

CONTACT

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<http://upwelling.stanford.edu/>

EDUCATION

2023 - Postdoctoral researcher under the supervision of John Wilkin
Rutgers University, NJ

2019 - 2023 PhD in Engineering with emphasis in Environment and Water
University of Georgia, Athens, GA

2016 - 2018 MSc in Marine Sciences
University of Georgia, Athens, GA

2010 - 2016 BS in Oceanography
Universidade Federal do Maranhao, Brazil

2012 - 2013 Exchange Program in Physical Oceanography
Memorial University and Marine Institute, NL, Canada

REFERENCES

Dr. Brock Woodson - Assistant Professor at Engineering Department, University of Georgia
Email: bwoodson@uga.edu

Dr. Narayanaswamy - Associate Vice President at Michael Baker International
Email: MNarayanaswamy@mbakerintl.com

Dr. Kooperman - Assistant Professor at Department of Geography, University of Georgia
Email: kooperman@uga.edu

PUBLICATIONS IN PREPARATION

Fagundes, Matheus & Woodson, C. Brock. **Development of a simple oxygen flux rate for kelp forests, in preparation for Ocean Modeling journal.**

Fagundes, Matheus & Woodson, C. Brock. **Kelp forest model development in a regional ocean model, in preparation for Geoscientific Model Development journal.**

PUBLICATIONS

Stephen Monismith, Maha Alnajjar, Margaret Daly, Arnaldo Valle-Levinson, Braulio Juarez, Matheus Fagundes, Tom Bell & C. Brock Woodson. **Kelp Forest Drag Coefficients Derived from Tidal Flow Data**, 2022. <https://link.springer.com/article/10.1007/s12237-022-01098-2>.

Valle-Levinson, A., A. Daly, M.; Juarez, B.; Fagundes, M.; Woodson, C. B.; Monismith, S. G. **Influence of kelp forests on flow around headlands**, Journal: Science of the Total Environment, 2022. <https://www.sciencedirect.com/science/article/abs/pii/S0048969722010440>.

Omidvar, S.; Fagundes, M.; Woodson, C.B. **Modification of internal wave generation and energy conversion in the nearshore due to tide-tide and tide-wind interactions**, JGR Oceans, 2022. <https://agupubs.onlinelibrary.wiley.com/doi/abs/10.1029/2021JC017986>.

Fagundes, M. *et al.* **Downscaling global ocean climate models improves estimates of exposure regimes in coastal environments**, Nature Scientific Reports, 2020. <https://www.nature.com/articles/s41598-020-71169-6>

Fagundes, M. *et al.* **The eventual presence of freshwater of Amazonas river over the continental shelf of the state of Maranhão - Brazil.**, AIP Conference Proceedings (2018). <https://aip.scitation.org/doi/abs/10.1063/1.5000000>.

CONFERENCE PRESENTATIONS

- Jan. 7th – 12th, 2023 **Modeling kelp forest in COAWST (Oral)**
Fagundes, M., Woodson, C.B.
Joint at 103rd AMS Annual Meeting.
- Feb. 11th – 16th, 2018 **Investigating hypoxia in a Climate Change scenario in a region of upwelling.**
Fagundes, M., Omidvar, S., Woodson, C.B.
Poster at 2018 Ocean Sciences Meeting
- Feb. 11th – 16th, 2018 **THE GENERATION OF INTERNAL WAVES BY VARIABLE WIND STRESS AND TIDAL FLOW INTERACTIONS IN THE NEARSHORE.**
Omidvar, S., Fagundes, M., Woodson, C.B.
Oral Presentation at 2018 Ocean Sciences Meeting
- Oct 06th – 09th, 2015 **Superficial Circulation on the Equatorial Atlantic in periods of extremes EL-NINO and LA-NINA: Preliminary results of a Regional Model.**
Fagundes, M., Campos, P.C., Parise, C.K., Pezzi, L.P., Junior, A.R.T., Sutil, U.A., Gouveia, M.B.
poster at XI OMARSAT (Symposium of waves, tides, oceanic engineering and satellite oceanography (title translated))
- Oct 25th – 29th, 2014 **Wave Tides propagation at Itapecuru's river basin: a study.**
Soares, R., Fagundes, M., Torres, A.R.T., Quadros, E., Azevedo, J., Castro, A.C., Campos, G.,
poster at VI Brazilian Congress on Oceanography (title translated)

INTERNSHIPS

- May 2022 - Aug 2022 **Hydrodynamic and wave modeling, data analysis**
Advisor: Dr. Muthukumar Narayanaswamy
- 2014-2016 **Coastal Circulation on the Internal Continental Shelf of the Brazilian Equatorial Margin using ROMS**
Advisor: Dr. Audálio Rebelo Torres Junior
- Summer 2014 **Scientific training to run the Regional Ocean Modeling System (ROMS) and participation in seminars in physical oceanography and meteorology fields**
Advisor: Dr. Luciano Ponzi Pezzi
- Summer 2013 **Modeling potential Energy in Internal Gravity Waves using python**
Advisor: Dr. James R. Munroe

COMPUTER SKILLS

- Basic knowledge: Cloud Computing and ML/AI
- Intermediate knowledge: CDO, Fortran, and \LaTeX
- Advanced knowledge: R, Linux/Unix, bash and MATLAB
- Proficient knowledge: Python
- Numerical Models: Coupled-Ocean-Atmosphere-Wave-Sediment transport (COAWST) Modeling System
Community Earth System Model (CESM2)

INTERESTS AND ACTIVITIES

During my "spare time" I look for flights to visit Central America and parts of the US. Trying to improve my skill to keep things alive. I can now keep plants and fish alive!! On Sundays, I coach volleyball to 7th and 8th-grade girls; I hope one day I will watch an international volleyball match and see one of them playing. I am also training to run a half marathon in 6 months and a marathon in a year! I recently got into playing racquetball.