

Paul O. Seibert

Curriculum vitae, updated January 27, 2026

University of California, Berkeley
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EDUCATION

- 2022 – Present | **PhD Candidate in Environmental Engineering.** Quantifying the effects of fog and dew on water and carbon cycling. University of California, Berkeley. *Advisor:* Prof. Cynthia Gerlein-Safdi.
- 2022 | **M.Sc. in Environmental Engineering,** Dept. of Civil and Environmental Engineering, University of California, Berkeley.
- 2021 | **B.Sc. in Civil Engineering,** Dept. of Civil and Environmental Engineering, University of Maryland, College Park, MD.

RESEARCH AND PROFESSIONAL EXPERIENCE

- 2022 – Present | **Lawrence Berkeley National Laboratory** (CA, USA), Climate and Ecosystems Sciences Division. Affiliate. Using novel solar-induced fluorescence imagery to detect diurnal and seasonal photosynthetic cycles.
- Summer 2025 | **NASA Ames Research Center** (CA, USA), NASA DEVELOP Remote Sensing Researcher. Coupling remote sensing and machine learning to quantify and predict fog for coast redwood conservation.
- 2021 – 2022 | **Blue Forest Conservation** (CA, USA), Engineering consultant. Developed remote sensing evapotranspiration models for forest management in the Sierra Nevada and Cascade mountains. *Supervisor:* Dr. Tessa Maurer.
- 2019 – 2021 | **University of Maryland** (MD, USA), Maryland Water Resources Research Center. Undergraduate research assistant. Evaluated the sensitivity of the dimensionless unit hydrograph parameters for hydrologic design in Maryland watersheds. *Advisor:* Prof. Kaye L. Brubaker.
- 2017 – 2021 | **University of Maryland** (MD, USA), Gemstone Honors Research Program. Led an undergraduate research team on a four-year project evaluating biosorption of trace heavy metals in wastewater using macroalgae. *Advisor:* Prof. Natasha Almeida e Andrade.
- 2020 | **Technical University of Denmark** (Lyngby, Denmark), Environmental Dept. Assisted in field studies for resolving inland water bodies via unmanned aerial vehicles. *Advisor:* Prof. Peter Bauer-Gottwein.

PUBLICATIONS

P.O. Seibert, C. Gerlein-Safdi, N. Falco, E. Pegoraro, M. Torn. *In prep.* Proximal hyperspectral imaging of solar-induced fluorescence in a heterogeneous grassland.

- P.O. Seibert**, Z. Li, C. Gerlein-Safdi. *In prep.* Is foliar water uptake a universal process?. A. Cao, Z. Li, **P.O. Seibert**, C. Gerlein-Safdi. January 2026. The Role of Leaf Wettability and Morphology on Leaf Surface Water Storage: A Cross-Biome Synthesis. *Ecohydrology*. 19, no. 1: e70162. <https://doi.org/10.1002/eco.70162>.
- K. Blount, J. V. Wilkening, A. Kagawa-Viviani, S.H. Ledford, A. Cao, X. Chen, S.L. Fathel, X. Feng, C. Gerlein-Safdi, K. E. Kaiser, C.J. Oswald, A.J. Parolari, V. Rexausen, C.A. Ross, **P.O. Seibert**, A. B. Willis. Out of the Forest and into the Concrete Jungle: Challenges, Opportunities, and Innovations in Urban Hydrology. November 2025. *Water Resources Research*. 61, e2025WR040212. <https://doi.org/10.1029/2025WR040212>
- P.O. Seibert**, E. Camp, T. Dawson, C. Gerlein-Safdi. December 2025. Foliar Water Uptake of C_3 Perennial Grasses Under Drought. *Journal of Geophysical Research: Biogeosciences*. <http://doi.org/10.1029/2025JG008990>.
- S. Ruehr, C. Gerlein-Safdi, N. Falco, **P.O. Seibert**, C. Chou, L. Albert, T. Keenan. July 28, 2024. Quantifying seasonal and diurnal cycles of solar-induced fluorescence with a novel hyperspectral imager. *Geophysical Research Letters*, 51, e2023GL107429. <https://doi.org/10.1029/2023GL107429>

REPORTS

- D. Wilcox, A. Palmer, **P.O. Seibert**, M. Hartmann. August 12, 2025. California Coast Ecological Conservation: Coupling Satellite Observations and Machine Learning to Understand Future Fog Prevalence Along the Coast Redwood Range. https://ntrs.nasa.gov/api/citations/20250008796/downloads/2025Sum_ARC_CaliforniaCoastEco_TechPaper_FD-final.pdf
- K. Brubaker, M. Zadeh, C. Walcott, J. Eisenstadht, **P.O. Seibert**, J. Slattery, T. Gleason, J. Walsch. August 31, 2021. Research on Dimensionless Unit Hydrograph and Time of Concentration for Maryland Watersheds. State of Maryland Department of Transportation. Report no. MD-21-SHA/UM/5-04. https://www.roads.maryland.gov/OPR_Research/2021.08.30_SHAUM5-04_DUH-Tc_FinalReport.pdf
- B. Baitman, J. Chang, B. Croce, J. Parker, **P.O. Seibert**, E. Weiss, J. Weller, W. Zhou. 2021. Evaluating the Biosorptive Properties of Anacostia River Biomass to Facilitate Heavy Metal Removal from Contaminated Water, *2021 Gemstone Thesis Conference*, doi: 10.13016/briu-nie7

CONFERENCE PRESENTATIONS

Oral presentations

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| AGU Fall Meeting 2025 | P.O. Seibert , Z. Li, C. Gerlein-Safdi, , Is foliar water uptake a universal process? Insights from a meta-analysis and targeted lab experiment, December 2025, New Orleans, United States. Abstract H23F-03. |
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- AGU Fall Meeting 2024 | **P.O. Seibert**, C. Gerlein-Safdi, S. Ruehr, N. Falco, M. Torn. Characterizing spatial heterogeneity of phenology and productivity using a solar-induced fluorescence imaging spectrometer: results from a multi-year field campaign in a coastal California grassland, December 2024, Washington DC, United States. Abstract B21B-09.
- SpecNet 2024 | C. Gerlein-Safdi and **P.O. Seibert**. Proximal imaging of SIF and spectral reflectance of coastal grasslands, November 2024.
- WaterSciCon 2024 | C. Gerlein-Safdi, **P.O. Seibert**, S. Ruehr, N. Falco, M. Torn. Variations of the diurnal dynamics of the photosynthetic activity of a coastal grassland along a water availability gradient, June 2024, Minneapolis, United States. Abstract 330-04.
- AGU Fall Meeting 2023 | Y. Wu, C. Chou, B. Avora, M. Berkelhammer, E. Brodie, R. Carroll, J. Chen, B. Dafflon, C. Gerlein-Safdi, **P.O. Seibert**, N. Thiros, M. Sprenger, T. Tokunaga, K. Williams, E. Siirila-Woodburn. Cross Approach Comparison of ET Quantifications at the Mountainous East River Watershed, December 2023, San Francisco, United States. Abstract 1318203.
- AGU Fall Meeting 2022 | C. Gerlein-Safdi and **P.O. Seibert**. Estimating transpiration rates in drylands with TROPOMI solar-induced chlorophyll fluorescence, ECOSTRESS surface temperatures, and machine learning-based gap filling techniques, December 2022, Chicago, United States. Abstract B16A-03.

Poster presentations

- AGU Fall Meeting 2025 | C. Gerlein-Safdi, **P.O. Seibert**, Z. Li. Beyond the Bay: Spatio-Temporal Dynamics of Coastal Fog and Its Ecosystem Impacts from Local to Global Scales. December 2025, New Orleans, United States. Abstract B21G-02.
- AGU Fall Meeting 2025 | **P.O. Seibert**, A. Palmer, M. Hartmann, D. Wilcox, K. Miller. Coupling Satellite Observations and Machine Learning to Predict Future Fog Prevalence Along the Coast Redwood Range. December 2025, New Orleans, United States. Abstract B21G-04.
- WaterSciCon 2024 | **P.O. Seibert**, C. Gerlein-Safdi. Do Coastal Grasses Rely on Fog? Initial Results from a Field Campaign and Foliar Water Uptake Experiment, June 2024, Minneapolis, United States. Abstract 217-137.
- AGU Fall Meeting 2023 | **P.O. Seibert**, C. Gerlein-Safdi, N. Falco, S. Ruehr. Capturing solar-induced chlorophyll fluorescence dynamics with a novel hyperspectral imager: results from a multidimensional field campaign in a coastal California grassland, December 2023, San Francisco, United States. Abstract 1324529.
- AGU Fall Meeting 2023 | S. Ruehr, C. Gerlein-Safdi, N. Falco, **P.O. Seibert**, C. Chou, L. Albert, T. Keenan. Imaging solar-induced fluorescence across leaves and canopies, December 2023, San Francisco, United States. Abstract 1342075.
- International Fog and Dew 2023 | **P.O. Seibert**. Point Reyes As A Microcosm: Initial Results From A Fog-Dependent Ecosystem Warming Experiment, July 2023, Fort Collins, United States. Abstract 155.

AGU Fall Meeting 2022 | S. Ruehr, **P.O. Seibert**, C. Gerlein-Safdi, N. Falco, T. Keenan. Hyperspectral imagery illuminates drivers of solar-induced fluorescence across landscapes, December 2022, Chicago, United States. Abstract B43C-04.

NEWS ARTICLES, PRESS, AND MEDIA

➤ Seeking Spatial Patterns of Photosynthesis by Paul Seibert, **Innovative technology and the UC Botanical Garden Collections**, April 2024.

<https://botanicalgarden.berkeley.edu/learn/garden-stories/innovative-technology-and-the-uc-botanical-garden-collections/>

➤ Bay Area 2050 by **ABC7 News**, San Francisco, Fall 2023. A documentary about climate change predictions for the San Francisco Bay Area.

<https://abc7news.com/bayarea2050/>

FELLOWSHIPS AND AWARDS

2025 – 2026 | U.S. Dept. of Energy Office of Science Graduate Student Research Fellowship (DOE SCGSR).

2025 | Robert Selleck Memorial Fellowship, UC Berkeley Dept. of Civil & Environmental Engineering.

2017 – 2021 | State Senatorial and Delegate Scholarships, Maryland Higher Education Commission, State of Maryland.

2020 | Gilman Scholar, United States Department of State.

2018 | Daughters of the American Revolution Scholarship.

RESEARCH GRANTS

2022 | Carol Baird Award for Graduate Student Research. *Investigating Grassland Water Partitioning Response to Climate Change*

2022 | Mildred E. Mathias Graduate Student Research Grant. *Investigating Grassland Water Partitioning Response to Climate Change*

2017 – 2021 | Maryland Sea Grant, University of Maryland. *Evaluating the biosorptive properties of Anacostia River Biomass to Facilitate Heavy Metal Removal*

2019 – 2021 | Sustainability Grant, University of Maryland. *Evaluating the biosorptive properties of Anacostia River Biomass to Facilitate Heavy Metal Removal*

PROFESSIONAL ORGANIZATIONS

➤ American Geophysical Union. 2022 – Present.

ACADEMIC SERVICE

➤ AGU Ecohydrology Technical Committee. 2024 – Present.

➤ Conference chair:

- 2025 AGU Fall Meeting

- H31D: Forest Ecohydrology Across Natural and Urban Landscapes: Processes, Services, and Modeling Innovations

➤ Journal Reviewer:

Journal of Hydrology. 2024 – Present.

Tree Physiology, 2025 – Present.

IEEE Sensors Letters 2025 – Present.

∧ President of the Environmental Engineering Advocacy Team. 2022 – 2023.

∧ UC Berkeley environmental engineering graduate admissions committee 2026

CERTIFICATIONS & COURSES

2025	Certificate in Teaching and Learning in Higher Education, University of California, Berkeley.
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2022	IsoCamp, University of New Mexico Center for Stable Isotopes.
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2021	Engineer in Training, State of Maryland Board of Engineers #58417.
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TEACHING

∧ **PHYS 8A: Introductory Physics**, University of California, Berkeley, Spring 2022.

Graduate Student Instructor.

∧ **ESPM 116B: Grassland and Woodland Ecology**, University of California, Berkeley, Spring 2024. *Graduate Student Instructor.*

MENTORING & ADVISING

∧ Undergraduate student mentoring

- Caitlyn Johnson (University of Maryland, CEE Alumni Mentoring Program)
- Whitley Breeze (University of California, Berkeley, Research Assistant, 2023)
- Ella Camp (University of California, Berkeley, Research Assistant, 2023-2024)
- Rebecca Hope Consaga (University of California, Berkeley, Research Mentoring, 2024-Present)
- Peri Muftuoglu (University of California, Berkeley, Research Apprentice Program, 2025)
- Liv Staton (University of California, Berkeley, Research Apprentice Program, 2025-Present)
- Mahika Behani (University of California, Berkeley, Research Assistant, 2025-Present)

∧ Graduate student mentoring

- Zeyin Li (University of California, Berkeley, Research Assistant, 2024-Present)
- Joaquin Jamieson (University of California, Berkeley, Research Assistant, 2023-2024)

TECHNICAL SKILLS & EXPERTISE

Ecohydrology, remote sensing, plant physiology, stable isotopes