

Fan Di-Xia

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ACADEMIC QUALIFICATIONS

Massachusetts Institute of Technology, MA, USA

PhD in Ocean Engineering & Mechanical Engineering

Expected 2018

Supervisor: Prof. Michael Triantafyllou

GPA: 5.0/5.0

Shanghai Jiao Tong University, Shanghai, China

Bachelor of Science in Naval Architecture and Ocean Engineering

June 2013

Major GPA: 91.1/100

PUBLICATIONS

- **Fan D.**, Triantafyllou M. S. Hydrodynamics of Blow-out Preventer, Multi-Component Structures, in Oscillatory Flow. In preparation.
- **Fan D.** Reseach on the Identification of the Far Wake of the Object in Motion Based on the Hydrodynamic Characters of the Harbor Seal's Vibrissa. Thesis
- Chen Y., Fu S. X., Xu Y., **Fan D.** "High Order Force Components of a Near-Wall Circular Cylinder Oscillating in Transverse Direction in Steady Current" *OMAE 2013*. 2012.
- Chen Y., Fu S. X., Xu Y. W., **Fan D.** Hydrodynamic characters of a near-wall circular cylinder oscillating in cross flow direction in steady current. *Acta Phys. Sin*, 2013, 62(6): 064701.
- Xu Y., **Fan D.**, Fu S. X., 2012. "Analysis of the Consequence of the Local Components Failure in Jacket Platforms" *OMAE 2013*
- **Fan D.**, Xue H., Qiao C., Ye H., 2011. "Strength Assessment of Pump Tower for LNG Vessels" *PRP, vol. 19th, T010PRP19011

PATENTS

- "The Control System and Strategy of Vortex Induced Vibration Experimental Facility Using Force Feedback Technology", patent pending 2012, CHN, No. **201210437233.9**
- "Self-Excited Vortex Induced Vibration in Two Directions Experimental Facility for Double Deepwater Riser Segments Interactions in Uniform Flow", patent pending 2012, CHN, No. **201210439276.0**
- "Self-Excited Vortex Induced Vibration in Two Directions Experimental Facility for Deepwater Riser Segment in Uniform Flow", patent pending 2012, CHN, No. **201210437232.4**

MAIN RESEARCH EXPERIENCE

Physical Understanding of Marine Riser VIV in the Non-Uniform Flow

Research Assistant (supervisor: Prof. Michael Triantafyllou)

09/2014 - now

BP Oil

- Originally developed underwater image processing system to capture entire riser VIV response.
- Originally investigated the VIV in the non-uniform flow.

Investigation on Hydrodynamics of BP Blow-out Preventer

Research Assistant (supervisor: Prof. Michael Triantafyllou)

11/2013– 01/2015

BP Oil

- Experimentally investigate the hydrodynamics of BOP in oscillatory flow.

- Investigated the hydrodynamics interference of complicated structure in oscillatory flow.

Deep Water Steel Catenary Riser (SCR) Vortex-Induced Vibrations Experiment

Research Assistant (supervisor: Dr. Fu Shi-Xiao) 03/2012 – 08/2013 Statoil ASA

- Developed the underwater image processing software to identify the vibration motion of SCR.
- Reduced the time-domain catenary SCR motion from the strain data (shown in animation).

Green-Energy-Powered Multihull Sailboat "Harmony"

Chief Designer/Chief Engineer 2010/3 - now *SUSTIP/*Co.

- Finished 6-m conceptual ship design and its marine performance prediction, with Ph.D candidate Qian Peng.
- Supervised the construction of the 2m scale model as chief engineer.

Strength Assessment of Pump Tower for LNG Vessels

Principal Investigator 09/2010 - 04/2011 *PRP Project

- Programmed to automatically calculate the time-domain Morison load on LNG vessel pump tower model.
- Finished pump tower safety evaluation program based on tubular joint criterion API.

Development of an Autonomous Underwater Vehicle (AUV) "Flying Fish"

Project Manager 03/2009 - 02/2011 *NUSTIP/Club Project

- In charge of the electric and control system development group.
- Designed and tested "Flying Fish II", based on prototype "Flying Fish I".

Test and Simulation System Design Solutions for Submarine Christmas Tree System

Research Assistant 2009/3 - 2010/3 *PRP Project

- Developed a simulation GUI for submarine oil production system to validate a safe production procedure.

WORKING & TEACHING EXPERIENCE

Global Graduates' Union

Leading Consultant and Lecturer 2013/11 - now Beijing/Boston

- Chief Consultant for 36 undergraduate student to apply top American graduate school 2013/11 - now

Design Principal for Ocean Vehicles

Teaching Assistant 2014/2 – 2014/6 Beijing

- Teaching Assistant for Course "Design Principal for Ocean Vehicle" 2014/2 – 2014/6

SJTU Intellectual Vehicle Club (SJTUIV)

Co-Founder and CTO 2010 - 2014 Shanghai

- Co-Founded the SJTU IV Club (Shanghai Jiao Tong Univ. Intellectual Vehicle Club). 2010/5
- SJTU IV Club was elected one of **ten key student scientific and creative labs**. 2011/9

SJTU NAOCE Undergraduate Extracurricular Open Course

Founder and Lecturer 2010/9 - 2013 Shanghai

- Founder and Lecturer of Course: "3-D Designing and Animation".
- Founder and Lecturer of Course: "Introduction to Programming: C#.net".
- Founder and Lecturer of Course: "Introduction to Embedded Development: AT-mega16".

HONORS AND AWARDS

Shanghai Academic Excellent Scholarship 2009 - 2011

Lloyd's Register Educational Trust Scholarship 2012

Massachusetts Institute of Technology Graduate Exploration Fellowship 2013

American Bureau of Shanghai Scholarship 2014