

Guglielmo Orso Raymo

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EDUCATION

University of Maryland

Doctor of Philosophy Animal Science

College Park, MD
Jan 2022 - Dec. 2026

- **Major Project:** Gnotobiotic larval *O. mykiss* intestinal recolonization using distinct microbiome populations derived from high and low muscle yield genetic lines
- Stress mediated splice isoform biomarker validation in adult *O. mykiss* under high stocking density conditions

University of Miami

Masters of Science Marine Ecosystems and Society

Coral Gables, FL May
Sept. 2019 - May 2021

- **Major:** Aquaculture

University of Miami

Bachelor of Science from College of Arts and Sciences

Coral Gables, FL
Aug. 2014- May 2019

- **Major:** Psychology **Minors:** Chemistry & Biology

WORK EXPERIENCE

Spring Genetics

Project Supervisor

Miami, FL
May 2020 – Dec. 2021

- Assisted with development of SG-11 & SG-12 generation of broodstock *O. niloticus*
- Led the commercial testing of two novel antiparasitic drugs in production environments with 10 independent trials across different life stages

TEACHING EXPERIENCE

ANSC 255 Introduction to Aquaculture

- Assisted in *O. niloticus* husbandry and applied components of the course

College Park, MD
August 2022 – December 2025

MES 628 Seafood Marketing

- Engaged industry insiders from a variety of backgrounds including policy advocates, lobbyists and seafood professionals

Coral Gables, FL
January 2021 – May 2021

MES 612 Aquaculture I

- Provided targeted assignment feedback and mentored students in developing compelling, research-ready term paper projects.

Coral Gables, FL
August 2020 - December 2020

SELECTED PUBLICATIONS

- Ahmed, R., **Raymo, G.**, Ali, A., Al-Tobasei, R., Leeds, T., & Salem, M. (2026). Functional shotgun metagenomics can exceed host genomic prediction and outperform taxonomic profiles for growth traits in rainbow trout. *mSystems* (in review).
- Ali, A., Ali, Y., **Raymo, G.**, et al. (2026). Molecular signatures and machine learning driven stress biomarkers for rainbow trout aquaculture and climate adaptation. *Scientific Reports*, 16, 605. DOI: 10.1038/s41598-025-30120-3
- Andersen, L. K., **Raymo, G.**, Abernathy, J. W., et al. (2025). Advancing genetic improvement in the omics era: status and priorities for United States aquaculture. *BMC Genomics*, 26, 155. DOI: 10.1186/s12864-025-11247-z
- **Raymo, G.**, Januario, F., Ali, A., & Salem, M. (2024). Fecal microbiome analysis uncovers hidden stress effects of low stocking density on rainbow trout. *Animal Microbiome*, 6(1), 57. DOI: 10.1186/s42523-024-00344-1
- **Raymo, G.**, Ali, A., Ahmed, R. O., & Salem, M. (2024). Early-life fecal transplantation from high muscle yield rainbow trout to low muscle yield recipients accelerates somatic growth through respiratory and mitochondrial efficiency modulation. *Microorganisms*, 12, 261. DOI: 10.3390/microorganisms12020261
- Nunes, A. J. P., Segovia, H., **Raymo, G.**, O., Leonardi, G., & Kaur, K. (2024). Effect of krill meal on the reproductive performance of broodstock Nile tilapia (*Oreochromis niloticus*). *Journal of Applied Aquaculture*, 36(4), 759–770. DOI: 10.1080/10454438.2024.2319646

AWARDS

- UMD Jacob K. Goldhaber Travel Plant Animal Genome Travel Award 2025
- USDA NRSP-8 National Animal Genome Research Program (NAGRP) World Aquaculture Society Travel Award 2025
- USDA NRSP-8 National Animal Genome Research Program (NAGRP) Plant Animal Genome Travel Award 2025
- USDA Agricultural Genome to Phenome Initiative (AG2PI) World Aquaculture Society Travel Award 2024