania.
- 2010 **Dahlin KM**, Bendick R, Kumler L, Aktipis A, Jones S, Smoliak B, Fugate E, Moberg C & D Scott. Using web-based tools and ethical deliberation to stabilize the climate. ST Global Conference, Washington, D.C.
- 2009 **Dahlin KM**, Asner GP & CB Field. Topographically mediated controls on aboveground biomass in a mediterranean-type climate. AGU Fall Meeting, San Francisco, California.
- 2008 **Dahlin KM**, Asner GP, Field CB & R Shaw. Using airborne remote sensing to map sweet fennel (*Foeniculum vulgare*) on Santa Cruz Island. California Invasive Plant Council Symposium, Chico, California.

## OTHER WRITING

- 2018 U.S. DOE. "Disturbance and Vegetation Dynamics in Earth System Models: Workshop Report." DOE/SC-0196. Office of Biological and Environmental Research, U.S. Department of Energy Office of Science.  
<https://tes.science.energy.gov/files/vegetationdynamics.pdf> KMD named as workshop participant, helped with report writing.
- 2017 \*Nagelkirk R & **KM Dahlin**. "Myriad phenological strategies in dry ecosystems." *Ecography* Journal Blog: <http://www.ecography.org/blog/myriad-phenological-strategies-dry-ecosystems>
- 2008 Falxa-Raymond N, Wooley L, & **Dahlin KM**. "St Nicholas Park Urban Forest Management Plan." New York City Department of Parks & Recreation, Central Forestry & Horticulture Division.
- 2006 National Park Service. "Vegetation Community Classification: Mori Point, Golden Gate National Recreation Area."
- 2005 **Dahlin KM**. "Fort Greene Park Urban Forest Management Plan." New York City Department of Parks & Recreation, Central Forestry & Horticulture Division.
- 2004 **Dahlin KM**. "Crotona Park Urban Forest Management Plan." New York City Department of Parks & Recreation, Central Forestry & Horticulture Division.
- 2001 **Dahlin KM**. "A Walk on the Wild Side" *The Washington Post*, p. B10.

## FIELD EXPERIENCE

MSU Agronomy Farm & Kellogg Biological Station Fields (2022) Forage plant spectroscopy  
Murchison Falls National Park, Uganda (2022) Woody plant cover and biodiversity survey  
Talladega National Forest, Alabama, and Oak Ridge National Lab, Tennessee (2018) Canopy foliar sampling for leaf traits  
University of Michigan Biological Station (2016) Ground based lidar surveys  
Jasper Ridge Biological Preserve, California (2008-2011). Plant biomass surveys, species mapping, and vegetation collection for chemical analysis  
Santa Cruz Island, California (2007-2011). Week to month-long vegetation surveys  
Golden Gate National Recreation Area, California (2005-2007). Invasive plant surveys, restoration planning and implementation, trail construction, historical preservation  
Davis Mountains, Texas (2004). Vegetation surveys  
Crotona Park, Bronx, New York (2003). Urban forest census  
Hunua Range, New Zealand (2002). Plantation forest surveys  
Hubbard Brook LTER, New Hampshire (2002). Forest surveys, soil sampling

## TEACHING

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### COURSES @ MSU

(F = Fall, S = Spring. Student Instructional Rating System (SIRS) scores range from 1 to 5, **1 is excellent, 5 is poor** based on average of 14 department-specific questions. Department average is ~1.9)

- GEO 201 Introduction to Plant Geography (3 credit hours; undergraduate)

- SIRS 2022 S [25 students]: 1.39
- GEO 324 Remote Sensing of Environment (4 credit hours; undergraduate)
  - SIRS 2019 F [12 students]: 1.45
  - SIRS 2020 F [18 students]: 1.10 (*only 4 responses; online format due to pandemic*)
- GEO 401 Global Plant Geography (3 credit hours; primarily undergraduate)
  - SIRS 2015 F [6 students]: 1.21 (as Geography of Plants of North America)
- GEO 424 Advanced Remote Sensing (4 credit hours; primarily undergraduate)
  - SIRS 2016 S [15 students]: 1.24
  - SIRS 2017 S [14 students]: 1.38
  - SIRS 2018 S [23 students]: 1.40
  - SIRS 2019 S [13 students]: 1.11
  - SIRS 2020 S [10 students]: 1.05 (*only 3 responses; online format due to pandemic*)
  - Spring 2021 S: 1 guest lecture
  - SIRS 2022 S [13 students]: 1.25
- GEO 837 Applications of Terrestrial Remote Sensing (3 credit hours; graduate)
  - SIRS 2016 F [15 students]: 1.23 (as Remote Sensing of the Biosphere)
  - SIRS 2018 F [13 students]: 1.32 (as Remote Sensing of the Biosphere)
  - SIRS 2021 S [13 students]: 1.14 (*13 responses; online format due to pandemic*)
- ISS 310 People and the Environment (4 credit hours; undergraduate)
  - SIRS 2017 S [50 students]: 1.35
  - SIRS 2019 S [25 students]: 1.52
- GEO 827 Digital Image Processing & Analysis – 2 guest lectures and labs (F 2015)
- GEO 221 Intro to Geographic Information – guest lectures (F 2017, 2018)
- Independent Studies (GEO 490/892)
  - Fall 2017: Brad Peter (490 F)
  - Fall 2019: Michelle Church (490 F)
  - Fall 2020: Donald Akanga (892 F)

## ADVISING & STUDENT COMMITTEES

### *Current Advisees*

Dr. Adriana Uscanga – Research Associate/Postdoc (advisor, 2022 – present)

Dr. Casey Youngflesh – MSU EEB Presidential Postdoctoral Fellow (co-mentor, 2022 – present)

Tony Bowman – Geography MS student (advisor, 2022 – present)

Sandhya Sharma – Geography PhD student (advisor, 2022 – present)

Alanna Post – Geography PhD student (advisor, 2022 – present)

Meicheng Shen – Geography PhD student (advisor, 2019 – present)

Donald Akanga – Geography PhD candidate (advisor, 2018 – present)

### *Current Committees*

Behnaz Mirzendehtdel – EES PhD student (tentative committee member, 2021 – present)

Nathan Gonçalves – Forestry PhD student (tentative committee member, 2020 – present)

Nan Nourn – F&W PhD student (committee member, 2020 – present)

Beth Gerstner – F&W and EEBB PhD student (committee member, 2018 – present)

Gabriela Shirkey – Geography PhD student (committee member, 2018 – present)

Eric Clark – F&W PhD candidate (committee member, 2016 – present)

*Former Advisees (\* = ERSAM lab student or co-advisee)*

Dr. Kevin McKeehan – Geography PhD (committee member, 2019 – 2022) *graduated*

Meg Castro – Geography MS student (committee member, 2021 – 2022) *graduated*

Yonela Maziko – PhD student at University of KwaZulu-Natal, South Africa. Fulbright Visiting Researcher to MSU and ERSAM Lab (2021 – 2022)

Ciara Hovis – F&W PhD student (committee member, 2019 – 2022) *graduated*

Amanda Kreuze – Geography PhD student (committee member, 2018 – 2021) *graduated*

Dan Wanyama – Geography PhD student (committee member, 2018 – 2021) *graduated*

Colin Bailey – Entomology MS student (committee member, 2019 – 2021) *graduated*

\*Manaswini Ganjam – Geography MS student (advisor, 2020) *left program due to visa issues & pandemic. Admitted to PhD program at NCSU in 2021.*

\*Dr. Aaron Kamoske – Geography PhD (advisor, 2016 – 2021) *graduated*

\*Dr. Ryan Nagelkirk – Geography PhD (advisor, 2015 – 2020) *graduated*

Dr. Farshid Felfelani – CEE PhD (committee member, 2016 – 2019) *graduated*

Dr. Brad Peter – Geography PhD (committee member, 2016 – 2019) *graduated*

Kara Komoto – Geography MS (committee member, 2018 – 2019) *graduated*

\*Gloria Desanker – Forestry MS (co-advised with Andy Finley, 2017 – 2018) *graduated*

Daphna Gadoth – Forestry MS (committee member, 2016 – 2017) *graduated*

Suyog Chaudhari – CEE MS (committee member, 2016 – 2017) *graduated*

*Undergraduate & High School Researchers/Interns*

S. Xu – remote sensing high school intern (October 2021 – present)

Nick Catanzaro – Environmental Geography intern with The Nature Conservancy, sponsored by the American Association of Geographers (January – April 2021)

Sarah Igwe – Physiology undergraduate intern (June – August 2018)

Opal Jain – Plant Biology & Geography undergraduate intern (March – June 2018)

Logan Brissette – F&W undergraduate lab assistant (January – December 2017)

Emily Setlock – Geography undergraduate lab assistant (summer 2015)

## **SERVICE & OUTREACH**

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### **UNIVERSITY SERVICE**

(^ = served as Affirmative Action representative)

- EEB Seminar Committee (2021 – 2022)
- GEO *ad hoc* Faculty Merit Review Committee (2021 – 2022)
- GEO *ad hoc* DEI Search Committee (2021 – 2022)
- Plant Biology Ecologist Faculty Search, external committee member (2021 – 2022)
- GEO *ad hoc* Grad/Fac Relations Committee (2020 – 2021)
- GEO Curriculum Committee (2020-2021)
- GeoCamp Faculty Attendee (August 22-23, 2019)
- GEO Graduate Admissions Committee (2018-19, 2021, 2022)
- GEO *ad hoc* Faculty Expectations & Merit Committee (2018 – 2019)
- GEO Supporting Women in Geography (**SWIG**) faculty member (2015 - present)
- GEO Grad Student Presentation Competition Judge (2016 – present)
- GEO Meet the Faculty Co-Coordinator, fall semesters (2015 - 2018)
- GEO Awards Committee (2018)



- ESPP Fate of the Earth poster presentation judge (2018)
- ^GEO RS&GIS Director Search Committee (2017)
- GEO Department *ad hoc* IT Committee (2015 - 2016)
- ESPP Fate of the Earth Nominations Committee (2015)
- Research Associate hiring committees: ^J Chen Lab, Stark Lab, ^PL Zarnetske Lab

### **SERVICE BEYOND MSU**

- NASA Surface Biology & Geology (**SBG**) Mission planning participation – member of Applications and Algorithms working groups, member of Space-based Imaging Spectroscopy and Thermal pathfinder (**SISTER**) study (2020 – present)
- Special Issue Editor for Ecological Structural Diversity focused issue in *Frontiers in Ecology and the Environment* (2020 – 2023)
- Oak Ridge National Lab Distributed Active Archive Center (**ORNL DAAC**) User Working Group member (2021 – present)
- NEON-NCAR Joint Workshop/Working Group participant (2019 – present)
- National Ecological Observatory Network (**NEON**) Airborne Data Quality Technical Working Group member (2017- present; co-chair from November 2018 - present)
- NEON LiDAR Sampling Technical Working Group member (2017- present)
- Community Land Model (**CLM**) at NCAR Land model and biogeochemistry working group member (2012 - present)
- NEON Science, Technology, and Education Advisory Committee (**STEAC**) member (October 2019 – June 2020; resigned due to long term conflict of interest between MSU and Battelle Memorial Institute, which runs NEON)
- Participant in US Department of Energy (**DOE**) sponsored workshop: ‘Disturbance and Vegetation Dynamics in Earth System Models’ (March 15-16, 2018; Gaithersburg, Maryland. ~30 attendees from DOE, NASA, and academia)
- Named contributor to the development of CLM 5.0 (released in 2018)
- NEON Biogeochemistry Working Group member (2016-2017) – disbanded due to change in working group structure.
- Ecological Society of America (**ESA**) Strategies for Ecology Education, Diversity, & Sustainability (**SEEDS**) At-meeting mentor for undergraduate first-time attendees of the ESA Annual Meeting 2010-2013, 2015, 2021

### **ECOLOGICAL SOCIETY OF AMERICA (ESA) ANNUAL MEETING SESSION CHAIR/CO-CHAIR**

- 2022 Inspire Session (**IS**): The Future is Hyperspectral. (chair)
- 2021 Special Session: How NASA's Surface Biology and Geology mission will support the next generation of global ecosystem and biodiversity science. (co-chair)
- 2020 Organized Oral Session (**OOS**): Cutting-Edge Remote Sensing Applications in Ecology: Spanning Scales, Sensors, and Ecosystems (co-chair)
- 2019 OOS: Cutting-Edge Remote Sensing Applications in Ecology: Spanning Scales, Sensors, and Systems (co-chair)
- 2018 OOS: Cutting-edge remote sensing applications in ecology: Spanning scales, sensors, and ecosystems (co-chair)
- 2017 Special Session: How can current and future satellite missions advance biodiversity science? (chair)
- 2017 IS: Connecting remote sensing to biodiversity science in the Anthropocene (co-chair)

- 2017 OOS: Cutting edge remote sensing applications in ecology: Spanning scales, sensors, and ecosystems (co-chair)
- 2016 OOS: Airborne remote sensing for 21<sup>st</sup> century ecology (chair)
- 2015 OOS: Hyperspectral remote sensing data supports 21st century ecological research (co-chair)
- 2014 IS: Airborne Hyperspectral Remote Sensing of Terrestrial Ecosystems 2014 (chair)

### PROPOSAL REVIEWS

NSF ad hoc reviews (Earth Sciences, Environmental Biology, Hydrological Sciences), NSF Environmental Biology panels (x2), NASA ad hoc reviews, NASA Earth Science panel, USDA NIFA ad hoc review, AAAS ad hoc review, MSU AgBio Research ad hoc reviews (x3), international funding agency reviews (x2).

**MANUSCRIPT REVIEWER** for *Biogeosciences, Ecography, Ecological Applications, Ecology & Evolution, Ecosphere, Forest Ecology & Management, Forests, Frontiers in Ecology and the Environment, Frontiers in Plant Science, Global Biogeochemical Cycles, Global Ecology & Biogeography, International Journal of Climatology, International Journal of Geographical Information Science, Journal of Climate, Journal of Geophysical Research – Biogeosciences, Journal of Hydrometeorology, Landscape Ecology, Methods in Ecology & Evolution, MSU ReCUR, NASA, Nature Communications, Nature Ecology & Evolution, New Phytologist, Proceedings of the National Academy of Sciences, Remote Sensing, Remote Sensing in Ecology & Conservation, Remote Sensing of Environment, Scientific Reports, Sensors, Trees* – 10 reviews in 2015, 10 in 2016, 12 in 2017, 16 in 2018, 14 in 2019, 9 in 2020 (many declined due to pandemic-related challenges), 13 in 2021.

**ORGANIZATION MEMBERSHIPS:** Ecological Society of America, American Geophysical Union, American Association of Geographers, Earth Science Women's Network, 500 Women Scientists

### OUTREACH

- MSU Science Festival Virtual School Program (22 April 2021) Presentation on 'Mapping Your City with Google Earth' for Attwood New Tech Magnet School, Lansing, MI – Ms Schneider's 6th grade class.
- MSU Science Festival Virtual School Program (15 April 2021) Presentation on 'Mapping Your City with Google Earth' for Gardner International Magnet School, Lansing, MI – Ms Shauver's 6<sup>th</sup> grade class.
- MSU Science Festival Expo Day (10 April 2021) Presentation on 'Mapping Forests in 3D' presented online via Zoom due to COVID-19 pandemic.
- MSU Forage Research Field Day (31 July 2019) Presentation on 'Precision Technology Remote Sensing' in association with USDA NIFA award.
- NEON '#WorkingWithData' Institute Faculty Leader (June 21-25, 2016)
- CLM Tutorial Instructor on phenology and analyzing output in R (2014)

### PRESS

Armstrong, J (December 10, 2021). Forests and lasers: How an MSU researcher seeks to better understand carbon absorption. *The State News*. MSU student news website.  
<https://statenews.com/article/2021/12/msu-researcher-using-forests-low-energy-lasers-for-more-accurate-climate-modeling> [story featuring KMD research]

Wiewgorra, L. (November 28, 2021) Trees absorb carbon dioxide. An MSU professor wants to find out which trees absorb the most. FOX 47 News East Lansing.

<https://www.fox47news.com/neighborhoods/east-lansing-okemos/trees-absorb-carbon-dioxide-an-msu-professor-wants-to-find-out-which-trees-absorb-the-most> [story featuring KMD research posted online and aired on local news]

NEON (December 11, 2019) Looking for Missing Carbon in the Forest Canopy. National Ecological Observatory Network Blog.

<https://www.neonscience.org/observatory/observatory-blog/looking-missing-carbon-forest-canopy>

Pennisi, E (August 29, 2019) NSF's huge ecological observatory is open for business. But tensions remain. *Science*. DOI: 10.1126/science.aaz3213 [KMD interviewed for and quoted in article]

Atkins, J (January 2, 2019) Episode 48: An interview with Kyla Dahlin. *Major Revisions Podcast*. [www.majorrevisionspodcast.com/episodes/ep-48-an-interview-with-kyla-dahlin](http://www.majorrevisionspodcast.com/episodes/ep-48-an-interview-with-kyla-dahlin)

Kwok, R (April 3, 2018) Ecology's remote sensing toolbox. *Nature*. 56: 137-138. DOI: 10.1038/d41586-018-03924-9 [KMD interviewed for and quoted in article]

## **PROFESSIONAL DEVELOPMENT**

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### **SPECIALIZED EDUCATION**

Write to Change the World. OpEd Project workshop (September 2021). Virtual.

CyVerse Foundational Open Science Skills online course (July-November 2020). Virtual.

Project EDDIE (Environmental Data-Driven Inquiry & Exploration) Teaching Module Development Workshop (October 2019). Carleton College, Minnesota.

Intermediate Google Earth Engine Tutorial (December 2016), San Francisco, California

Extracting Information from LiDAR Data (October 2014), Exelis, Boulder, Colorado.

Preparing for an Academic Career in the Geosciences (July 2013). National Association of Geoscience Teachers, On the Cutting Edge Program, Boulder, Colorado.

Stanford Graduate School of Business Leadership Labs (July 2012). Stanford, California.

Complex Systems Summer School (June 2010). Santa Fe Institute, Santa Fe, New Mexico.

Debating Science: Practical Reason and the Climate Change Debate (August 2008). University of Montana, Missoula.

EcoQuest Applied Field Studies Program (Fall 2002). University of New Hampshire, Kaiaua, New Zealand.

### **MSU WORKSHOPS**

2021

E-Mentoring Graduate Students, led by CSS Graduate Student Mentor Liaisons (11/11/2021)

2016

Write Winning Grant Proposals with Grant Writers' Seminars and Workshops LLC (1/7/2016)

CSS Mentoring Lunch: Juggling demands and managing your time: How to balance research, teaching, mentoring, and service as an early-career faculty member (3/17/2016)

2015

Survive and Thrive in the MSU Tenure System (2/19/2015)

Lilly Seminar: Promoting Students' Motivation and Engagement (3/25/2015)  
NSF Grant Writing Workshop (8/18/2015)  
Getting Started at MSU: Syllabus Design and Regulations to Protect Student Information  
(8/19/2015)  
Active Shooter and Emergency Response Training (8/21/2015)  
MSU New Faculty Orientation (8/25/2015)  
Technology Workshop (8/26/2015)

## **GRANTS, TEACHING, & SERVICE PRIOR TO 2015**

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### **GRANTS & FUNDING (PRE-2015)**

NSF Doctoral Dissertation Improvement Grant, 2011-2013, \$9,652  
EcoEvo Departmental Travel Funds, Stanford University, 2011, \$600  
AW Mellon Research Grant for research at Jasper Ridge Biological Preserve, Stanford  
University, 2008 & 2009, \$4,600  
Kennedy Graduate Fellowship, Stanford University, 2007-2009, *tuition & stipend*  
YSF&ES Scholarship, Yale School of Forestry & Environmental Studies, 2003-2004, \$5,000  
Summer Internship Fund, Yale School of Forestry & Environmental Studies, 2003, \$1,500  
Thoreau Research Fellowship, Environmental Studies Department, Yale University, 2002, \$800

### **TEACHING & SERVICE (PRE-2015)**

#### Stanford University Teaching

- *GES 7a: Introduction to Wilderness Skills, guest lecture on Ecosystems of California. Fall 2011.*
- *BIO 44Y: Ecology Lab coordinating TA. Winter/Spring 2008, 2009 & 2011.*
- *BIO 125: California Ecosystems TA. Spring 2009.*

#### City College of San Francisco Instructor

- *Taught weekend-long field ecology courses: the Ecology of San Francisco Bay (Fall 2006 & 2007) and the Ecology of the Golden Gate National Recreation Area (Fall 2005 & 2006)*

#### Yale School of Forestry & Environmental Studies Teaching

- *Terrestrial Ecosystem Ecology TA. Fall 2003.*

#### NCAR Advanced Study Program

- *Girl Scouts at NCAR volunteer 2014*
- *Activities Committee 2012-2013*
- *Thompson Lecture Series Committee 2013-2014*

#### Stanford WISE Group member

- *Women in Science & Engineering group member 2008-2012*

#### Stanford University Earth Systems Undergraduate Research Advising

- *Advised five undergraduate students in research projects. Summers 2008, 2009, & 2011.*

#### Golden Gate National Parks Conservancy Volunteer Instructor

- *Taught orienteering & map reading to high school students who were part of a program to bring urban youth to the parks. Summer 2005-2007 & 2010.*