

Postdoctoral Position in Computational Fluid Dynamics
and Numerical Simulations for Ocean Energy
University of California, Berkeley

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Posted Sep. 18, 2017, expired Jan. 18, 2018

Job Title	Postdoctoral Position in Computational Fluid Dynamics and Numerical Simulations for Ocean Energy
Department	Department of Mechanical Engineering
Institution	University of California, Berkeley Berkeley, California
Date Posted	Sep. 18, 2017
Application Deadline	Oct. 31, 2017
Position Start Date	Jan. 1, 2018
Job Categories	Post-Doc
Academic Field(s)	Ocean Engineering Naval Architecture & Marine Engineering
Apply By Email	postdoctaflabberkeley@gmail.com

Job Description

The Theoretical and Applied Fluid Dynamics Laboratory (TAF LAB) in collaboration with CalWave Power Technologies Inc. is seeking a candidate for a postdoctoral position for computational fluid dynamics in the field of ocean energy, wave energy conversion.

Research Interests of TAFLAB:

Theoretical and Applied Fluid Dynamics, Nonlinear Wave Mechanics, Ocean and Coastal Waves Phenomena, Ocean Renewable Energy (Wave, Tidal and Offshore Wind Energy), Nonlinear Dynamic Systems, Fluid Flow Control.

The successful candidate will work in a team developing highly-scalable parallel simulations for addressing complex oscillating flows in complex geometries for wave energy converters.

Research and development activities will include:

? Parametric CFD model development for single phase flows for moving complex geometries under

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dynamically changing environments

? Numerical modeling of frequency and time-domain simulations using WEC-Sim or comparable software and BEM such as AQWA, Nemoh, WAMIT or comparable

? Model validation and verification using experimental data

? Scaling developed CFD model for parallel computing on clusters

? Understanding specific flow solution algorithms and phenomena subject to the numerically and experimentally assessed model

? Extensive interaction with other team members and laboratories on model design, turbulence modeling, algorithm development and implementation

? +++ Post processing,

Required Skills:

- Ph.D. from an accredited college or university with major study in Mechanical, Ocean Engineering, Naval Architecture or Aerospace Engineering.
- Experience in developing or applying computational fluid dynamics (CFD) modeling software
- Experience in CAD model and CFD mesh generation.
- Demonstrated excellent writing, presentation, and communication skills
- Turbulent flows, numerical methods, and MPI/supercomputing applications;
- Strong communication and language skills
- Experience with STAR-CCM+ CFD software will be given higher consideration
- Experience with modeling of wave energy converters using BEM such as WAMIT, AQWA or Nemoh preferred
- Experience with the modeling of the Fluid Structure Interaction of Wave Energy Converts or Marine Structures will be given higher consideration.

Job Location and Type:

Berkeley, California, USA

Full-Time for one year with possibility of extension

All communications have to be through:

postdoctaflabberkeley@gmail.com

(violations of this policy have to be disregarded for the position)

Contact Information

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Please reference Academickeys in your cover letter when
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Contact Marcus Lehmann, M.Sc.
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