

# Design of Floating Production Systems (DFPS)

June 14-25, 2021

The University of Texas at Austin

Instructor Biography



**DR. SPYROS A. KINNAS**  
Faculty-In-Charge  
The University of Texas at Austin



- Hudson Matlock Professor, Civil, Architectural and Environmental Engineering, University of Texas at Austin, Cockrell School of Engineering
- Associate Director, Offshore Technology Research Center
- In charge of Ocean Engineering Graduate program at UT Austin
- Diploma, Naval Architecture and Marine Engineering, National Technical University of Athens, Greece
- Ph.D., Massachusetts Institute of Technology (M.I.T.)
- 10+ years' experience in research and teaching at M.I.T. (Dept. of Ocean Engineering)
- Founded in 1993 consortium on cavitation of high speed propulsors (currently in Phase VIII)
- Fields of specialization include marine propulsors, thrusters, and tidal/ocean current turbines; cavitating and separated flows; wave theory and wave body interaction; computational hydrodynamics with applications on the prediction of performance and design of devices used for the propulsion or control of ocean vehicles and offshore structures
- Website: <http://www.cae.utexas.edu/prof/kinnas/home.html>

# DR. STEPHEN HODGES

SBH Creative Consulting



- SBH Creative Consulting: Offshore Consultant, Career Coach, Mentor
- Over 35 years in the Offshore Industry
- Gulf Oil Company – 1984
- Shell International Exploration and Production, Inc. – 1989 – 2019
- During the 30 years with Shell
  - Worked on the design, fabrication and installation of most of Shell's deepwater developments worldwide to include hydrodynamics, global performance, structural design, construction site engineering, project management and organizational management
  - Serves as the Engineering Manager for Riser Systems for many years
  - Senior Principal Advisor for Pipelines, Flowlines and Risers – accountable for assessment and appointment of technical authorities, development and maintenance of technical standards and technical assurance for major projects
  - Coach and Mentor to Junior Engineers
- B.S. in Civil Engineering from Northwestern University, and M.S. and Ph.D. degrees from the University of California, Berkeley in Naval Architecture & Offshore Engineering, focusing on hydrodynamics and ship motions, whilst consulting in the offshore industry, conducting model tests for various clients, and more than occasionally setting sail on the San Francisco Bay

# DR. SERGIO JARAMILLO

Shell Oil Company



- Sergio Jaramillo is a Metocean Engineer working for the oil and gas industry since 2011 focusing on the characterization of the offshore environment for platform/instrumentation design, risk analysis, and operational efficiency at sea
- Prior to working for Shell, Sergio worked as a researcher at the Ocean and Resources Engineering Department at the University of Hawaii. He spent 10-years in the in the Colombian Navy as a navigation officer, obtained an MSc in Physical Oceanography at the University of British Columbia, a PhD in Coastal and Oceanographic Engineering at the University of Florida

# DR. RICHARD MERCIER

Texas A&M University



- Director, OTRC and Professor, Civil Engineering, Texas A&M University
- Ph.D., Oceanographic Engineering, MIT/Woods Hole Oceanographic Institution
- S.M., Massachusetts Institute of Technology
- B.A.Sc., University of Waterloo (Canada)
- Experience includes 19 years of research, design, project management and team leadership experience with Shell Oil, focused on technology development for design of Shell's deepwater oil and gas production platforms in the Gulf of Mexico and worldwide. Member of global design team for Shell's Auger, Mars, Ram/Powell and Ursa Tension Leg Platforms in 3000 – 4000 foot water dept. Leader of global design team for Shell's Na Kika Semisubmersible Floating Production System in 6400 foot water depth. Global design lead for several spar and tanker-based PFSO concept development studies for the Gulf of Mexico, offshore West Africa and the Northern North Sea

# BRIAN CHEATER

GustoMSC US, Inc.



- Technical Director, Naval Architecture
- Primary author and project manager for the NYSERDA report on the Business Case for the Construction of a Jones Act Wind Turbine Installation Vessel.
- Developed the concept of the Steady Top Feeder Barge to solve the port logistics problem for East Coast Wind Farm Development. This uses the BargeMaster motion compensated platform on the deck of a US build cargo deck barge to transport them from port and deliver them offshore for what is effectively a near-stationary lift.
- Created installation models to compare the total number of days to install a batch of 100 turbines using the steady top barge compared to the alternatives (bare barge, feeder jack-up, self-transiting WTIV).
- Determined the financial benefit to the developer (demand side) and the required day rate to the vessel owner (supply side) to make a steady top barge financially viable. Developed marine operation procedures along with the installation aids such as hydraulic clamps to permit unmanned operations offshore. Performed time domain simulations of the lifting operations in ANYSIM including PID controller elements for both the DP and the platform compensation system.
- Developed wet-tree and dry-tree semi-submersible hulls for floating production systems. Created parametric models for global sizing. Performed market studies to identify market niches and developed market entry strategies. Developed oil skimming options and barge configurations for ALYESKA oil spill response.

# DR. ORIOL RIJKEN

SBM Offshore



- Manager, Floating Systems
- Educational background: Masters, Mechanical Engineering, Delft University of Technology, 1989  
Masters, Ocean Engineering, Texas A&M University, 1991  
PhD, Civil Engineering, Texas A&M University, 1997
- Atlantia Offshore now SBM Atlantia; 1997 - present
- Areas of specialization:
  - Tension Leg Platforms & Semi Submersibles
  - Model testing
  - Data monitoring
  - Global Performance
  - Semi-Submersible Vortex Induced Motion
  - Weight control & Ballast Systems

# JOHN KENNEY

## Shell Global Solutions

- B.S. Civil Engineering (w/ Architectural Option), University of Wyoming, 1981
- M.E. Civil Engineering, Tulane University 1983
- Registered Professional Engineer in the States of Texas and Louisiana
- Chairman of American Petroleum Institute Subcommittee 2 (API SC2)
- American Welding Society (AWS) Certified Welding Inspector (CWI)
- Voting Member of American Welding Society D1 Committee and Chairman of the Tubular Task Group
- Author or co-author of eight OTC papers relative to design and construction of offshore structures
- Holder of two patents relative to offshore structures
- 38 years with Shell in various positions related to the design and construction of offshore structures
- Current role as Principal Technical Expert Offshore Structures in support of the COP Discipline Shell's Offshore developments worldwide
- Background: Provided design and construction support for the Appomattox Semisubmersible, Olympus and Malikai TLP's, Gumusut semisubmersible, Perdido spar. Registered Professional Engineer of Record for Shell' Brutus TLP and Shell's Nakika semisubmersible hulls. On-site construction engineer for Shell's Ursa, Ram/Powell and Mars TLP hulls, the Auger TLP topsides, the Merluza Platform and Shell's Bullwinkle Platform



# DR. THOMAS KWAN

## Kwan Engineering Services



- Formerly employed by Exxon Production Research Company
- Ph.D., Civil Engineering, University of Houston
- Fields of specialization include mooring, riser, and floating structures
- Past chairman, API Mooring Resources Group (1982-2006)
- Tom Kwan holds a Ph.D. degree in structural engineering and has more than 40 years of experience in mooring, riser, and floating structure design.
- From 1982 to 2006, Tom was chairman of the API Mooring Task Group, responsible for the development of API RP 2SK for mooring design, API RP 2I for mooring inspection, and API RP 2SM for fiber rope mooring.
- He has initiated, steered, and conducted a number of joint industry projects including several DeepStar projects to advance mooring technology. Recently Tom worked with ABS to conduct a JIP on polyester rope stiffness modeling and revised the ABS Guidance Notes on the Application of Fiber Ropes for Offshore Mooring. Currently he is leading a JIP on Arctic mooring systems.
- Tom worked for The Offshore Company from 1972 to 1978, and Exxon Production Research Company from 1978 to 2000, and later works as a consultant for a large number of companies such as JD Marine, SparTEC, Chevron, and IntecSea.

# ROBERT LITTLE

Chevron Energy Technology Company



- Offshore Geotechnical Engineer
- B.S. summa cum laude and M.S., Civil Geotechnical Engineering, Texas A&M University
- Experience includes leading offshore site investigations worldwide. His experience in foundation design ranges from sites with under-consolidated deltaic clays to those with sediments having a density similar to that of concrete. His analytical and numerical experience includes: finite element modeling of the subsidence and seabed displacements resulting from offshore sulfur mining; wave-induced seabed instability and mudflow effects on platforms in the Mississippi delta; quantification of the risk of earthquake-induced slope failures and subsequent debris flow and turbidity current effects on development infrastructure; and the effects on subsea facilities and well stability that can result from the dissociation of naturally occurring gas hydrates in the shallow seabed during hydrocarbon production
- Immediately prior to joining Chevron, Rob was Engineering Manager and Senior Consultant at Fugro GeoConsulting, Inc. He has worked as a consultant, project manager and engineer for offshore geotechnical firms for the previous 26 years
- Working to establish international standards for offshore foundation design of fixed and floating structures
- Areas of Expertise: Design of offshore foundations and the application of geotechnical engineering concepts in the evaluation of geological hazards

# **ASHISH BUDHIRAJA**

SBM Offshore

- Hull & Mooring Group Manager – SBM Offshore in Houston
- 20+ years of experience in shipbuilding & offshore engineering industry
- MS Degree in Structural /Civil engineering
- Registered Professional Engineer (PE) in Texas
- M.S., Petroleum Engineering, University of Houston
- Experience: 10+ years' offshore structures design experience prior to ABS Americas