

Petra Kranzfelder

Department of Entomology
University of Minnesota
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Education

- Ph.D.** **University of Minnesota**, Saint Paul, MN
Entomology, expected May 2017
Thesis: *Cumulative Effects of Coastal Watershed Land Use on Chironomidae Communities of Neotropical Estuaries*
Committee: Leonard Ferrington (chair), Jacques Finlay, Ralph Holzenthal, Karen Oberhauser

Norwegian University of Science and Technology, Trondheim, Norway
Visiting Scholar, 2014-2015
- MS** **University of Minnesota**, Saint Paul, MN
Entomology, 2012
Thesis: *Comparison of Emergence and Taxonomic Composition of Chironomidae (Insecta: Diptera) in Tortuguero National Park, Costa Rica*
Committee: Leonard C. Ferrington (chair), Jennifer Powers, Ralph Holzenthal
- BA** **Colorado College**, Colorado Springs, CO
Biology, Spanish (minor), 2009

Associated Colleges of the Midwest, San José, Costa Rica
Study Abroad Program, Central American Culture and Society, Fall 2007

Teaching Experience

- Guest Lecturer**, October 2016
ENT 3925: Insects, Aquatic Habitats, and Pollution
Department of Entomology, University of Minnesota, Saint Paul, MN
Instructed four non-major undergraduate students on aquatic insect functional feeding groups and the river continuum concept (RCC).
- Course Co-Instructor**, May-June 2016
CFANS 3506: Iceland: Landscapes, Natural Resources and Environmental Management
College of Food, Agricultural and Natural Resource Sciences, University of Minnesota, Reykjavik, Iceland
Taught a 3-week study abroad course in Iceland that focused on the interactions between landscapes, natural resources availability, and environmental management to 14 undergraduate students from diverse majors across the university.

Guest Lecturer, October 2015

BIO 392: Entomology

Department of Biology, Chemistry, Physics, and Mathematics, Northern State University, Aberdeen, SD

Instructed 12 undergraduate students in an interactive two-hour lecture and lab. Taught students about the differences of using morphological versus molecular tools for species identification of aquatic macroinvertebrates.

Guest Lecturer, October 2015

BIO 333: Aquatic Ecology and Watershed Management

Department of Biology, Chemistry, Physics, and Mathematics, Northern State University, Aberdeen, SD

Instructed 12 undergraduate students in an interactive 75-minute lecture and lab. Developed a mock community meeting where students considered economical, societal, and environmental impacts of banana plantations on Costa Rican aquatic ecosystems.

Teaching Assistant, Spring 2013 and 2014

ENT 5361: Aquatic Insects

Department of Entomology, University of Minnesota, Saint Paul, MN

Instructed 6 undergraduate and graduate students in full semester of lab. Taught biweekly laboratory sections on aquatic insect taxonomy and ecology.

Guest Lecturer, September 2013

ENT 3925: Insects, Aquatic Habitats, and Pollution

Department of Entomology, University of Minnesota, Saint Paul, MN

Instructed six non-major undergraduate students about aquatic insect functional feeding groups and the river continuum concept (RCC).

Teaching Assistant, Spring 2012, 2013, and 2014

ESPM 1012H: Environmental Science and Society

Environmental Science, Policy, and Management, University of Minnesota, Saint Paul, MN

Instructed 16 undergraduate honors students in a full semester of discussion. Led weekly discussion sections on the role of science, technology, economics, policy, ethics, and sociology in environmental issues. Cooperated with course instructor to create, administer, and grade lecture activities, quizzes, midterms, and final exam on lecture material.

Teaching Assistant, Spring 2012 and 2013

ENT 4015: Ornamental and Turf Entomology

Department of Entomology, University of Minnesota, Saint Paul, MN

Collaborated with instructor to design syllabus, lesson plans, quizzes, and exams. Instructed 12 undergraduate and graduate students in a full semester of lab. Taught weekly laboratory sections on diagnosis and management of insect pests on landscape plants.

Teaching Assistant, Fall 2011 and 2012

ENT 4251: Forest and Shade Tree Entomology

Department of Entomology, University of Minnesota, Saint Paul, MN

Instructed 16 undergraduate and graduate students in a full semester of lab. Taught weekly laboratory sections on insect forest pests and presented two guest lectures on insect diversity, taxonomy, and ecology.

Teaching Assistant, Fall 2011 and 2012

ENT 3281: Veterinary Entomology

Department of Entomology, University of Minnesota, Saint Paul, MN

Instructed 32 undergraduate students in a full semester of lab. Taught weekly laboratory sections on biology and management of arthropods that affect animal health and comfort.

Guest Lecturer, Fall 2011

BIO 248: Invertebrate Biology

Department of Biology, Saint Olaf College, Northfield, MN

Instructed 28 undergraduate students in a 50-minute lecture. Presented on methods and preliminary results of study on chironomid temporal and spatial emergence patterns from Neotropical brackish waters.

Interpretive Science Educator, 2010-2014

Insect Collection, University of Minnesota, Saint Paul, MN

Guided tours of the eighth largest university-affiliated insect collection in North America.

Educated elementary and high school students about biology, ecology, and taxonomy of local and global insects.

Elementary Science Education Coordinator, 2010-2011

Minneapolis Public Schools, Teaching SMART, University of Minnesota, Minneapolis, MN

Arranged undergraduate and graduate student volunteer groups to teach weekly science and math classes to two classrooms of elementary school students. Led and aided in teaching of weekly science education to elementary school students through a series of lab experiments and hands-on activities.

Guest Lecturer, Fall 2010

ESPM 1001: Freshmen Orientation to Environmental Science, Policy, and Management

Environmental Science, Policy, and Management, University of Minnesota, Saint Paul, MN

Instructed 20 undergraduate students in a 6-hour field course on aquatic macroinvertebrates field collection methods and basic stream ecology.

Guest Lecturer, Spring 2010

Introductory Biology

El Colegio Charter High School, Minneapolis, MN

Instructed 12 high school students in a 50-minute lecture and lab on aquatic insect biology, taxonomy, and ecology. Demonstrated aquatic macroinvertebrate field collection methods.

Teaching Development

Teaching Enrichment Workshop Participant, 2013-2017

Center for Educational Innovation, University of Minnesota, Saint Paul, MN

Participated in five teaching enrichment workshops: Teaching and Learning in Active Learning Classrooms; Using Story Telling, Design, and Acting Techniques to Improve Presentations; When Tolerance is Not Enough: Supporting Undergraduate Learners in Discussions, Dialogues, and Dissent; How can the research on learning help our teaching; and Actively Engaging All Students.

Undergraduate Research Mentor, 2011-2015

Department of Entomology, University of Minnesota, Saint Paul, MN

Mentored nine undergraduate students in the lab (UMN) and in the field (Costa Rica) through the Brazilian Scientific Mobility Program, University of Minnesota's Global Spotlight Program, Undergraduate Research Opportunity Program (UROP), University's Honors Program, and Undergraduate Research Assistantships.

Preparing Future Faculty Student, Fall 2012

GRAD 8101: Teaching in Higher Education

Center for Educational Innovation, University of Minnesota, Saint Paul, MN

Participated in full-semester course that discussed learning theory and strategies, developing teaching skills, creating classroom and job search materials, and working with faculty from a range of institutional types

Research Interests

Effects of global environmental change (urbanization, eutrophication, deforestation) on water quality; ecology and biodiversity of aquatic macroinvertebrate, especially chironomids; aquatic monitoring using traditional taxonomy, DNA barcoding, remote sensing and GIS.

Research Experience

Research Assistant, 2016-Present

University of Minnesota Insect Collection, University of Minnesota, Saint Paul, MN

Digitized insects as part of National Science Foundation project "InvertNet - An Integrative Platform for Research on Environmental Change, Species Discovery and Identification."

Captured and edited digital images of insects using a 3-D robot camera and databased these images into the InvertNet online repository (<https://invertnet.org/>).

Doctoral Dissertation Fellow, 2015-2016

Department of Entomology, University of Minnesota, Saint Paul, MN

Investigated cumulative effects of watershed land use on aquatic invertebrate communities of estuaries in Costa Rica using geospatial and biological data. Prepared 18,000⁺ chironomid pupal exuviae slide mounts for species identification. Quantified land cover change patterns in six coastal tropical watersheds over time using satellite remote sensing.

Visiting Scholar, 2014-2015

Norwegian University of Science and Technology, Trondheim, Norway

Compared performance of five unique DNA extraction methods and direct PCR in isolation of genomic DNA from aquatic insects skins. Assessed efficacy of standard DNA barcoding for aquatic insect species identification.

Visiting Researcher, 2012-2014

Caño Palma Biological Station, Canadian Organization for Tropical Education and Rainforest Research, Tortuguero, Costa Rica

Cooperated with government and non-profit organizations to investigate consequences of land use on aquatic biodiversity of estuaries. Supervised undergraduate research assistant in independent research project that examined terrestrial and aquatic leaf decomposition rates.

Visiting Researcher, 2012

Gerace Research Centre, The College of the Bahamas, San Salvador Island, Bahamas
Shaped interdisciplinary course (Island Biology in the Bahamas: BIO 287) with St. Olaf faculty, undergraduate students, and alumni during reconnaissance trip. Collected, reared, curated, and identified chironomids for species survey of San Salvador Island.

Visiting Researcher, 2010-2012

Tortuguero National Park, Área de Conservación Tortuguero, Tortuguero, Costa Rica
Examined water quality and collected aquatic insect data from Neotropical brackish waters for Master's thesis research.

Research Assistant, 2009-2014

Department of Entomology, University of Minnesota, Saint Paul, MN
Collected, identified, curated, and analyzed aquatic macroinvertebrates for multiple private- and government-funded rural and urban biodiversity and water quality assessment projects.

Research Assistant, 2009

Sea Tortuguero Conservancy, Tortuguero, Costa Rica
Guided bilingual international research team to tag, collect biometric data, and record nesting activity of critically endangered nesting sea turtles. Informed local community on the importance of sea turtle and marine resource conservation by sharing visual data and statistics of the current loss of this biodiversity.

Biological Science Aid, 2008

Minnesota Valley National Wildlife Refuge, U.S. Fish and Wildlife Service, Bloomington, MN
Led control study of invasive terrestrial plant (reed canary grass) and evaluated exotic and native plant species repopulation of riparian area. Evaluated effectiveness of fire management for 2,000 acres of grassland/oak savanna.

Conservation Biology Intern, 2007

Minnesota Valley National Wildlife Refuge, U.S. Fish and Wildlife Service, Bloomington, MN
Diagnosed impacts of impoundment drawdown on waterbird, aquatic macroinvertebrate, and vegetation communities within 1,500 acres of managed wetlands. Facilitated in biological control methods to reduce populations of exotic plant species on wildlife refuge.

Publications (8)

Anderson, A.M., **P. Kranzfelder**, A. Egan, and L.C. Ferrington, Jr. 2016. The Chironomidae (Insecta: Diptera) of San Salvador Island: A Preliminary Survey and Look to the Future. *Proceedings of the 15th Symposium of the Natural History of The Bahamas*. p. 13-21.

Kranzfelder, P. and L.C. Ferrington. 2016. Temporal and Spatial Variability of Chironomidae (Diptera) Species Emergence in a Neotropical Estuary. *Freshwater Science*. 35(2). doi: 10.1086/685907.

Kranzfelder, P., T. Ekrem, and E. Stur. 2016. Trace DNA from Insect Skins: A Comparison of Five Extraction Protocols and Direct PCR on Chironomid Pupal Exuviae. *Molecular Ecology Resources* 16(1): 353-363. doi: 10.1111/1755-0998.12446.

Kranzfelder, P., A.M. Anderson, A.T. Egan, J.E. Mazack, R.W. Bouchard Jr., M.M. Rufer, and L.C. Ferrington, Jr. 2015. Use of Chironomidae Surface-Floating Pupal Exuviae as a Rapid Bioassessment Protocol for Water Bodies. *Journal of Visualized Experiments (JoVE)* 101: e52558. doi: 10.3791/52558.

Kranzfelder, P. and L.C. Ferrington, Jr. 2015. Characterization of Chironomidae (Diptera) Surface-Floating Pupal Exuviae Sample Sort Time from Coastal Tropical Aquatic Systems. *Environmental Monitoring and Assessment* 87(3): 1-8. doi: 10.1007/s10661-015-4313-0.

Mazack, J.E., **P. Kranzfelder**, A.M. Anderson, R.W. Bouchard, and L.C. Ferrington, Jr. 2014. Survivorship and Longevity of Adult *Diamesa mendotae* Muttkowski, 1915 (Diptera: Chironomidae) at Controlled, Sub-Freezing Temperatures. *Aquatic Insects* 36(1): 35-42. doi: 10.1080/01650424.2014.990040.

Anderson, A.M., **P. Kranzfelder**, A. Egan, and L.C. Ferrington, Jr. 2014. A Survey of Neotropical Chironomidae (Diptera) on San Salvador Island, Bahamas. *Florida Entomologist* 97(1): 304-308. doi: 10.1653/024.097.0147.

Anderson, A.M., **P. Kranzfelder**, R.W. Bouchard Jr., and L.C. Ferrington Jr. 2013. Survivorship and Longevity of *Diamesa mendotae* Muttkowski (Diptera: Chironomidae) Under Snow. *Journal of Entomological and Acarological Research*. 45:e6. doi: 10.4081/jear.2013.e6.

Manuscripts in Preparation (2)

Kranzfelder, P., J.M. Corcoran, L. P. Rampi, J.F. Knight, L.C. Ferrington, Jr. Land Use and Land Cover Change Detection of Six Watersheds on the Caribbean Coast of Costa Rica with Implications for Estuarine Monitoring. In preparation for *Environmental Monitoring and Assessment*.

Kranzfelder, P., T. Ekrem, and E. Stur. DNA barcoding for identification of insect skins: a test case on chironomid pupal exuviae. In preparation for *PLOS ONE*.

Extension Publications

Kranzfelder, P. 2012. Identification Guide and Key to the Chironomid Pupal Exuviae of Tortuguero National Park, Costa Rica. Available online in English and Spanish: <http://midge.cfans.umn.edu/research/taxonomic-guides/>.

Oral Presentations (*Undergraduate students mentored)

Kranzfelder, P. From River to Sea: Impacts of Land Use of Water Quality of Estuaries in Costa Rica. St. Olaf College Biology Department Seminar Series. May 9th, 2016.

Kranzfelder, P., T. Ekrem, and E. Stur. Barcoding of Trace DNA in Chironomid Pupal Exuviae Reveals Quality Differences in DNA Extraction Protocols. International Barcode of Life (iBOL) Conference, Guelph, Canada. August 20th, 2015.

Kranzfelder, P., T. Ekrem, and E. Stur. Barcoding of Trace DNA in Chironomid Pupal Exuviae Reveals Quality Differences in DNA Extraction Protocols. Society for Freshwater Science Annual Meeting, Milwaukee, Wisconsin. May 21st, 2015.

Kranzfelder, P. Barcoding of Trace DNA in Chironomid Pupal Exuviae Reveals Quality Differences in DNA Extraction Protocols. Museum of Natural History and Archaeology Seminar Series, Norwegian University of Science and Technology, Trondheim, Norway. May 6th, 2015.

Kranzfelder, P. Small Species with Big Sensitivity: Using DNA Barcoding to Identify Chironomidae (Diptera) and Enhance Biological Monitoring. Museum of Natural History and Archaeology Seminar Series, Norwegian University of Science and Technology, Trondheim, Norway. October 28th, 2014.

Anderson, A.M., Bouchard, R.W., Mazack, J.E., **Kranzfelder, P.**, Ferrington, L.C. Dynamics of Winter Emerging Chironomidae (Diptera) in Midwestern Trout Streams: A Summary of over 15 Years of Research. Joint Aquatic Sciences Annual Meeting, Portland, Oregon. May 19th, 2014.

Kranzfelder, P. Cumulative Effects of Coastal Watershed Land Use on Chironomidae Communities of Neotropical Estuaries in Costa Rica. Department of Entomology Seminar Series, University of Minnesota, Saint Paul, MN. October 22nd, 2013.

Kranzfelder, P. Off to Sea: Ecology, Physiology, and Evolution of Marine Insects. Department of Entomology Seminar Series, University of Minnesota, Saint Paul, MN. March 12th, 2013.

Kranzfelder, P. and L.C. Ferrington, Jr. Variability of Chironomidae (Insecta: Diptera) Emergence in Neotropical Brackish Waters of Costa Rica. Society for Freshwater Science Annual Meeting, Louisville, Kentucky. May 24th, 2012.

*Maas, A. Integration of Environmental Education into Spanish Language Learning at the University of Minnesota: A Case Study. Environmental Science, Policy and Management Honor's Thesis Presentation, University of Minnesota, Saint Paul, MN. May 4th, 2012.

Kranzfelder, P. and L.C. Ferrington, Jr. Comparación de emergencia y la composición taxonómica de Chironomidae (Insecta: Diptera) en Parque Nacional Tortuguero, Costa Rica. First Latin American Macroinvertebrate Congress, San José, Costa Rica. February 6th, 2012.

Kranzfelder, P. Comparison of Emergence and Species Richness of Chironomidae (Insecta: Diptera) in Laguna del Tortuguero and Quebrada, Tortuguero National Park, Costa Rica. Department of Entomology Seminar Series, University of Minnesota, Saint Paul, MN. January 13th, 2012.

Louwsma, J.E., A.M. Anderson, **P. Kranzfelder**, R.W. Bouchard, and L.C. Ferrington. Long-term Survivorship of *Diamesa mendotae* (Diptera: Chironomidae) at Sub-Freezing Temperatures. North American Benthological Society Annual Meeting, Providence, Rhode Island. May 25th, 2011.

Kranzfelder, P., L.C. Ferrington, Jr., and *J. Miller. Emergence Composition and Taxonomic Richness of Chironomidae (Insecta: Diptera) in Laguna del Tortuguero and Quebrada, Tortuguero National Park, Costa Rica. North American Benthological Society Annual Meeting, Providence, Rhode Island. May 24th, 2011.

Kranzfelder, P. Que podemos aprender de un insecto? La vida sostenible en Tortuguero (in Spanish). Tortuguero National Park Community Meeting, National System of Conservation Areas, Tortuguero, Costa Rica. January 10th, 2010.

Poster Presentations (*Undergraduate students mentored)

Kranzfelder, P., J.M. Corcoran, L.P. Rampi, J.F. Knight, L.C. Ferrington, Jr. Remote Sensing of Land Cover Change in Tropical Watersheds Predicts Differences in Water Quality along Caribbean Coast of Costa Rica. Society for Freshwater Science Annual Meeting, Sacramento, California. May 24th, 2016.

*Wollman, K., **P. Kranzfelder**, and A.M. Anderson. Chironomidae (Insecta: Diptera) of San Salvador, Bahamas: A Search for New Species. South Dakota Academy of Science, Sioux Falls, South Dakota. April 8th, 2016.

*Wollman, K., **P. Kranzfelder**, and A.M. Anderson. 2016. Chironomidae (Insecta: Diptera) of San Salvador, Bahamas: A Search for New Species. 5th Annual Northern State University Undergraduate Scholarship and Activity Forum, Aberdeen, South Dakota. April 7th, 2016.

Kranzfelder, P., J.M. Corcoran, L.P. Rampi, J.F. Knight, L.C. Ferrington, Jr. Remote Sensing of Land Cover Change in Tropical Watersheds Predicts Differences in Water Quality along Caribbean Coast of Costa Rica. Doctoral Research Showcase, University of Minnesota, Minneapolis, MN. April 6th, 2016.

Kranzfelder, P. and L.C. Ferrington, Jr. Variability of Chironomidae (Insecta: Diptera) Emergence and Species Richness in a Neotropical Estuary. Joint Aquatic Sciences Annual Meeting, Portland, Oregon. May 20th, 2014.

Kranzfelder, P. and L.C. Ferrington, Jr. Identification Guide to Chironomidae Surface-Floating Pupal Exuviae in Tortuguero National Park, Costa Rica. Society for Freshwater Science Annual Meeting, Jacksonville, Florida. May 22nd, 2013.

*DeGuire, C.A., L.C. Ferrington, Jr., and **P. Kranzfelder**. From River to Sea: Relationship of Salinity Gradients on Aquatic Insect Community Composition in Neotropical Estuaries. Undergraduate Research Opportunity Program Symposium, University of Minnesota, Minneapolis, MN. April 20th, 2013.

Kranzfelder, P., R.W. Bouchard, and L.C. Ferrington, Jr. Survivorship and Longevity of *Diamesa Mendotae* (Diptera: Chironomidae) Buried in Snow Banks. North American Benthological Society and American Society of Limnology and Oceanography Annual Meeting, Santa Fe, New Mexico. June 8th, 2010.

Grants, Awards, and Fellowships

Morris and Elaine Soffer Rockstein Fellowship for Ph.D. students, 2016
Department of Entomology, University of Minnesota (\$2,000)

Doctoral Dissertation Fellowship Conference Presentation Grant, 2016
The Graduate School, University of Minnesota (\$875)

Doctoral Dissertation Fellowship, 2015-2016
The Graduate School, University of Minnesota (\$23,000 + tuition and health insurance)

Systematics Fund Award, 2015
Society for Freshwater Science (\$600)

Chiang Travel Grant, 2015

Department of Entomology, University of Minnesota (\$150)

Graduate School Summer Block Grant, 2015

Department of Entomology, University of Minnesota (\$6,200 + tuition and health insurance)

University of Minnesota-Norwegian University of Science and Technology Fulbright Exchange Program, 2014-2015

Norwegian University of Science and Technology (\$16,000)

Torske Klubben Graduate Fellowship, 2014-2015

The Graduate School, University of Minnesota (\$15,000 + tuition and health insurance)

Chiang Travel Grant, 2014, 2015

Department of Entomology, University of Minnesota (\$150)

Marion Brooks Wallace Graduate Fellowship, 2014

Department of Entomology, University of Minnesota (\$4,500)

Thesis Research Travel Grant, 2014

The Graduate School, University of Minnesota (\$1,550)

Conference Travel Grant, 2013, 2014

Council of Graduate Students, University of Minnesota (\$150)

Alexander and Lydia Anderson Fellowship, 2013

The Graduate School, University of Minnesota (\$3,000)

Scholarly Travel Grant, 2012, 2013, 2014

Graduate and Professional Student Assembly, University of Minnesota (\$200)

Graduate School Block Travel Grant, 2012, 2013, 2014

Department of Entomology, University of Minnesota (\$200)

Dayton-Wilkie Natural History Fund, 2012, 2013

Bell Museum of Natural History, University of Minnesota (\$1,500)

Master's, Professional, or Doctoral International Research Grant, 2012

Global Programs and Strategy Alliance, University of Minnesota (\$7,200)

Graduate School Summer Block Grant, 2011, 2012

Department of Entomology, University of Minnesota (\$6,200 + tuition and health insurance)

Dr. Alan G. Peterson Fellowship, 2011

Department of Entomology, University of Minnesota (\$1,000)

Leadership and Service

Member of the Long-Range Planning Committee, 2016-Present

Society for Freshwater Science, Northfield, MN

Collaborated with members of the Executive Committee to produce the next five-year (2019-2024) Strategic Plan for the Society for Freshwater Science.

Member of Meetings Code of Conduct Committee, 2015-Present

Society for Freshwater Science, Northfield, MN

Wrote and edited scientific society's annual meetings code of conduct statement, which states expectations for all meeting participants to provide a safe, productive, and welcoming environment for all at the annual meeting.

Reviewer, 2013-Present

Molecular Ecology Resources, Hydrobiologia, Revista de Biología Tropical, and Dugesiana

Undergraduate Presentation Judge, 2012-Present

Student Resources Committee, Society for Freshwater Science, Northfield, MN

Reviewed undergraduate oral and poster presentations at annual scientific meetings.

Communicated constructive feedback to presenters participating in student competition.

Laboratory Manager, 2011-Present

Chironomidae Research Group, University of Minnesota, Saint Paul, MN

Inventoried laboratory supplies, prepared ordering lists, and purchased supplies.

Website Manager, 2011-Present

Chironomidae Research Group, University of Minnesota, Saint Paul, MN

Conceptualized new website layout and managed the updates of all web pages

(<http://midge.cfans.umn.edu/>).

Instars Program Fellowship Reviewer, 2016

Society for Freshwater Science, Northfield, MN

Reviewed applications and selected 10 fellows to participate in mentoring program of undergraduate students from under-represented groups interested in freshwater science.

Student Representative to the Board of Directors, 2015-2016

Student Resources Committee, Society for Freshwater Science, Northfield, MN

Communicated the ideas and concerns of student members of the scientific society to the Board of Directors during quarterly conference calls. Collaborated with other members to propose the writing and approval of the society's diversity statement.

Contributing Writer to Evolution Blog, 2015

Museum of Natural History and Archaeology, Norwegian University of Science and Technology (NTNU), Trondheim, Norway

Authored post about DNA barcoding entitled, "[Is there DNA in Insect Skins?](#)"

Contributing Writer to *In the drift* Newsletter, 2015

Society for Freshwater Science, Northfield, MN

Summarized upcoming student-organized activities at annual scientific meeting in online biannual newsletter.

President of Student Resources Committee (SRC), 2014-2015

Society for Freshwater Science, Northfield, MN

Supervised nine subcommittees with 30 members in the organization of student-run activities (i.e. merchandise sales, field workshop, live auction, silent book auction, and undergraduate travel awards and presentation judging) for annual scientific meeting.

Expert Local Aquatic Entomologist, 2014

WCCO-TV/CBS, Minneapolis, MN

Informed Minnesotans about the reasons for yearly mass mayfly emergences during TV interview and online article: <http://minnesota.cbslocal.com/2014/07/21/large-mayfly-hatch-possible-cause-of-pierce-co-car-crash/>.

Science Educator for Saturday with a Scientist, 2014

Bell Museum of Natural History, University of Minnesota, Minneapolis, MN

Designed 3-hour interactive educational event with two other research groups. Explained insect survival during cold Minnesota winters to all ages' public audience.

Chair of Undergraduate Travel Awards Committee, 2012-2014

Student Resources Committee, Society for Freshwater Science, Northfield, MN

Organized graduate student committee that designed and reviewed applications for undergraduate travel awards and presentation judging.

Secretary of FRENATAE Graduate Student Club, 2009-2010

Department of Entomology, University of Minnesota, Saint Paul, MN

Recorded and summarized issues addressed for official meetings. Administered community-wide \$2,000 fundraiser to support graduate program activities, including invited guest speaker and graduate student luncheons.

Professional Development

Equity and Diversity Certificate Program Participant, 2015-2017

Office of Equity and Diversity, University of Minnesota, Minneapolis, MN

Trained in six workshops for 18-hours to develop tools for advancing equity and diversity in all aspects of personal and professional life.

Norwegian for Foreigners Course Participant, 2014

Department of Languages, Norwegian University of Science and Technology, Trondheim, Norway

Completed semester of beginner Norwegian language course that focused on basic grammar and use of everyday language in oral and written production.

Invited Workshop Participant, 2013

Latin American DNA Barcoding Applied to Aquatic Invertebrates Workshop

La Selva Biological Station, Organization for Tropical Studies, Puerto Viejo de Sarapiquí, Costa Rica

Researched basic understanding of DNA-based approaches for species identification with colleagues from Latin America during a 3-day workshop. Collected, curated, identified to genus, and submitted 98 unknown tropical chironomids for DNA barcoding.

Professional Memberships

Society for Freshwater Science (SFS), 2009-Present

Latin American Chapter of the Society for Freshwater Science, 2014-Present

Macrolatinos@ (Latin American Freshwater Macroinvertebrate Group), 2012-Present