

Caleb Robbins, Ph.D.

University of Kansas, Kansas Biological Survey | 101 Higuchi Hall, 2101 Constant Ave,
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Research Interests stream ecosystem ecology | biogeochemistry | microbial ecology | aquatic-terrestrial linkages | food web subsidies | organic matter dynamics

Education **Doctor of Philosophy, Biology**
Baylor University, Waco, TX
Dissertation: *From Landscapes to Streams: The Pattern and Function of Labile Dissolved Organic Carbon*
Advisor: Ryan S. King
August 2018

Bachelor of Science, Biology
Harding University, Searcy, AR
May 2012

Research Experience **Postdoctoral Researcher**
University of Kansas
“Hierarchical functioning of river macrosystems in temperate steppes”
July 2018 - .
PI: Dr. James H. Thorp

Graduate Research Assistant
Baylor University
“Alaska Downstream Effects project”
Stream productivity and consumer responses to the confluence of streams with contrasting, biogeochemically important catchment features.
Spring 2017 – Summer 2018.
Advisor: Dr. Ryan S. King

“Oklahoma Scenic Rivers Joint Phosphorus Study”
Determining a numerical phosphorus criterion for streams in Oklahoma and Arkansas.
Summer 2014 – Spring 2015. Baylor University.
Advisor: Dr. Ryan S. King

“Alaska Headwater Streams project”
Whole-stream manipulations on the Kenai Peninsula to examine importance of two prominent landscape features on juvenile salmonid habitat.
Fall 2012 – Summer 2013. Baylor University.
Advisor: Dr. Ryan S. King

Teaching Experience

Graduate Teaching Assistant

Ecology Lab (BIO 3103 – 1 credit hour)

Implemented significant changes in lab structure to include more hypothesis-based inquiry, data handling, primary literature reading and critique and scientific writing. Summer 2015 – Fall 2016. Baylor University.

Modern Concepts in Bioscience I Lab (BIO 1105 – 1 credit hour)

In Spring 2017, contributed to the conversion of the lab to an inquiry-based learning experience using ciliates (Ciliate Investigative Learning Inquiry - Course-based Undergraduate Research Experience; Advisor: Dr. Tamarah Adair). Fall 2013, 2015, 2016, Spring 2017. Baylor University.

Modern Concepts in Bioscience II Lab (BIO 1106 – 1 credit hour)

Fall 2013 (2 sections), Spring 2014 (3 sections), Fall 2015, Spring 2016 (2 sections). Baylor University

Guest Lecturer

Ecology (BIO 3303), Baylor University

Topic: “Streams within Landscapes”

October 2016

Lab Assistant

Botany and Environmental Science

Fall 2011- Spring 2012, Harding University

Publications

Robbins, CJ, RS King, AD Yeager, CM Walker, JA Back, RD Doyle, and DF Whigham. 2017. Low-level addition of dissolved organic carbon increases basal ecosystem function in a boreal headwater stream. *Ecosphere* 8(4):e01739. 10.1002/ecs2.1739

Hiatt, DL, **CJ Robbins**, JA Back, PK Kostka, RD Doyle, CM Walker, MC Rains, DF Whigham, and RS King. 2017. Catchment-scale alder cover controls nitrogen fixation in boreal headwater streams. *Freshwater Science* 36(3):523-532. DOI: 10.1086/692944

Robbins, CJ, WJ Matthaues, SC Cook, LM Housley, SE Robison, MA Garbarino, ES LeBrun, S Raut, C Tseng, and RS King. Litter species identity and diversity influence nutrient uptake in streams, *Under internal revision*.

Robbins, CJ, AD Yeager, SC Cook, RD Doyle, JR Maurer, CM Walker, JA Back, DF Whigham and RS King. Low-level dissolved organic carbon subsidies drive a dramatic trophic upsurge in a boreal stream, *Under internal revision*.

Robbins, CJ, JA Back, and RS King. Temporal patterns of stream bioavailable dissolved organic carbon vary with anthropogenic sources. *Under internal revision*

Yeager, AD, RD Doyle, **CJ Robbins**, CM Walker, and RS King. Low-level dissolved organic carbon additions influence periphyton enzyme activity, metabolism and biomass accrual in an Alaskan headwater stream, *Under internal revision*.

Presentations (first author only)

Robbins, CJ, W Matthaeus, S Cook, L Housley, S Hester, M Garbarino, E LeBrun, S Raut, C Tseng and RS King. “Nutrient removal in streams: Does leaf litter identity matter?” *Invited. Oral*.
Department of Biology, Baylor University, March 2018, Waco, TX

Robbins, CJ, JA Back and RS King. “Bioavailability of dissolved organic carbon in Ozark Highlands streams varies across gradients of anthropogenic sources.” *Oral*.
Arkansas Water Resources Center Annual Conference, July 2017, Fayetteville, AR.

Robbins, CJ, JA Back and RS King. Bioavailability of dissolved organic carbon in mid-order streams varies across gradients of anthropogenic sources. *Oral*.
Society for Freshwater Science Annual Meeting, June 2017, Raleigh, NC.

Robbins, CJ, W Matthaeus, S Cook, L Housley, S Hester, M Garbarino, E LeBrun, S Raut, C Tseng and RS King. Litter species influences whole-stream mesocosm nutrient uptake and breakdown response to shading. *Poster*.
Society for Freshwater Science Annual Meeting, May 2016, Sacramento, CA.

Robbins, CJ, RS King, AD Yeager, CM Walker, JA Back and DF Whigham. Low-level addition of dissolved organic carbon increases nitrogen uptake and bacterial biomass production in an Alaskan headwater stream. *Poster*.
Joint Aquatic Sciences Meeting, May 2014, Portland, OR.

Other Experience

Workshop leader
Organized and led the Writing Science in Plain English workshop presented to STEM graduate students at Baylor University
January, 2018

Writing Consultant
Paid consultant for all STEM fields for Baylor University Graduate Writing Center.
Fall 2017 – Spring 2018.

Ramm Scholar

Invited participant of the Bernard Ramm Scholars program at Baylor University, which brings together graduate students in STEM and theological fields to discuss the intersection of science and religion.

Fall 2017 – Spring 2018.

Conyers Scholar

Invited participant of the Conyers Scholars program at Baylor University, which engages students in meetings to discuss scholarship, pedagogy and Christian faith.

Fall 2014 – Spring 2015

Restoration Technician

Managed invasive species, collected native seeds and planted tallgrass prairie restorations

2011, The Nature Conservancy, Nachusa Grasslands, Franklin Grove, IL

Grants

C. Gus Glasscock, Jr., Endowed Fund for Excellence in Environmental Sciences

Baylor University internal grant

Land use effects on microbial activity: the interactivity of DOC and nutrients

\$6,630

Honors

Graduate School Fellowship

Baylor University Graduate School

Fall 2012 – Spring 2017

Limnology and Aquatic Ecology Scholarship

Baylor University Department of Biology

Fall 2013, Fall 2015

Service

Journal referee

Freshwater Science

Freshwater Biology

Sustainable Water Resources Management

Special session co-organizer

“Green meets brown: Ecological significance of interacting autotrophy and heterotrophy in freshwaters”

Halvor Halvorson (Chair), Caleb Robbins (Co-organizer), Kevin Kuehn (Co-organizer)

2018 Society for Freshwater Science Annual Meeting, Detroit, MI

Presentation Judge

Society for Freshwater Science Annual Meeting, Raleigh, NC

June 2017

Society for Freshwater Science Annual Meeting, Sacramento, CA
May 2016

Undergraduate Research and Scholarly Achievement (URSA) Scholars Week
April 2013, Baylor University

Lab Assistants Supervised
Jackie Tran

Graduate Mentor
Baylor Graduate-Undergraduate Mentoring Program
Mentored two undergraduate students interested in graduate school. Provided general guidance and specific feedback on student research and an REU application.
Fall 2015 – Spring 2016.

**Professional
Membership**

Society for Freshwater Science
Ecological Society of America
American Association for the Advancement of Science

Skills and Techniques

R programming language, (generalized) linear modelling, radiolabeling, enzyme assays (N₂ fixation, APA), whole-stream metabolism, water chemistry (e.g., Total Carbon, NH₄-N, NO_x-N, PO₄-P), solute additions, nutrient uptake