

ROBERT L. NIESE, PH.D.

"Happy are those whose lot it is to know the secrets of the Earth" - Euripides

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English, Español

ABOUT

Master naturalist, author, artist, birder, nerd - Robert is a passionate STEM educator and scientist who thrives whenever he has the opportunity to share his enthusiasm with others. His pedagogical practices in college classrooms are informed by professional training utilizing evidence-based techniques, anti-racist and inclusive curriculum design, and student-centered instruction. As a scientist, his research philosophy integrates practical, undergraduate-focused field experiences with a meaningful utilization of natural history specimens.

EDUCATION

Ph.D. (2019) University of Montana, Organismal Biology, Ecology, and Evolution

B.S. (2011) University of Puget Sound, Biology

PROFESSIONAL POSITIONS:

POST-SECONDARY INSTRUCTION

Visiting Assistant Professor, Pacific University (2021-2022)

Senior Instructor, CIEE Global Institute, Monteverde, Costa Rica (2019-2020)

Adjunct Instructor, University of Montana (2016)

Lab Instructor, University of Montana (2019)

TEACHING ASSISTANTSHIPS

Lab Assistant, University of Montana (2013-2017)

Head Teaching Assistant, University of Montana (2014-2019)

Teaching Assistant, University of Montana (2013-2015)

Teaching Assistant, University of Puget Sound (2010-2012)

MUSEUM CURATION, NATURAL HISTORY EDUCATION

Teaching Coordinator, Trackers Earth, Portland, Oregon (2022-present)

Interim Director, Philip L. Wright Zoological Museum, University of Montana (2016)

Education and Outreach Specialist, Slater Museum of Natural History (2012-2013)

Guest Naturalist and Educator, Annie Wright Schools (2012)

Education and Outreach Coordinator, AmeriCorps, Slater Museum of Natural History (2011-2012)

CONSULTING, DBA NORTHWEST NATURALIST

Independent Research Consultant, The W Group, Inc. (2018-2019)

Research and Forensics Consultant, Montana Fish, Wildlife, and Parks (2016)

SCIENTIFIC TECHNICIAN

Field Technician, Institute for Bird Populations, National Parks Service, Port Angeles, WA (2011)

Environmental and Industrial Hygienics Laboratory Technician, EnviroSurvey, Inc. (2009)

PUBLICATIONS:

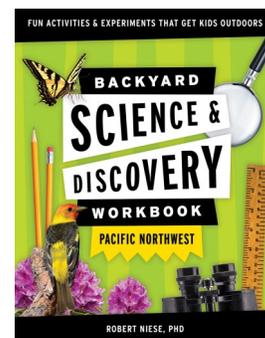
Niese, R.L. 2021. *Backyard Science & Discovery Workbook: Pacific Northwest*. Adventure Publications, Cambridge, MN.

Niese, R.L. 2021. Bioacoustics: Characterizing the hum of hovering animals. eLife: Insight. 10:e68072. DOI: 10.7554/eLife.68072

Niese, R.L., C.J. Clark, and B.W. Tobalske. 2020. Specialized feathers produce sonations during flight in *Columbina* ground doves. *Integrative and Comparative Biology*. 60, 5:1160-1172.

Niese, R.L. 2019. Why the Weird Wings? Ph.D. Dissertation, University of Montana.

Niese, R. L. and B. W. Tobalske. 2016. Specialized primary feathers produce tonal sounds during flight in rock pigeons (*Columba livia*). *J. of Experimental Biology*. 219:2173-81.



GRANTS AND AWARDS

Toelle-Bekken Exploratory Research Grant, University of Montana (2017)
Drollinger-Dial Research Grant, University of Montana (2017)
Drollinger-Dial Research Grant, University of Montana (2016)
Tahoma Audubon Society Distinguished Service Award: Slater Museum of Natural History (2014)
Phi Sigma Award for Best Research Symposium Presentation, University of Puget Sound (2011)
University of Puget Sound Leadership Award (2011)
Summer Science Research Grant, University of Puget Sound (2010)
Havana Bradner Memorial Scholarship for the Sciences, University of Puget Sound (2010)
Gordon Dell Alcorn Scholarship for the Sciences, University of Puget Sound (2010)
William McCullough Scholarship for Biology and Chemistry, University of Puget Sound (2009)

SYMPOSIA AND INVITED SPEAKING EVENTS

Unique feather sounds in New World ground doves are sonations. Organismal Biology and Ecology Seminar Series, University of Montana, Missoula, MT (2018)
Columbina ground doves produce sonations via unique feathers and a percussive aeroelastic flutter phenomenon. International Ornithological Congress, Vancouver, BC, Canada (2018)
Testing the aerodynamic and aeroacoustic function of unique dove feathers. Organismal Biology and Ecology Seminar Series, University of Montana, Missoula, MT (2018)
Novel feather songs in New World ground doves: Exploring odd feather shapes and wing sounds in the Neotropical pigeon genus, *Columbina*. Organismal Biology and Ecology Seminar Series, U. of Montana, Missoula, MT. (2017)
Wing Sounds as Sonations of Alarm: Exploring the evolution of signals that are intrinsically linked to movement. Organismal Biology and Ecology Seminar Series, U. of Montana, Missoula, MT. (2016)
Specialized primary feathers in rock pigeons (*Columba livia*) produce tonal sounds during take-off. Society for Integrative and Comparative Biology 56(1). P1.37 (2016)
"Instrumental Music" - Whistling wings and chirping tails: An introduction to non-vocal feather-songs. Five Valleys Audubon Society (Invited Speaker), Missoula, MT. (2015)
Communicating with Wings: The evolution and mechanics of feather sounds in pigeons and doves. Organismal Biology and Ecology Seminar Series, University of Montana, Missoula, MT. (2014)
Darwin's Instrumental Music: Whistling wings and chirping tails, an introduction to non-vocal feather songs. Behavior and Evolution (Invited Lecturer), University of Montana, Missoula, MT. (2013)
Darwin's Instrumental Music: Whistling wings and chirping tails, an introduction to non-vocal feather songs. Pilchuck Audubon Society Annual Membership Meeting (Invited Speaker), Everett, WA. (2013)
Communicating with Wings: Wing sounds in Rock Pigeons (*Columba livia*). Phi Sigma Research Symposium, University of Puget Sound, Tacoma, WA. (2011)
Communicating with Wings: Non-vocal wing-sounds in male and female rock pigeons (*Columba livia*). Student Research Symposium, U. of Puget Sound, Tacoma, WA. (2010)
Non-vocal alarm sounds produced by the wings of Inca doves (*Columbina inca*). Symposium on Tropical Ecology and Conservation, Escuela de los Amigos, Monteverde, Costa Rica. (2010)

PROFESSIONAL ACTIVITIES, SOCIETIES, AND AFFILIATIONS

Research and Outreach Affiliate, Philip L. Wright Zoological Museum (2013-2019)
Volunteer Master Naturalist, Missoula Butterfly House and Insectarium (2015-2017)
Grand Judge, Biology Chair (Division II), Montana State Science Fair (2016)
Grand Judge, Environmental Chair (Division II), Montana State Science Fair (2014)
Volunteer Judge, Middle School Science Fairs, Tacoma Public Schools (2012-2013)
Volunteer Master Naturalist, Puget Sound Outdoors (2011-2013)
Volunteer Master Birder, Tahoma Audubon Society (2011-2013)
Phi Sigma Biological Sciences Honors Society (2010-2011)
Volunteer Docent, Slater Museum of Natural History (2010-2011)
Co-Editor-in-Chief, Elements Science Magazine, University of Puget Sound (2010-2011)
Publicity Manager, Elements Science Magazine, University of Puget Sound (2009-2011)
Co-President, BGLAD, a club promoting LGBTQ diversity, University of Puget Sound (2009-2010)

COMMUNITY ACTION, OUTREACH, AND EXHIBITIONS

Volunteer Scientist, WildFest in the Classroom, International Wildlife Film Festival, Missoula, MT (2019)
Volunteer Educator, Wings over Water Program, Montana Natural History Center, Missoula, MT (2017-2019)
Volunteer Educator, We are Montana in the Classroom, University of Montana (2017-2019)
Volunteer Educator, Summer Youth Programs, Montana Natural History Center, Missoula, MT (2017-2018)
Volunteer Educator, TRIO-Upward Bound, USDE, University of Montana (2015-2019)
Volunteer Educator, SpectrUM Children's Science Museum, University of Montana (2013-2016)
Coordinator, "A Celebration of Art and Science" exhibit and open house, Slater Museum of Natural History, University of Puget Sound, Tacoma, WA (2013)
Exhibitor, Seattle Science Festival EXPO, Pacific Science Center, Seattle, WA (2013)
Instructor/Coordinator, "Nature in the Classroom: Utilizing natural history specimens to teach 4th and 5th grade science," teacher training session, Tacoma, WA (2013)
Coordinator, "It's Wild Outside" exhibit and open house, Slater Museum of Natural History, University of Puget Sound, Tacoma, WA (2012)
Science Liaison, ArtSci, Tacoma Art Museum, Tacoma, WA (2012-2013)
Guest Science Educator, Tacoma, South Kitsap, Bremerton, Franklin Pierce, Sumner, and Issaquah School Districts and various private schools (1500 students, 4200 contacts, 724 Title I students), WA (2012-2013)
Instructor/Coordinator, "Nature in the Classroom: Utilizing natural history specimens to teach 4th and 5th grade science," teacher training session (17 teachers), Tacoma, WA (2012)
Coordinator, "Exotic Species Night" exhibit and open house, Slater Museum of Natural History, University of Puget Sound, Tacoma, WA (2012)
Instructor/Coordinator, "Nature in the Classroom: Utilizing natural history specimens to teach 4th and 5th grade science," teacher training session (16 teachers), Tacoma, WA (2012)
Guest Science Educator, Tacoma, Kitsap, Issaquah, and Bremerton School Districts and various private schools (1700 students, 4100 contacts), WA (2011-2012)
Exhibitor, Nisqually Watershed Festival, Nisqually Indian Tribe, Nisqually National Wildlife Refuge, WA (2011)
Instructor/Coordinator, "Nature in the Classroom: Utilizing natural history specimens to teach 4th and 5th grade science," teacher training session, Tacoma Public Schools, WA (2011)

ADDITIONAL SKILLS AND EXPERTISE

- Master naturalist for the Pacific Northwest bioregion specializing in birds, mammals, vertebrate remains, vascular plants, intertidal invertebrates, and protists including marine algae. Training and certification services provided.
- Wildlife forensic services, expert witness services, and independent research and consulting services available.
- Nature photographer providing free images for educational use. Licensed images published in museums, zoos, journals, newspapers, and websites in the United States, Canada, Australia, the United Kingdom, and Costa Rica.
- Blogger turned author! *Backyard Science & Discovery Workbook: Pacific Northwest*, with nearly 300 original maps, drawings and photographs and dozens of activities, quizzes and puzzles for curious kids ages 7-12.

PROFESSIONAL REFERENCES

Dr. Bret Tobalske
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STUDENT REFERENCES

Available upon request.