ALEX GOKE atgoke@wisc.edu (608) 609-4151 Madison, Wisconsin, USA

RESEARCH INTERESTS

Forest ecology, tree physiology, global change biology

EDUCATION

2020 **M.Sc. Ecology and Evolutionary Biology, University of Denver**
Emphasis in forest ecology under the advisorship of Dr. Patrick Martin
Thesis: *Subalpine Forest Tree Seedling Response to Drought*
4.0 GPA

2016 **B.Sc. Agricultural Sciences, University of Wisconsin – Madison**
Majors in Botany, Conservation Biology, and Life Science Communications
Minor in Environmental Science
3.1 Cumulative GPA, 3.6 Major GPA

RESEARCH EXPERIENCE

June 2018 – Dec. 2020 **Graduate Research Assistant, Martin Lab of Forest Ecology**
University of Denver
Investigated the interactive effects of drought and shading on *in situ* tree seedling survival, growth, and physiology in high-elevation spruce-fir forests of Colorado. Evaluated the microsite conditions suitable for seed germination and seedling establishment among 6 species of montane Rocky Mountain conifers involving seed collection, sowing, and establishment monitoring *in situ*. Participated in a field crew evaluating the effects of fire and hurricane damage on plant communities in mountains of the Dominican Republic while responsible for identifying species and determining composition, percent cover, and functional traits of individuals along temporary transects and quadrats, as well as within permanent plots. Worked was conducted in remote, rugged terrain requiring long-distance backpacking and camping in wilderness regions, often in inclement weather.

May 2018 – present **Research Consultant, Musacchi Lab of Tree Physiology and Orchard Mgmt.**
Tree Fruit Research and Extension Center, Washington State University
Analyze and summarize data and prepare reports, manuscripts, and presentations. Provide recommendations on ongoing research projects in terms of experimental design, data collection, and data analysis.

Sep. 2016 – May 2018 **Research Assistant, Musacchi Lab of Tree Physiology and Orchard Mgmt.**
Tree Fruit Research and Extension Center, Washington State University
Explored the role of dry matter in apple and pear as it relates to fruit quality and consumer acceptance. Evaluated the application of near-infrared spectroscopy as a tool for fruit quality assessment via multivariate predictive modelling. Broadly studied the environmental and growth management impacts on apple, pear, and cherry fruit yield and quality. Collected and processed plant material for fruit quality assays and nutrient analysis. Assisted in greenhouse and tissue culture propagation. Statistically analyzed and summarized data with scripted data

analysis platforms (SAS, R), managed data collections, prepared reports, manuscripts, and presentations, ordered and maintained laboratory supplies and equipment and their safety and operating protocols, and planned, assigned, and conducted field and laboratory tasks.

May 2015 – Sep. 2016 **Undergraduate Research Assistant, Damschen Lab of Plant Community Ecology**
University of Wisconsin - Madison
Reviewed endozoochoric seed dispersal ecology of longleaf pine savannah and surrounding forest systems with a focus on plant functional traits. Managed all aspects of a small-scale greenhouse seedling emergence study including daily plant care, identification to species using dichotomous keys and manuals, development and implementation of protocols, data collection, preservation of biological material (herbarium vouchers), and facility organization. Conducted field work as part of a crew in remote and rugged sites to support ongoing study of the role of habitat connectivity on plant community assembly and diversity involving plant identification and abundance surveys, collection of functional trait data and biological material (seeds, leaves, fruit, etc.), and infrastructure maintenance. Navigated and recorded location and photopoints of sites using GPS.

Jan. 2015 – May 2016 **Undergraduate Research Assistant, Townsend Lab of Forest Ecology**
University of Wisconsin - Madison
Inspected the xylem anatomy of whitebark and lodgepole pines using light microscopy and digital image analysis to determine growth and resin defense responses along a biological gradient of bark beetle stress using tree cores.

PUBLICATIONS

Goke, A., and Martin, P. (in review). Poor acclimation to experimental field drought in subalpine forest tree seedlings. *AoB Plants*.

Goke, A., Serra, S., & Musacchi, S. (2020). Manipulation of fruit dry matter via seasonal pruning and its relationship to d'Anjou pear yield and fruit quality. *Agronomy, 10*(6), 897.

Serra, S., **Goke, A.**, Diako, C., Vixie, B., Ross, C., and Musacchi, S. (2019). Consumer perception of dry matter in d'Anjou pear. *International Journal of Food Science and Technology 56*(6), 2256-2265.

Goke, A., Serra, S., and Musacchi, S. (2018). Postharvest dry matter and soluble solids content in d'Anjou and Bartlett pear utilizing nir spectroscopy. *HortScience 53*(5), 669-680.

AWARDS

2021 - $3,800 **Davis Research Award**, University of Wisconsin-Madison
2019 - $1,000 **Graduate Research Fellowship**, Colorado Mountain Club Foundation
2019 - $1,000 **John Marr Ecology Award**, University of Colorado - Boulder
2019 - $500 **Shubert Graduate Student Award**, University of Denver
2011 - $4,250 **Environmental Stewardship Grant**, Fox Valley Community Foundation
2011 - $5,000 **Environmental Stewardship Grant**, Waupaca Area Community Foundation

HONORS

2019, 2020 **Service Award**, University of Denver Department of Biological Sciences
2015 **Best Manuscript**, Journal of Undergraduate Science and Technology

OTHER EMPLOYMENT

Jan. 2021 – present	**Graduate Teaching Assistant**, University of Wisconsin-Madison
Sep. 2018 – Jun. 2020	**Graduate Teaching Assistant**, University of Denver
Dec. 2015 – Sep. 2016	**Microscopy Specialist**, University of Wisconsin Optical Imaging Core
Sep. 2014 – Dec. 2014	**Laboratory Assistant**, University of Wisconsin Introductory Botany Teaching Lab
May 2014 – Dec. 2014	**Herbarium Assistant**, Wisconsin State Herbarium
May 2012 – Sep. 2012	**Intern**, Aldo Leopold Nature Center

SERVICE AND ENGAGEMENT

May 2019	**Volunteer Judge**, University of Denver Research Showcase
Sep. 2018 – May 2019	**Master Plant Science Mentor**, Botanical Society of America's PlantingScience.org
Sep. 2017 – present	**Scientist Mentor**, Botanical Society of America's PlantingScience.org
Feb. 2019	**Volunteer Judge**, Denver Metro Regional Science Fair
Oct. 2018	**Volunteer Organizer**, University of Denver Bioblitz