Nadège Aoki

Curriculum Vitae – December 2022 266 Woods Hole Rd, MS 50, Woods Hole MA, 02543 email: <u>naoki@whoi.edu</u>

EDUCATION

Massachusetts Institute of Technology, Cambridge, MA	2020 - Present
Woods Hole Oceanographic Institution, Woods Hole, MA	
Ph.D. Candidate, Biological Oceanography in the MIT / Wood	ls Hole Oceanographic
Institution (WHOI) Joint Program	
GPA: 5.0	
Advisor: Dr. T. Aran Mooney	
Research interests: soundscape ecology, marine bioacoustics,	coral reef monitoring
Cornell University, Ithaca, NY	May 2018
B.A. magna cum laude with Distinction in Biological Science	S
GPA: 3.928, Dean's list 5 semesters	
Honors Thesis: "Discovery, diagnosis, and description of Pa	aramormyrops okano, a
new cryptic species of African weakly electric fish (Osteogle	ossomorpha:
Mormyridae) from the Okano River of Gabon"	
Thesis Advisor: Dr. Carl Hopkins	

HONORS AND AWARDS

National Science Foundation Graduate Research Fellowship	2022
Ruth D. Turner Scholarship in Marine Biology	2021
\$6,500 research funding award	
Robert R. Capranica Award for Outstanding Undergraduate	
Honors Thesis in Neuroethology	2018
Tanner Dean's Scholar, Cornell University	2014-2018
Included \$3,000 research award in summer 2017	
Howard Milstein Scholarship, Cornell University	2014
\$5,000 merit-based award	

RESEARCH EXPERIENCE

National Museum of Natural History, Washington, D.C.Summers 2016 – 2018Research Intern (NSF REU), Department of Invertebrate ZoologyMentors: Dr. Karen Osborn (NMNH) and Dr. Kakani Katija (Monterey Bay AquariumResearch Institute)

- Led data collection for biomechanics study of tomopterid polychaete worms. Wrote custom MATLB scripts to quantify invertebrate kinematics from high-speed ROV footage. Trained 3 subsequent interns on the project.
- Resulted in 4 conference presentations and a peer-reviewed publication (Joost et al. 2021)

Cornell Museum of Vertebrates, Cornell University, Ithaca, NY2017-2018Undergraduate Researcher, Ichthyology Collections2017-2018

Advisor: Dr. Carl Hopkins

- Completed independent honors thesis diagnosing and describing a new species of weakly electric fish (Family: Mormyridae)
- Integrated data from multiple sources including CT scans, X-rays, morphometrics and meristics, DNA sequences, and electric organ discharges.

Hajek Lab, Cornell University, Ithaca, NY

Undergraduate Intern, Department of Entomology, Supervisor: Dr. Ann Hajek

• Conducted field and lab trials of fungal bioinsecticides to control invasive insect populations

PROFESSIONAL EXPERIENCE

National Science Foundation, Arlington, VA

2018-2020

Science Assistant, Directorate for Mathematical and Physical Sciences

- Provided strategic administrative, scientific, and communications support to the Directorate, supporting oversight of a \$1.5 billion research portfolio
- Served as confidential assistant to the MPS Assistant Director and as MPS public communications liaison for high-profile news releases including the first images of a black hole captured by the Event Horizon Telescope collaboration

PUBLICATIONS

Journal Publications

Jézéquel, Y., Bonnel, J., **Aoki**, N., and Mooney, T.A. (2022) Tank acoustics substantially distort broadband sounds produced by marine crustaceans. *Journal of the Acoustical Society of America*. 152(6), 3747. doi: 10.1121/10.0016613

Cones, S.F., Jézéquel, Y., Ferguson, S.R., **Aoki**, N. and Mooney, T.A. (2022) Pile driving noise induces transient gait disruptions in the longfin squid *(Doryteuthis pealeii)*. *Front. Mar. Sci.* 9:1070290. doi: 10.3389/fmars.2022.1070290

2015-2016

Daniels, J., **Aoki**, N., Havassy, J., Katija, K., and Osborn, K. (2021). Metachronal Swimming With Flexible Legs: A Kinematics Analysis of the Midwater Polychaete Tomopteris. *Integrative and Comparative Biology*, 61(5), 1658-1673.

Journal Papers in Review

Cayemitte, K., **Aoki**, N., Ferguson, S.R., Mooney, T.A., and Apprill, A. Invasive encrusting alga causes mortality in Caribbean coral larvae. Submitted to: Marine Ecological Progress Series.

Conference Papers (Peer-Reviewed)

McCammon S., Aoki N., Mooney, T.A., and Girdhar, Y. Adaptive Online Sampling of Periodic Processes with Application to Coral Reef Acoustic Abundance Monitoring. *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, 2022.

Park, E., Kim, J.D., **Aoki**, N., Cao, Y., Arefeen, Y., Beveridge, M., Nicholson, D.P., and Drori, I. Predicting Critical Biogeochemistry of the Southern Ocean for Climate Monitoring. Dec 2021. NeurIPS 2021 Workshop on Tackling Climate Change with Machine Learning.

PRESENTATIONS AND INVITED LECTURES (* = PRESENTING AUTHOR)

Aoki, N*. Implementing Passive Acoustic Monitoring for Marine Environments. December 2022. *Unlocking the Power of Digital Data and Technologies for Climate Resilience,* Kurumba, Maldives. Invited speaker at workshop convened by the World Bank and Maldives Ministry of Environment, Climate Change, and Technology. Oral presentation.

Mooney, T.A*., Apprill, A., **Aoki, N.,** Zhang, W.G., Lillis, A., and Suca, J. September 2022. Healthy Soundscapes to Restore Reefs. *Reef Futures*. Miami, FL. Oral presentation.

Aoki, N*., Ferguson, S. Salas, AK, Anderson, A, Hall, M, Mooney, TA and Mann, DA. March 2022. Listening for change: monitoring coral reef biodiversity with satellite-linked acoustic recorders. *ASLO Ocean Sciences Meeting*. Virtual oral presentation.

Aoki, N*., Salas, A., Hall, M., Anderson, A., Mooney, T.A., and Mann, D. July 2021. Acoustic monitoring of coral reef soundscapes. *International Coral Reef Symposium*. Virtual poster.

Aoki, N.*, Harned, A., Havassy, J., Daniels, J., Katija, K., Osborn, K. September 2018. A biomechanical description of tomopterid polychaetes using high-speed video analysis. *15th Deep-Sea Biology Symposium*. Monterey, CA. Oral presentation.

Aoki, N.* Discovery, diagnosis, and description of *Paramormyrops okano*, a new cryptic species of African weakly electric fish (Osteoglossomorpha: Mormyridae) from the Okano River of Gabon. May 2018. *Biological Sciences Honors Poster Session*. Ithaca, NY. Poster.

Aoki, N*., Mushegian, N., Katija, K., Osborn, K. March 2017. A kinematic description of locomotion in tomopterid polychaetes. *ASLO Aquatic Sciences Meeting*, Honolulu, HI. Oral presentation.

Aoki, N.*, Mushegian, N., Katija, K., Osborn, K. August 2016. A kinematic description of locomotion in the marine polychaete genus *Tomopteris. Natural History Research Experiences Research Symposium*. National Museum of Natural History, Washington D.C. Poster.

TEACHING AND LEADERSHIP EXPERIENCE

WHOI Student Organization, Woods Hole, MA Treasurer, At-Large Student Representative	September 2022 – present	
Cornell University , Ithaca, NY Teaching Assistant, Department of Ecology and Evolutionary	January 2017 - May 2017 onary Biology	
• Led students in introductory vertebrate biology course in weekly laboratory dissections and live animal demonstrations and graded course exams		
Cornell Sport Taekwondo , Ithaca, NY Club Officer (Tournament Coordinator, Treasurer)	2016-2018	
Cornell Productions , Ithaca, NY Lighting/Sound Technician, Client Manager	2015-2016	

LANGUAGES

English: Native Language **French**: Advanced Reading/Writing/Listening, Intermediate Speaking

SKILLS AND CERTIFICATIONS

Programming: MATLAB, Python, R Software/Analysis: Adobe Illustrator, Raven, L^AT_EX/Markdown, JMP, Bellhop/Kraken Marine Fieldwork: PADI Open Water Diver (>100 dives), AAUS Scientific Diver, DAN Diving First Aid + CPR, Small Boat Operator Miscellaneous: Appearance on the TV game show Jeopardy! - March 23, 2022