

Kalani Williams

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Education

- 2018-present M.S., Biological Sciences | Fordham University, Bronx, NY | Current GPA: 3.727
Dissertation: *A New Conservation Tool: Biodiversity Monitoring via Leech Bloodmeal iDNA Metabarcoding*
Advisor: Dr. Evon Hekkala
- 2014–2018 Bachelor of Arts, Biological Sciences | Smith College, Northampton, MA | GPA: 3.900
Thesis: *Different Coasts and Different Hosts: Investigating Speciation in the Seal Lungworm *Otostrongylus circumlitus**
Advisor: Dr. Laura Katz

Awards

- 2018 The Margaret Wemple Brigham Prize for excellence in the study of microbiology
2014-2018 Dean's List | Academic honors, top 15% of class | Smith College

Grants and Fellowships

- 2020-2025 NSF Graduate Research Fellowship | National Science Foundation (\$102,000)
- 2020-2021 Clare Boothe Luce Fellowship | Fordham University and the Henry Luce Foundation (\$34,000)
- 2020 Student Support Grant, research grant | Fordham University (\$1,200)
- 2018-2020 Graduate School of Arts and Sciences Graduate Assistantship | Fordham University (\$151,860)
- 2018 Schultz Foundation, travel grant (\$275)
- 2018 Student Government Association, travel grant | Smith College (\$600)
- 2018 Summer Undergraduate Research Fellowship | Smith College
Project: *A Novel Quantitative Real-Time PCR Diagnostic Assay for an Otariid Lungworm, *Parafilaroides decorus** (\$4,800)
- 2017 Praxis Funded Research Internship | Natural History Museum, London, U.K.
Project: *Molecular Palaeoparasitology of Human Burials from Siberia* (\$4,000)
- 2017 Nancy Kershaw Tomlinson Memorial Fund, research grant | *Examining Possible Speciation in the Harbor Seal Lungworm, *Otostrongylus circumlitus*, for Improved Molecular Diagnostics* | Smith College (\$1,937)
- 2016 Schultz Foundation, travel grant (\$500)
- 2016 Smith Student Aid Society, travel grant | Smith College (\$300)

- 2016 Summer Undergraduate Research Fellowship | Smith College
Project: *Species-specific Diagnostic Assay Confirms First Case of Seal Heartworm (Acanthocheilonema spirocauda) in the Grey Seal (Haliochoerus grypus)* (\$4,800)
- 2015 Summer Undergraduate Research Fellowship | Smith College
Project: *Possible Host Switching in Seal Heartworm (Acanthocheilonema spirocauda)* (\$4,800)
- 2014 Experiment (crowd-funding), Walruses, Whales, and Worms: Exploring Marine Mammal Parasitology, DOI: 10.18258/2993; link: <https://experiment.com/projects/walruses-whales-and-worms-exploring-marine-mammal-parasitology> (\$2,240)

Peer-reviewed Publications

Williams, K.M., Barkdull, M., Fahmy, M., Hekkala, E., Siddall, M. E., Kvist, S. (2020). *Caught red handed: iDNA points to wild source for CITES-protected contraband leeches*. European Journal of Wildlife Research, 66(5). <https://doi.org/10.1007/s10344-020-01419-5>

Fahmy, M., **Williams, K.M.**, Tessler, M., Weiskopf, S., Hekkala, E., Siddall, M. (2020). *Multilocus Metabarcoding of Terrestrial Leech Bloodmeal iDNA Increases Species Richness Uncovered in Surveys of Vertebrate Host Biodiversity*. Journal of Parasitology, 106(6). <https://doi.org/10.1645/19-189>

Williams, K. M., Fessler, M. K., Bloomfield, R. A., Sandke, W. D., Malekshahi, C. R., Keroack, C. D., . . . Williams, S. A. (2020). *A novel quantitative real-time PCR diagnostic assay for fecal and nasal swab detection of an otariid lungworm, Parafilaroides decorus*. International Journal for Parasitology: Parasites and Wildlife, 12, 85–92. <https://doi.org/10.1016/j.ijppaw.2020.04.012>

Keroack, C., **Williams, K.M.**, Fessler, M.K., DeAngelis, K., Tsekitsidou, E., Tozloski, J., Williams, S.A. (2018). *A Novel Quantitative Real-Time PCR Assay for Seal Heartworm (Acanthocheilonema spirocauda) Reveals the First Reported Infection in the Grey Seal (Haliochoerus grypus)*. Int J Parasitol Parasites Wildl. 7(2):147-154. doi: 10.1016/j.ijppaw.2018.04.001.

Keroack, C., Wurster, J., Decker, C., **Williams, K.M.**, Slatko, B., Foster, J., Williams, S.A. (2016). *Absence of the Filarial Endosymbiont Wolbachia in Seal Heartworm (Acanthocheilonema spirocauda) but Evidence of Ancient Lateral Gene Transfer*. J Parasitol. 102(3):312-8. doi: 10.1645/15-872.

Other Publications

Williams, K.M., 2014. "*Welwitschia: Squeezing out the Truth*" Botanic Garden News. The Botanic Garden of Smith College. Fall.

Teaching Experience

- 2013-present Laboratory Instructor, New England Biolabs Molecular Biology Summer Workshops
- 2020 Teaching Fellow, BISC 1002 Ecology: A Human Approach Lab, Fordham University
- 2020 Teaching Fellow, BISC 1010 Foundations of Biology Lab, Fordham University
- 2019 Teaching Fellow, BISC 2549 General Genetics Lab, Fordham University
- 2019 Teaching Assistant, BISC 3142 Human Physiology Lab, Fordham University
- 2018 Teaching Assistant, BISC 1413 Introductory Biology Lab I, Fordham University
- 2016 Teaching Assistant, BIO 333 Molecular Biology of Eukaryotes, Smith College

Mentoring Experience

- 2019 Mentee: Samantha Miller
Project: *Myxozoan Parasite Metagenomics of Amazonian Fishes*
REU Biology Program | American Museum of Natural History
- 2018 Mentee: M.K. Fessler
Project: *Identification of Sea Lion Lungworm (Parafilaroides decorus) by Species-Specific Barcode PCR and Quantitative PCR*
Summer Undergraduate Research Fellowship | Smith College

Talks and Poster Presentations at Scientific Meetings

- 2018 **Williams, K.M.** Fahmy, M. Tessler, M. Hekkala, E. Siddall, M. “*Surveying Vertebrate Biodiversity in Southern Asia via Metabarcoding of Terrestrial Leech Bloodmeals*” November 2018. Annual Meeting of the New England Association of Parasitologists, Smith College, Northampton, MA
- 2018 **Williams, K.M.** Katz, L. Williams, S.A. “*Different Coasts and Different Hosts: Development of Quantitative Real-Time PCR Diagnostic Assays for Two Populations of the Phocid Seal Lungworm, Otostrongylus circumlitus*” July 2018. 93rd Annual Meeting of the American Society of Parasitologists, Cancún, Mexico
- 2017 **Williams, K.M.** Fessler, K. Gally, M. Keroack, C. Dorit, R. Williams, S.A. “*Identification of the Parasites Acanthocheilonema spirocauda and Otostrongylus circumlitus in Phoca vitulina (harbor seals) by Quantitative PCR*” April, 2017. 71st Annual Eastern Colleges Science Conference, Wilkes University, Wilkes-Barre, PA
- 2016 **Williams, K.M.** Keroack, C. Fessler, K. Williams, S.A. “*Analysis of the Spread of Seal Heartworm (Acanthocheilonema spirocauda) using Molecular Techniques*” July, 2016. 91st Annual Meeting of the American Society of Parasitologists, Edmonton, Alberta, Canada
- 2016 **Williams, K.M.** Keroack, C. Tsekitsidou, E. DeAngelis, K. Uddin, R. Williams, S.A. “*Analysis of Potential Spread of Seal Heartworm (Acanthocheilonema spirocauda) using Molecular Techniques*” January, 2016. Pioneer Valley Microbiology Symposium, University of Massachusetts, Amherst, MA. **Best poster presentation award.**

Posters presented at several other regional meetings, including: Collaborations, Smith College, Northampton, MA (2017, 2016, 2015, 2014); New England Association of Parasitology, Tufts University Cummings School of Veterinary Medicine, Grafton, MA (2015); North Atlantic Chapter Society of Environmental Toxicology and Chemistry, Freeport, ME (2015).

Invited Public Lectures

- 2019 “*Field work that sucks: Leeches aiding in forest conservation*” Biology on Tap, New York, NY
- 2019 “*How North America Gained and Lost Giant Sloths: and other stories of the formation of The Isthmus of Panama*” Passage through the Panama Canal and Costa Rica, Le Champlain ship, Panama

Fieldwork and Expeditions

- August 2019 Myxozoans | Algonquin Provincial Park, Ontario, Canada
- June 2019 Myxozoans | Gulf Coast Research Laboratory, Mississippi, United States
- March 2019 Terrestrial leeches | Andasibe, Madagascar

Workshops Attended

- 2021 Data-Driven Ecological Synthesis: Predicting interactions between viruses and mammals | VERENA Consortium and the Poisot lab | Online
- 2019 Phylogenetic Analysis: Foundations and Methods | The Willi Hennig Society and Transmitting Science | Gothenburg Botanical Garden, Gothenburg, Sweden

Memberships

- 2018-present Sigma Xi The Scientific Research Honor Society, Associate Member
- 2015-present American Society of Parasitologists, Student Member
- 2014-present Cum Laude Society, Inductee

Academic and Scientific Services

- 2020-present Biology Graduate Student Association President | Fordham University
- 2020-present Graduate Student Association Pedagogy Committee Founder | Fordham University
- 2019-present Graduate Student Association Biology Representative | Fordham University
- 2019-2020 Biology Graduate Student Association Vice President | Fordham University
- 2019 Photographer for The National Academy of Sciences' Science and Entertainment Exchange, *One Night to Save the World* event
- 2019 Volunteer for The National Academy of Sciences' Science and Entertainment Exchange, *Science Speed Dating* event
- 2015-2018 Biological Sciences Department Student Liaison | Smith College
- 2010-2014 U.S. Fish and Wildlife Service Volunteer | Black-footed ferret recovery implementation team