Stanford



Devin Dollery

Ph.D. Student in Oceans, admitted Autumn 2023

Bio

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I am interested in computational simulations of the natural world - focusing on developing models of ocean physics to predict the ocean's role in climate variability. At Stanford, my PhD research commencing in Autumn 2023 with Prof Fringer seeks to model and understand the interaction of surface and internal waves. This relationship will be correlated to satellite imagery of ocean surface roughness to infer stratification for assimilation into ocean models.

My professional background started in civil engineering and coastal processes modeling. I received an MSc in computational mechanics at the University of Cape Town (2018) - formulating and implementing a multiscale FEM model for cardiac tissue. Most recently, I was a scientific software developer adding parallelized tools and functionality to the ocean modeling software, UCLA ROMS, at the University of California, Los Angeles.

EDUCATION AND CERTIFICATIONS

- MSc Eng, University of Cape Town, South Africa , Civil Engineering (2018)
- BSc Eng, University of Cape Town, South Africa , Civil Engineering (2010)

SERVICE, VOLUNTEER, AND COMMUNITY WORK

- Project leader of SMART tutoring program - SHAWCO Education (2/1/2017 - 11/30/2017)
- Maths coordinator of SMART tutoring program - SHAWCO Education (2/1/2016 - 11/30/2016)

Publications

PUBLICATIONS

- **Development of a Mesoscale- and Tide-Resolving Ocean-Biogeochemistry Model for the Pacific: Tidal Enhancement of the Biological Carbon Pump** *JOURNAL OF ADVANCES IN MODELING EARTH SYSTEMS*
  Damien, P., Molemaker, J., McCoy, D., Dollery, D., Guiet, J., Bianchi, D., McWilliams, J. C.
  2026; 18 (4)