Julia M. York

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Education

2022 • Ph.D. Ecology, Evolution, and Behavior • University of Texas at Austin • Advisor: Harold Zakon
2016 • M.Sc. Zoology • University of British Columbia • Advisor: Bill Milsom
2015 • B.Sc. Biology • University of British Columbia

Appointments

2023 • Postdoctoral fellow • University of Illinois Urbana-Champaign • Advisor: Chris Cheng
2023 • Postdoctoral fellow • University of Texas at Austin • Advisor: Harold Zakon

Peer-reviewed publications

*indicates equal contribution

17) In prep • York, J.M., LaPotin, S., Taylor, T., and Mueller, U.G. • **Molecular mechanisms of temperature detection in the Texas leaf cutter ant (*Atta texana*)**

16) Submitted • York, J.M. • **Functional characterization of temperature activated ion channels from Antarctic fishes** • *Open Biology*

15) 2023 • York, J.M., Borghese, C.M., George, A.*, Cannatella, D.C.*, and Zakon, H.H.* • **A potential cost of evolving epibatidine resistance in poison frogs** • *BMC Biology*

14) 2022 • York, J.M. and Zakon, H.H. • **Evolution of transient receptor potential (TRP) ion channels in Antarctic fishes (Cryonotothenioidea) and identification of putative thermosensors** • *Genome Biology and Evolution*

13) 2020 • Wallace, K.J.* and York, J.M.* • **A systems change framework for evaluating academic equity and inclusion in an ecology & evolution graduate program**• *Ecology & Evolution*
• CNS News: Researchers use framework to address inequity in academia

12) 2020 • Bakkeren, C., Smith, E., York, J.M., Chua, B., McCracken, K.G., and Milsom, W.K. • **A morphometric analysis of the lungs of high-altitude ducks and geese** • *Journal of Anatomy*

11) 2020 • Lague, S.L., Ivy, C.M., York, J.M., Chua, B.A., Alza, L., Cheek, R., Dawson, N.J., Frappell, P.B., Farrell, A.P., McCracken, K.G., Scott, G.R., and Milsom, W.K. • **Cardiovascular responses to progressive hypoxia in ducks native to high altitude in the Andes** • *Journal of Experimental Biology*

10) 2019 • Meir, J.U., York, J.M., Chua, B., Jardine, W., Hawkes, L.A., and Milsom, W.K. • **Reduced metabolism and increased O_2 pulse enable hypoxic flight in the bar-headed goose *Anser indicus*** • *eLife*
• New York Times: These high-flying geese are “the astronauts of the bird world”
• The Times of London: Geese above Everest are no flight of fancy

9) 2019 • Ivy, C.M., Lague, S.L., York, J.M., Chua, B.A., Alza, L., Cheek, R., Dawson, N.J., Frappell, P.B., McCracken, K.G., Milsom, W.K., and Scott, G.R. • **Control of breathing and respiratory gas exchange in high-altitude ducks native to the Andes** • *Journal of Experimental Biology*

8) 2018 • Swapna, I., Ghezzi, A., York, J.M., Markham, M.R., Lu Y., Halling, D.B., Gallant, J.R., and Zakon, H. • **Electrostatic tuning of a potassium channel in electric fish** • *Current Biology*

7) 2018 • *Ivy, C.M., *York, J.M., Lague, S.L., Chua, B.A., Alza, L., McCracken, K.G., Milsom, W.K., and Scott, G.R. • **Validation of a pulse oximetry system for high-altitude waterfowl by examining the hypoxia responses of the Andean goose (*Chloephaga melanoptera*)** • *Physiological and Biochemical Zoology*

6) 2018 • York, J.M., Scadeng, M., McCracken, K.G., and Milsom, W.K. • **Respiratory mechanics and morphology of Tibetan and Andean high-altitude geese with divergent life history** • *Journal of Experimental Biology*
• Shortlisted for the JEB Outstanding Paper Prize of 2018

5) 2017 • Maina, J.N., McCracken, K.G., Chua, B., York, J.M., and Milsom, W.K. • **Morphological and morphometric specializations of the lung of the Andean goose, *Chloephaga melanoptera*: a lifelong high altitude resident** • *PLoS One*

4) 2017 • York, J.M., Chua, B.A., Ivy, C.M., Alza, L., Cheek, R., Scott, G.R., McCracken, K.G., Frappell, P.B., Dawson, N.J., Lague, S.L., and Milsom, W.K. • **Respiratory mechanics of eleven avian species resident at high and low altitude** • *Journal of Experimental Biology*

3) 2016 • Dawson, N.J., Ivy, C.M., Alza, L., Cheek, R., York, J.M., Chua, B., Milsom, W.K., McCracken, K.G., and Scott, G.R. • **Mitochondrial physiology in the skeletal and cardiac muscles is altered in torrent ducks, *Merganetta armata*, from high altitudes in the Andes** • *Journal of Experimental Biology*

2) 2015 • *Dzal, Y.A., *Jenkin, S.E.M., *Lague, S.L., *Reichert, M.N., *York, J.M., and Pamenter, M.E. • **Oxygen in demand: how oxygen has shaped vertebrate physiology** • *Comparative Biochemistry and Physiology Part A*

1) 2014 • *Oliveira, M.B., *Liedholm, S.E., *Lochte, A.A., *Lopez, J.E., *Pazio, M., *Martin, J.P., *Mörch, P.R., *Salakka, S., *York, J.M., *Yoshimoto, A., and Janssen, R. • **Expression of arthropod distal limb-patterning genes in the onychophoran *Euperipatoides kanangrensis*** • *Development Genes and Evolution*

Awards and fellowships

2023 • Office of Polar Programs Postdoctoral Research Fellowship, National Science Foundation
2023 • Fulbright Scholar Award, Fulbright Commission, Universidad Austral de Chile
2023 • XII SCAR Biology Symposium Travel Award, National Science Foundation
2022 • Biological Adaptations to Environmental Change in Antarctica Training Grant Early Career Award, National Science Foundation
2021 • College of Natural Sciences Continuing Fellowship, UT Austin
2020 • Stengl-Wyer Graduate Fellowship, UT Austin
Press coverage: College of Natural Sciences News: Seven emerging scientific leaders among recipients of Stengl-Wyer research support
2020 • Department of Integrative Biology Research Award, UT Austin
2019 • Ecolab grant, UT Austin Department of Integrative Biology
2018 • Zoology Scholarship Endowment for Excellence, Integrative Biology Joint Graduate Program

2017 • College of Natural Sciences Recruitment Fellowship, UT Austin
2016 • Faculty of Science Graduate Award, UBC Faculty of Graduate Studies
2015 • International Undergraduate Research Award**,** UBC Department of Zoology
2015 • Novo Nordisk Foundation Travel Award**,** Comparative and Evolutionary Physiology Section, American Physiological Society
2014 • Excellence in Undergraduate Research Award, David S. Bruce Awards, American Physiological Society
2014 • Undergraduate Research Excellence Fellowship**,** American Physiological Society
2014 • Hesse Undergraduate Ornithology Research Award, UBC Biodiversity Research Center
2014 • International Undergraduate Research Award, Work Learn Program, UBC Department of Zoology

Alternate publications

2018 • Ellis, L. and Brown, S. • **How a Department Took On the Next Frontier in the #MeToo Movement** • *Chronicle of Higher Education*
2018 • York, J.M. • **Creationism helped push climate skepticism into classrooms** • *MassiveScience*
2017 • York, J.M. • **Alaska's oilfield has been subtly changing the state's environment for decades. Will Congress notice?** • *MassiveScience*
2017 • York, J.M. • **Congressional Visits Day**, Parts 1 and 2 • *Austin Science Advocates*
2017 • York, J.M. and Jonas, J • **Alaskans rethinking arctic refuge drilling** • *Fairbanks Daily News Miner*
2016 • York, J.M. • **Respiratory mechanics of high altitude waterfowl** • *University of British Columbia cIRcle thesis collection*

Journal reviewer

Journal of Experimental Biology, Comparative Biochemistry and Physiology, Part B
Co-reviewer: *Science*, *PNAS, eLife, Proceedings of the Royal Society B*

Public engagement

2021 • Speaker • Why birds are (figuratively) cooler than you • Science Under the Stars
2020 • Speaker • Long-View Micro School • Bar-headed geese
2019 • Wired Interview • Why these geese wear tiny backpacks and fly in a wind tunnel
2018 • Speaker • UT Forum Seminar • Physiology of high flying ducks and geese
2018 • Speaker • AAAS Science Storytellers
2018 • Speaker • AAAS Classroom Science Days • Pease Elementary School science class
2017-2022 • Co-president and media coordinator • Science Under the Stars, University of Texas at Austin public lecture series • scienceunderthestars.org
2017 • Participant • Congressional Visits Day • American Institute for Biological Sciences
2017 • Testified for the Texas State Board of Education on science curriculum standards
2016-2019 • Organizing member, author, and media coordinator • Austin Science Advocates, austinscienceadvocates.wordpress.com

Professional development

2021 • Polar Evolutionary Genomics Workshop, University of Florida
2020 • Concentration in Leadership and Project Management • McCombs School of Business, UT Austin
2020 • Inclusive Teaching and Learning Symposium • Faculty Innovation Center, UT Austin
2019 • Inclusive Classrooms Leadership Certificate • Division of Diversity and Community Engagement, UT Austin
2019 • Functional R • RNASeq • TagSeq • Bioinformatics summer school, UT Austin
2018 • Communications boot camp for scientists, American Institute of Biological Sciences

2018 • Concentration in science communication, UT Austin
2018 • Science communication certification, MassiveScience
2018 • Science engagement workshop, UT Austin
2018 • Data Visualization course, Edward Tufte
2011 • Rodent husbandry, anesthesia, and surgery certification, UBC

Coding skills and languages

Unix/BASH, Python, R, html

Teaching experience

2018 • Guest lecturer • Evolutionary neurobiology, UT Austin
2018 • Guest lecturer • High altitude biology and medicine, University of Miami
2018 • Inclusive Classrooms Leadership Certificate for Excellence in Teaching • Division of Diversity and Community Engagement, UT Austin
2017-2019 • Volunteer • Inspiring Connections Outdoors, Sierra Club Austin
2017-2018 • Teaching assistant • Courses: Evolutionary neurobiology, Genetics
2009-2010 • English teacher • Escuela Básica Adrián Jara • Luque, Paraguay

Selected recent conference presentations and seminars

2023 • Talk • **Thermosensor proteins in Antarctic notothenioid fishes** • XII SCAR Biology Symposium
2023 • Talk • **Temperature sensors in Antarctic fishes** • 2nd US Antarctic Science Meeting
2023 • Poster • **Texas leafcutter ant antennal transcriptomes and patterns of expression along a thermal transect** • Society for Integrative and Comparative Biology
2021 • Talk • **Uncovering molecular mechanisms of thermosensation in Antarctic fishes** • 1st US Antarctic Science Meeting
2021 • Talk • **Uncovering molecular mechanisms of thermosensation in Antarctic fishes** • Association for Polar Early Career Scientists International Online Meeting
2021 • Zoominar • **Thermosensation in Antarctic fishes** • Brain, Behavior, and Evolution seminar, UT Austin
2020 • Zoominar • **TRP channel evolution in Antarctic notothenioids** • Ion Channel Group Bioelectricity Zoominar series, UT Austin
2020 • Zoominar • **Temperature sensation in the Texas leaf-cutter ant** • Brain, Behavior, and Evolution seminar series, UT Austin
2020 • Poster • **Identifying potential molecular thermosensors in Antarctic notothenioid fishes** • Society for Comparative and Integrative Biology Conference, Austin, TX
2019 • Seminar • **TRP channels in notothenioid fishes** • Brain, Behavior, and Evolution seminar, UT Austin
2018 • Poster • **TRP channels in notothenioid fishes** • American Physiological Society meeting, New Orleans
2018 • Poster • **Tetramerization and sequence evolution of potassium channels of weakly electric fishes** • Society for Integrative and Comparative Biology meeting, San Francisco, CA
2017 • Seminar • **TRP channels and aquaporins in icefish** • Brain, Behavior, and Evolution seminar, UT Austin
2016 • Seminar • **Respiratory mechanics of high-altitude waterfowl** • Brain, Behavior, and Evolution seminar, UT Austin
2016 • Talk • **Pulmonary mechanics and morphometrics comparing five high-altitude duck species and six low-altitude sister species** • Canadian Society of Zoologists meeting, London, ON
2015 • Talk • **Pulmonary mechanics and air sac morphology of the bar-headed goose (*Anser indicus*)** • Canadian Society of Zoologists meeting • Calgary, AB
2015 • Poster • **Pulmonary mechanics of high-altitude waterfowl** • Zoology Graduate Student Society symposium • Vancouver, BC