

在中華民國專屬經濟海域或大陸礁層從事海洋科學研究計畫申請書

Application Form for Permission to Undertake Marine Scientific Research in the Exclusive Economic Zone or on the Continental Shelf of the Republic of China

壹、注意事項

- 一、依「在中華民國專屬經濟海域或大陸礁層從事海洋科學研究許可辦法」第四條規定，申請在中華民國專屬經濟海域或大陸礁層從事海洋科學研究許可者，均應事先填具本計畫申請書，並在辦法規定期限內提出申請，逾期將不予受理。
(According to Article 4 of the Regulations Governing Permission to Undertake Marine Scientific Research in the Exclusive Economic Zone or on the Continental Shelf of the Republic of China, this form is required to be filled out for application for permission to undertake marine scientific research in the exclusive economic zone or on the continental shelf of the Republic of China. Application forms received by the office after the deadline will not be accepted.) 。
- 二、臺灣地區人民計劃在中華民國專屬經濟海域或大陸礁層單獨從事海洋科學研究，需說明本計畫申請書第一至第六項 (People of the Taiwan Area intending to undertake marine scientific research in the exclusive economic zone or on the continental shelf of the Republic of China only need to explain items 1 to 6.) 。
- 三、大陸地區人民計劃在中華民國專屬經濟海域或大陸礁層與臺灣地區人民合作從事海洋科學研究，應詳細填寫本計畫申請書所有問題 (People of the Mainland Area intending to undertake marine scientific research, in cooperation with people of the Taiwan Area, in the exclusive economic zone or on the continental shelf of the Republic of China shall respond to all questionnaires of this form in detail.) 。
- 四、外國人計劃在中華民國專屬經濟海域或大陸礁層，單獨或與臺灣地區人民合作從事海洋科學研究，應詳細填寫本計畫申請書所有問題 (Foreigners intending to undertake marine scientific research, independently or in cooperation with people of the Taiwan Area, in the exclusive economic zone or on the continental shelf of the Republic of China shall respond to all questionnaires of this form in detail.) 。

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日期 (Date) : _____

1. 基本資料 (General information)

1.1 計畫名稱 (Project name) : Generation and Evolution of Internal Waves in Luzon Strait

1.2 計畫執行機關 (Undertaking institution) :

單位名稱 (Name) : Scripps Institution of Oceanography

聯絡地址 (Address) : University of California, San Diego
La Jolla, California, USA 92093-0210

單位主管 (Name of director) : _____

1.3 計畫贊助機關 (Sponsoring institution) :

單位名稱 (Name) : U.S. Office of Naval Research

聯絡地址 (Address) : 875 North Randolph Street, Suit 1425,
Arlington, Virginia, USA 22203-1995

單位主管 (Name of director) : Dr. Tony Haymet

1.4 計畫主持人 (Scientist in charge of the project) :

姓名 (Name) : Dr. Ren-Chieh Lien

任職單位 (Affiliation) : Applied Physics Laboratory,
University of Washington
1013 NE 40th St
Seattle, WA 98105-6698
USA

電話 (Tel) : 206-685-1079 傳真 (Fax) : 206-543-6785

電子信箱 (E-mail address) : lien@apl.washington.edu

1.5 國內參與之科學人員名單 (Scientist(s) from Republic of China involved in the planning of the project) :

(1) 姓名 (Name) : Dr. Yiing-Jang Yang

yjyang@cna.edu.tw

任職單位 (Affiliation) : Department of Marine Science
Naval Academy Taiwan
No.669, Junxiao Rd., Zuoying District,
Kaohsiung City 813, Taiwan

Tel: +886-7-581-2440 Fax: +886-7-581-3141

(2)姓名 (Name) : _____

任職單位 (Affiliation) : _____

1.6聯絡人 (Submitting officer) :

姓名 (Name) : Rose M. Dufour / Elizabeth Brenner

聯絡地址 (Address) : Scripps Institution of Oceanography

University of California, San Diego

La Jolla, California 92093-0210

電話 (Tel) : (858) 534-2841 傳真 (Fax) : (858) 822-5811

電子信箱 (E-mail address) : Shipsked@ucsd.edu

2. 計畫描述 (Description of project)

2.1 計畫背景及目的 (Nature and objectives of the project) :

This project is to study the generation and evolution of internal waves in Luzon Strait. The objectives are to understand the dynamics and identify mechanisms of small-scale processes—i.e., internal tides, inertial waves, nonlinear internal waves (NLIWs), and turbulence mixing—in the ocean and thereby help develop improved parameterizations of mixing for ocean models.

2.2 過去或未來相關研究航次 (Relevant previous or future research cruises) :

A pilot study will be conducted in June, 2010 led by Dr Ren-Chieh Lien of Applied Physics Laboratory, University of Washington on R/V *Roger Revelle*.

2.3 過去已發表與本計畫相關之研究成果 (Previously published research data relating to the project) :

None

3. 研究方法 (Methods and means to be used)

3.1 船隻特性並檢附可看到船舶全身及船名之彩色照片 (Particulars of vessels. Please attach color photographs of all vessels showing clearly all the listed particular features including the names of the vessels.)



Web link:

http://shipsked.ucsd.edu/Ships/Roger_Revelle/

名稱 (Name) : R/V Roger Revelle

類型 (Type) : Oceanographic Research Vessel

國籍 (Nationality) : USA Flag

所有人 (Owner) : On Charter to the University from U.S. Navy

管理人 (Operator) : University of California, San Diego, Scripps Oceanography

總長度 (Overall length) : 84 m. [275']

最大吃水量 (Maximum draught) : 17'

淨噸數 (Net tonnage) :

總噸數 (Gross tonnage) : 3,180 long tons
馬力 (Propulsion) : Tow 3000 hp Propulsion General Electric
Bow Thruster: 1180 hp Azimuthing jet Tyupe Elliot
Gill Model 50T 35 Propulsors:
Two 3000 hp Z-Drives Lips Type FS 2500-450/1510BO
航速 (Cruising speed) : 12 knots
最大航速 (Maximum speed) : 14 knots
呼號 (Call sign) : KAOU
通訊方式 (Method and capability of communication, including telex, frequencies) :

Email, master@rv-revelle.ucsd.edu

Inmarsat-B,

Telephone,

Indian, 011-873-336780030

Alternate, 011-873-336780020

Fax,

Primary, 011-873-336780031

Alternate, 011-873-336780021

Telex,

Primary, 336780033 (AnsBk=KAOU)

Alternate, 336780022 (AnsBk=KAOU)

Inmarsat-C, 436780010

Radio, Vessels guard standard GMDSS frequencies for calling, distress and dissemination of marine safety information.

MMSI #, 367800100

SELCAL #, 71410

Telex,

Primary, 336780033 (AnsBk=KAOU)

Alternate, 336780022 (AnsBk=KAOU)

Inmarsat-C, 436780010

Radio, Vessels guard standard GMDSS frequencies for calling, distress and dissemination of marine safety information.

MMSI #, 367800100

SELCAL #, 71410

船長姓名 (Name of master) : Captain Tom Desjardins

船員數 (Number of crew) : 22

船上科學家人數 (Number of scientists on board) : No more than 37

3.2 船上科學家及船員名單 (List of on-board scientists and crew members) :

□□ Title	□□ Name	□□ Sex	□□□□□□ Date of Birth (yy/mm/dd)	□□ Nationality	□□□□□□□□□□□□ Passport or ROC ID No	□□ mailing address

* 本表格不敷使用時請另紙繕寫 (Attach separate sheets of paper if needed)

3.3 計畫中使用其它載具名稱 (Aircraft or other craft to be used in the project) :

None

3.4 研究方法與儀器 (Particulars of methods and scientific instrument) :

樣本及資料形式 (Types of samples and data)	使用方法 (Methods to be used)	使用儀器 (Instruments to be used)
T, S, Pressure profiles	Towed CTD profiles behind the ship	Towed CTD chain
T and S profiles	Ship-based CTD casts	Shipboard Seabird lowered CTD
Water velocity profiles	Ship-based surveys	Shipboard ADCP, GPS, GPS attitude, and <i>Revelle</i> HDSS
Meteorological variables (e.g. wind speed, heat flux, air temperature, etc)	Ship-based surveys	Shipboard meteorological sensors
Underway (UW)	Swath mapping	Kongsberg EE122 150

multibeam		degree swath width, 121 bathymetry beams, plus backscatter imagery
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3.5 是否使用有害物質 (Indicate whether harmful substances will be used) :

None

3.6 是否進行鑽探 (Indicate whether drilling will be carried out) :

No drilling

3.7 是否使用爆炸物 (Indicate whether explosives will be used) :

No explosives will be used

3.8 是否進行海洋生物、非生物資源探勘或捕撈活動 (Indicate whether the project involves catching, taking or exploration of marine animals and plants) :

None

4. 儀器裝備設置計畫 (Installations and equipment)

4.1 儀器設置計畫之細節，含佈設、作業及拆除日期、確實位置及深度 (Details of installations and equipment - dates of laying, servicing, recovery; exact locations and depth) :

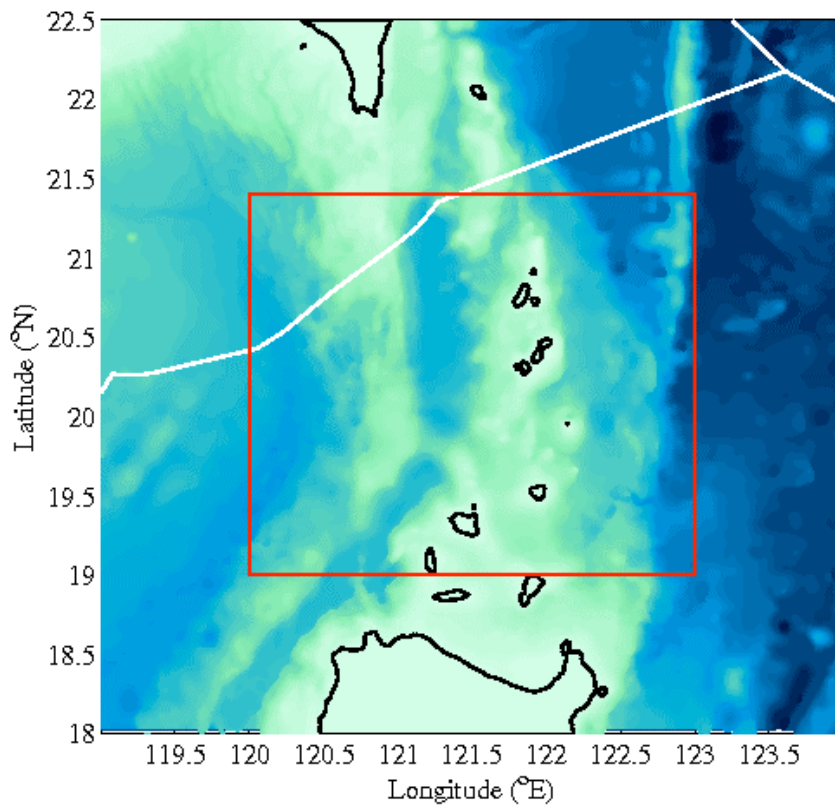
Ship Surveys within the red boxes in the chart under 5.2: The ship survey will be conducted in 1-6 June 2010. We will tow a CTD chain of 200-800-m long with 88 CTD sensors on the chain behind the ship. The towing speed will be 2-6 kt. Our towed CTD measurements will be taken within the red box shown in 5.2 and will be outside of the territorial water of Taiwan and territorial water of Philippine. Our operation will be conducted at water deeper than 800 m.

5. 地理區域 (Geographical areas)

5.1 本計畫進行之地理位置，附經緯度標示 (Indicate geographical areas in which the project is to be conducted - with reference in latitude and longitude) :

The project is to be conducted in Luzon Strait beyond territorial waters of Taiwan and Philippine. The general areas of operations are shown in the following chart in 5.2. The coordinates of the red box is 19N 120 E, 18 N 123 E, 21.3 N 123E and 21.3N 120 E.

5.2 檢附適當比例之詳細海圖，並明確標示作業區域、確實站位、研究路線及儀器裝備設置位置 (Attach chart(s) at an appropriate scale showing the geographical areas of the intended work and, as far as practicable, the positions of intended stations, the tracks of survey lines and the locations of installations and equipment.)



6. 時程 Dates

6.1 研究船預定進入及離開研究海域時間 (Expected dates of first entry into and final departure from the research area of the research vessel) :

R/V *Roger Revelle*: First entry 01 June 2010, final departure in 06 June, 2010

To summarize: We request clearance for this project from 25 May, 2010 to 15 June, 2010.

6.2 是否多次進出 (Indicate if multiple entry is expected) :

Yes, If tropical cyclone is encountered, we might leave the region for safety and return to continue survey after the tropical cyclone passes.

7. 靠港 (Port calls)

June 6, 2010: Kaohsiung, Taiwan

7.1 預定靠港地點 (Dates and names of intended ports of call in Republic of China) :

7.2 特殊補給需求 (Any special requirements at ports of call) :

Normal: scientific equipment loading, fueling, storage, and personnel exchange of science party and crew

7.3 船務代理公司名稱、地址及聯絡電話 (Name / Address / Telephone of shipping agent ,if available) :

We will be working with National Taiwan University, National Taiwan Ocean University, and Naval Academy of Taiwan to work out logistics and harbor needs.

Ship's Agent

Jardine, Matheson & Co

13/14F, No. 50 Hsin Sten South Road, Sec.1

Taipei, P.O. Box 81

Taiwan

Tel: 886-2 23931177

Fax: 886-2 23920435

Gen Email: operation.tpe@jm.com.tw

7.4

8. 參與 Participation

8.1 中華民國可派代表參與本研究計畫的程度 (Extent to which Republic of China will be enabled to participate or to be represented in the research project) :

There will be Taiwanese colleagues onboard of cruise.

8.2 人員上下船的港口名稱及日期 (Proposed dates and ports for embarkation /

disembarkation) :

Kaohsiung, Taiwan

May 29- Jun 1, 2010

Jun 6-11, 2010

9. 研究樣本及成果之取得 (Access to data, samples and research results)

9.1 預計初步研究報告送交中華民國之日期 (Expected dates of submission to Republic of China of preliminary reports which should include the expected dates of submission of the final results) :

No more than 30 days from the end date of the cruise.

9.2 中華民國獲得研究樣本之方式 (Proposed means for access by Republic of China to samples) :

CD or DVD provided at conclusion of cruise, with further access to the data via internet download or CD/DVD on request.

9.3 對中華民國提供研究數據、樣本，或協助研究資料解釋的方式 (Proposed means to provide Republic of China with assessment of data, samples and research results or provide assistance in their assessment or interpretation) :

Participation in international workshops and science symposia during the analysis phase of the project phase of the project.

9.4 研究成果對國際公開的方式 (Proposed means of making research results internationally

MSR Application Form

available) :

Publication in scientific journals and reports.

茲聲明以上所提供資料正確屬實

I hereby declare that the above-mentioned information is true and complete.

申請人簽章 Signature of the Applicant