Christian Lee John

Ph.D. Candidate
Graduate Group in Ecology
University of California, Davis

Physical address:
1327 Academic Surge Building
Department of Wildlife Fish and Conservation Biology
UC Davis
Davis, CA 95616

Email address:
cjohn@ucdavis.edu

Education

The Pennsylvania State University – M.Sc. Ecology – December 2016
The Pennsylvania State University – B.S. Biology – December 2013

Professional Experience

Research

University of California, Davis Department of Wildlife, Fish, and Cons. Biol. Sep 2017 – Present
Graduate student; evaluating drivers and outcomes of migration in Sierra Nevada bighorn sheep. Combining multiple levels of remote sensing to explore factors affecting abiotic and biotic landscape phenology, and relationships among snowmelt and vegetation phenology, and sheep movement, reproduction timing, and reproductive success. PI: Eric Post, UC Davis WFCB.

Proyecto La Paleohidrología del Valle de Teotihuacán Jul, Dec 2017
Remote sensing specialist for Mesoamerican paleohydrology and archeology project investigating water management and retention practices of ancient societies, using structure-from-motion multispectral mapping of the Teotihuacan archaeological zone, ejido land, and private farms. PI's: Christian John and Andrés Mejía-Ramon; UC Davis WFCB and PSU Dept. of Geography.

Penn State Mobile Geospatial Systems Group Jan 2017 – July 2017
Remote sensing specialist; trained new remote pilots to build and pilot unmanned aerial systems. Compared multiple remote sensing approaches to fine resolution surface relief modeling. PI: Doug Miller, Department of Geography.

Penn State Department of Biology and Polar Center Aug 2014 – Dec 2016
Graduate student; studied impacts of climate on Arctic caribou migration. Monitored plant phenology at multiple scales including species-level observations, a homemade unmanned aerial system, a time-lapse camera network, and multispectral regional satellite data. PI: Eric Post, Dept. of Biology.

Penn State Department of Toxicology and Carcinogenesis Sep 2011 – May 2014
Undergraduate research assistant; explored effects of dioxin on molecular signaling pathways of skin cancer tumor progression. PI: Adam Glick, Dept. of Toxicology and Carcinogenesis.

Teaching and Outreach

Instructor

R-DAVIS (UC Davis): Intro to Data Analysis and VISualization; lab	Fall 2020

Teaching Assistant

R-DAVIS (UC Davis): Intro to data analysis and visualization; lab	Winter 2019, 2020
ENT 117 (UC Davis): Longevity; lecture	Summer 2018
PLS 147 (UC Davis): California Plant Communities; lecture	Spring 2018
WFC 198 (UC Davis): Climate Change Ecology; discussion	Winter 2018
BIOL 415 (Penn State): Ecotoxicology; lecture	Spring 2014, 2017
BIOL 220 (Penn State): Population and Community Biology; lab	Spring 2015, 2017
BIOL 110 (Penn State): Basic Concepts and Biodiversity; lab	Jul – Dec 2013

Community Café: Understanding the Science of Climate Change — Feb 2017
Organized and moderated climate science discussion through Central PA Community Housing, focused on understanding the scientific approaches to climate change.

APPLES – Arctic Plant Phenology Learning through Engaged Science — Summer 2016, ’18, ’21
Led week-long field training in southwest Greenland study site. Guided teachers through collection of plant phenology data, monitoring of herbivore demographics, and remote sensing methodology. Contributed in workshop to help K-12 teachers develop lesson plans focused on Arctic ecological research.

Photography in Biology High School Curriculum Development and Instruction — Oct 2015
Designed and taught daylong classroom activity for high school biology and photography students to practice applications of time-lapse and aerial photography in biological research.

Peer-Reviewed Publications

John, C., Shilling, S., and Post, E. 2021. drpToolkit: An automated workflow for aligning and analyzing vegetation and ground surface time series imagery. *Methods in Ecology and Evolution*. In press.

John, C. and Post, E. 2021. Seasonality, niche management, and vertical migration in landscapes of relief. *Ecography*. In press. [article]

Eikelenboom, M., Higgings, R.C., **John, C.**, Kerby, J., Forchhammer, M.C., and Post, E. 2021. Contrasting dynamical responses of sympatric caribou and muskoxen to winter weather and earlier spring green-up in the Arctic. *Food Webs*. 27 e00196. [abstract; contact for article]

John, C. Miller, D., and Post, E. 2020. Regional variation in green-up timing along a caribou migratory corridor: Spatial associations with snowmelt and temperature. *Arctic, Antarctic, and Alpine Research*. 52(1) 416-423. [article]

Myers-Smith, I.H., Kerby, J.T., Phoenix, G.K., Bjerke, J.W., Epstein, H.E., Assmann, J.A., **John, C.**, et al. 2020. Complexity revealed in the greening of the Arctic. *Nature Climate Change*. 10(2) 106-117. [article]

Post, E., Beyen, E., Bøving, P., Higgins, R.C., **John, C.**, Kerby, J., Pedersen, C., and Watts, D. 2019. Unusual late July observation of a fledgling Lapland longspur in low arctic Greenland following the late spring of 2018. *Arctic Science*. 5(3) 161-166. [article]

Blazanin, N., Son, J., Craig-Lucas, A., **John, C.**, Breech, K., Son, J., Podolsky, M., and Glick, A.B. 2017. ER Stress and Distinct Outputs of the IRE1α RNase Control Proliferation and Senescence in Response to Oncogenic Ras. *Proceedings of the National Academy of Sciences*. 114(37) 9900-9905. [article]

Van den Bogaard, E.H., Podolsky, M.A., Smits, J.P., Cui, X., **John, C.**, et al. 2015. Genetic and Pharmacological Analysis Identifies a Physiological Role for the AHR in Epidermal Differentiation. *Journal of Investigative Dermatology*. 135(5) 1320-28. [article]

Other Publications

Mejía-Ramón, A.G. and **John, C.** 2017. Informe Preliminar sobre las Actividades de Teledetección Aérea en la Zona Monumental Arqueológica de Teotihuacan, Verano 2017. Technical report submitted to the Consejo de Arquelogía, October 2017, Instituto Nacional de Antropología e Historia, México D.F.

John, C. 2016. Against the Spring Wave: Ungulate Migration Phenology in a Changing Arctic. M.Sc. Thesis, Penn State University. [thesis]

Software

John, C. 2021. drpToolkit: Digital repeat photography imagery management and analysis. Python package version 1.0.0. <https://github.com/JepsonNomad/drpToolkit>.

John, C. Bolas, E., and Laca, E. 2020. ggeAdmit: Streamlining the holistic review process. R package version 0.0.1. <https://github.com/ggeDCAA/ggeAdmit>.

John, C. 2017. phenomap: Projecting satellite-derived phenology in space. R package version 1.0.1. <https://CRAN.R-project.org/package=phenomap>.

Oral Presentations

American Geophysical Union Fall 2020 Meeting Dec 2020

John, C., Stephenson, T., and Post, E. *Associations among topography, snowmelt, and plant green-up phenology, revealed through a time-lapse camera network*

UC Davis Polar Forum Mini Symposium Nov 2019

John, C. and Post, E. *Spatial disparity in drivers of landscape phenology regulates regional green-up dynamics*

American Geophysical Union Fall 2018 Meeting Dec 2018

John, C., Stephenson, T., and Post, E. *Long-term projections for migration phenology in Sierra Nevada bighorn sheep*

Ecological Society of America Summer 2017 Meeting Aug 2017
John, C. and Post, E. *Arctic green wave dynamicity and its implications for migration phenology*

American Geophysical Union Fall 2016 Meeting Dec 2016
John, C. and Post, E. *Dissecting drivers of Arctic plant phenology across scales in time and space*

GIS Day at Penn State, State College, PA Nov 2015
John, C. *Using UAV remote sensing in Arctic ecological research*

The Polar Center at Penn State, State College, PA Feb 2015
John, C. and Post, E. *Climate change, the green wave, and Arctic ungulate migratory timing*

Other Professional Service

Guest Lecturer

WFC 168 (UC Davis): *The future of phenology for Sierra bighorn*	Feb 2021
WFC 010 (UC Davis): *Movement ecology*	Mar 2019
WFC 198 (UC Davis): *Resources, reproduction, and trophic mismatch*	Feb 2019
WFC 010 (UC Davis): *Animal migration*	Nov 2017, Feb 2020
WFS 585 (Penn State): *Phenoscape: Analyzing the green wave in R*	Mar 2017
GEOG 455 (Penn State): *Remote sensing in migration ecology*	Apr 2016

Open Lab Meeting co-coordinator Fall 2020 – Spring 2021
Graduate student led- and attended "lab meeting" of weekly seminars within the graduate group community. No professors, relaxed atmosphere for candid presentation feedback from peers.

Davis R Users' Group co-coordinator Fall 2020 – Spring 2021
Weekly working group of R coding enthusiasts across undergraduate, graduate, and post-doc levels of training. Troubleshooting, workshops, and R-related discussion.

Other university speaking forums
UC Davis Wildlife, Fish and Conservation Biology departmental seminar
UC Davis R Users' Group working group
#MapTimeDavis mapping workshop

Reviewer
Animal Migration
Ecography
Ecology Letters
Scientific Reports

Grants and Scholarships

FINNEST Future Investigator (NASA; $135,000)	Jun 2019
Jastro Research Fellowship (UC Davis GGE; $1000)	Jun 2018
Student Travel Grant (PSU IGDP; $200)	Dec 2016
AINA Grant-In-Aid (Arctic Institute of North America; $1000)	Apr 2016
Graduate Research Award (PSU Center for Landscape Dynamics; $1000)	Dec 2015
Braddock Scholarship (PSU Eberly College of Science; $3000)	Aug 2014