

Curriculum vitae of

Joseph Ross Milanovich

Assistant Professor
Loyola University Chicago
Department of Biology
1032 West Sheridan Road
Chicago, IL 60660
Tel: 773.508.3635
E-mail: jmilanovich@luc.edu
Web: milanovichlab@weebly.com
Twitter: @amplexus_lab

EDUCATION

- 2006 - 2010 Ph.D. Wildlife Ecology and Management Program, Daniel B. Warnell School of Forestry and Natural Resources, University of Georgia, Athens, GA
Adviser: Dr. John C. Maerz
- 2010 Interdisciplinary Certificate in University Teaching, University of Georgia
- 2004 - 2006 M.S. Biology. Department of Biological Sciences, Arkansas State University, State University, AR.
Adviser: Dr. Stanley E. Trauth
- 1998 - 2002 B.A. Biology and Environmental Science, Adrian College, Adrian, MI

PROFESSIONAL AND ACADEMIC APPOINTMENTS

- 2013 - present **Assistant Professor**. Department of Biology, Loyola University Chicago, Chicago, IL
- 2015 – present **Collection Center Associate**, The Field Museum, Chicago, IL
- 2010 - 2013 **National Research Council Postdoctoral Associate**, National Risk Management Research Laboratory, Sustainable Environments Branch, United States Environmental Protection Agency, Cincinnati, OH
Adviser: Dr. Matt Hopton
- 2012 **Adjunct Assistant Professor**, Department of Biology, Northern Kentucky University, Highland Heights, KY
- 2011 - 2013 **Adjunct Assistant Professor**, Department of Biology, University of Cincinnati Blue Ash College, Blue Ash, OH

INSTRUCTIONAL ACTIVITY

Loyola University Chicago

Ecology; BIOL 265.

Human Impacts on the Environment: How to Write a Scientific Paper; BIOL 395.

Introduction to Research; BIOL 296.

Undergraduate Research; BIOL 396.
Individual Study; BIOL 399.
Biology Teaching Practicum (Field Studies); BIOL 511.

Other universities

Northern Kentucky University

Understanding the Living World; BIOL 120.

University of Cincinnati Blue Ash College

Environmental Science I, II, and III; ENVS 111

Environmental Studies I; ENVS 113

MENTORSHIP

2016. Recipient of the Mary Therese Langerbeck Award for Undergraduate Research Mentoring. Loyola University Chicago.

Postdoctoral researchers

Leigh Anne Harden, Ph.D. 2014-2015. *Utilizing hematology to examine the physiological health of Ornate Box Turtles (Terrapene ornata) and Blanding's Turtles (Emydoidea blandingii) in northern Illinois.* Currently at Benedictine University.

Graduate students

Armand Cann. Current. MS Student. Thesis title: *Behavioral and physiological ecology of augmented juvenile Blanding's Turtles.*

Brock Struecker. 2014-2016. MS Student. Thesis title: *Predicting the consequences of climate change on pond breeding salamander ecology in the Midwest.* Currently at United States Geological Survey.

Undergraduate students

Isabelle Lentini. 2017-present. Project title: *Survey of Biodiversity on Golf Course Ecosystems.* Funded by Loyola University Biology Summers and Mulcahy Fellowships, and USGA.

Sarah Crites. 2015-present. Project title: *Ecological role of Red-backed Salamanders in forest ecosystems.* Funded by National Great Rivers Research and Education Center and the Loyola University Mulcahy Fellowship, and USGA.

Andrés Muñoz. 2016-2018. Project title: *Ecology of Blanding's Turtles in Northern Illinois.* Funded by Loyola University Provost Summer and Mulcahy Fellowships, and USGA.

Daniella Derose. 2015-2017. Project title: *Effects of litter quality on post-metamorphic anurans.* Funded by Loyola University Provost Summer and Mulcahy Fellowships. Currently at Chicago Botanical Gardens.

Bonita McKinley. 2014-2016. Project title: *Reproductive mode and phylogeny predict peritoneal pigmentation in North American snakes*. (Co-authored by Alan Resetar, The Field Museum). Funded by Loyola University Provost Summer and Mulcahy Fellowships. Currently a Data Assistant at Northwestern Memorial Hospital.

Nojan Rastegar. 2014-2016. *Examining the consequence of hydrology and plant invasion on the morphology of larval amphibians*. Funded by Loyola University Chicago Biology Summers Fellowship. Currently in a M.S. of Public Health program at St. Louis University.

Jennifer Fernandez. 2014-2016. *Physiological health assessment of endangered Blanding's Turtles in captive-rearing programs across Northern Illinois*. Funded by Loyola University Chicago Provost Summer and Mulcahy Fellowships. Recently completed a MAMS program at Rush University.

Milica Radanovic. 2013-2016. Project title: *An ecological trap? When provided a choice tadpoles choose nutrition despite toxicity*. Funded by Loyola University Chicago Biology Research Fellowship. Currently in a Ph.D. program at Washington State University.

Emily Gerber. 2014-2015. Project title: *Investigating the Synergistic Effects of Plant Invasion and Climate Change on Anurans*. Funded by National Great Rivers Research and Education Center Summer Internship Program. Currently at Southern Illinois University School of Dental Medicine.

Stanislaw Warcholek. 2013-2015. Project title: *Quantifying the Hibernacula of Ornate Box Turtles (*Terrapene ornata*) in North-central Illinois*. Funded by Loyola University Chicago Provost Summer and Mulcahy Fellowships. Currently at Kansas State University College of Veterinary Medicine.

RESEARCH INTEREST

Herpetofauna health and physiology
Influence of global change on communities
Importance of species to aquatic and terrestrial ecosystem processes
Herpetofauna role in nutrient retention and recycling
Consumer-resource stoichiometry
Stable isotope ecology
General zoology; natural and life history of biota; primarily herpetofauna

PUBLICATIONS

Peer-reviewed Journals (indicates graduate student author' +undergraduate student author)*

Harden, L.A., J. Fernandez+, **J.R. Milanovich**, B.P. Struecker*, S.R. Midway. In press. Blood biochemical reference intervals for wild ornate box turtles (*Terrapene ornata*) during the active season. *Journal of Wildlife Diseases*.

- *Struecker, B.P. and **J.R. Milanovich**. 2017. Predicted suitable habitat declines for Midwestern United States amphibians under future climate and land-use change scenarios. *Herpetological Conservation and Biology* 12:635-654.
- Milanovich, J.R.**, B.P. Struecker*, S.A. Warcholek+, and L.A. Harden. 2017. Thermal environment and microhabitat of ornate box turtle hibernacula. *Wildlife Biology* doi: 10.2981/wlb.00295
- Barrett, K., J.A. Crawford, Z. Reinstein+, and **J.R. Milanovich**. 2017. Detritus quality produces species-specific tadpole growth and survivorship responses in experimental wetlands. *Journal of Herpetology* 51:227-231.
- +Radanovic, M., **J.R. Milanovich**, K. Barrett, and J.A. Crawford. 2017. Stable isotopes reveal an invasive plant contributes more than native sources to anuran larvae diets. *Journal of Freshwater Ecology* DOI: 10.1080/02705060.2017.1295885.
- Milanovich, J.R.**, J.A. Crawford, and K. Barrett. 2016. Detritus quality and locality determines survival and mass, but not export, of wood frogs at metamorphosis. *PLoS ONE* 11:e0166296.
- Milanovich, J.R.** and W.E. Peterman. 2016. Revisiting Burton and Likens (1975): Nutrient standing stock and biomass of a terrestrial salamander in the Midwestern United States. *Copeia* 104:165-171.
- Milanovich, J.R.**, and M.E. Hopton. 2016. Stoichiometry of excreta and excretion rates of a stream-dwelling plethodontid salamander. *Copeia* 104:26-34.
- Milanovich, J.R.**, D.J. Hocking, W.E. Peterman, and J.A. Crawford. 2015. Effective use of trails for assessing terrestrial salamander abundance and detection: a case study at Great Smoky Mountains National Park. *Natural Areas Journal* 35:590-598.
- Milanovich, J.R.**, J.C. Maerz, and A.D. Rosemond. 2015. Stoichiometry and estimate of nutrient standing stock of larval salamanders within Appalachian headwater streams. *Freshwater Biology* doi:10.1111/fwb.12572.
- Milanovich, J.R.**, and M.E. Hopton. 2014. Stoichiometry of a semi-aquatic plethodontid salamander – intraspecific variation due to location, size, and diet. *Integrative Zoology* 9:613-622.
- Milanovich, J.R.**, A. Berland., and M.E. Hopton. 2014. Influence of catchment land cover on stoichiometry and stable isotope compositions of basal resources and macroinvertebrate consumers in headwater streams. *Journal of Freshwater Ecology* 29:565-578.
- Milanovich, J.R.**, and J.C. Maerz. 2013. Realistic fasting does not affect stable isotope levels of a metabolically efficient salamander. *Journal of Herpetology* 47: 544-548.

- Milanovich, J.R.**, W.E. Peterman, K. Barrett, and M.E. Hopton. 2012. Do species distribution models predict species richness in urban and natural green space? A case study using amphibians. *Landscape and Urban Planning* 107:409-418.
- Milanovich, J.R.**, and J.C. Maerz. 2012. Assessing the use of non-lethal tail clips for measuring stable isotopes of plethodontid salamanders. *Herpetological Conservation and Biology* 7:67-74.
- Milanovich, J.R.**, S.E. Trauth, and D. Saugey. 2011. Reproduction and age composition of a population of woodland salamanders (*Plethodon albagula*) after a prescribed burn in southwestern Arkansas. *Southwestern Naturalist* 56:172-179.
- [†]Burke, J., J.C. Maerz, **J.R. Milanovich**, M.C. Fisk, and K.J.K. Gandhi. 2011. Invasion by exotic earthworms alters litter- and soil-dwelling microarthropod (Acari: Oribatida) communities in a northern hardwood forest. *Diversity* 3:155-175.
- Milanovich, J.R.**, W.E. Peterman, N. Nibbelink, J.C. Maerz. 2010. Projected loss of a salamander diversity hotspot as a consequence to global climate change. *PLoS ONE* 5: e12189. doi:10.1371/journal.pone.0012189
- Davis, A.K., and **J.R. Milanovich**. 2010. Lead-phase and red-stripe color morphs of red-backed salamanders (*Plethodon cinereus*) differ in hematological stress indices: A consequence of differential predation pressure? *Current Zoology* 56:238-243.
- Davis, A.K., J.L. DeVore, **J.R. Milanovich**, K. Cecala, J.C. Maerz, and M.J. Yabsley. 2009. New findings from an old pathogen: intraerythrocytic bacteria (Family Anaplasmatacea) in red-backed salamanders *Plethodon cinereus*. *Ecohealth* 6:219-228.
- Camp, C.D., W.E. Peterman, **J.R. Milanovich**, T. Lamb, J.C. Maerz and D.B. Wake. 2009. A new genus and species of lungless salamander (family Plethodontidae) from the Appalachian highlands of the southeastern United States. *Journal of Zoology* 279:86-94.
- Davis, A.K., **J.R. Milanovich**, J. DeVore, J.C. Maerz. 2009. An investigation of factors influencing erythrocyte morphology of red-backed salamanders (*Plethodon cinereus*). *Animal Biology* 59: 201-209.
- Milanovich, J.R.**, S.E. Trauth., and T. McKay. 2008. Diet of the western slimy salamander (*Plethodon albagula*) from two mountain ranges in Arkansas. *Southeastern Naturalist* 7:323-330.
- Milanovich, J.R.**, S.E. Trauth., D.A. Saugey, and *R.A. Jordan. 2006. Fecundity, reproductive ecology, and influence of precipitation on clutch size in the western slimy salamander (*Plethodon albagula*). *Herpetologica* 62: 292-301.

Shorter contributions

- Vanni, M. et al. (46th/75th author). 2017. A global database of nitrogen and phosphorus excretion rates of aquatic animals. *Ecology* 98:1475.

Camp, C.D., T. Lamb, and **J.R. Milanovich**. 2012. *Urspelerpes brucei*. Catalogue of American Amphibians and Reptiles 885.1 - 885.3.

Milanovich, J.R., S.E. Trauth, and D.A. Saugey. 2007. *Plethodon albagula* (Western Slimy Salamander). Brooding defense behavior and oophagy. Herpetological Review 38: 67.

Milanovich, J.R., S.E. Trauth., and *M.N. Mary. 2005. *Diadophis punctatus sticktogenys* (Mississippi Ringneck Snake). Diet. Herpetological Review 36: 323-324

Milanovich, J.R. and S.E. Trauth. 2005. *Plethodon albagula* (Western Slimy Salamander). Vocalization. Herpetological Review 36:295-296.

Milanovich, J.R., et al. (15 authors). 2005. *Sonora semiannulata* (Ground Snake). Geographic distribution and range extension. Herpetological Review 36: 340.

AUTHORED PEER-REVIEWED GRANTS RECEIVED

Pending federal budget approval. \$78,125. Peterman, W.E., J.A. Crawford, D.J. Hocking, and **J.R. Milanovich**. *Effects of Wildfire on Salamander Populations in Great Smoky Mountains National Park*. FY 2019 Servicewide Comprehensive Call (SCC) Natural Resources Guidance - Great Smoky Mountains National Park

2018. **Milanovich, J.R.** \$7,000. *Long-term impacts of pesticide and nutrient additions on amphibians* – Office of the Provost, Loyola University Chicago

2017. **Milanovich, J.R.** \$5,000. *Physiology and ecology of salamanders inhabiting inland saline environments in the pothole region of Canada* – Department of Research Services, Loyola University Chicago

2017-2019. \$82,100. **Milanovich, J.R.** and M.E. Berg. *Examining the response of golf course lentic ecosystems to insecticide and nutrient additions using survey and experimental approaches* – United States Golf Association Turfgrass and Environmental Research Committee

2017. \$5,000. Hocking, D.J., J.A. Crawford, W.E. Peterman, **J.R. Milanovich**. 2017. *Short-term Effects of Wildfire on Salamander Populations in Great Smoky Mountains National Park*. Carlos C. Campbell Memorial Fellowship – Great Smoky Mountains Conservation Association.

2017. **Milanovich, J.R.** \$5,500. *Examining the legacy effects of captive-rearing on Blanding's Turtles (*Emydoidea blandingii*)* – National Great Rivers Research and Education Center Summer Internship Program

2017. Crawford, J.A., D.J. Hocking, W.E. Peterman, **J.R. Milanovich**. \$1,124. *Short-term Effects of Wildfire on Salamander Populations in Great Smoky Mountains National Park*. 2016. Appalachian Highlands Science Learning Center Grant – Great Smoky Mountains National Park

Milanovich, J.R. \$5,500. *Examining the nutrient storage and recycling roles of a terrestrial salamander in two forest ecosystems* – National Great Rivers Research and Education Center Summer Internship Program

2016. **Milanovich, J.R.** \$4,765. *Investigating legacy effects from captive-rearing on a North America endangered turtle* – Department of Research Services, Loyola University Chicago

2015. **Milanovich, J.R.** \$7,000. *Carryover effects of invasive plants on amphibian fitness* – Office of the Provost, Loyola University Chicago

2015. **Milanovich, J.R.** \$5,000. *Investigating the synergistic effects of plant invasion and climate change on anurans* – National Great Rivers Research and Education Center Summer Internship Program

2014. **Milanovich, J.R.** \$10,000. *Demography, stress, and diet of the Ornate Box Turtle (*Terrapene ornata*) in the sand hills of Will County, Illinois* – Illinois Department of Natural Resources Wildlife Preservation Fund

2014. **Milanovich, J.R.** *Survey of the Ornate Box Turtle (*Terrapene ornata*) in the sand hills of Will County, Illinois* – Illinois Department of Natural Resources

2012. \$15,000. Crawford, J.A., **J.R. Milanovich**, W.E. Peterman, and D. Hocking. *Climate change effects on elevational distributions of plethodontid salamanders in the Great Smoky Mountains National Park* – National Geographic WAITT Grant

2008. **Milanovich, J.R.** \$1,500. *Importance of larval plethodontid salamanders to stream ecosystems*. Theodore Roosevelt Memorial Grant – American Museum of Natural History

2008. \$900. *Experimentally testing the consequence of a decline in plethodontid salamanders in Southern Appalachian streams* – N.C. Herpetological Society

PROFESSIONAL PRESENTATIONS

Paper (First-authored only)

2017. Annual Meeting of the Society for Freshwater Science, Raleigh, NC (four student led; one PI led)

2016. Special Highlands Conference on Plethodontid Salamander Biology. Highlands, NC.

2016. 2016 Joint Meeting of Ichthyologists and Herpetologists, New Orleans, LA. (one student led; one PI led)

2015. Annual Meeting of the Society for Freshwater Science, Milwaukee, WI (one student led; one PI led)

2014. 2014 Joint Meeting of Ichthyologists and Herpetologists, Chattanooga, TN

2014. 6th Conference on the Biology of Plethodontid Salamanders, Tulsa, OK

2013. Annual Meeting of the Society for Freshwater Science, Jacksonville, FL

2012. Annual Meeting of the Society for Freshwater Science, Louisville, KY

2011. 96th Ecological Society of American Annual Meeting, Austin, TX

2010. Southeastern Partners in Amphibian and Reptile Conservation, Camp Ocala, FL
2010. D.B. Warnell School of Forestry and Natural Resources Graduate Student Symposium, Athens, GA. *Award winner
2009. 94th Ecological Society of America Annual Meeting, Albuquerque, NM
2009. 7th Southern Forestry and Natural Resource Management GIS Conference. Athens, GA. *Award winner
2009. Coweeta Hydrological Laboratory LTER Annual Meeting, Otto, NC
2009. D.B. Warnell School of Forestry and Natural Resources Graduate Student Symposium, Athens, GA.
2008. 22nd Global Meeting of the Society for Conservation Biology, Chattanooga, TN.
2008. D.B. Warnell School of Forestry and Natural Resources Graduate Student Symposium, Athens, GA. *Award winner
2006. 90th Annual Meeting of the Arkansas Academy of Science, Batesville, AR. *Award winner
2005. 32nd Meeting of Kansas Herpetological Society, Pittsburg, KS.
2005. Joint Meeting of Ichthyologist and Herpetologist, Tampa, FL.

Poster

- 2017 2017 Annual Meeting of the Society for Freshwater Science, Raleigh, NC (Student-led)
- 2016 2016 Joint Meeting of Ichthyologists and Herpetologists, New Orleans, LA (Student-led)
- 2014 2014 Joint Meeting of Ichthyologists and Herpetologists, Chattanooga, TN (Student-led)
2014. 2014 Joint Meeting of Ichthyologists and Herpetologists, Chattanooga, TN (Student-led)
2012. 60th Annual Meeting of Entomological Society of America, Knoxville, TN (Student-led)
2009. Fall Orientation for Teaching and Graduate Assistants, University of Georgia, Athens, GA
2009. Long-term Ecological Research Site All Scientist Meeting, Estes Park, CO.
2009. Southeastern Partners in Amphibian and Reptile Conservation Meeting, Athens, GA.
2007. Southeastern Partners in Amphibian and Reptile Conservation Annual Meeting, Chattanooga, TN.
2005. Annual Meeting of the Arkansas Academy of Science, Conway, AR.

Invited seminars to learned forums

- Milanovich, J.R.** 2017. Chicago Wilderness, Chicago, IL
- Milanovich, J.R.** 2015. Chicago Wilderness, Bartlett, IL
- Milanovich, J.R.** 2015. Eastern Illinois University, Charleston, IL
- Milanovich, J.R.** 2015. Northern Illinois University, DeKalb, IL
- Milanovich, J.R.** 2014. University of Wisconsin, Madison, Madison, WI
- Milanovich, J.R.** 2013. The Field Museum of Natural History, Chicago, IL.
- Milanovich, J.R.** 2012. U.S. Environmental Protection Agency, National Exposure Research Laboratory, Ecological Exposure Research Division, Cincinnati, OH.
- Milanovich, J.R.** 2011. Department of Biology, Wright State University, Dayton, OH.
- Milanovich, J.R.** 2011. U.S. Environmental Protection Agency, National Risk Management Research Laboratory, Sustainable Environments Branch, Cincinnati, OH.
- Milanovich, J.R.**, 2010. Department of Biological Sciences, Eastern Kentucky University, Richmond, KY.

Invited public seminars

- Milanovich, J.R.** 2015. “Amphibians and global change: what do we stand to lose?” Invited seminar for Friends of Nature Preserves of Cook County, Blue Island, IL.
- Milanovich, J.R.** 2014. “Amphibians and global change: what do we stand to lose?” Invited seminar for Chicago Herpetological Society, Chicago, IL.
- Milanovich, J.R.** 2009. “Introducing the Patch-nosed Salamander.” Invited seminar for Sandy Creek Nature Center, Athens, GA.
- Milanovich, J.R.** 2009. “Introducing the Patch-nosed Salamander.” Invited seminar for University of Georgia Herpetological Society, Athens, GA.
- Milanovich, J.R.** 2009. “Amphibian Conservation: What is all the croak about?” Invited seminar for University of Georgia Herpetological Society, Athens, GA.

ADDITIONAL PROFESSIONAL EXPERIENCE

- 2006 – 2010 **Graduate Research Assistant**, University of Georgia, Athens, GA.
- 2004 – 2006 **Graduate Research Assistant**, Arkansas State University, State University, AR
- 2003 – 2004 **Wildlife Biologist**, Wildlife Plus Consulting, Alto, NM
- 2002 **Environmental Education Instructor**, Camp McDowell Environmental Center, Nauvoo, AL
- 2002 **Wildlife Biologist**, Turnstone Environmental Consultants, Portland, OR
- 2001 **Student Conservation Association Biological Technician**, Mount Rainier National Park, Ashford, WA
- 2000 **Student Conservation Association Biological Technician**, Cape Cod National Seashore, Wellfleet, MA

ADDITIONAL SCHOLARY AND SERVICE ACTIVITIES

Peer-reviewer: American Midland Naturalist, Animal Conservation, Collaboration for Environmental Evidence, Conservation Biology, Copeia, Freshwater Biology, Forests, Global Change Biology, Global Ecology and Biogeography, Herpetological Conservation and Biology, Hydrobiologia, Inland Waters, Journal of Applied Meteorology and Climatology, Journal of Fish and Wildlife Management, Journal of Herpetology, Knowledge and Management of Aquatic Ecosystems, Landscape and Urban Planning, Northeastern Naturalist, Oecologia, PLoS ONE, Southeastern Naturalist, Transactions of Illinois State Academy of Science, and Wetlands.

Board of Editors: Northeastern Naturalist

Associate Editor: Herpetological Conservation and Biology

Session Moderator: Land use and non-point source effects on streams session, 2012 Annual Meeting of the Society for Freshwater Science, Louisville, KY.

PROFESSIONAL SOCIETY MEMBERSHIPS

Ecological Society of America
Society for the Study of Amphibians and Reptiles
American Society for Ichthyologists and Herpetologists
The Herpetologists' League
Society for Freshwater Science
Association for Zoos and Aquariums

RESEARCH FEATURED IN

2017. Research on Blanding's turtle augmentation profiled in Daily Herald and NCTV17/
2015. Research on ornate box turtle ecology profiled in Herald News.
2009. Research on discovery of new salamander genus and species profiled in *National Geographic* (online), *BBC News* (online), *Smithsonian Magazine*, *Atlanta Journal Constitution*, *Athens Banner Herald*, *Georgia Backroads* and *UGA Magazine*
2008. Research on salamander breeding ecology profiled in "Life in Cold Blood," British Broadcasting Channel TV series.