出國報告(國際會議)

國立海洋生物博物館研究團隊參與2010 PACON (Hilo, Hawaii: June 1-5th, 2010)報告

服務機關：國立海洋生物博物館

姓名職稱：陳啓祥副館長等九員

派赴國家：美國夏威夷

出國期間：中華民國九十九年五月三十一日至六月六日

報告日期：2010 六月四日(美國時間)

目次

摘要

國立海洋生物博物館應邀合辦第 22 屆太平洋海洋科學及工程國際研討會(Pacific Congress on Marine Science and Technology, PACON)，並派代表主持大會中分支研討會『珊瑚礁』。PACON 會議實是一非常難得的機會，邀集世界各國在海洋研究上之菁英，齊聚來共同研討有關海洋的問題。海洋生物研究是國立海洋生物博物館建館以來主要的任務之一。幾年來不僅研究成果日益豐碩，更逐漸與國際相關之領域接軌並競爭。館方主要研究員共九名，一併應邀發表口頭報告九篇，內容包含科學教育、珊瑚礁珊瑚生物學、多樣性、環境毒物以及魚類繁養殖。除了將海生館重點研究與國際學者專家交流，並吸引了與會中，同質性之研究機構的興趣，提議進行爾後更密切之交流與合作。國立海洋生物博物館借 PACON 一會，展現多年來努力之成果，吸引國際相關研究機構進行未來更可期待之研究豐收。

目的與緣起

太平洋海洋科學及工程國際研討會(The Pacific Congress on Marine Science and Technology, PACON)，爲有關太平洋海洋科學研究之重要例行會議，有來自兩岸三地及香港、美國、澳洲、加拿大、新加坡、日本、韓國、越南、緬甸、挪威、德國、孟加拉等 20 多個臨海國家關於海洋科學、海洋技術、海洋工程領域的 200 多位國際專家學者，進行學術研討、政策分析與合作策略。PACON 會議爲國際上針對海洋科學研究、海洋科技發展等相關議題中極具權威，近年來會議的議題中擴大涵蓋大量有關海洋工程及海岸工程等領域議題。PACON 會議的宗旨爲結合與海洋相關的學術工作者、政策制定者、實際執行者、教育工作者以及其他相關工作的人員，共同來提出及探討與海洋科技發展的相關問題，尤其牽涉到海洋相關區域的多方發展潛力議題。對於國內海洋科學、海洋技術及海洋工程的相關研究者、工作者以及強調以海洋立國的政策制定者而言，PACON 會議實是一非常難得的機會，邀集到世界上各國在海洋研究上之菁英，齊聚來共同研討有關海洋的問題。

過程

2010 年 PACON 係由國立海洋生物博物館與夏威夷大學於美國夏威夷大學 Hilo 校區共同舉辦，三位主辦人爲(1) 美國 Mote Marine Laboratory 的 Dr. Michael Crosby，(2)中國南海海洋科學院唐丹玲博士，及(3)國立海洋生物博物館館長王維賢博士。 國立海洋生物博物館於此會中籌辦「珊瑚礁(Coral Reefs)」研討會並派任本館副館長陳啓祥爲該研討會主席，負責籌備該研討會之講員與議題。國立海洋生物博物館主要研究人員一行共九人擔任講員，包括：

1. 副館長 陳啓祥(珊瑚礁研討會主席暨講員)
2. 研究員 宋秉鈞(講員)
3. 研究員 樊同雲(講員)

4. 副研究員 柯風溪(講員)
5. 副研究員 王立雪(講員)
6. 副研究員 呂明毅(講員)
7. 助理研究員 陳勇輝(講員)
8. 助理研究員 彭紹恩(講員)
9. 助理研究員 張至維(講員)

每人於該會議中以英文共報告。這對於國際接軌並提高我國國際能見度極有助益。論文發表如下：

1. Chen, C.-S. (2010) Coral Reefs. (22 nd The Pacific Congress on Marine Science and Technology, PACON; June 1-5, 2010; University of Hawaii at Hilo, Hilo, Hawaii)
2. Wang, L.-H., J. Shiea and C.-S. Chen (2010) In situ identification of tissue-specific small molecules in coral-symbiodinium endosymbiosis by MALDI-TOF. (22 nd The Pacific Congress on Marine Science and Technology, PACON; June 1-5, 2010; University of Hawaii at Hilo, Hilo, Hawaii);
3. Peng, S.-E., L.-H. Wang and C.-S. Chen (2010) Proteomics of cnidaria-dinoflagellate endosymbiosis. (22 nd The Pacific Congress on Marine Science and Technology, PACON; June 1-5, 2010; University of Hawaii at Hilo, Hilo, Hawaii);
4. Chen, Y.-H. et al. (2010) Strategies of national museum in promoting corla reef conservation. (22 nd The Pacific Congress on Marine Science and Technology, PACON; June 1-5, 2010; University of Hawaii at Hilo, Hilo, Hawaii);
5. Fan, T. Y. et al. (2010) High resilience of a fringing coral reef influenced by internal tide-induced upwelling. (22 nd The Pacific Congress on Marine Science and Technology, PACON; June 1-5, 2010; University of Hawaii at Hilo, Hilo, Hawaii);
6. Sung, P. J. (2010) Survey of Brianrane-type Diterpenoids of marine origin. (22 nd The Pacific Congress on Marine Science and Technology, PACON; June 1-5, 2010; University of Hawaii at Hilo, Hilo, Hawaii);
7. Ko, F.-C. et al. (2010) Bioaccumulation of hydrophobic organic chemicals in the kenting coral reefs, Taiwan. (22 nd The Pacific Congress on Marine Science and

Technology, PACON; June 1-5, 2010; University of Hawaii at Hilo, Hilo, Hawaii);

8. Chang, C.-W. (2010) Study on life history of the semicircle angelfish *Pomacanthus semicirculatus* in Taiwan. (22 nd The Pacific Congress on Marine Science and Technology, PACON; June 1-5, 2010; University of Hawaii at Hilo, Hilo, Hawaii);
9. Leu, M.-Y. et al. (2010) Application of artificial breeding techniques in coral reef fish restoration. (22 nd The Pacific Congress on Marine Science and Technology, PACON; June 1-5, 2010; University of Hawaii at Hilo, Hilo, Hawaii).

心得與建議

PACON 自 1985 年成立以來，歡迎所有有關海洋科學、技術、資源管理、工程、政策制定和教育主題之演講。此次 PACON，個人覺得此會議中，純粹海洋生物學相關的議題比較少，而海生館所主持之「珊瑚礁」研討會是會議中唯一有關海洋生物方面的研究討論報告。也因爲如此，我們的報告立刻吸引了與會科學家的注意。其中最值得報告的是：聽了我們的報告後，PACON 大會主要籌辦主持人 Dr. Michael Crosby(Mote Marine Laboratory, Sarasota, Florida)立刻提議要與國立海洋生物博物館爾後做持續性的交流，並簽署 MOU (Memorandum of Understanding)。我相信這是此次參加 PACON 最重要的收穫，讓台灣與美國東岸的著名水族館暨研究機構建立合作關係，相信對於我國海洋生物研究會有極大的助益。

海洋生物研究是國立海洋生物博物館建館以來主要的任務之一。幾年來不僅研究成果日益豐碩，更逐漸與國際相關之領域接軌並競爭，例如珊瑚、珊瑚礁環境與物種方面之研究。於會議中，我们體認到我國南部位於『珊瑚金三角』生物高多樣性之可貴，此地緣特色常爲西方海洋科學家豔羨不已！如何秉此天生麗質，躍足國際海洋生物科學舞臺，端賴(1)具足地域特色並具全球重要性之主題研究、(2)培育創造能力強之研究人才、並(3)持續推動國際交流，提昇國際影響力。。此次，國立海洋生物博物館借 PACON 一會，展現多年來秉持上述三項原則努力

之成果，吸引國際相關研究機構進行未來更可期待之研究豐收。

茲附上會議中海生館發表並主導之「Coral Reefs」研討會議程以供參考。

PACON 2010
SCHEDULE BY SESSIONS

NUMBER	SESSION TITLE	CHAIR(S)	DATE / TIME
Session 1A	Marine Spatial Planning: Case Studies	Allen Tom	Wed, Jun 2 10:00 a.m. - 12:00 p.m.
Session 1B	Spectroscopic Oceanographic Sensors and Other Instrumentation	S. Michael Angel	Wed, Jun 2 10:00 a.m. - 12:00 p.m.
Session 1C	Remote Sensing of Changing Oceans and Natural Hazards I	DanLing Tang W. Timothy Liu	Wed, Jun 2 10:00 a.m. - 12:00 p.m.
Session 2A	Joint Session on Marine Debris, Marine & Coastal Education, Microbial Oceanography, and Ocean Exchange	Howard Wiig, Chris Woolaway	Thurs, Jun 3 10:00 a.m. - 1:30 p.m.
Session 2B	Extraction and Conversion of Ocean Energy	Ki-Dai Yum	Thurs, Jun 3 10:00 a.m. - 12:20 p.m.
Session 3A	Coral Reefs I	Chii-Shiarng Chen	Fri, Jun 4 10:00 a.m. - 12:00 p.m.
Session 3B	Remote Sensing of Changing Oceans and Natural Hazards II	DanLing Tang W. Timothy Liu	Fri, Jun 4 10:00 a.m. - 12:00 p.m.
Session 3C	Fisheries Management and Stock Enhancement I	Yoshihiro Suenaga	Fri, Jun 4 10:00 a.m. - 12:00 p.m.
Session 5A	Coral Reefs II	Chii-Shiarng Chen	Fri, Jun 4 3:00 p.m. - 5:20 p.m.
Session 5B	Energy and Climate Change I	Lorenz Magaard	Fri, Jun 4 3:00 p.m. - 5:20 p.m.
Session 5C	Fisheries Enhancement and Stock Enhancement II	Yoshihiro Suenaga	Fri, Jun 4 3:00 p.m. - 5:20 p.m.
Session 6A	Coastal Environmental Restoration Technology	Kenji Hotta	Sat, Jun 5 10:00 a.m. - 12:00 p.m.
Session 6B	Submersible Operations and Research	John Wiltshire	Sat, Jun 5 10:00 a.m. - 12:00 p.m.
Session 6C	Solutions to Coastal Disasters I	Kekoa Anderson	Sat, Jun 5 10:00 a.m. - 12:00 p.m.
Session 7B	Climate Change Law and the Pacific	Richard Hildreth	Sat, Jun 5 1:00 p.m. - 2:20 p.m.
Session 7C	Solutions to Coastal Disasters II	Kekoa Anderson	Sat, Jun 5 1:00 p.m. - 2:00 p.m.
Session 8A	Coastal and Marine Engineering	Akio Kobayashi	Sat, Jun 5 3:00 p.m. - 5:20 p.m.
Session 8B	Energy and Climate Change II	Lorenz Magaard	Sat, Jun 5 3:00 p.m. - 5:20 p.m.
Session 8C	Minerals Management Service Renewable Energy	John B. Smith	Sat, Jun 5 3:00 p.m. - 5:00 p.m.

Session 3A: Coral Reefs I

Chair: Chii-Shiarng Chen (National Museum of Marine Biology and Aquarium, Taiwan)

Friday, June 4, 2010

10:00 a.m. – 12:00 p.m.

Room: UCB 100

Coral Reefs

Chii-Shiarng Chen

National Museum of Marine Biology and Aquarium, Graduate Institute of Marine Biotechnology, National Dong-Hwa University, Pingtung, Taiwan

Strategies of National Museum in Promoting Coral Reef Conservation

Yung-Hui Chen

Science Education Department, National Museum of Marine Biology and Aquarium, Pingtung, Taiwan

Ming-Chin Liu, Hai Chiang

Department of Exhibition, National Museum of Marine Biology and Aquarium, Pingtung, Taiwan

High Resilience of a Fringing Coral Reef Influenced by Internal Tide-Induced Upwelling

Tung-Yung Fan

National Museum of Marine Biology and Aquarium, Pingtung, Taiwan

Yu-Chieh Hsieh, Yi-Ting Cheng

Institute of Marine Biodiversity and Evolution, National Dong Hwa University, Pingtung, Taiwan

An Experimental Test of the Adaptive Bleaching Hypothesis

Ruth D. Gates, Xavier Pochon

Hawaii Institute of Marine Biology, University of Hawaii at Manoa, Kaneohe, Hawaii, USA

Jane D'Ambrosia

Department of Organismic and Evolutionary Biology, Harvard University, USA

Bonnie Lee

Ecology and Evolutionary Biology, Yale University, USA

Anderson Mayfield

National Museum of Marine Biology and Aquarium (NMMBA), Taiwan

Free-Living Symbiodinium Biogeography at Habitat and Regional Spatial Scales

Lisa M. Adams, Misaki Takabayashi

Marine Science Department, University of Hawaii at Hilo, Hilo, Hawaii, USA

Xavier Pochon, Ruth D. Gates

Hawaii Institute of Marine Biology, University of Hawaii at Manoa; Honolulu, Hawaii

Vivian Cumbo

School of Marine and Tropical Biology, James Cook University

Session 5A: Coral Reefs II

Chair: Chii-Shiarng Chen (National Museum of Marine Biology and Aquarium, Taiwan)

Friday, June 4, 2010

3:00 p.m. – 5:20 p.m.

Room: UCB 100

In Situ Identification of Tissue-Specific Small Molecules in Coral-Symbiodinium Endosymbiosis by Maldi-Tof

Li-hsueh Wang, Chii-Shiarng Chen
National Museum of Marine Biology and Aquarium, Pingtung, Taiwan

Chii-Shiarng Chen
Institute of Marine Biotechnology, National Dong Hwa University, Pingtung, Taiwan

Jentaie Shiea
Department of Chemistry, National Sun Yat-sen University, Kaohsiung, Taiwan

Proteomics of Cnidaria-Dinoflagellate Endosymbiosis

Shao-En Peng, Li-Hsueh Wang, Chii-Shiarng Chen
Taiwan Coral Research Center, National Museum of Marine Biology and Aquarium, Pingtung, Taiwan

Yu-Bao Wang, Li-Hsueh Wang, Chii-Shiarng Chen
Graduate Institute of Marine Biotechnology, National Dong-Hwa University

Survey of Briarane-Type Diterpenoids of Marine Origin

Ping-Jyun Sung
National Museum of Marine Biology & Aquarium, Graduate Institute of Marine Biotechnology, National Dong Hwa University, Pingtung, Taiwan

Bioaccumulation of Hydrophobic Organic Chemicals in the Kenting Coral Reefs, Taiwan

Fung-Chi Ko, Jing-O Cheng, Te-Hao Chen, Wei-Hsien Wang
National Museum of Marine Biology and Aquarium, Pingtung, Taiwan

Te-Hao Chen
Institute of Marine Biodiversity, National Dong Hwa University, Pingtung, Taiwan

Study on Life History of the Semicircle Angelfish *Pomacanthus semicirculatus* in Taiwan

Chih-Wei Chang
National Museum of Marine Biology and Aquarium, Pingtung, Taiwan

Lu-Peng Wang
Institute of Marine Biodiversity and Evolutionary Biology, National Dong Hwa University, Pingtung, Taiwan

Application of Artificial Breeding Techniques in Coral Reef Fish Restoration

Ming Yih Leu, Pei-Jie Meng, Kwee Siong Tew, Wen-Hung Twan
National Museum of Marine Biology and Aquarium, Pingtung, Taiwan

Pei-Jie Meng, Kwee Siong Tew
Graduate Institute of Marine Biodiversity & Evolutionary Biology, National Dong Hwa University, Pingtung, Taiwan

Wen-Hung Twan
Institute of Marine Biotechnology, National Dong Hwa University, Checheng, Pingtung, Taiwan