

CURRICULUM VITAE

JASON H. KNOUFT

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CURRENT POSITIONS

- Associate Professor, Department of Biology, Saint Louis University
- Interim Director, Center for Sustainability, Saint Louis University

EDUCATION

- 2001 Ph.D. Biology, University of Illinois, Urbana-Champaign
Dissertation: Ecological and evolutionary patterns of body size in North American freshwater fishes
- 1996 M.S. Biology, Drexel University
*Thesis: Effects of urbanization and pollution on the home range and movements of Brown trout, *Salmo trutta*, in Valley Creek, Valley Forge, Pennsylvania*
- 1994 B.S. Biology, Drexel University

PROFESSIONAL EXPERIENCE

- 2016 - Interim Director, Center for Sustainability, Saint Louis University
- 2012 - Associate Professor, Department of Biology, Saint Louis University
- 2011 - 2015 Associate Director, Center for Environmental Sciences, Saint Louis University
- 2006 - Adjunct Assistant Professional Scientist, Illinois Natural History Survey
- 2006 - 2012 Assistant Professor, Department of Biology, Saint Louis University
- 2004 - 2006 Assistant Professor, Department of Ecology and Evolutionary Biology, University of Colorado, Boulder
- 2004 - 2006 Curator of Vertebrates, University of Colorado Museum
- 2003 Visiting Scholar, Museum of Vertebrate Zoology, University of California at Berkeley
- 2002 - 2004 NSF Postdoctoral Fellow in Biological Informatics, Department of Biology, Washington University in St. Louis. Advisor: Dr. Jonathan Losos
- 2001 - 2002 Postdoctoral Research Associate, Department of Biological Sciences, University of Notre Dame. Advisor: Dr. Gary Lamberti
- 1997 - 2001 Graduate Research Assistant, Illinois Natural History Survey, University of Illinois

RESEARCH INTERESTS

Impacts of global climate and land use changes on freshwater systems, sensitivity of biological and physical systems to environmental perturbation, freshwater ecology, watershed hydrology, Geographic Information Systems (GIS), ecohydrology of urban watersheds, conservation of freshwater systems, biogeography, spatial ecology, ichthyology, species distribution modeling

PUBLICATIONS

Journal Articles

- Knouft, J. H.** and Ficklin, D. L. The potential impacts of climate change on biodiversity in flowing freshwater systems. *Annual Review of Ecology, Evolution, and Systematics*. (Proposal accepted by editorial board, manuscript scheduled for November, 2017 publication).
- Michel M. J., Chien, H., Beachum, C. E., Bennett, M., and **Knouft, J. H.** *Submitted with revisions*. Climate change, hydrology, and fish morphology: predictions using phenotype-environment associations. *Climatic Change*.
- Niu, S. Q. and **Knouft, J. H.** *In press*. Hydrologic characteristics, food resource abundance, and spatial variation in stream assemblages. *Ecohydrology*.
- Schönhuth, S., Beachum, C. E., **Knouft, J. H.**, and Mayden, R. L. *In press*. Phylogenetic relationships of the widely distributed minnow *Pimephales notatus* (Cyprinidae) in North America. *Zootaxa*.
- Knouft, J. H.** and Anthony, M. A. 2016. Climate and local abundance in freshwater fishes. *Royal Society Open Science* 3:160093.
- Ficklin, D. L., Robeson, S. M., and **Knouft, J. H.** 2016. Impacts of recent climate change on trends in baseflow and stormflow in United States watersheds. *Geophysical Research Letters* 43, 5079-5088.
- Beachum, C. E., Michel, M. J., and **Knouft, J. H.** 2016. Differential responses of body shape to local and reach scale stream flow in two freshwater fish species. *Ecology of Freshwater Fish* 25:446–454.
- Knouft, J. H.** and Chu, M. L. 2015. Integrating landscape-scale hydrological models with urban expansion scenarios to predict the impacts of urbanization-induced flow alterations on freshwater fish assemblages. *Ecohydrology* 8:273-285.
- Ficklin, D. L., Barnhart, B. L., **Knouft, J. H.**, Stewart, I. T., Maurer, E. P., Letsinger, S. L., and Whittaker, G. W. 2014. Climate change and stream temperature projections in the Columbia River basin: biological implications of spatial variation in hydrologic drivers. *Hydrology and Earth System Sciences* 18:4897-4912.
- Michel, M. J., Chevin, L-M., and **Knouft, J. H.** 2014. Evolution of phenotype-environment associations by genetic responses to selection and phenotypic plasticity in a temporally autocorrelated environment. *Evolution* 68:1374-1384.
- Chu, M. L., Ghulam, A., **Knouft, J. H.**, and Pan, Z. 2014. Exploring the trends and shifts in rainfall and runoff patterns: a case study of the Meramec and Gasconade watersheds. *Journal of the American Water Resources Association* 50:928-942.

- Michel, M. J. and **Knouft, J. H.** 2014. The effects of environmental change on the spatial and environmental determinants of community-level traits. *Landscape Ecology* 29:467-477.
- Chien, H., Yeh, P. J., and **Knouft J. H.** 2013. Modeling the potential impacts of climate change on streamflow in agricultural watersheds of the Midwestern United States. *Journal of Hydrology* 491:73-88.
- Chu, M. L., **Knouft, J. H.**, Ghulam, A., Pan, Z., and Guzman, J. 2013. Impacts of urbanization on river flow frequency: A controlled experimental modeling-based evaluation approach. *Journal of Hydrology* 495:1-12.
- Niu, S. Q., Franczyk, M., and **Knouft, J. H.** 2012. Regional species richness, hydrological characteristics and the local species richness of assemblages of North American stream fishes. *Freshwater Biology* 57:2367–2377.
- Michel, M. J. and **Knouft J. H.** 2012. Niche variability and its consequences for species distribution modeling. *PLoS ONE* 7:e44932.
- Trumbo, D. R., Burgett, A. A., Hopkins, R. L., Biro, E. G., Chase, J. M., and **Knouft, J. H.** 2012. Integrating local breeding pond, landcover, and climate factors in predicting amphibian distributions. *Landscape Ecology* 27:1183–1196.
- Tiemann, J. S., Taylor, C. A., and **Knouft, J. H.** 2012. Conservation review of the Longnose Dace *Rhinichthys cataractae* (Valenciennes) in northwestern Illinois. *Transactions of the Illinois Academy of Science* 105:57-64.
- Knouft, J. H.** and Page, L. M. 2011. Climate, elevation, stream channel diversity, and geographic clines in species richness of North American freshwater fishes. *Journal of Biogeography* 38:2259–2269.
- Trumbo, D. R., Burgett, A. A., and **Knouft, J. H.** 2011. Testing climate-based species distribution models with recent field surveys of pond-breeding amphibians in eastern Missouri. *Canadian Journal of Zoology* 89:1074–1083.
- Knouft, J. H.**, Caruso, N. M., Dupre, P. J., Anderson, K. A., Trumbo, D. R., and Puccinelli, J. 2011. Using fine-scale GIS data to assess the relationship between intra-annual environmental niche variability and population density in a local stream fish assemblage. *Methods in Ecology and Evolution* 2:303-311.
- Luxbacher, A. M. and **Knouft, J. H.** 2009. Assessing concurrent patterns of environmental niche and morphological evolution among species of Horned Lizards (*Phrynosoma*). *Journal of Evolutionary Biology* 22:1669-1678.
- Mitchell, A. L. and **Knouft, J. H.** 2009. Non-native fishes and native species diversity in freshwater fish assemblages across the United States. *Biological Invasions* 11:1441-1450.

- Albert, J. S., Johnson, D. M., and **Knouft, J. H.** 2009. Fossils provide better estimates of ancestral body size than do extant taxa in fishes. *Acta Zoologica* 90(Supp1):308-335.
- Knouft, J. H.** 2009. Defense against pathogens and predators during the evolution of parental care in fishes. In: *Fish defenses: pathogens, parasites, and predators*. Eds. G. Zaccane, M. J. Manning, C. J. Secombes and B.G. Kapoor. Science Publishers.
- Johnson, J. R., **Knouft, J. H.**, and Semlitsch, R. D. 2007. Sex and seasonal differences in the spatial terrestrial distribution of gray treefrog (*Hyla versicolor*) populations. *Biological Conservation* 140:250-258.
- Knouft, J. H.**, Losos, J. B., Glor, R. E., and Kolbe J. J. 2006. Phylogenetic analysis of the evolution of the niche in lizards of the *Anolis sagrei* group. *Ecology* 87:S29-S38.
- Langerhans, R. B., **Knouft, J. H.**, and Losos, J. B. 2006. Shared and unique features of evolutionary diversification in Greater Antillean *Anolis* ecomorphs. *Evolution* 60:362-369.
- Taylor, C. A. and **Knouft, J. H.** 2006. Historical influences on genital morphology among sympatric crayfishes: systematics and gonopod evolution in the genus *Orconectes* (Cambaridae). *Biological Journal of the Linnean Society* 89:1-12.
- Calsbeek, R., **Knouft, J. H.**, and Smith, T. B. 2006. Variation in scale numbers is consistent with ecologically based natural selection acting within and between lizard species. *Evolutionary Ecology* 20: 377-394.
- Miller, A. J., and **Knouft, J. H.** 2006. GIS-based characterization of the ecological niches of wild and cultivated populations of the Mesoamerican fruit tree, *Spondias purpurea* (Anacardiaceae). *American Journal of Botany* 93:1757-1767.
- Brinkerhoff, R. J., Markeson, A. B., **Knouft, J. H.**, Gage, K. L., and Montenieri, J. A. 2006. Abundance patterns of two *Oropsylla* (Ceratophyllidae: Siphonaptera) species on black-tailed prairie dog (*Cynomys ludovicianus*) hosts. *Journal of Vector Ecology* 31:355-363.
- Knouft, J. H.** 2004. Latitudinal variation in the shape of the species body size distribution: an analysis using freshwater fishes. *Oecologia* 139:408-417.
- Knouft, J. H.** and Page, L. M. 2004. Nest defense against predators by the male Fringed Darter (*Etheostoma crossopterum*). *Copeia* 2004:915-918.
- Knouft, J. H.** and Page, L. M. 2003. The evolution of body size in extant groups of North American freshwater fishes: speciation, size distributions, and Cope's rule. *The American Naturalist* 161:413-421.
- Knouft, J. H.** 2003. Convergence, divergence, and the effect of congeners on body size ratios in stream fishes. *Evolution* 57:2374-2382.

Knouft, J. H., Page, L. M., and Plewa, M. J. 2003. Antimicrobial egg cleaning by the fringed darter (Perciformes: Percidae: *Etheostoma crossopterus*): implications of a novel component of parental care in fishes. Proceedings of the Royal Society of London: Biological Sciences 270:2405-2411.

Knouft, J. H. 2002. Regional analysis of body size and population density in stream fish assemblages: testing predictions of the energetic equivalence rule. Canadian Journal of Fisheries and Aquatic Sciences 59:1350-1360.

Knouft, J. H. and Spotila, J. R. 2002. Assessment of movements of resident stream brown trout (*Salmo trutta*) among contiguous sections of stream. Ecology of Freshwater Fish 11:85-92.

Hardman, M., Page, L. M., Sabaj, M. H., Armbruster, J. W., and **Knouft, J. H.** 2002. A comparison of fish surveys made in 1908 and 1998 of the Potaro, Essequibo, Demerara, and coastal river drainages of Guyana. Ichthyological Explorations of Freshwater 13:225-238.

Taylor, C. A., **Knouft, J. H.**, and Hiland, T. 2001. Consequences of stream impoundment on fish communities in a small North American drainage. Regulated Rivers: Research and Management 17:687-698.

Page, L. M. and **Knouft, J. H.** 2000. Variation in egg-mimic size in the Guardian Darter, *Etheostoma oophylax* (Percidae). Copeia 2000:782-785.

Armbruster, J. W., Sabaj, M. H., Hardman, M., Page, L. M., and **Knouft, J. H.** 2000. The catfish genus *Corymbophanes* (Loricariidae: Hypostominae) with description of one new species: *Corymbophanes kaiei*. Copeia 2000:997-1006.

Book Reviews

Knouft, J. H. 2012. *Inland Fisheries Management in North America, 3rd Edition* - W.A. Hubert and M.C. Quist, eds. [Book Review]. Quarterly Review of Biology 87:168-169.

Knouft, J. H. and Page, L. M. 1999. *Collection Building in Ichthyology and Herpetology* - T.W. Pietsch and W.D. Anderson, Jr., eds. [Book Review]. Collection Forum 13:93-94.

EXTERNAL FUNDING

Current external funding

2016 - 20 HydroClim: Empowering aquatic research in North America with data from high-resolution streamflow and water temperature GIS modeling. National Science Foundation, \$1,630,619 (PI with D. Ficklin, Indiana University and H. Bart, Tulane University)

2016 - 20 Non-market value of watershed management enhancements: An integration of hydro-ecologic and economic assessments. USDA, \$499,534. (Co-PI with M. Chu (PI) and A. Ando (Co-PI), University of Illinois)

2016 - 2018 Predicting impacts of land use and climate change on the hydrology and aquatic habitat in the Meramec River Basin. The Nature Conservancy. \$199,981. (PI with Wasit Wulamu (Co-PI), SLU and Maria Chu (Co-PI), University of Illinois)

- 2016 - 17 Evaluation of brining as a chloride best management practice in the St. Louis Region. Environmental Protection Agency Urban Waters Program. \$58,793. (PI)
- 2015 - 19 Integrating climate data with hydrologic and ecological niche models to predict impacts of climate change for threatened and endangered species in the Mobile River Basin. U.S. Army Corps of Engineers, \$272,314. (with D. Ficklin, Indiana University and D. Hall, Saint Louis University)

Past external funding

- 2014 - 15 Dissertation Research: Accounting for spatial autocorrelation in species distribution models using a Bayesian framework: consequences for predictions across space and time. National Science Foundation, \$19,621. (with Melissa Anthony (Co-PI))
- 2013 - 15 Dissertation Research: Hydrological characteristics, trophic interactions, and fish assemblage structure in temperate stream systems. (PI) National Science Foundation, \$19,419. (with Sophia Niu (Co-PI))
- 2009 - 14 CAREER: Development of GIS applications for the study of aquatic biodiversity: assessing environmental factors regulating fish assemblages across multiple scales. (PI) National Science Foundation Career Award, \$584,951.
- 2009 - 12 Combining climate model predictions, hydrological modeling, and ecological niche modeling algorithms to predict the impacts of climate change on aquatic biodiversity. (PI) Environmental Protection Agency, Science To Achieve Results (STAR) - Consequences of Global Change for Water Quality program. \$246,149.
- 2008 - 11 Assessing and reducing the threat of flood disasters and ecosystem destruction along the Missouri and Mississippi Rivers using satellite data, flow measurements and climate models. Kemper-Stupp Foundation, \$250,000. (Co-PI with T. Kusky (PI), W. Dannevik, Z. Pan, A. Ghulam (Co-PIs))
- 2008 - Status, distribution, and resource requirements of the Longnose Dace in Illinois. Illinois Department of Natural Resources, \$6,464 (with C. Taylor and J. Tiemann).
- 2005 - 06 Island-Net (Phase I): a web accessible database for the integration and study of global taxonomic and environmental data on islands. (PI) National Science Foundation, \$50,000.
- 2002 - 05 Role of large woody debris in restoring stream ecosystem function in managed U.S. forests. USDA - NRI, \$375,000. (Co-PD with J. L. Tank (PD) and G. A. Lamberti)
- 2002 - 04 Macroecological patterns in a model taxonomic group: integration of ecological, phylogenetic, and historical data from Caribbean *Anolis* lizards. Postdoctoral Fellowship in Biological Informatics, National Science Foundation, \$100,000.
- 2000 - 01 Factors influencing evolutionary and ecological patterns of body size in North American freshwater fishes. Doctoral Dissertation Improvement Grant, National Science Foundation, \$5,439.
- 1998 Fishes of the Essequibo River, Guyana, 90 years after Eigenmann's expedition. National Geographic Society, \$24,650. (with L. M. Page, M. H. Sabaj, and J. W. Armbruster)
- 1994 The effects of urbanization and pollution on the home range and movements of brown trout, (*Salmo trutta*), in Valley Creek, Valley Forge, Pennsylvania. Trout Unlimited, \$2,000.

INTERNAL FUNDING

- 2011 - 13 Impacts of climate and land use changes on flooding in urbanized human and natural systems. Saint Louis University STEM-Plus Award, \$117,271. (PI with J. Ganning, A. Ghulam, and Z. Pan (Co-PIs)).
- 2010 - 11 Climate and local adaptation to temperature and flow regimes in the Bluntnose Minnow. President's Research Fund, Saint Louis University. \$24,165.
- 2010 - 11 Assessing the impact of climate on freshwater fish: relationships between annual temperature, stream flow, and species traits in the Johnny Darter (*Etheostoma nigrum*). Beaumont Award, Saint Louis University. \$4,983.
- 2005 - Chemical adaptations in fishes during freshwater invasions: an evolutionary perspective. University of Colorado Junior Faculty Development Award, \$5,000.
- 2000 Local community patterns in body size of North American stream fishes. University of Illinois Graduate College Dissertation Travel Grant, \$4,888; Clark Research Grant, University of Illinois, \$981.

TEACHING EXPERIENCE

Lecturer

Saint Louis University

2016 Python for GIS

2015 Programming in R for Ecology (graduate)

2015 Evolutionary Biology (undergraduate)

2006 - 2016 (annually) GIS in Biology (undergraduate and graduate)

2012, 2015 Advanced Ecology (graduate)

2011, 2013 Biogeography (undergraduate and graduate)

2011, 2012, 2013 Intermediate GIS (undergraduate and graduate)

2008, 2009, 2010 Principles of Biology II (undergraduate)

2009 Current Topics in Ecology and Evolution (graduate)

University of Colorado

2005 Biogeography (graduate)

2005 Evolution, Science, and Society (graduate)

University of Notre Dame

2002 Ecology in the 21st Century: Crisis and Challenge (undergraduate)

POSTDOCTORAL RESEARCHERS SUPERVISED

Dr. Nima Ehsani, 2016 – current

Dr. Laura Catano, 2015 – 2016

Dr. Maria Librada Chu, 2012 – 2014

Dr. Huicheng Chien, 2010 – 2013

Dr. Matt Michel, 2009 – 2013

GRADUATE STUDENTS SUPERVISED

Danelle Haake, 2015 - current, Ph.D., Department of Biology, Saint Louis University

Kara Andres, 2015 - current, M.S., Department of Biology, Saint Louis University

Kevin Krause, 2015 - current, M.S., Department of Biology, Saint Louis University

Melissa Anthony, 2011 – current, Ph.D., Integrative and Applied Sciences, Saint Louis Univ.

Sophia Niu, 2010 - 2015, Ph.D., Department of Biology, Saint Louis University

Sean Hartling, 2011 – current, Ph.D., Integrative and Applied Sciences, Saint Louis Univ.
Collin Beachum, 2009 - 2014, Ph.D., Department of Biology, Saint Louis University
Daryl Trumbo, 2007 - 2009, M.S., Department of Biology, Saint Louis University
Amy Schneider, 2005 - 2007, M.S., Ecology and Evolutionary Biology, Univ. of Colorado
Alison Mitchell, 2005 - 2007, M.S., Ecology and Evolutionary Biology, Univ. of Colorado

UNDERGRADUATE RESEARCH ASSISTANTS SUPERVISED

Suraj Arshanapally, Chris Brozyna, Nicholas Caruso, Patrick Dupré, Stephanie Durkacz,
Michael Franczyk, Thea Hongdoxmai, Summer Issa, Amanda Johnson, John Kelly, Paul Le,
Shoeb Mohiuddin, Jean Puccinelli, Katie Richter, Kyle Ross, Ryan Turnquist, Sam Vohsen,
Stephen Wang, Dan Wilke

WORKSHOPS ORGANIZED

2013 GIS Applications in Aquatic Ecology and Evolutionary Biology, Saint Louis University
(June 12-14)
2012 GIS Applications in Aquatic Ecology and Evolutionary Biology, Saint Louis University
(June 20-22)
2011 GIS Applications in Aquatic Ecology and Evolutionary Biology, Saint Louis University
(June 22-24 and August 17-19)
2010 GIS Applications in Aquatic Ecology and Evolutionary Biology, Saint Louis University
(June 16-18 and August 11-13)
2007 GIS Applications in Ecology and Evolutionary Biology. Washington University in St.
Louis
2000 American Fisheries Society Meeting, Illinois Chapter, Mt. Vernon, Illinois
“Identification and Ecology of Species of Illinois Darters and Madtoms”
1999 North American Native Fishes Association Annual Meeting, Champaign, Illinois
“Identification of North American Freshwater Fishes”

INVITED REVIEW PANELS

2014 NSF Cyber SEES Panel
2012 NSF Advances in Biological Informatics Panel
2012 NSF Software Infrastructure for Sustained Innovation Panel
2010 NSF Population and Community Ecology Panel
2009 NSF Population and Community Ecology Panel/Ecosystem Studies Joint CAREER
Award Proposal Review Panel
2009 NSF Dissertation Improvement Grant Proposal Review Panel
2008 NSF Cyber-Enabled Discovery and Innovation Pre-proposal Review Panel
2008 NSF Cyber-Enabled Discovery and Innovation Full Proposal Review Panel

GRANT PROPOSAL REVIEWS

National Science Foundation, National Climate Center, U.S. Civilian Research and
Development Foundation, United States-Israel Binational Science Foundation, United States
Geological Survey, American Philosophical Society

MANUSCRIPT REVIEWS

African Journal of Environmental Science and Technology, American Midland Naturalist, American Naturalist, Aquatic Ecology, Aquatic Invasions, Austral Ecology, Australian Journal of Zoology, Behavioral Ecology, Biodiversity and Conservation, Biological Invasions, Biology Letters, Canadian Journal of Fisheries and Aquatic, Sciences, Conservation Biology, Copeia, Ecography, Ecological Applications, Ecological Modeling, Ecological Monographs, Ecology, Ecology Letters, Ecology of Freshwater Fish, Evolution, Freshwater Biology, Functional Ecology, Global Change Biology Bioenergy, Global Ecology and Biogeography, Journal of Animal Ecology, Journal of Biogeography, Journal of Fish Biology, Journal of Hydrology, Journal of Tropical Ecology, Journal of Water and Climate Change, Molecular Phylogenetics and Evolution, Nature Education, Oecologia, Oikos, Physiological and Biochemical Zoology, Proceedings of the National Academy of Sciences, Proceedings of the Royal Society of London, B, Proteomics, Philosophical Transactions of the Royal Society of London, Systematics and Biodiversity, Trends in Ecology and Evolution, Water Resources Research

AWARDS

2013 Finalist for College of Arts and Sciences Excellence in Graduate Mentoring Award
2009 National Science Foundation Career Award
2009 Grantwinner Award for Excellence in Research, Saint Louis University
2004 Invited member of NSF-sponsored Ecological Informatics Training Workshop - Science Environment for Ecological Knowledge (SEEK). January, Albuquerque, New Mexico.
2003 Visiting Scholar, University of California at Berkeley, Museum of Vertebrate Zoology
2002 National Science Foundation Postdoctoral Fellowship in Biological Informatics
1999 Ranked as excellent (top 10%) by students among teaching assistants at the University of Illinois. Ichthyology.

SERVICE

2015 – 16 Interim Director, Center for Sustainability
2014 – 15 Associate Director, Center for Environmental Sciences; Advisory Board, Center for Sustainability
2013 – 14 Associate Director, Center for Environmental Sciences; Advisory Board, Center for Sustainability
2012 – 13 Associate Director, Center for Environmental Sciences; Faculty Search Committee (Chair), Center for Sustainability; Ad hoc Research Misconduct Inquiry Committee
2011 – 12 Associate Director, Center for Environmental Sciences; Animal Care IACUC Committee; College of Arts and Sciences Nominations Committee; Ecology, Evolution, and Systematics Section (Chair); Reis Biological Station Committee
2010 – 11 Animal Care IACUC Committee; College of Arts and Sciences Nominations Committee; Ecology, Evolution, and Systematics Section (Chair); Reis Biological Station Committee
2009 – 10 Ecology, Evolution, and Systematics Section (Chair); Departmental Financial Advisory Committee; Reis Biological Station Committee; Department of Biology Faculty Search Committee
2008 – 09 Ecology, Evolution, and Systematics Section (Chair); Departmental Financial Advisory Committee; Reis Biological Station Committee

- 2007 – 08 Graduate Committee; Departmental Financial Advisory Committee; Reis Biological Station Committee
- 2007 Organization committee member for 2007 Annual Meeting of the American Society of Ichthyologists and Herpetologists in St. Louis
- 2006 – 07 Graduate Committee; Reis Biological Station Committee
- 2005 – 06 Departmental Executive Committee; Graduate Committee; Annual Merit Evaluation Committee; Curriculum Committee
- 2004 – 05 Museum Project Committee; Museum Collections Committee; Annual Report and Technology Committee; Zoology Collection Manager Search (Co-Chair)

INVITED PRESENTATIONS

- 2015 Rensselaer Polytechnic Institute, University of Florida, Southern Illinois University – Edwardsville, Lindenwood University
- 2014 University of Florida, Washington University in St. Louis (2)
- 2013 Florida Museum of Natural History, University of Minnesota-Duluth, Missouri University of Science and Technology, American Geophysical Union Fall Meeting
- 2012 University of Toronto, Southern Illinois University (Edwardsville), Southwestern Illinois College, University of Illinois (Urbana-Champaign), Ball State University, Missouri State University
- 2011 Arkansas State University
- 2010 Missouri University of Science and Technology
- 2008 Meeting of the Society for the Study of Evolution (member of symposium)
- 2007 National Science Foundation, New York Botanical Garden, Meeting of the Association for Tropical Biology and Conservation (member of symposium)
- 2006 Purdue University, Saint Louis University, University of Wisconsin, Eau-Claire, Washington University in St. Louis, University of Missouri-St. Louis, Lindenwood University
- 2004 University of Manitoba, University of Colorado, Fordham University
- 2003 Queens College
- 2002 University of Kansas, Grand Valley State University
- 2001 Murray State University

PRESENTATIONS AT PROFESSIONAL MEETINGS

- 2015 • Annual Meeting of the American Fisheries Society. Kansas City, Missouri. (1 invited oral presentation)
- 2015 • Annual Meeting of the Ecological Society of America. Baltimore, Maryland. (1 oral presentation)
 - Meeting of the American Geophysical Union. San Francisco, California. (Chair of organized session, 1 poster presentation)
- 2014 • Sixth International Symposium on GIS and Spatial Analyses in Fishery and Aquatic Sciences. Tampa, Florida. (1 oral presentation)
 - Society of Freshwater Science Annual Meeting. Portland, Oregon. (1 oral presentation)
 - Missouri Natural Resources Conference. Osage Beach, Missouri. (1 oral presentation)
 - Meeting of the American Geophysical Union. San Francisco, California. (Chair of organized session, 2 poster presentation)

- 2013 • Annual Meeting of the Ecological Society of America. Minneapolis, Minnesota. (4 oral presentations)
 • Meeting of the American Geophysical Union. San Francisco, California. (1 oral presentation, 1 poster presentation)
- 2012 • Annual Meeting of the Society for Freshwater Science. Louisville, Kentucky. (1 poster presentation)
 • Society for Mathematical Biology Annual Meeting. Knoxville, Tennessee (1 oral presentation, 1 poster presentation)
 • Meeting of the American Geophysical Union. San Francisco, California. (1 oral presentation, 1 poster presentation)
 • Annual Meeting of the American Fisheries Society. Minneapolis, Minnesota. (1 oral presentation)
 • Annual Meeting of the Botanical Society of America. Columbus, Ohio. (1 oral presentation)
- 2011 • Meeting of the American Society of Ichthyologists and Herpetologists. Minneapolis, Minnesota. (2 oral presentations)
 • Annual Meeting of the Ecological Society of America. Austin, Texas. (2 oral presentations)
 • Meeting of the American Geophysical Union. San Francisco, California. (1 poster presentation)
 • EPA Annual STAR Project Meeting, Washington, DC. (1 oral presentation)
- 2010 • Meeting of the American Society of Ichthyologists and Herpetologists. Providence, Rhode Island. (3 oral presentations)
 • Meeting of the American Geophysical Union. San Francisco, California. (1 poster presentation)
- 2009 • American Fisheries Society Meeting. Nashville, Tennessee. (1 oral presentation)
 • Meeting of the American Society of Ichthyologists and Herpetologists. Portland, Oregon. (1 oral presentation)
- 2008 • Meeting of the Society for the Study of Evolution, the Society of Systematic Biologists, and the American Society of Naturalists. Minneapolis, Minnesota. (1 oral presentation)
 • Meeting of the American Society of Ichthyologists and Herpetologists. Montreal, Canada. (1 oral presentation, 1 poster presentation)
 • Flood Forum: Finding the balance between floods, flood protection, and river navigation. St. Louis, Missouri. (1 oral presentation)
- 2007 • Meeting of the Association for Tropical Biology and Conservation. Morelia, Mexico. (2 oral presentations)
 • Meeting of the American Society of Ichthyologists and Herpetologists. St. Louis, Missouri. (2 oral presentations)
 • Midwest Ecology and Evolution Conference. Kent, Ohio. (1 poster presentation)
- 2006 • Meeting of the American Society of Ichthyologists and Herpetologists. Tampa, Florida. (2 oral presentations)
- 2005 • Joint Meeting of the Society for the Study of Evolution, the Society of Systematic Biologists, and the American Society of Naturalists. Fairbanks, Alaska. (1 oral presentation)

- 2004 • Meeting of the American Society of Ichthyologists and Herpetologists. Norman, Oklahoma. (2 oral presentations)
- 15th Symposium of the International Association of Astacology. London, England. (1 oral presentation)
- 2003 • Greater Everglades Ecosystem Restoration Conference. Tampa, Florida. (1 oral presentation)
- Joint Meeting of the Society for the Study of Evolution, the Society of Systematic Biologists, and the American Society of Naturalists. Chico, California. (1 oral presentation)
- 2002 • Meeting of the North American Benthological Society. Pittsburgh, Pennsylvania. (1 oral presentation)
- Meeting of the American Society of Ichthyologists and Herpetologists. Kansas City, Missouri. (1 oral presentation)
- 2001 • Meeting of the North American Benthological Society. La Crosse, Wisconsin. (1 oral presentation)
- Joint Meeting of the Society for the Study of Evolution, the Society of Systematic Biologists, and the American Society of Naturalists. Knoxville, Tennessee. (1 oral presentation)
- 2000 • Ethology and Evolutionary Ecology of Fishes and Darterfest. Athens, Georgia. (2 oral presentations)
- Meeting of the American Society of Ichthyologists and Herpetologists. La Paz, Mexico. (1 oral presentation)
- 1999 • Joint Meeting of the Society for the Study of Evolution, the Society of Systematic Biologists, and the American Society of Naturalists. Madison, Wisconsin. (1 oral presentation)