

Elizabeth K. Perkin

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EDUCATION

- 2013 Dr. rer. nat. (PhD), Biology, Freie Universität Berlin, Germany
The effects of artificial lighting on stream and riparian ecosystems
Advisors: Prof. Dr. Klement Tockner and Dr. Franz Hölker
- 2009 M. S., School of Aquatic and Fishery Sciences, University of Washington
The relationship of soil nitrogen availability and water holding capacity to riparian tree growth on the Queets River, Washington
Advisor: Dr. Robert J. Naiman
- 2004 B. A., Biology, Reed College, Portland, OR
The effects of additional coho salmon carcasses on macroinvertebrate drift in western Oregon streams
Advisors: Dr. David Dalton, Reed College and Burke Strobel, United States Forest Service

PUBLICATIONS (PEER-REVIEWED)

Summary Metrics

Citations: 501 (Google Scholar)

- [7] Wilson, M. J., Ramey, T. L., Donaldson, M. R., Germain, R. R., and **Perkin, E. K.** 2016. Communicating science: sending the right message to the right audience. *FACETS* 1: 127-137. (Served P.I. role.)
- [6] Degen, T., Mitesser, O., **Perkin, E. K.**, Weiß, N.-S., Oehlert, M., Matting, E., and Hölker, F. 2016. Street-lighting: sex-independent impacts on moth movement. *Journal of Animal Ecology* 85: 1352-1360.
- [5] **Perkin, E. K.**, Hölker, F., Tockner, K., and Richardson, J. S. 2014. Artificial light as a disturbance to light-naïve streams. *Freshwater Biology* 59: 2235-2244.
- [4] **Perkin, E. K.**, Hölker, F., Heller, S., and Berghahn, R. 2014. Artificial light and nocturnal activity in Gammarids. *PeerJ* 2:e279; DOI 10.7717/peerj.279. [selected as one of the ten most interesting animal behavior papers of 2014 in the journal by *PeerJ* editors]
- [3] **Perkin, E. K.**, Hölker, F., and Tockner, K. 2014. The effects of artificial lighting on adult aquatic and terrestrial insects. *Freshwater Biology* 59: 368-377.
- [2] **Perkin, E. K.**, Hölker, F., Richardson, J. S., Sadler, J. P., Wolter, C., and Tockner, K. 2011. The influence of artificial light on freshwater and riparian ecosystems: questions, challenges, and perspectives. *Ecosphere* 2: 122.

- [1] Hölker, F., Wolter, C., **Perkin, E. K.**, and Tockner, K. 2010. Light pollution as a biodiversity threat. *Trends in Ecology and Evolution* 25: 681-682.

PUBLICATIONS IN PREP

- [1] Wilson, M. J., and **Perkin, E. K.** Going Rogue: What scientists can learn about Twitter communication from “alt” government accounts. *In Revision*.
- [2] **Perkin, E. K.** Macroinvertebrate drift across a light gradient.

TEACHING

Instructor of Record

- 2018 Environmental Problem Solving (Introduction to Environmental Studies), McDaniel College
- 2018 Freshwater Ecology, McDaniel College
- 2016-17 Undergraduate Thesis Supervisor, Willamette University. Lydia Vanderburg, “Illuminating drift differences: Higher nighttime light levels reduce behavioral drift in stream invertebrates.”
- 2016 Special Topics: River and Riparian Ecology, Willamette University
- 2016-17 General Ecology, Willamette University
- 2016-17 Intro Biology (Ecology, Evolution, and Diversity) for Majors, Willamette University
- 2015-16 Intro Biology for Non-majors, Willamette University
- 2014 Supervisor, Undergraduate Directed Studies Project, University of British Columbia

Teaching Assistant

Freie Universität Berlin: Fundamentals of Aquatic Ecology, Evolution and Biodiversity I (Zoology);
University of Washington: Watershed Ecology and Management (with Dr. Robert Naiman), River Ecology (with Dr. Robert Naiman), Attaining a Sustainable Society (with Dr. James Karr)

PROFESSIONAL EXPERIENCE

- 2018- Visiting Assistant Professor, McDaniel College, Westminster, MD
- 2017-18 Affiliate Faculty Member, Willamette University, Salem, OR
- 2015-17 Visiting Assistant Professor, Biology Department, Willamette University, Salem, OR
- 2013-15 Postdoctoral Research Fellow, Department of Forest and Conservation Sciences, University of British Columbia, Vancouver, BC
- 2009-12 Graduate Assistant, Institute of Biology, Freie Universität Berlin, Berlin, Germany

- 2006-08 Graduate Assistant, School of Aquatic and Fishery Sciences, University of Washington, Seattle, WA
- 2003 Independent Research Student, Biology Department, Reed College, Portland, OR
The effects of adding hatchery coho carcasses to western Oregon streams
- 2002 Independent Research Student, Biology Department, Reed College, Portland, OR
The effects of juniper stand density on riparian plant diversity
- 2001-04 Biology Outreach Teacher, Biology Department, Reed College, Portland, OR
Work-study job: taught biology to 4-6 grade students in Portland Public Schools
- 2001 Salmon Camp Counselor, Oregon Museum of Science and Industry, Fossil, OR
Guided Native American high school students through research with visiting scientists. Focus on ecology, forestry, and fisheries.

GRANTS AND RESEARCH AWARDS

- 2016 Aquatic Luminous Environment Grant, Zoological Lighting Institute. **Perkin, E. K.** Determining the Plasticity of Larval Mayfly Response to Artificial Lighting. \$5000 USD.
- 2016 Liberal Arts Research Collaborative (LARC), Willamette University. **Perkin, E. K.,** and Lenox, S. Streams of Consciousness: Using Creative Writing and Lab Experiments to Better Understand our Relationship to Light and Streams. \$21,200 USD.
- 2012 Ecological Society of America Student Section Travel Award. \$500 USD.
- 2011 University of British Columbia Graduate Student International Research Mobility Award. \$1500 CAD.
- 2010 North American Benthological Society President's Fund Award. \$900 USD.
- 2008 Galen and Helen Maxfield Fisheries Scholarship, University of Washington. **Perkin, E. K.** The Relationship of Soil Nitrogen Availability and Water Holding Capacity to Riparian Tree Growth on the Queets River, Washington. \$7673 USD.
- 2007 H. Mason Keeler Lake Washington Fund in Fisheries, University of Washington. **Perkin, E. K.** The Relationship of Soil Nitrogen Availability and Water Holding Capacity to Riparian Tree Growth on the Queets River, Washington. \$2489 USD.
- 2003 Milton L. Fischer Field Memorial Fellowship, Reed College. **Perkin, E. K.** The Effects of Hatchery Salmon Carcasses on Aquatic Insects in Western Oregon Streams. \$3000 USD.
- 2002 Independent Summer Research Project Award, Reed College. **Perkin, E. K.** The Effects of Juniper Stand Density on Riparian Plant Diversity. \$3000 USD.

INVITED TALKS

- 2017 University of Washington, Tacoma. Research Seminar. Rivers of Light: Artificial light and its potential interactions with temperature & flow in urban streams.

- 2016 Gorge Night Sky Symposium. Keynote. The effects of light pollution on river and riparian ecosystems.
- 2016 King County Water and Land Resources Division, Invited Talk. Rivers of light: how artificial light at night affects stream ecosystems.
- 2015 International Dark Sky Association Annual General Meeting, Phoenix, AZ. Invited Speaker. Artificial light at night: impacts to fishes.
- 2015 School of Aquatic and Fisheries Sciences, University of Washington, Seattle, WA. Departmental Seminar Speaker. Rivers of light: how artificial light at night affects stream ecosystems.
- 2013 First International Conference on Artificial Light at Night, Berlin, Germany. Plenary speaker. Artificial light and streams ecosystems: what we know and where we're headed.
- 2013 Annual Professional Biology Conference, Richmond, BC. Artificial light and stream ecosystems: what we know and where we're headed.
- 2008 Leibniz-Institute for Freshwater Ecology and Inland Fisheries, Berlin. Colloquia of the Institute. Relationship between soil N availability and riparian tree growth on the Queets River, WA.

HONORS & AWARDS

- 2015 Acceptance to "Scaling Up" Faculty Mentoring Network. Ecological Society of America and Quantitative Undergraduate Biology Education and Synthesis. Included up to \$1000 to attend the Life Discovery Conference in March 2016.
- 2013 Best Student Oral Presentation in Applied Research. Society for Freshwater Science Annual Meeting.

SELECT CONFERENCE PRESENTATIONS

†Signifies undergraduate researcher

- 2018 Perkin, E. K. & Vanderberg, L. V.[†] Stream insect acclimation to artificial light at night. Artificial Light at Night Conference. Snowbird, UT. Oral Presentation.
- 2017 Hernandez, J.[†], Griswold, T.[†], Lenox, S., Romig, A.[†], Wert, A.[†], & Perkin, E. K. Mayfly drift in response to artificial light at night: A case study in science communication. Annual Meeting of the Ecological Society of America. Portland, OR. Poster.
- 2016 Perkin, E. K. & Richardson, J. S. Seasonal variation in foraging and competitive behaviors in Coastal Cutthroat Trout. Society for Freshwater Science Annual Meeting. Sacramento, CA. Oral Presentation.
- 2014 Perkin, E. K. & Richardson, J. S. The effects of artificial light at night on trout activity and foraging behavior. Artificial Light at Night Conference. Leicester, UK. Oral Presentation.

- 2013 Perkin, E. K., Hölker, F., Tockner, K., and Richardson, J. S. The short-term effects of artificial light on different trophic levels in small streams. Society for Freshwater Science Annual Meeting. Jacksonville, FL. Oral Presentation.
- 2011 Perkin, E. K., Hölker, F., and Tockner, K. Artificial light interferes with the dispersal of adult aquatic insects across the terrestrial landscape. North American Benthological Society Annual Meeting. Providence, RI. Oral Presentation.
- 2008 Perkin, E. K. and Naiman, R. J. Soil N availability, water holding capacity and riparian tree growth. Annual Meeting of the Ecological Society of America. Milwaukee, WI. Poster.

PROFESSIONAL/INSTITUTIONAL SERVICE

- 2018 Session chair, Biology and Ecology. Artificial Light at Night Conference, Snowbird, UT.
- 2016 Judged student oral presentations, Society for Freshwater Science Annual Meeting, Sacramento, CA.
- 2015 Session moderator, Biology and Ecology of Resident Salmonids Part 1, American Fisheries Society Annual Meeting, Portland, OR.
- 2015 Reviewed applications for Instars undergraduate program, Society for Freshwater Science.
- 2014 Session chair, Biology and Ecology I. Artificial Light at Night Conference, Leicester, UK.
- 2014 Judged student oral presentations, Society for Freshwater Science, Joint Aquatic Sciences Meeting, Portland, OR.
- 2014 Jointly organized special session (with John Richardson), Emerging Issues in Freshwater Ecology. Joint Aquatic Sciences Meeting, Portland, OR.
- 2012 Jointly organized special session (with Franz Hölker), Ecological Effects of Artificial Light at Night. Annual Meeting of the Ecological Society of America, Portland, OR.
- 2012 Reviewer for undergraduate travel award committee, Society for Freshwater Science.
- 2011 Jointly organized special session (with John Richardson), Conservation Challenges for Organisms with Complex Life-Cycles. North American Benthological Society Annual Meeting. Providence, RI.
- 2011 Served as an “Instars Graduate Mentor,” advising undergraduates from traditionally under-represented groups in how to network and get the most out of a conference. North American Benthological Society Annual Meeting. Providence, RI.
- 2010 Co-founded River Ecology journal club for doctoral students at IGB.

Reviewer for the following publications/agencies:

Aquatic Sciences, Aquatic Ecology, Biological Conservation, Biology Letters, Ecological Applications, Ecology, Entomological News, Environmental Conservation, Freshwater Science,

Global Change Biology, Journal of Applied Ecology, Journal of Experimental Marine Biology and Ecology, PLOS ONE, and Washington Department of Natural Resources.

Reviewer for the following funding agencies:

Hungarian Science Research Fund, National Environment Research Council (U.K.), The Ohio State University Grants Program, and Washington Sea Grant.

OUTREACH/EDUCATION

2017 Science Storytelling in Salem, Salem, OR. The Mayfly Caper.

2015 Anecdotal Evidence, Vancouver, BC. Finding My Home Stream.

2012 Science Slam. Competitive talk to the public of Berlin. Artificial light and the dispersal of adult aquatic insects...oder Wie Batman der Herren der Fliegen wurde. Voted best talk by the audience of 500+

Hölker, F., Voigt, C., Wolter, C., **Perkin, E. K.**, and Tockner, K. 2009. Der Verlust der Nacht ist auch ein ökologisches Problem. Leibniz Gemeinschaft Zwischenruf 2: 18-21. (Policy brief, in German)

MEMBERSHIP IN PROFESSIONAL SOCIETIES

Society for Freshwater Science 2009-present

Ecological Society of America 2009-present

American Fisheries Society 2014-present

OTHER

Languages: English (native), German (conversational)

Computer languages: R (use regularly) and Python (online course)

PROFESSIONAL REFERENCES

1. Christopher I. Smith, *colleague and mentor—please contact via email*
Biology Department
Willamette University
900 State Street
Salem, OR 97301
csmith@willamette.edu
2. David P. Craig, *colleague and mentor—please contact via email*
Biology Department
Willamette University
900 State Street
Salem, OR 97301
dpcraig@willamette.edu
3. John S. Richardson, *postdoctoral supervisor*
Department of Forest & Conservation Sciences
University of British Columbia
3041-2424 Main Mall
Vancouver, BC Canada V6T 1Z4
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4. Klement Tockner, *doctoral advisor*
President, Austrian Science Fund
Haus der Forschung
Sensengasse 1
1090 Vienna, Austria
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5. Robert J. Naiman, *masters advisor—please contact via email*
School of Aquatic and Fisheries Sciences
University of Washington, Emeritus
naiman@uw.edu