MARCO FERNANDEZ

Curriculum Vitae

(786) 325-4064 mfernandez4296@gmail.com

EDUCATION

2026	PhD in Biological Sciences	**Florida International University**, Miami, Florida, USA Department of Biological Sciences and Institute of Environment Dissertation: *The Role of Water Flow on Wetland Food Web Function: Observational, Experimental, and Modeling Approaches* Co-advisors: Nathan J. Dorn, Joel C. Trexler
2018	BS in Biological Sciences	**Florida International University**, Miami, Florida, USA Department of Biological Sciences Undergraduate Research Mentor: John S. Kominoski

PUBLICATIONS

Fernandez, M., J.C. Trexler, C.J. Saunders, J.W. Harvey, N.J. Dorn. 2025. Discharge and nutrients interact to determine trophic structure in a wetland: evidence from a landscape-scale manipulation. Limnology and Oceanography. 70:3355–3369

Servais, S., J. S. Kominoski, **M. Fernandez**, and K. Morales. 2021. Saltwater and phosphorus drive unique soil biogeochemical processes in freshwater and brackish wetland mesocosms. Ecosphere 12:e03704.

Kominoski, J. S., **M. Fernandez**, P. Breault, V. Sclater, and B. B. Rothermel. 2021. Fire severity and post-fire hydrology drive nutrient cycling and plant community recovery in intermittent wetlands. Ecosystems 25:265–278.

Manuscripts in advanced stages

Mock, A.J., J.C. Trexler, P.M. Kleindl, **M. Fernandez**, E.E. Gaiser, N.J. Dorn. Interactions between nutrients and predatory fish on aquatic insect emergence. *In review at Freshwater Biology*.

Fernandez, M., N.J. Dorn, A.E. Mercado-Molina, J.C. Trexler. Experimental demonstration that directional water flow structures wetland food-web topology through greening and multichannel omnivory. *In review at Oikos*.

Fernandez, M., N.J. Dorn, R. Paudel, D.L. DeAngelis, J.C. Trexler. Advancing wetland forecasts for restoration planning: can integrating flow better predict performance targets? *In prep*.

Bornhoeft, S.C., **M. Fernandez**, B. Rosen, S. Newman, C.J. Saunders, J.C. Trexler. Nutrient loading from experimental sheet flow cascades up aquatic food webs of the central Everglades. *In prep*.

ORAL PRESENTATIONS AT SCIENTIFIC MEETINGS (*first authors always presented*)

Trexler, J.C., **M. Fernandez**, P.J. Flood, J.J. Parkos. 2025. Ecology of Florida Bass in the Everglades. American Fisheries Society, San Antonio, Texas, USA.

Fernandez, M., N.J. Dorn, J.C. Trexler. 2025. Shifts in food-web topology and biomass accrual in wetland consumers along an experimental discharge gradient. Society for Freshwater Science Meeting, San Juan, Puerto Rico.

Mock, A.J., J.C. Trexler, P.M. Kleindl, **M. Fernandez,** E.E. Gaiser, and N.J. Dorn. 2025. Interactive effects of fish predators and nutrient enrichment on aquatic insect emergence. Society for Freshwater Science, San Juan, Puerto Rico.

Fernandez, M., N.J. Dorn, J.C. Trexler. 2025. Experimental increases in low-velocity discharge promote standing stocks of aquatic consumers in an oligotrophic wetland. FIU Biosymposium, North Miami, FL, USA.

Fernandez, M., N.J. Dorn, J.C. Trexler. 2024. Increased discharge supports more aquatic animal biomass in a wetland. Society for Freshwater Science Meeting, Philadelphia, PA, USA.

Fernandez, M., N.J. Dorn, C. Saunders, J.C. Trexler. 2023. Flowing water effects on aquatic animal communities: insights from the decompartmentalization physical model. Greater Everglades Ecosystem Restoration Meeting, Coral Springs, FL, USA.

Fernandez, M., E.T. Boldt, J.C. Trexler. 2021. Aquatic community structure and biomass response to experimental water flow in an oligotrophic wetland. Ecological Society of America Meeting, Virtual.

Fernandez, M., J.C. Trexler. 2021. Aquatic community structure and density response to experimental water flow in the Decomp Physical Model. Greater Everglades Ecosystem Restoration Meeting, Virtual. *Lightning talk.*

Fernandez, M., J.S. Kominoski, V. Sclater, P. Breault, B.B. Rothermel. 2018. Fire and water availability drive changes in phosphorus cycling and vegetation composition in intermittent wetlands. Greater Everglades Ecosystem Restoration Meeting, Coral Springs, FL, USA. *Lightning talk.*

Fernandez, M., J.S. Kominoski, B.B. Rothermel. 2017. Testing the relative above- and below-ground responses to fire-induced phosphorus release in intermittent wetlands. Ecological Society of America Annual Meeting, New Orleans, LA, USA.

POSTER PRESENTATIONS AT SCIENTIFIC MEETINGS (*first authors always presented*)

Fernandez, M., N.J. Dorn, J.C. Trexler. 2025. Advancing wetland forecasts for restoration planning: Can integrating flow better predict performance targets? Society for Freshwater Science, Spokane, WA, USA.

Mock, A.J., J.C. Trexler, P.M. Kleindl, **M. Fernandez,** E.E. Gaiser, N.J. Dorn. 2025. Interactive effects of fish predators and nutrient enrichment on aquatic insect emergence. Florida Coastal Everglades Long-Term Ecological Research All Scientists Meeting, Cutler Bay, FL, USA.

Fernandez, M., N.J. Dorn, J.C. Trexler. 2025. Shifts in food-web topology and biomass accrual in wetland consumers along an experimental discharge gradient. Greater Everglades Ecosystem Restoration Meeting, Coral Springs, FL, USA.

Fernandez, M., N.J. Dorn, J.C. Trexler. 2024. Increases in low-velocity discharge supports greater aquatic consumer biomass: results from the Decompartmentalization Physical Model. Florida Coastal Everglades Long-Term Ecological Research All Scientists Meeting, Cutler Bay, FL, USA.

Mock, A.J., **M. Fernandez**, and N.J. Dorn. 2024. Evaluating seasonal variation of algal fatty acids in Everglades resource pools and consumers. Florida Coastal Everglades Long-Term Ecological Research All Scientists Meeting, Miami, Florida. April 29.

Fernandez, M., J. S. Kominoski, B. Rothermel. 2017. Phosphorus release from intermittent wetlands is driven by water availability and fire history. Archbold Research Symposium, Lake Placid, FL, USA.

Fernandez, M., J. Kominoski, K. Morales, S. M. Servais. 2017. Quantifying changes in soil microbial carbon use in coastal wetlands exposed to crossed gradients in salinity and phosphorus: Implications for sea-level rise. Florida Coastal Everglades Long-Term Ecological Research All Scientists Meeting, Cutler Bay, FL, USA.

Fernandez, M., J. Kominoski, K. Morales, S. M. Servais. 2017. Quantifying changes in soil microbial carbon use in coastal wetlands exposed to crossed gradients in salinity and phosphorus: Implications for sea-level rise. Society of Wetland Scientists Conference, San Juan, Puerto Rico.

Fernandez, M., J. Kominoski, K. Morales, S. M. Servais. 2017. Quantifying changes in soil microbial carbon use in coastal wetlands exposed to crossed gradients in salinity and phosphorus: Implications for sea-level rise. Biology Graduate Student Symposium, Biscayne Bay, FL, USA.

RESEARCH EXPERIENCE

11/2016 – Present
Postdoctoral Scholar
Coastal and Marine Laboratory, Florida State University, St. Teresa, FL
Principal Investigator: Joel C. Trexler

05/2026 – 11/2026
Postdoctoral Associate
Institute of Environment, Florida International University, Miami, FL
Principal Investigator: Nathan J. Dorn and Todd A. Crowl

08/2019 – 05/2026
Graduate Assistant, Aquatic Ecology Lab
Department of Biological Sciences, Florida International University, Miami, FL
Principal Investigators: Nathan J. Dorn and Joel C. Trexler

08/2018 – 07/2019
Research Technician, Aquatic Ecology Lab
Department of Biological Sciences, Florida International University, Miami, FL
Principal Investigator: Joel C. Trexler

06/2016 – 05/2018
Undergraduate Research Technician, Ecosystem Ecology Lab
Department of Biological Sciences, Florida International University, Miami, FL
Principal Investigator: John S. Kominoski

05/2015 – 08/2015
Research Experience for Undergraduate Fellow
Florida Coastal Everglades LTER
Principal Investigator: John S. Kominoski

HONORS & AWARDS

2025 FIU University Graduate School Dissertation Fellowship (**$20,416**)

2025 Best Oral Presentation — Florida International University Biosymposium, North Miami, FL **($25)**

2025 FIU Graduate and Professional Student Committee Travel Award (**$500**)

2025 FIU College of Arts and Sciences Travel Award (**$200**)

2024 Best Student Poster — Florida Coastal Everglades All Scientists Meeting, Cutler Bay, FL **($150)**

2024 FIU Graduate and Professional Student Committee Travel Award (**$500**)

2024 FIU College of Arts and Sciences Travel Award (**$200**)

2023 FIU College of Arts and Sciences Travel Award (**$200**)

2019 Florida-Georgia Louis Stokes for Alliance Minority Participation (FGLSAMP) Bridge to the Doctorate Fellowship **($64,000)**

2017 Best Undergraduate Poster Florida Coastal Everglades All Scientists Meeting, Cutler Bay, FL **($150)**

2016 Ronald E. McNair Fellowship (14th Cohort) **($2000)**

2016 Society of Wetland Scientists Multicultural Mentoring Program (SWaMMP) award **($1500)**

2016 Research Experience for Undergraduates Florida Coastal Everglades LTER, National Science Foundation **($5500)**

TEACHING

Florida International University

Spring 2023	Teaching Assistant for *General Biology II*
Spring 2022	Teaching Assistant for *Ecology*
Fall 2016	Lecture Assistant for *General Biology I*

PROFESSIONAL AFFILIATIONS & SERVICE

Society Membership

Society for Freshwater Science (SFS)
Ecological Society of America (ESA)
Association of Limnology and Oceanography (ASLO)

Journal Refereeing

Oecologia

REFERENCES

Dr. Joel C. Trexler (PhD advisor)
Director of the Coastal and Marine Laboratory
Professor
Department of Biological Science
Florida State University
jtrexler@fsu.edu

Dr. Nathan J. Dorn (PhD advisor)
Associate Professor
Department of Biological Sciences
Florida International University
ndorn@fiu.edu

Dr. John S. Kominoski
Professor
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