

CONTACT

NAME: *Matheus Fagundes*
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WEBSITE: <http://www.cobia.engr.uga.edu/>
<http://upwelling.stanford.edu/>

EDUCATION

Present- | University of Georgia, Athens, GA
PhD in Engineering with emphasis in Environment and Water

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

2010-2016 | Universidade Federal do Maranhao (Federal University of Maranhao),
Sao Luis, MA, Brazil
B.S. in Oceanography

2012-2013 | Memorial University/Marine Institute, St. John's, NL, Canada
Visiting Undergraduate Student

HONORS

August 2019- | **NSF Graduate Research Fellow**, Department of Engineering, Univ. of Georgia

August 2016-2018 | **NSF Graduate Research Fellow**, Department of Marine Sciences, Univ. of Georgia
Modeling exposure time of abalone population under present and future ocean acidification conditions in an upwelling region.

Jan 2014 - Jun 2016 | **Coastal Water Quality and Marine Sediment Program Scholarship Award (title translated)**, Department of Oceanography and Limnology, Federal Univ. of Maranhao
Modeling the sediment transport dynamics of Sao Marcos Bay - Sao Luis - Maranhao - Brazil

Sep 2012 - Dec 2013 | **Scholarship Award by Brazil-Canada (CBIE)**
Science Without Borders Program

INTERNSHIPS

May-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

144 h | **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*

390 h | **Modeling potential Energy in Internal Gravity Waves using python**
Advisor: *Dr. James R. Munroe*

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>

CONFERENCE PRESENTATIONS

- Mar 14th – 18th, 2018 **The Eventual Presence of Freshwater of Amazonas River Over the Continental Shelf of the State of Maranhão – Brazil**,
Torres Junior, A.R., Fagundes, M., da Silva Dias, F.J., de Castro, A.C.L., Santos, E.D.V., Soares, R. A., Neta, R.N.F.C.
Oral Presentation at 14th International Conference of Computational Methods in Science and Engineering – ICCMSE 2018
- 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)

COURSES RELATED

- Marine Sciences Department
 - Estuarine and Coastal Physical Oceanography (Fall 2017)
 - General Physical Oceanography (Spring 2017)
- Engineering Department
 - Advanced Fluid Mechanics (Spring 2018)
 - Transport and Mixing in Natural Flows (Spring 2017)
 - Computational Engineering (Fall 2016)
- Mathematics Department
 - Climate and Mathematics (Fall 2016)
- Geology Department
 - Data Analysis for Geoscientists (Fall 2017)
 - Modeling Earth's Climate System (Spring 2021)
- Statistics Department
 - Applied Regression Analysis (Spring 2019)

SHORT TERM COURSES

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| June 3 rd – 4 th , 2021 | 2021 Data for Good Virtual Hackathon JPMorgan Chase & Co |
| Aug 9 th – 13 th , 2021 | 2021 CESM Tutorial National Center for Atmospheric Research (NCAR) |
| Aug 26 th – 30 th , 2019 | OCEANHACKWEEK 2019 University of Washington |
| Jan 19 th – 23 th , 2015 | LINUX for High Performance Computing: an Introduction Hours: 7.5 h National Laboratory of Scientific Computation (LNCC) |
| Jan 19 th – 23 th , 2015 | FORTRAN for Computational Modeling Hours: 7.5 h National Laboratory of Scientific Computation (LNCC) |

COMPUTER SKILLS

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| Basic Knowledge: | Ncview, Cloud Computing, Machine Learning |
| Intermediate Knowledge: | CLIMATE DATA OPERATORS (CDO), FORTRAN, \LaTeX |
| Advanced Knowledge: | R, LINUX/UNIX, bash, MATLAB |
| Proficient Knowledge: | PYTHON |
| Numerical Model: | Coupled-Ocean-Atmosphere-Wave-Sediment Transport (COAWST) Modeling System, Community Earth System Model (CESM) |

LANGUAGES

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|-------------|-------------------|
| PORTUGUESE: | Mother tongue |
| ENGLISH: | Full Professional |
| FRENCH: | Basic Knowledge |

OTHERS

Practical Guide to build and set up COAWST in the Kerana Cluster, (title translated)
Author: M.S Ueslei Adriano Sutil. Contributed helping with Python codes.

INTERESTS AND ACTIVITIES

Hiking, fishkeeping,
Volleyball coach, semi-pro volleyball player,
Travelling.

REFERENCES

Upon request.