University of Hawai'i's Deepening Partnership with the DoD through Engineering

Presented by:
Dean Peter E. Crouch
College of Engineering
University of Hawaii at Manoa
UH-PACOM Memorandum of Understanding

- **UH and PACOM MOU**: collaborative efforts to promote regional stability and sustainability in the Asia Pacific region.

- Near term partnering areas include:
  1. Develop strategies and plans for **research collaboration**;
  2. Identify opportunities for education and **project collaboration**;
  3. Formulate Steering Committee to advise UH and PACOM;

- Three key area for immediate focus: **Energy**, **Water** and **Disaster Management**.

* Pictured here from right to left*:
  - **UH President** M.R.C. Greenwood, former **Commander of USPACOM** Adm. Robert F. Willard, and **UHM Chancellor** Virginia Hinshaw

* Photo courtesy of Dallas Nagata White
MOU between **UH and PACOM** led to the formation of UH-PACOM water subcommittee.

The focus of the **water subcommittee** is to collaborate on current and future joint projects relating to water and HA/DR in the Asia Pacific region.

**UH Water-Subcommittee members**
- Chittaranjan Ray, Chair
- Aly El-Kadi
- Marek Kirs
- Catherine Chan-Halbrendt
- Philip Moravcik
- Cheryl Sato Ishii
- Ashish Babbar

**PACOM Water-Subcommittee members**
- Bruce Fink, Chair
- James Ligh
- John Emmerson
- Col. John Davis
- Lt. Col. Martin Lindsey
- Mark Schnabel
- Jamie Caseb
- Capt. Grant Harwell

Chittaranjan Ray  
Co-Chair, UH

Bruce Fink  
Co-Chair, PACOM
Asia Pacific Information Exchange (APIX)

APIX water purification project demonstrates cost effective technologies in support of Foreign Humanitarian Assistance & Disaster Response operations.

UHM in joint military technology exchange exercises between US and Thai military at Sattahip Royal Navy Base, Thailand

1. Crimson Viper 2010
2. Crimson Viper 2011
3. Crimson Viper 2012 (upcoming in July)

UHM is currently participating in Balikatan 2012 which is a joint exercise between US and Philippines military

Pacific Partnership (PP)

Annual mission that works with partner nations to execute a variety of humanitarian civic assistance missions in the Pacific Fleet area of responsibility, from a ship dedicated to the mission.

Two UH civil engineering students will participate aboard USNS Mercy for Pacific Partnership.

The participation by UH College of Engineering students was facilitated by the signing of Engineering MOU between Dept of the Navy and University of Hawaii at Manoa.

UH- School of Nursing has participated in PP-11 mission onboard USS Cleveland and will also participate in PP-12.

* Photos courtesy of Pacific Partnership Mid-Planning Conference
Asia Pacific Information Exchange
University of Hawaii at Manoa (UHM)

- Marine Corps Forces Pacific Experimentation Center and UHM College of Engineering/Water Resources Research Center to develop low cost water purification systems for HA/DR.

- Systems for rapid/immediate response or long-term/sustainable response in HA/DR scenarios.

- Technology exchange exercises include Crimson Viper (Thailand) and Balikatan (Philippines).

- Opportunity to develop and field test various technologies and strengthen U.S. relationship with countries in the Asia Pacific.
APIX water purification project is designed to demonstrate cost effective water purification technologies in support of Foreign Humanitarian Assistance & Disaster Response operations.

Joint military technology exchange exercises between US and Thai military at Sattahip Royal Navy Base, Thailand

- Crimson Viper 2010
- Crimson Viper 2011
- Crimson Viper 2012 (upcoming in July)

Currently participating in Balikatan 2012 which is a joint exercise between US and Philippines military
Three water purification technologies demonstrated at Crimson Viper exercise:

• Slow sand filter system
• Portable reverse osmosis system for fresh water
• Backpack based multi-level filter system
Crimson Viper 2010 Demonstration
Crimson Viper 2011 Demonstration
Partnership between the Armed Forces of the Philippines, US Military & experts from Philippine Civil Defense Agencies

Participation of UHM Water Team is HA/DR
UH Water Team is participating in Balikatan 2012 to conduct demonstration and assessment of two water purification systems 1) Slow sand filter 2) Portable reverse osmosis filter for fresh water.

UH will also participate in static displays of these systems at the Balikatan opening ceremony in Camp Aguinaldo, Philippines.

UH participated in the site survey in November 2011 in Philippines to select the appropriate sites for demonstrations of the two systems.

The two sites selected for demonstration of the two water purification systems are:
1. Fort Magsaysay
2. Palawan State University, Puerto Princesa
Balikatan 2012, Demonstration Sites

* Photo courtesy of Google Maps
Balikatan 2012
site survey... training ... demonstration ... testing
Pacific Partnership 2012

- An annual mission that works with partner nations to execute a variety of humanitarian civic assistance missions in the Pacific Fleet area of responsibility, from a ship dedicated to the mission.

- Completed Engineering MOU between Dept. Of the Navy and University of Hawaii at Manoa in 2012.

- Two UHM civil engineering graduate students will participate aboard USNS Mercy from May 23 – August 11, 2012.

- Partner nations for 2012
  - Indonesia (31 May – 15 June)
  - Philippines (18 June – 01 July)
  - Vietnam (10 July – 24 July)
  - Cambodia (28 July – 11 August)

* Photos courtesy of Pacific Partnership Mid-Planning Conference
Challenges . . .

- Securing sustained funding
- Creating a network of stakeholders within the College and with other units with similar interest, goals and commitment
- Addressing ITAR and EAR issues relating to R&D
Advancing our **partnership** opportunities across **Asia and the Pacific**

通过我们的教职员工、学生、研究人员和合作伙伴
Engineering: Transcending Boundaries

University of Hawaii at Manoa – College of Engineering

Mahalo . . . thank you