

Maria Venolia



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EDUCATION & LICENSING

STEVENS INSTITUTE OF TECHNOLOGY, Department of Ocean Engineering, New Jersey 2020- 2025

PhD in Ocean Engineering, Masters in Ocean Engineering

Provost Fellowship Recipient, Advisor: Dr. Reza Marsooli, **GPA: 3.953/4**

UNIVERSITY OF PATRAS, Department of Civil Engineering, Patras, Greece 2015- 2020

Bachelor's in Civil Engineering

GPA: 8.28/10 (top 1%) - Certificate of Excellence accompanied by monetary prize

Professional License issued by the *Technical Chamber of Greece* ID: 162403 2023

RESEARCH & EXPERIENCE

Stevens Institute of Technology

Doctoral Dissertation-Thesis

2025

Wind Wave Climatology Analysis of the Western North Atlantic Ocean Using a Spectral Approach
<https://www.proquest.com/docview/3254023288?pq-origsite=gscholar&fromopenview=true&sourcetype=Dissertations%20&%20Theses>

Research Assistant

2022-2025

- NDBC spectral wave buoy data acquisition for two dimensional-frequency direction wave spectrum construction
- Watershed partitioning algorithm application and wave system/wave family identification
- Long term trends and variability analysis of spectral wave family characteristics, wave family - Climate Index correlation identification
- Wave family identification and characteristics investigation at buoy sites along the U.S. East and Gulf coasts
- Calibration and validation of SCHISM for oceanographic modeling in the Western North Atlantic
- Using SCHISM to perform numerical experiments on current effects on wave propagation and spectral wave energy density distribution

Stevens Institute of Technology

Teacher's Assistant

2022-2025

- **Recitation in Fluid Mechanics** course
 - delivered in depth explanations on applications of theoretical concepts covered in class
 - assisted students with assigned homework questions during office hours
 - assisted in grading exams, providing constructive feedback to students to enhance understanding
- **Fluid Mechanics Laboratory** instruction
 - demonstrated and ensured proper use of apparatus within laboratory setting as well as assisted undergraduate students in taking measurements and analyzing data
 - evaluated submitted lab reports and team presentations

University of Patras, Civil Engineering Department

Undergraduate Diploma Dissertation- Thesis

2019-2020

Hydrodynamic behavior of an array of low-crested detached breakwaters on coastal protection via coupled numerical simulation of waves, currents, sediment transport and bed morphodynamics using MIKE 21 supervised by the Head of the Civil Engineering Department of the University of Patras at the time, Dr. Athanassios Dimas

PUBLICATIONS

- Venolia M., R. Marsooli., J. Portilla-Yandún. **Historical Change and Variability of Spectral Wind Wave Climate in the New York Bight.** *International Journal of Climatology*, <https://doi.org/10.1002/joc.8408> <https://onlinelibrary.wiley.com/share/author/5CAFF5X8MQU9E2AXIZQY?target=10.1002/joc.8408>
- Venolia M., R. Marsooli. **Wave Family Climatology of the U.S East and Gulf Coasts**, *Applied Ocean Research* <https://doi.org/10.1016/j.apor.2025.104593> [https://authors.elsevier.com/sd/article/S0141-1187\(25\)00180-4](https://authors.elsevier.com/sd/article/S0141-1187(25)00180-4)
- Venolia M., R. Marsooli, J. R. Calzada. **A Validated Coupled Three-Dimensional Hydrodynamic and Wave Model for Water Levels and Wind Waves in the Western North Atlantic Ocean**, *submitted to Ocean Science Journal*, arXiv preprint <https://doi.org/10.48550/arXiv.2505.18803>
- Venolia M., R. Marsooli. **Investigating the Effects of the Gulf Stream on Spectral Wave Characteristics Using a Coupled Three-Dimensional Hydrodynamic and Wind-Wave Model**, *submitted to Ocean Dynamics*

CONFERENCE PRESENTATIONS

- **AGU Ocean Sciences Meeting 2024, New Orleans, LA** 02/20/2024
Poster Presentation: Wind Wave Climatology along the U.S. East and Gulf Coasts based on Spectral Wave Family Characteristics
Stevens Institute of Technology Graduate Conference Funding \$1500 award
- **New Jersey Climate Research Symposium, Rutgers University, New Brunswick, NJ** 06/02/2023
Oral presentation: Climatology of Wind-Generated Wave Families off the New Jersey Atlantic Coast
- **AGU Fall 2022 Meeting, Chicago, IL** 12/12-15/2022
Poster Presentation: Long Term Trends and Variability of Spectral Wave Systems in the New York Bight

FOREIGN LANGUAGES & CERTIFICATIONS

Greek Language - Native speaker

ASCE Student Chapter Award for Outstanding TA Award 05/11/2025

ORDER OF THE ENGINEER *ordained on* 12/04/2024

TOEFL ENGLISH LANGUAGE EXAMINATION iBT 11/09/2019

Over-all Score : 110/120 Speaking: 29/30, Listening: 28/30, Reading: 27/30, Writing: 26/30

GRE EXAMINATION 11/14/2019

Verbal Reasoning : 148/170 (37th percentile), Quantitative Reasoning: 156/170 (60th Percentile)

Analytical Writing: 4.5/6 (81st percentile)

UNIVERSITY OF MICHIGAN, MICHIGAN, USA

Certificate of Proficiency in English 11/2012

SPECIALIZED SKILLS

Programming Languages/Platforms: Python, MATLAB

Programs: ArcGIS, AutoCAD, Mike21, SCHISM

Microsoft Office: Excel, Power Point, Word, Publisher

Operating Systems: Windows 7,8,10, Linux, Macintosh

SEMINARS & SITE VISITS

- Stevens Institute of Technology Civil Environmental & Ocean Engineering Research Fair 02/14/2024
- Rutgers Climate Symposium 2023, New Jersey 11/15/2023
- Waterfront Alliance Conference, New York 05/08/2023
- Stevens Institute of Technology trip to USACE NY District Head Quarters and USACE Rockaway Peninsula project sites 06/16/2023
- Stevens Institute of Technology trip to Cattus Island County Park, Toms River, NJ Living Shorelines Project Design 04/23/2021
- *Hydraulic Works-* Seminar – Dean of the Department of Civil Engineering University of Patras 12/04/2019
- Dam of Kremasta - Hydroelectric Power Plant, Aetoloacarnania, Greece 03/2017

INTERESTS- ACTIVITIES

- ASCE, AGU Member
- Byzantine music
- Latin Dancing – 9 years

REFERENCES

Dr. Reza Marsooli

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Dept. of Civil, Environmental & Ocean Engineering
Stevens Institute of Technology
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Dr. George Korfiatis

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Dr. Athanasios Dimas

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Dr. Andreas Langousis

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