

LIAN WINSLOW GUO

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EDUCATION

- University of Massachusetts Amherst, Amherst, MA** (anticipated Dec 2021)
- PhD Candidate in the Organismic and Evolutionary Biology (OEB) Program, 4.0 cumulative GPA
 - Certificate in Sustainable Aquaculture – University of Bergen, Norway
- Scripps College, Claremont, CA** (May 2014)
- Bachelor of Arts in Organismal Biology (honors), Cum Laude, 3.69 cumulative GPA

HONORS AND AWARDS

- 2020** – Irwin Martin Award recipient (\$2500), Sigma Xi Grants in Aid of Research recipient (\$983), American Fisheries Society Habitat Section Travel Award Recipient (\$100)
- 2019** – Graduate School Dissertation Fieldwork Grant recipient (\$3754), UMass Amherst Three Minute Thesis Runner-Up, National Socio-Environmental Synthesis Center Fellow (\$2000), International Council for the Exploration of the Sea (ICES) Early Career Travel Award (\$730)
- 2018** – OEB Research Grant Award (\$1000), Graduate School Dissertation Research Grant recipient (\$374), American Fisheries Society Southern New England Chapter (SNEC) Travel Award (\$500), American Fisheries Society Equal Opportunities Section Travel Award (\$500), College of Natural Sciences Teaching Fellow, Alan Alda Center for Communicating Science Workshop Selected Attendee
- 2017** – Cronin Research Award recipient (\$500), NSF GRFP Honorable Mention recipient, Life Sciences Graduate Research Council Best Student Talk (3rd place), OEB Research Assistantship Award
- 2014** – Scripps College Capstone Day presenter, William M. Keck Research Fellow (\$4000)

PUBLICATIONS

- Guo, LW**, S McCormick, E Schultz, and A Jordaan. Effects of Temperature and Food Ration on Juvenile Anadromous Alewife Growth and Proximate Composition. *In preparation*. Journal of Fish Biology.
- *Guo, LW**, Marjadi, MN, Drakopoulos, L, Koehn, Z, Panchang, S, and D Robertson. Negative Socio-Environmental Feedback Loop Fosters Inequality for Urban Marine Subsistence Fishers. *In review*. Environmental Science and Policy.
- *Guo, LW**, Panchang, S, Drakopoulos, L, Koehn, Z, Robertson, D, and M Marjadi. Transdisciplinary Approaches in Urban Health and Environment: A Reflection on Place and Fish Consumption Advisories in the Gulf Coast. *In press*. Projections.
- Guo, LW**. 2020. Worried about hair loss? So are these seals. Conservation Physiology 8.1 (2020): coaa072.
- Thompson, AR, Chen, D, **Guo, LW**, Hyde, JR, and W Watson. 2017. Larval abundances of rockfishes that were historically targeted by fishing increased over 16 years in association with a large marine protected area. Royal Society Open Science 4:170639
- Khalil, A, Parker, M, Brown, SE, Cevik, SE, **Guo, LW**, Jensen, J, Olmsted, A, Portman, D, Wu, H, and A Suvorov. 2017. Perinatal Exposure to 2,2',4,4' -Tetrabromidihenyl Ether Impairs Male Reproductive Health in Adult Rats. Toxicology.
- Thompson, AR, Hyde, JR, Watson, W, Chen, D, and **LW Guo**. 2016. Rockfish assemblage structure and spawning locations in southern California identified through larval sampling. Marine Ecology Progress Series. 547:177-192
- Guo, LW**. 2014. Effects of Variable and Constant Acclimation Regimes on the Upper Thermal Tolerance of Intertidal Barnacle, *Balanus Glandula*. Scripps Senior Theses. Paper 331.

*all authors hold equal authorship

PRESENTATIONS & POSTERS

- Guo, LW**, Mannarino, H, McCormick, SD, and A Jordaan. “Can Food Availability Mitigate the Physiological Impacts of Temperature in Juvenile Blueback Herring?” Sep 14, 2020. American Fisheries Society Virtual Annual Meeting. Oral Presentation.
- Slocombe, M, Marjadi, M, Devine, M, **Guo, LW**, Jordaan, and A Roy. “Temporal Shifts in Temporal Shifts in Migratory River Herring Diets and Zooplankton Assemblages within a Connecticut River Cove.” Jan 13, 2020. American Fisheries Society Southern New England Chapter. Cambridge, MA. Poster Presentation.
- Guo, LW**, McCormick, SD, Schultz, E, Lynch, A, Sprankle, K, and A Jordaan. “When It’s Hot for Herring: Linking Temperature Effects on Juvenile River Herring Physiology to Range Shifts.” Sep 11, 2019.

International Council for Exploration of the Sea Annual Science Conference. Gothenburg, Sweden. Oral Presentation.

Marjadi, MN, **Guo, LW**, Drakopoulos, L, Koehn, Z, Panchang, S, and D Robertson. "Increased Risk for Urban Subsistence Fishers: Why Fisheries and Urban Policy Should Match Fishing Practices." Sep 10, 2019. International Council for Exploration of the Sea Annual Science Conference. Gothenburg, Sweden. Poster Presentation.

Lees, Ashley, **Guo, LW**, Lynch, A, Devine, M, and A Jordaan. "Effects of temperature and food ration on somatic and otolith growth in juvenile Blueback Herring (*Alosa aestivalis*)." Jun 27, 2019. American Fisheries Society Southern New England Chapter. Hadley, Massachusetts. Oral Presentation.

Guo, LW, McCormick, SD, Schultz, E, Lynch, A, Sprankle, K, and A Jordaan. "Fueling Up: How Temperature and Food Availability Affect Anadromous Juvenile River Herring Growth and Energetics." Mar 19, 2019. Connecticut River Research and Management Forum. Hadley, Massachusetts. Oral Presentation.

Guo, LW. "Hot for Herring: Why Physiology Matters in a Warming World." Mar 1, 2019. University of Massachusetts Amherst Three Minute Thesis Competition. Amherst, Massachusetts. Oral Presentation.

Guo, LW, McCormick, SD, Schultz, E, and A Jordaan. "Hot Herring: Exploring the Effects of Temperature on Juvenile River Herring." Oct 18, 2018. Massachusetts River Herring Network Meeting. East Falmouth, Massachusetts. Oral Presentation.

Guo, LW, McCormick, SD, Schultz, E, and A Jordaan. "Warming Lakes: How Temperature Affects Anadromous Juvenile River Herring Physiology." Aug 20, 2018. American Fisheries Society National Meeting. Atlantic City, New Jersey. Oral Presentation.

Guo, LW, McCormick, SD, and A Jordaan. "Lost Habitants of the Pioneer Valley: the River Herring Story." Apr 7, 2018. Pioneer Valley Ecological Research and Management Symposium. Mass Audubon Arcadia Wildlife Sanctuary. Oral Presentation.

Guo, LW, Froburg, KM, Devine, M, and A Jordaan. "Measuring Otolith Growth to Infer River Herring Physiology." Jan 27, 2018. Environmental Conservation Graduate Student Symposium. University of Massachusetts, Amherst. Oral Presentation.

Froburg, KM, **Guo, LW**, Devine M and A Jordaan. "Evaluation of Otolith Growth Decoupling Phenomena in Juvenile Anadromous Alewives." Jan 10, 2018. American Fisheries Society Southern New England Chapter Conference. Poster.

Guo, LW, McCormick, SD, and A Jordaan. "Effects of Temperature and Food Limitation on Energetic Tradeoffs in Juvenile Anadromous Alewives." Nov 17, 2017. Life Sciences Graduate Research Council. University of Massachusetts Amherst. Oral Presentation.

Guo, LW and SE Gilman. "Effects of Variable and Constant Acclimation Regimes on the Upper Thermal Tolerance of Intertidal Barnacle, *Balanus Glandula*." May 7, 2014. Scripps Capstone Day. Claremont, California. Oral Presentation.

Guo, LW and SE Gilman. "Effects of Variable and Constant Acclimation Regimes on the Upper Thermal Tolerance of Intertidal Barnacle, *Balanus Glandula*." Nov 7, 2013. Western Society of Naturalists Conference. Ventura, California. Poster.

Invited Speaking Events:

"Forage Fish and Climate Adaptation: Science and Management" Panel	(Sep 2020)
"Perspectives on Covid-19 and Anti-Asian Bias and Xenophobia" Panel	(Sep 2020)
"Skype with a Scientist"	(May 2020)
"Strategies for Remote Work/Learning" Panel	(April 2020)

Media:

"Lian discusses fishy business." We Know Some Stuff, CFRU 94.1. 18 Sep 2020.

https://www.cfru.ca/?s=We%20Know%20Some%20Stuff&posttype_search=mcm_recording.

"AFS Diversity and Inclusion Day Preview." Fisheries Diversity and Inclusion Podcast. 9 Sep 2020.

<https://fisheriespodcast.podbean.com/e/di-podcast-ep4-afs-diversity-and-inclusion-theme-day-preview/>

"Heidi, Lian, Louis, and Gabe." Lab Talk with Laura. 20 Mar 2019.

<https://soundcloud.com/labtalkwithlaura/ep-25-heidi-lian-louis-and-gabe>

RESEARCH EXPERIENCE

Cronin Aquatic Resource Center, Sunderland, MA

(Aug 2015 – Current)

Graduate Student (Advisors: Dr. Adrian Jordaan and Dr. Stephen McCormick)

- Direct and maintain laboratory facilities for river herring research, including mentoring undergraduates in

animal husbandry, field sampling, otolith dissections/aging, and professional development

- Measure effects of temperature and food availability on physiology in larval and juvenile alewife and blueback herring in the laboratory and field

SESYNC: Fishing and Urban Inequality, Annapolis, MD

(Oct 2017 – May 2019)

Graduate Pursuit Fellow

- Provide biology, ecology, physiology, and toxicology expertise to interdisciplinary team of students
- Evaluate inclusion of subsistence fishing and cooking practices within urban and environmental policy in Tampa, FL and New Orleans, LA
- Examine inequalities in access to healthy food (fish) in urban areas

UMass Amherst Department of Public Health, Amherst, MA

(Jan – Jul 2016)

Graduate Student (Supervisor: Dr. Alexander Suvorov)

- Used RNA-sequencing to assemble testis transcriptome of mice perinatally exposed to BDE-47 and estimate long-term, physiological effects of BDE-47 exposure on reproduction

Southwest Fisheries Science Center (NMFS), La Jolla, CA

(Jul 2014 – Jul 2015)

Scientist II Contractor, FRD, Plankton Sorter (Supervisor: Dr. Andrew Thompson)

- Removed target study species (rockfish, anchovy, squid, etc.) from ethanol-preserved plankton samples
- Genetically sequenced larval rockfish to determine temporal and spatial changes in rockfish assemblages from 1997 – 2013 in Southern California Bight

Senior Thesis, Claremont, CA

(Jul – Dec 2013)

William M. Keck Research Fellow (Advisor: Dr. Sarah Gilman)

- Measured critical thermal maximum (CT_{max}) of differently acclimated *Balanus glandula* to examine current thermal tolerance hypotheses of organisms adapted to heterogeneous thermal environments
- Designed tide tanks to create cold (<20.4°C), warm (<26.5°C), and variable (2 days cold, 2 days warm) acclimation treatments; created methodology for testing CT_{max} of *B. glandula*

Independent Study Project, Lizard Island, Australia

(Apr – May 2013)

Laboratory and Field Assistant (Advisor: Dr. Jairo Rivera Posada)

- Determined efficacy of bile salts, a novel control solution, in causing *Acanthaster planci* mortality
- Evaluated safety of using bile salts in the field by monitoring disease transmission from dying *A. planci* to exposed coral, fish, and invertebrates

W. M. Keck Science Department, Claremont, CA

(Sep 2012 – May 2014)

Laboratory Assistant (Advisor: Dr. Sarah Gilman)

- Measured respiration rate and recorded opercular/cirral behaviors of immersed *Balanus glandula* following low-tide exposure
- Conducted lethal limit trials of *B. glandula* for one-hour exposures to high temperatures

Southwest Fisheries Science Center (NMFS), La Jolla, CA

(May - Aug 2011/2012)

Intern (Advisor: Dr. Andrew Thompson)

- Sorted and identified nekton and plankton in the laboratory and onboard a NOAA vessel
- Sorted and identified otoliths and squid beaks found in shark and dolphin stomach contents
- Genetically sequenced and identified 10,000+ specimens of larval rockfish to species

TEACHING AND MENTORING EXPERIENCE

University of Massachusetts Amherst Teaching Assistant

(Sep 2015 – May 2020)

- Prepared for and led laboratory or discussion sections; provided supplemental teaching through review sessions and office hours
- Designed and taught first-year seminar as a College of Natural Sciences Teaching Fellow, introducing students to environmental challenges and adaptations, scientific thinking, and resources for college life
- Courses taught: Animal Behavior, Ecology of Fishes, Fisheries Science and Management, Cell and Molecular Biology, Introductory Biology, How Temperature Shapes Life (*instructor of record*)

Undergraduate Mentor

(June 2017 – Current)

- Train and mentor undergraduate students in husbandry/aquaculture, experimentation, fish sampling, bomb calorimetry, and otolith growth/aging analysis (22 students to date)

STEM Ambassador Program Graduate Student Mentor

(Sep 2016 – May 2017)

- Taught/mentored five first-year undergraduates from underrepresented backgrounds in general science skills and topics within functional morphology and physiology; helped students form hypotheses and

execute a group research experiment

OEB Mentorship Committee Member and Mentor

(May 2016 – May 2017)

- Organized mentors for incoming OEB graduate students and plan community events to incorporate new students into the community; mentored an OEB student during their first year at UMass Amherst

Undergraduate Mailing List

(Nov 2015 – April 2018)

- Created and maintained a mailing list to share opportunities for research, scholarships, and local events with interested undergraduates

OUTREACH AND COMMUNITY-BUILDING EXPERIENCE

Diversity, Equity, and Inclusion Committee

(Jan 2020 – Current)

- Founded and lead a 50+ member committee to address issues related to affinity/support, academic equity, and justice and accountability in our interdepartmental graduate programs in biology.

Conservation Physiology in Action

(Jan 2020 – Current)

- Distill recent papers in conservation physiology into editorial articles for a general audience

Organismic and Evolutionary Biology Student Body President

(Aug 2019 – July 2020)

- Organized student body committees, events, and semester meetings
- Served as liaison between OEB faculty and student body

SNEC 2020 Winter Meeting Program Committee

(Jun 2019 – Feb 2020)

- Planned logistics for the regional winter conference and recruit student participation

Faculty Council for Public Engagement and Outreach

(Oct 2018 – May 2020)

- Represented graduate student body in helping develop university-wide metrics to track outreach and public engagement (OPE); advise university on how to reach Strategic Plan OPE goals

Graduate School Dissertation Research Grant Review Committee

(Oct 2018 – May 2019)

- Serve as student representative to review and recommend dissertation grants for funding

American Fisheries Society Equal Opportunities Section Outreach Committee

(Aug 2018 – Current)

- Serve as committee chair (Nov 2019 – Current)
- Build online diversity, equity, and inclusion toolkit to improve workplace climate
- Develop marketing materials (e.g. section logo) to broaden reach of section, highlight fisheries scientists from underrepresented groups

Environmental Conservation Graduate Student Symposium Organizing Committee

(Mar 2018 – Feb 2019)

- Organized annual departmental colloquium to feature graduate student work and increase collaboration among community members and local stakeholders

Interdepartmental Graduate Programs (IDGP) Student Advisory Committee

(Sep 2017 – May 2019)

- Represent the Organismic and Evolutionary Biology Program in identifying IDGP graduate student issues, developing professional development/outreach programming, and outlining goals for the near future

Science Night for Deerfield Women's Group

(Oct 2016)

- Organized speakers for a climate change themed science talk for a local Women's Group

Food for Thought Committee

(Aug 2016 – May 2018)

- Planned hosts and food for annual series of scientific lunch discussions, featuring controversial or novel topics in fields within organismic and evolutionary biology

That's Life [Science] Outreach Blog

(Oct 2015 – Current)

- Organize a staff of 30+ graduate students to write blog posts communicating diverse topics in life science
- Provide professional development opportunities to graduate and undergraduate students to practice science communication
- Host workshops (e.g. science communication, Girl Scout Animal Habitat Badge) and collaborations (e.g. Pipettes and Paintbrushes) to find novel science outreach avenues in the local community

UMass Amherst American Fisheries Society (AFS) student subunit

(Oct 2015 – Current)

- Develop workshops and events for UMass undergraduates to learn about environmental conservation research and potential career paths
- Host events (e.g., Day in the Life of a Scientist) and interactive tables at local science fairs (e.g., Earth Day, Cambridge Science Fair) to educate young children and families about fisheries science

Life Science Café

(Sep 2015 – May 2020)

- Organize speakers and content for monthly Science Café events, in the form of information interviews or trivia nights, providing an interactive forum to share science research with the general public

Graduate Women in STEM (GWIS) Outreach Committee

(Sep 2015 – May 2017)

- Developed new STEM-themed workshops for Girls Inc. to expose girls from low-educational backgrounds to a breadth of potential careers and female role models who are in these fields

Southwest Fisheries Science Center Outreach Volunteer

(Nov 2014, Mar – Apr 2015)

- Created and hosted an interactive, educational table at the Aquarium of the Pacific representing the diverse research goals of Southwest Fisheries Science Center
- Introduced National Marine Fisheries Service's mission and research focuses to local high school students; answered questions concerning education and careers in marine biology
- Showcased recent rockfish barotrauma research, promoted use of commercially available rockfish descender devices, and discussed proposed/enforced regulations for recreational highly migratory species with local fishermen and the general public
- Hosted a BE WISE (Better Education for Women in Science and Engineering) workshop teaching high school girls about measuring age and growth in commercial fish species