

Eric C. Dammann Jr.

Numerical Modeler

Correspondence Information:

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Research Statement:

The goal of my research is to better understand how carbon moves throughout space and time by physical, biological, and chemical processes within tidal marsh ecosystems. The methodology of my research involves the development of numerical models that provide mechanistic insight into how these processes affect the spatial and temporal distribution of carbon and how the carbon cycling system functions as a whole within these ecosystems. I parameterize these models with field, lab, and historical environmental and GIS data and validate them with those same types of data and statistical analysis.

Education:

B.S. Marine Biology and Coastal Sciences
Montclair State University
Montclair, New Jersey
2021 - Spring 2024

Honors and Awards:

- Montclair State College of Science and Math Dean's List
Spring of 2021 - Spring of 2023

Research Grants:

- Montclair State College of Science and Math 2022 - 2023
Research
Grant Total: \$2,000
- New Jersey Space Grant Consortium 2022 - 2023 Academic Year
Grant Total: \$2,000
- Montclair State College of Science and Math 2023 Summer
Research
Grant Total: \$5,500
- New Jersey Space Grant Consortium 2023 Summer
Grant Total: \$5,000

Conferences and Presentations:

- Montclair State 2023 Student Research Symposium
April 2023
Project Title: "Quantifying Methane Fluxes in Tidal
Marshes over Decadal Timescales: Insights from a
Morphodynamical Model"
- New Jersey Space Grant Consortium 2023 Research Conference

April 2023

Project Title: "Determining Spatial Vegetation Patterns and Plant Height in Berm-Dune Systems with High Resolution Data"

- New Jersey Space Grant Consortium 2023 Summer Research Conference

August 2023

Project Title: "Vegetation Cluster Height and Spatial Distribution in a Coastal Berm-Dune System: Coupling High Resolution LiDAR Data and Machine Learning"

- Montclair State 2023 Summer Student Research Symposium

September 2023

Project Title: "Quantifying Methane Fluxes in Tidal Marshes over Decadal Timescales: Insights from a Morphodynamical Model"

- 2024 Community Surface Dynamics Modeling Systems Annual Conference May 2024 (Expected)

Skills:

- Proficiency in several coding languages such as MATLAB, Julia, R, and Python and developing skills in C and C++
- Proficiency in geographic information systems Software such as ESRI's ArcGIS Pro, QGIS, and Google Earth Engine
- Proficiency statistical analysis software such as JMP, Microsoft Excel, and developing skills in OriginPro

- Proficiency in Adobe software such as Photoshop and Illustrator for figure creation and design

References :

Dr. Jorge Lorenzo-Trueba

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Montclair State University

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Dr. Ying Cui

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Dr. Charles Schutte

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Rowan University

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