

FELIPE MENDONÇA PIMENTA

Federal University of Santa Catarina

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Education

University of Delaware

Ph.D. Physical Ocean Sciences and Engineering

Aug 2004 - Dec 2009

Newark - DE, USA.

University of São Paulo

M.Sc. Physical Oceanography

Mar 1999 - Jun 2001

São Paulo - SP, Brazil.

Federal University of Rio Grande

B.A. Oceanography

Mar 1994 - Dec 1998

Rio Grande - RS, Brazil.

Research Interests

Renewable energy, including offshore wind, tidal energy, hydropower, and wave energy. Coastal physical oceanography, including observational and modeling studies of wind-driven circulation, estuaries, river plumes, tides, and coastal meteorology.

Employment

Federal University of Santa Catarina

Associate Professor

Oct 2013 - present

Florianópolis - SC, Brazil.

Federal University of Rio Grande do Norte

Adjunct Professor

Jun 2011 - Sep 2013

Natal - RN, Brazil.

National Institute for Space Research

Research Associate

Mar 2010 - May 2011

Cachoeira Paulista - SP, Brazil.

University of Delaware

Research Assistant

Mar 2008 - Dec 2009

Lewes - DE, USA.

Federal University of Santa Catarina

Research Assistant

Jul 2001 - Jul 2004

Florianópolis - SC, Brazil.

Technical experience

Operational systems: Experience with Mac OS, Windows, Linux and high-performance computing environments.

Programming Languages: Matlab, Python, Fortran and basic shell scripting.

Numerical models: I have experience with the Princeton Ocean Model (POM), the Modular Ocean Model (MOM4), Delft3D- FLOW, the Finite Volume Community Ocean Model (FVCOM), the Regional Ocean Modeling System (ROMS), the Weather Research & Forecasting Model (WRF), and the Refraction-Diffraction Wave Model (RefDif).

Publications

Pimenta, Felipe M., Saavedra, Osvaldo R., Oliveira, Denisson Q., Assireu, Arcilan T., Júnior, Audálio R. Torres, Freitas, Ramon M. de, Neto, Francisco L. Albuquerque, Lopes, Denivaldo C. P., Oliveira, Clóvis B. M., Lima, Shigeaki L. de, Neto, João C. de Oliveira, Veras, Rafael B. S. (2023). Characterization of wind resources of the east coast of Maranhão, Brazil. *Energies*, V. 16, P. 5555.

Veras R. B. S., Oliveira, Clóvis B. M., de Lima, Shigeaki L., Saavedra, Osvaldo R., Oliveira, Denisson Q., **Pimenta, Felipe M.**, Lopes, Denivaldo C. P., Torres Junior, Audálio R., Neto, Francisco L. A., de Freitas, Ramon M., Assireu,

Arcilan T. (2023). Assessing economic complementarity in wind-solar hybrid power plants connected to the Brazilian Grid. *Sustainability*, V. 15, P. 8862.

Assireu, Arcilan T., **Pimenta, Felipe M.**, de Freitas, Ramon M., Saavedra, Osvaldo R., Neto, Francisco L. A., Júnior, Audálio R. Torres, Oliveira, Clóvis B. M., Lopes, Denivaldo C. P., de Lima, Shigeaki L., Veras, Rafael B. S., Saraiva, Natália P., Marcondes, Luiz G. P., Oliveira, Denisson Q. (2022) Eosolar Project: Assessment of wind resources of a coastal equatorial region of Brazil - Overview and preliminary results. *Energies*, V. 15, P. 2319.

Fernandes, I. G., **Pimenta, Felipe M.**, Mendez, O. R. S., Assireu, A. T. (2022). Exploring the complementarity of offshore wind sites to reduce the seasonal variability of generation. *Energies*, V. 15, P. 1-24.

Torres Junior, Audalio R., Saraiva, Natália P., Assireu, Arcilan T., Neto, Francisco L. A., **Pimenta, Felipe M.**, de Freitas, Ramon M., Saavedra, Osvaldo R., Oliveira, Clóvis B. M., Lopes, Denivaldo C. P., de Lima, Shigeaki L., Veras, Rafael B. S., Oliveira, Denisson Q. (2022). Performance evaluation of Lidar and Sodar wind profilers on the Brazilian Equatorial margin. *Sustainability*, V. 14, P. 14654.

Elshafei, Basem, Peña, Alfredo, Xu, Dong, Ren, Jie, Badger, Jake, **Pimenta, Felipe M.**, Giddings, Donald, Mao, Xuerui (2021). A Hybrid solution for offshore wind resource assessment from limited onshore measurements. *Applied Energy*, V. 298, P. 117245.

Czizewski, A. C., **Pimenta, Felipe M.**, Saavedra, Osvaldo R. (2020). Numerical modeling of Maranhão Gulf tidal circulation and power density distribution. *Ocean Dynamics*, V. 1, P. 1-16.

Nassif, F. B., **Pimenta, Felipe M.**, Daquino, C. A., Assireu, A. T., Garbossa, L. H. P., Passos, J. C. (2020). Coastal wind measurements and power assessment using a Lidar on a Pier. *Revista Brasileira de Meteorologia*, V. 35, P. 1-14.

Nassif, F. B., **Pimenta, Felipe M.**, Assireu, A. T., Daquino, C. A., Passos, J. C. (2020). Wind measurements using a Lidar on a buoy. *Revista Brasileira de Recursos Hídricos*, V. 25, P. 1-13.

Pires, C. H. M., **Pimenta, Felipe M.**, Daquino, C. A., Mendez, O. R. S., Mao, X., Assireu, A. T. (2020). Coastal wind power in Southern Santa Catarina, Brazil. *Energies*, V. 13, P. 1-23.

Pellegrini, Cláudio C., Araujo, Caio C.S., Reis, André, **Pimenta, Felipe M.**, Assireu, Arcilan T. (2019). Análise do desempenho do modelo WRF num episódio de vento intenso e persistente num grande reservatório tropical. *Revista Brasileira de Meteorologia*, V. 34, P. 121-138.

Assireu, A. T., Mendonca, J. C., Freitas, R. M., Passos, R. B., Pellegrini, C. C., **Pimenta, Felipe M.** (2019). Escoamento atmosférico sobre uma colina isolada revelado a partir de dados de um veículo aéreo não tripulado (VANT). *Revista Brasileira de Meteorologia*, V. 34, P. 227-236.

Assireu, A. T., Mendonca, J. C., Freitas, R. M., Reis, A. L., Pellegrini, Cláudio C., **Pimenta, Felipe M.** (2019). Uso de VANT para prospecção eólica em sistemas aquáticos: desenho amostral e avanços instrumentais. *Revista Brasileira de Meteorologia*, V. 34, P. 237-245.

Pimenta, Felipe M., Silva, Allan R., Assireu, Arcilan T., Almeida, Vinicio de S. E, Saavedra, Osvaldo R. (2019). Brazil offshore wind resources and atmospheric surface layer stability. *Energies*, V. 12, P. 4195.

Ribeiro, F., **Pimenta, Felipe M.**, Vital, H. (2018). Inner Shelf Currents Off Ponta Negra Beach, Natal, RN, Brazil. *Revista Brasileira de Geofísica*, V. 36, P. 43.

Costa-Silva, L. V. L., Almeida, V. S. E., **Pimenta, Felipe M.**, Segantini, G. T. (2017). Time span does matter for offshore wind plant allocation with modern portfolio theory. *International Journal of Energy Economics and Policy*, V. 7, P. 188-193.

Silva, Allan Rodrigues, **Pimenta, Felipe M.**, Assireu, Arcilan Trevenzoli, Spyrides, Maria Helena Constantino (2016). Complementarity of Brazil's hydro and offshore wind power. *Renewable & Sustainable Energy Reviews*, V. 56, P. 413-427.

Mouriño, Gabriela Leal de, Assireu, Arcilan Trevenzoli, **Pimenta, Felipe M.** (2016). Regularization of hydroelectric reservoir levels through hydro and solar energy complementarity. *Revista Brasileira de Recursos Hídricos*, V. 21, P.

- Assireu, Arcilan Trevenzoli, **Pimenta, Felipe M.**, Freitas, Ramon Morais (2016). Observações e modelagem da camada limite interna no entorno de extensos sistemas aquáticos. *Ciência e Natura*, V. 38, P. 305.
- Eichler, Patrícia P.B., **Pimenta, Felipe M.**, Eichler, Beatriz B., Vital, Helenice (2016). Living benthic foraminiferal species as indicators of cold-warm water masses interaction and upwelling areas. *Continental Shelf Research*, V. 116, P. 116-121.
- Pimenta, Felipe M.**, Assireu, A. T. (2015). Simulating reservoir storage for a wind-hydro hydrid system. *Renewable Energy*, V. 76, P. 757-767.
- Eichler, P. P. B., Eichler, Beatriz Beck, **Pimenta, Felipe M.**, Pereira, Evelyn da Rocha Mendes, Vital, Helenice (2014). Evaluation of environmental and ecological effects due to the accident in an oil pipe from Petrobras in Guanabara Bay, RJ, Brazil. *Open Journal of Marine Science*, V. 04, P. 298-315.
- Pimenta, Felipe M.**, Mendes, D. A. R., Souto, A. M. C., Melo Filho, E., Vicentini Neto, F. L., Franco, D., Pereira, N. C., Castelão, G. P., Hammes, G., Barletta, R. C., Romeu, M. A. (2013). Técnicas aplicadas no fundeio e manutenção de um ondógrafo direcional. *Revista Brasileira de Recursos Hídricos*, V. 18, P. 281-296.
- Assireu, A. T., Pellegrini, C. C., **Pimenta, Felipe M.** (2013). Intensificação do vento devido a influências do relevo: evidências a partir de modelos numéricos e medidas in-situ. *Ciência e Natura*, V.0, P. 76-78.
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- Pimenta, Felipe M.**, Kirwan, A. D., Huq, Pablo (2011). On the transport of buoyant coastal Plumes. *Journal of Physical Oceanography*, V. 41, P. 620-640.
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- Pimenta, Felipe M.**, Garvine, R., Münchow, A. (2008). Observations of coastal upwelling off Uruguay downshelf of the Plata estuary, South America. *Journal of Marine Research*, V. 66, P. 835-872.
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- Eichler, P. B., Eichler, B. B., Miranda, L. B., Pereira, E. R. M., Cardoso, P. B. P. K., **Pimenta, Felipe M.**, Bérnago, A. L., Vilela, C. G. (2003). Benthic foraminiferal response to variations in temperature, salinity, dissolved oxygen and organic carbon, in the Guanabara Bay, Rio de Janeiro, Brazil. *Anuário Do Instituto de Geociências - UFRJ*, V. 26, P. 36-51.

Eichler, B. B., Eichler, P. B., Miranda, L. B., Bérnago, A. L., Bernardes, M. C., Pereira, E. R. M., Cardoso, P. B. P. K., **Pimenta, Felipe M.** (2001). utilização de foraminíferos como indicadores da influência marinha na Baía de Guanabara, RJ, Brasil. *Pesquisas em Geociências*, Porto Alegre, V. 28, N.2, P. 251.

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