

# DEPARTMENT OF OCEAN ENGINEERING

<http://engineering.tamu.edu/ocean>

**Department Head:** Sharath Girimaji

**Graduate Advisor:** David Allen

Ocean engineering is the application of basic engineering principles to the analysis, design, construction, and management of systems that operate in the ocean environment. The graduate ocean engineering program is broad-based and is designed to fit the needs of graduates from most engineering disciplines and naval architecture. Typical ocean engineering application areas include: beach protection and nourishment, coastal structures, coastal erosion, current and wave structure interaction, development of ocean energy resources, dynamics of offshore platforms and vessels, hydrodynamics, ocean turbulence modeling, instrumentation for coastal and offshore measurements, marine dredging and dredged material placement, marine risers, moored and towed systems, numerical and physical modeling of ocean processes and systems, ocean mining, offshore petroleum recovery, offshore structures, pipeline flow assurance, ports and harbors, remotely operated and autonomous underwater vehicles, renewable ocean energy systems, search and salvage, suspended and dissolved constituent transport, subsea pipelines and cables, submersible vehicles and sustainable and resilient ocean systems.

The graduate degree programs include coursework leading to the Master of Science (MS, thesis or non-thesis), Master of Engineering (ME), and Doctor of Philosophy (PhD) degrees in Ocean Engineering and Doctor of Engineering (DEng) in engineering. Students entering the graduate degree program have widely varied engineering backgrounds. Each graduate student is expected to become well versed in the appropriate support disciplines, particularly mathematics, ocean wave mechanics, and hydrodynamics. The student is expected to achieve reasonable competence in the principal areas of offshore structures, coastal and port engineering, coastal and estuarine processes, dredging and/or mining processes, underwater systems, or marine hydrodynamics. The graduate program is designed to provide students with knowledge of engineering in the ocean environment and to establish a base for ocean engineering research. Graduate courses are given in ocean engineering wave theory, marine hydrodynamics, oceanography, mathematics, coastal engineering, estuary hydrodynamics, sediment transport, dynamics of offshore structures, dynamics of ocean vehicles, marine dredging, port and harbor design, laboratory modeling, nonlinear hydrodynamics, computational fluid dynamics, ocean probability and statistics applications, and advanced offshore and coastal numerical methods.

The Department of Ocean Engineering is a two-campus department with campuses located in College Station and Galveston. The laboratory facilities in College Station are among the most comprehensive in the nation for testing offshore, coastal, and underwater systems. The College Station facilities are located in Offshore Technology Research Center (OTRC) and the Reta and Bill Haynes '46 Engineering Building (HEB). The facilities in Galveston include two wave channels and provide access to the Gulf of Mexico through use of small boats, field equipment and instrumentation, and research vessels are available for offshore and coastal engineering research and education.

There is no foreign language requirement for PhD in ocean engineering or DEng in engineering. Students pursuing PhD in ocean engineering or DEng in engineering are required to pass the Ocean Engineering qualifying exam.

## Faculty

Allen, David, Senior Lecturer

Ocean Engineering

PHD, Texas A&M University, 1980

Amini, Noushin, Research Assistant Professor

Ocean Engineering

PHD, Texas A&M University, 2011

Chang, Kuang-An, Professor

Ocean Engineering

PHD, Cornell University, 1999

Chen, Hamn C, Professor

Ocean Engineering

PHD, The University of Iowa, 1982

PHD, University of Iowa, 1982

Chung, Jin-Sug, Associate Professor Of The Practice

Ocean Engineering

PHD, University of Michigan, 1991

Duran Vinent, Orencio, Assistant Professor

Ocean Engineering

PHD, University of Stuttgart, 2007

Falzarano, Jeffrey M, Professor

Ocean Engineering

PHD, University of Michigan, Ann Arbor, 1990

Figlus, Jens, Associate Professor

Ocean Engineering

PHD, University of Delaware, 2010

Fuerth, Mirjam, Assistant Professor

Ocean Engineering

PHD, University of Southampton, Southampton, UK, 2014

Girimaji, Sharath S, Professor

Ocean Engineering

PHD, Cornell University, 1990

Horrillo, Juan J, Associate Professor

Ocean Engineering

PHD, University of Alaska at Fairbanks, 2006

Jameson, Antony, Professor

Ocean Engineering

PHD, University of Cambridge, 1963

Jin, Chung-Kuk, Research Assistant Professor

Ocean Engineering

PHD, Texas A&M University, 2019

Kaihatu, James, Professor

Ocean Engineering

PHD, University of Delaware, 1994

Kang, Heonyong, Assistant Professor  
Ocean Engineering  
PHD, Texas A&M University, 2014

Kim, Moohyun, Professor  
Ocean Engineering  
PHD, Massachusetts Institute of Technology, 1988

Koola, Paul M, Professor of the Practice  
Ocean Engineering  
PHD, Indian Institute of Technology, Madras, 1991

Panchang, Vijaykumar G, Regents Professor  
Ocean Engineering  
PHD, University of Maine, 1985

Paredes Tobar, Lenin Marcelo, Assistant Professor  
Ocean Engineering  
PHD, University of Sao Paulo, Sao Paulo, Brazil, 2012

Perlin, Marc, Professor  
Ocean Engineering  
PHD, University of Florida Gainesville, 1989

Rodriguez, Ignacio J, Distinguished Professor  
Ocean Engineering  
PHD, Colorado State University, 1967

Sekaran, Aarthi, Research Assistant Professor  
Ocean Engineering  
PHD, Texas A&M University, 2012

Song, Youn K, Research Assistant Professor  
Ocean Engineering  
PHD, Texas A&M University, 2013

Subramanian, Rahul, Lecturer  
Ocean Engineering  
PHD, University of Michigan, 2012

Sweetman, John A, Professor  
Ocean Engineering  
PHD, Stanford University, 2001

Witherden, Freddie, Assistant Professor  
Ocean Engineering  
PHD, Imperial College London, United Kingdom, 2015

Wood, Amanda L, Instructional Associate Professor  
Ocean Engineering  
PHD, University of Houston, 2010

## Masters

- Master of Engineering in Ocean Engineering (<http://catalog.tamu.edu/graduate/colleges-schools-interdisciplinary/engineering/ocean/ocean-meng/>)
- Master of Science in Ocean Engineering (<http://catalog.tamu.edu/graduate/colleges-schools-interdisciplinary/engineering/ocean/ocean-ms/>)

## Doctoral

- Doctor of Philosophy in Ocean Engineering (<http://catalog.tamu.edu/graduate/colleges-schools-interdisciplinary/engineering/ocean/ocean-phd/>)