

# 臺灣離岸風機基礎暨海事工程研討會 報名簡章



- 活動緣起：離岸風機發電為近期國家重大工程建設，國內各工程單位應藉此機會建立海事工程相關之自主技術及施工能量，以達到離岸風機發電產業本土化發展之目標，爰邀請美國從事海域平台工程專家來台就設計規範、海洋氣象環境及海事工程案例專題研討及經驗分享，並期盼透過本研討會激盪出我國於離岸風機基礎及海事工程技術本土化之策略及方向。  
歡迎踴躍報名
- 主辦單位：財團法人臺灣營建研究院、台灣離岸風機基礎暨海事工程協會（籌備中）
- 協辦單位：台灣國際造船股份有限公司、國家地震工程研究中心、台灣電力公司  
中華民國大地工程技師公會、國立臺灣海洋大學工學院
- 活動日期：106年12月5日（星期二）上午9時至16時30分
- 活動地點：國立臺灣科技大學國際大樓 IB101 會議室（台北市大安區基隆路四段43號）
- 活動官網：<http://www.tcri.org.tw/epaper/TOMC/index.html>
- 議程表：詳見第3頁
- 議題摘要：詳見第4頁
- 主講人：詳見第5至7頁
- 活動費用：1,000元
- 報名方式：請於活動官網報名或傳真報名表
- 報名須知：受理報名及繳費截止日為即日起至11月27日
- 承辦人：財團法人臺灣營建研究院 教育訓練組 李小姐
- 聯絡方式：電話 02-89195032、傳真 02-29124104、電子信箱 adorenou@tcri.org.tw
- 繳費方式：請於11月27日以前將繳費收據備註姓名後傳真
  - ※劃撥或電匯---戶名：財團法人臺灣營建研究院
  - 郵局劃撥帳號：05100110／銀行電匯帳號：025-120-95251（臺灣中小企銀-新店分行050）
  - ※郵政匯票或即期支票---請將報名表及報名費以掛號郵寄本院
  - ※信用卡---請填寫下方報名表之信用卡欄位
- 注意事項：
  - 1、敬請致電確認是否報名成功，主辦單位將保留是否受理報名之決定權
  - 2、預計最晚將於活動前二日發送 E-Mail 通知報到須知及報到序號，請憑序號入場
  - 3、活動後將協助登錄技師執照換發之訓練課程時數，以及公務人員終身學習時數
  - 4、主辦單位將保留調整議題、講師等活動相關事宜之權利

# 「臺灣離岸風機基礎暨海事工程研討會」 報名表

姓名【必填】		性別	<input type="checkbox"/> 男 <input type="checkbox"/> 女	身分證字號	
服務單位【必填】		職稱			
電話【必填】	( )	分機	傳真	( )	手機【必填】
E-mail【必填】				公司 統編號碼	
通訊地址	□□□				
銓敘需求	<input type="checkbox"/> 公務人員 <input type="checkbox"/> 技師：_____技師				

★繳費方式若是信用卡，請填寫以下資料：

同意代繳簽名：	(說明:欲代繳受訓者訓練費用或多人報名合併刷卡繳費時，請被刷卡人於此先簽名確認同意代繳)	行動電話(代繳者):
持卡人身分證字號：	發卡銀行:	授權號碼(本院填寫)：
持卡人簽名：	卡號：_____ - _____ - _____	
有效期限：      月/20      年 信用卡背面<簽名欄>最後三碼：	持卡種類： <input type="checkbox"/> VISA <input type="checkbox"/> MASTER CARD	

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承辦人：李小姐

出納：

發票號碼：

# 臺灣離岸風機基礎暨海事工程研討會

## 議程表

時間	流程	
0830-0900	報到	
0900-0930	貴賓致詞： <b>楊偉甫</b> 董事長/台灣電力公司 <b>高宗正</b> 董事長/臺灣營建研究院	引言人： <b>鄭文隆</b> 董事長/台灣國際造船公司
0930-1100	講題： Overview of Design Codes for Offshore Fixed Structures	主持人： <b>黃俊鴻</b> 組長/國家地震工程研究中心 教授/國立中央大學 主講人： <b>顧寶鼎</b> 博士/Energo Engineering
1100-1110	休息	
1110-1210	講題： Metocean Criteria	主持人： <b>楊亦東</b> 院長/臺灣營建研究院 主講人： <b>張書豪</b> 博士/MCT Engineering
1210-1330	午餐/休息	
1330-1530	講題： Introduction to Offshore Engineering, Procurement, Construction, and Installation	主持人： <b>徐力平</b> 副院長/臺灣營建研究院 主講人： <b>郭原宏</b> 先生
1530-1550	茶敘時間	
1550-1630	綜合座談	主持人： <b>林三賢</b> 教授/國立臺灣海洋大學 全體講師
1630	賦歸	

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## 講題摘要

<b>Session 1: Overview of Design Codes for Offshore Fixed Structures</b>	American Petroleum Institute (API) Recommended Practice (RP) 2A provides guidance for the design of fixed offshore platforms. RP 2A has historically used a Working Stress Design (WSD) approach but there is a growing demand for a reliability-based Load and Resistance Factor Design (LRFD) version. API is therefore currently developing the next generation RP 2A that will be based primarily on RP-2A LRFD 1st edition (published in 1993 but not widely used) and International Standard ISO 19902 (published in 2007). The background of developing the original RP 2A LRFD 1st edition will be reviewed and the reliability calculation basis will be explained including recent calibration work performed in order to update the original API LRFD calibration performed in the 1980s. The reliability framework between the API and ISO LRFD documents will be compared and any differences discussed with the goal of providing a consistent reliability basis between these two documents. In addition, overview of API/ISO design code structures and their inter-relations will be discussed. Design guidelines under seismic conditions will be elaborated from the API/ISO provisions.
<b>Session 2: Metocean Criteria</b>	Discussions will be focused on the response-based metocean criteria, which will be developed using statistical methods by associating site-specific existing and hindcast storms and current events with responses of offshore wind turbine platforms. Procedures and specific steps for deriving the response-based criteria will be discussed in details. The response-based criteria are deemed robust and can be used to design the offshore wind turbine platforms to achieve risk management objectives. Directionality of storm criteria as suggested in API Bulletin 2INT-MET will also be discussed and presented.
<b>Session 3: Introduction to Offshore Engineering, Procurement, Construction, and Installation</b>	There are four major phases of an offshore project - Engineering, Procurement, Construction, and Installation; or EPCI. The four phases are interconnected and a seamless execution is critical to the success of an offshore project. Engineering phases comprise around 10% of a traditional offshore project, the least cost among the four phases. However, the influence of the engineering is paramount and the courses could become very hard to be changed in the later times. Procurement, on the other hand, comprises the highest cost in a full scope offshore platform. For a offshore wind turbine project, the wind turbine is the major item, followed by the offshore grade steel. Construction phase is a relative straight forward process. However, the material specs, construction procedures, and testings shall all be based on the offshore codes and regulations. A quay-side fabrication yard is also required in order to loadout the finished structures to the transportation vessels. Installation phase is the most critical phase among all phases. The rate of a vessel is generally high. The capacity and the functionality of vessels as well as the installation logics/procedures would determine the installability of a project. Without thoroughly considering the adequacy of the offshore vessels, an offshore is hardly successful in terms of execution and finance.

# 臺灣離岸風機基礎暨海事工程研討會

## 主講人簡介-Dr. Albert Ku (顧寶鼎博士)

講題	<b>Session 1: Overview of Design Codes for Offshore Fixed Structures</b>
學歷	Ph.D., Civil Engineering Rice University, 1997 M.S., Civil Engineering National Chiao-Tung University, 1991 B.S., Civil Engineering National Cheng-Kung University, 1988
簡介	Dr. Ku received his bachelor and master degree, both in Civil Engineering, from National Cheng Kung University (Taiwan) and National Chiao Tung University (Taiwan), respectively. Later he received his PhD in Civil Engineering from Rice University in Houston, Texas. After graduating from Rice he worked at McDermott Engineering, EQE (a structural consultant company) and American Bureau of Shipping (ABS) between 1997 and 2004. In 2004 he founded Energo Engineering with 3 other partners with the focus on advanced structural analysis and structural integrity management. Energo was acquired by Kellogg Brown & Root (KBR) in 2010, and Dr. Ku is currently the Managing Director of Energo. Dr. Ku is currently the chairman of API Task Group 19 which focuses on next generation of fixed offshore structural design. Dr. Ku has published 23 papers in technical conference proceedings as well as peer-reviewed journals.
獲獎	<ol style="list-style-type: none"> <li>1. Best Paper Award, OMAE 2016, Offshore Geotechnics Symposium, June 2017, “Seismic Soil-Structure Interaction Design Considerations for Offshore Platforms”.</li> <li>2. Best Paper Award, 2013 Deep Offshore Technology Conference, Woodlands, USA, 2013, “Integrity Management for Low-Toughness Forged Mooring Components for Floating Structures”.</li> </ol>
著作	<ol style="list-style-type: none"> <li>1. Litton, R., Ku, A., Chen, JY, Fraser, R., Beck, R., “Residual Strength Pushover Analysis: Enhanced Assessment of Seismic Platform Performance”, OTC-27721-MS, 2017.</li> <li>2. Chen, JY, Litton, R., Ku, A., Fraser, R., Jeanjean, F., “Seismic Soil-Structure Interaction Design Considerations for Offshore Platforms”, OMAE2016-54934, Proceedings of the Conference on Ocean, Offshore and Arctic Engineering, Korea, 2016.</li> <li>3. Ku, A., Zwerneman, F., “Development of API RP 2A-LRFD Second Edition”, Proceedings of the API Reliability Conference, Houston, 2014.</li> <li>4. Ku, A., Gallagher, D., “Integrity Management for Low-Toughness Forged Mooring Components for Floating Structures”, Proceedings of the Deep Offshore Technology Conference, 2013.</li> <li>5. Puskar, F., Ku, A., Litton, R., “Recent Trends in the Analysis and Design of Offshore Platforms in Seismic Regions”, Proceedings of the Offshore Technology Conference, OTC-24187, 2013.</li> <li>6. Ivanov, L. D., Ku, A., Huang, B. Q. and Krzonkala V. C. S., “Probabilistic Presentation of the Total Bending Moments of FPSO’s”, Journal of Ships and Offshore Structures, Vol.6, Numbers 1-2, March-June 2011..</li> <li>7. Puskar, F., Spong, R., Ku, A., Gilbert, R. and Choi, Y., “Assessment of Fixed Offshore Platform Performance in Hurricane Ivan”, Proceedings of the Offshore Technology Conference, OTC-18325, 2006.</li> <li>8. Puskar, F., Ku, A. and Sheppard, R., “Hurricane Lili’s Impact on Fixed Platforms and Calibration of Platform Performance to API RP 2A, Proceedings of the Offshore Technology Conference, OTC-16802, 2004.</li> <li>9. Ku, P.-D. and Nordgren, R. P., “On Plastic Collapse of Random Media”, Journal of Applied Mechanics, Vol. 68, No. 5, pp.715-724, 2002.</li> <li>10. Nordgren, R. P. and Ku, P.-D., “An Elastic/Plastic Work-Hardening Wedge: Numerical Solution,” Journal of Applied Mathematics and Physics, vol. 48, pp. 525-534, 1997.</li> <li>11. Loh, C.-H. and Ku, P.-D., “An Efficient Analysis of Structural Response for Multiple-Supported Seismic Excitations,” Journal of Engineering Structures, Vol. 17, No. 1, pp. 15-26, Jan., 1995.</li> <li>12. Ku, P.-D., Loh, C.-H. and Yeh, Y.-T., “Evaluation of Earthquake Ground Motion by Empirical Analysis,” Journal of the Chinese Institute of Engineers, Vol. 16, No. 4, pp. 523-532, June, 1993.</li> </ol>

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## 主講人簡介- Dr. ERIC S.-H. CHANG (張書豪博士)

講題	<b>Session 2: Metocean Criteria</b>
學歷	Ph.D., Civil Engineering University of Texas at Austin, 2012 M.S., Civil Engineering National Taiwan University, 2003 B.S., Civil Engineering National Taiwan University, 2001
簡介	Dr. Chang received both of his bachelor and master degrees in civil engineering from National Taiwan University. He achieved his PhD degree of civil engineering with focus on fluid/structure interaction and computational fluid hydrodynamics from the University of Texas at Austin in 2012. After graduating from UT-Austin, Dr. Chang worked for SBM Offshore USA, Inc. as a naval architect and participated in an ultra-deep offshore oil field development project, Shell Stones FPSO, in the Gulf of Mexico. He deeply involved in the hull structural design and modifications and life cycle management of FPSO hull structures. Dr. Chang joined Energo Engineering Inc. (A KBR Company) in 2015 as a project engineer. He focused on the advanced structural analysis and structural integrity management of floating production assets for several major oil companies. In December 2016, Dr. Chang started his career in MCT Engineering Inc. as a senior lead engineer to carry out detailed offshore platform and subsea structural design and analysis. Dr. Chang is a registered Professional Engineer (Civil) in Texas State, U.S.A.
著作	<ol style="list-style-type: none"> <li>1. Kinnas, S. A., Chang, S.-H., and Valsaraj A. (2012). "A Panel Method for the Hydrodynamic Performance Prediction of a Water-jet and an Inducer." Proc. Society of Naval Architects and Marine Engineers 13th Propeller/Shafting Symposium, Norfolk, VA, U.S.A.</li> <li>2. Chang, S.-H. and Kinnas, S. A. (2012). "Numerical Simulation of Wetted and Cavitating Flows inside Water-jets." The 29th Symposium on Naval Hydrodynamics, Gothenburg, Sweden.</li> <li>3. Chang, S.-H. and Kinnas, S. A. (2012). "Numerical Method for the Analysis of Cavitating Water-jet Propulsion Systems." Proc. 8th Int. Symposium on Cavitation, CAV2012, Singapore City, Singapore.</li> <li>4. Kinnas, S. A., Chang, S.-H., Tian, Y., and Jeon, C.H. (2012). "Steady and Unsteady Cavitating Performance Prediction of Ducted Propulsors." The 22nd International Offshore (Ocean) and Polar Engineering Conference and Exhibition, Rhodes (Rodos), Greece.</li> <li>5. Kinnas, S. A., Chang, S.-H., and Yu, Y. H. (2010). "Prediction of Wetted and Cavitating Performance of Water-jets." The 28th Symposium on Naval Hydrodynamics, Pasadena, CA, U.S.A.</li> <li>6. Kinnas, S. A., Chang, S.-H., Yu, Y. H., He, L. (2009). "A Hybrid Viscous/ Potential Flow Method for the Prediction of the Performance of Podded and Ducted Propellers." Propeller and Shafting Conference, Williamsburg, VA, U.S.A.</li> <li>7. Kinnas, S. A., Chang, S.-H., He, L., and Johannessen, J. T. (2009). "Performance Prediction of a Cavitating Rim Driven Tunnel Thruster." SMP09: First International Symposium on Marine Propulsors, Trondheim, Norway.</li> <li>8. Chang, S.-H., Vinayan, V., and Kinnas, S.A. "PROPCAV v3.0 User Manual and Documentation." (May 2010) PROPCAV: Software developed by Ocean Engineering Group, UT-Austin for the steady and unsteady hydrodynamic analysis of wetted and cavitating performance of marine propulsors.</li> <li>9. Chang, S.-H. and Kinnas, S.A. "HULLFPP v1.5a User Manual and Documentation." (May 2010)</li> <li>10. HULLFPP: Software developed by Ocean Engineering Group, UT-Austin for the analysis of pressure force harmonics and phase angles on the hull surface induced by marine propulsors.</li> </ol>

# 臺灣離岸風機基礎暨海事工程研討會

## 主講人簡介- Mr. Warren Kuo (郭原宏先生)

講題	<b>Session 3: Introduction to Offshore Engineering, Procurement, Construction, and Installation</b>
學歷	<p>M.B.A., McCombs School of Business UT-Austin, 2014</p> <p>M.S., Construction Engineering and Project Management UT-Austin, 2007</p> <p>M.S., Structural Engineering National Taiwan University, 2002</p> <p>B.S., Civil Engineering National Taiwan University, 1998</p>
簡介	<p>Warren received his bachelor degree in Civil Engineering and master degree in Structural Engineering from National Taiwan University (Taiwan). Later he pursued his PhD in Construction Engineering and Project Management (CEPM) but elected to graduate with a master degree from UT-Austin in Austin, Texas. After graduating from UT-Austin, he worked at McDermott International Inc. between 2008 and 2016. Warren received his MBA degree from McCombs School of UT-Austin in 2014. In 2015, he founded MCT Engineering with the focus on detailed offshore platform design and subsea engineering. Warren is a Professional Engineer (Civil &amp; Structural) in Texas and is a PE (Structural) in Taiwan. He has published 7 papers in technical conference proceedings as well as peer-reviewed journals. Warren has been actively participate in the Taiwanese community over the years. His current and previous positions include President/Vice President/Director/Consultant of National Taiwan University Alumni Association in Greater Houston (NTUAAH), Chair of Offshore Technology Symposium in Science, Engineering and Technology Seminar.</p>
著作	<ol style="list-style-type: none"> <li>1. Chair (2017) / Chair &amp; Presenter (2016) / Presenter (2015) Science, Engineering and Technology Seminar, Houston, TX - Offshore Technology Symposium</li> <li>2. Presenter (2017), Suction Pile Application in the offshore projects, PETROLEUM TECHNICAL SYMPOSIUM</li> <li>3. Kuo, YH and Wei, BS (2015). "Suction Pile Allowable Suction Pressure Envelopes based on Soil Failure and Structural Buckling," Proceedings of OTC 2015, Offshore Technology Conference, Houston, USA.</li> <li>4. Kuo, YH, Wei, BS, and Measamer, J (2015). "A Study on Suction Pile Shell Buckling and Soil Failure Utilizing Predicted and Real-time Monitored Suction Pressures during Installation," Proceedings of the 25th International Ocean and Polar Engineering Conference (ISOPE), Hawaii, USA.</li> <li>5. Yung Bin Lin, Chih Liang Pan, Yuan Hung Kuo, Kuo Chun Chang and Jenn Chuan Chern, 2005, "Online Monitoring of Highway Bridge Construction Using Fiber Bragg Grating Sensor," Smart Materials &amp; Structures, Vol.14, 1075-1082</li> <li>6. Lin, Y.B., Pang, J.L., Kuo, Y.H, Chang, K.C. (2002) "Applications of Optical Fiber Sensors in Civil Engineering," Journal of the Chinese Institute of Civil and Hydraulic Engineering, 29(3), 69-78</li> <li>7. Lin, Y. B., Lin, T. K., Kuo, Y. H., Wang, L., and Chang, K. C. (2002). "Application of FBG sensors to strain and temperature monitoring of full scale prestressed concrete bridges." Optical Fiber Sensors Conference Technical Digest, OFS 2002, 15th, 211-214</li> <li>8. Chang, K.C, Cheng, C.C., Wang, L., Kuo, Y.H. (2001) "Fabrication and Sensing Theory of Optical Fiber Sensor," Conference of Distributed Optical Fiber in Structure Monitoring, pp.21-40,2001</li> <li>9. Chang, K.C, Kuo, Y.H. "Optical Fiber Sensor Application on Monitoring Wu-Zi Highway Bridge Construction," Conference of Distributed Optical Fiber in Structure Monitoring, pp.147-168,2001</li> </ol>