

Communications Pioneer Headlines Spring Grad Ceremonies

By Barbara Honegger

There was something special about Spring 2010 Graduation ceremonies at the Naval Postgraduate School, where 248 U.S. and international students earned a total of 253 advanced degrees, June 18.

The air was electric as a capacity audience of family members, colleagues and friends cheered the about-to-be graduates as they entered King Auditorium to a rousing march by the Del Monte Brass followed by an operatic rendition of the National Anthem by Mary Whitaker, daughter of NPS Operations Research Associate Professor Lyn Whitaker.

President Dan Oliver kicked off the ceremony by introducing the keynote speaker, Dr. Irwin Mark Jacobs, Chair of the National Academy of Engineering and co-founder of the Fortune 500 company Qualcomm, whose pioneering Code Division Multiple Access (CDMA) mobile wireless technology is used by an estimated 800 million customers worldwide.

"On June 8, we celebrated the second 100 years of the Naval Postgraduate School with two newly-renamed student awards ... renamed for the late Dr. Jack Wozencraft – former NPS Dean of Research and Distinguished Professor of Electrical and Computer Engineering; founding Chairman of the NPS Command, Control and Communications Academic Group; and recipient of the Institute of Electrical and Electronic Engineers Alexander Graham Bell Medal. Jack's co-author on the acclaimed communications engineering textbook *Principles of Communications Engineering*, still in use worldwide, and the namesake of the University of California, San Diego Jacobs School of Engineering, Dr. Irwin Jacobs, is our guest speaker today."

Jacobs reviewed the highlights of his career, which began with a high school teacher telling him there was no future in science and engineering, to changing his major from hotel administration to engineering and moving to MIT for his doctorate, where he continued on as a Professor – Dr. Peter Denning, Chair of the Computer Science

Department and Cebrowski Institute Executive Director, was actually one of Jacobs' students.

"I was invited to stay on [at MIT] as a faculty member, which is when I had an office next to Jack Wozencraft," Jacobs recalled. "It was because of the book that I got a lot of requests for consulting, which led me to start a company called LINKABIT, where we worked for 10 years with military programs and NASA to develop terminals in airplanes and ships and Army ground vehicles that could talk to satellites and carry sensitive messages. To stand out from the other companies that were pursuing the problem in a traditional way, we built our system around a [central] processor and [Very Small Aperture Earth, VSAT] terminals.

"The change came when the general in charge of space communications for Fleet SATCOM [Lt. Gen. Forest McCartney] decided to take a risk and fund it for production, and it's still in use today," Jacobs added. "The point is, that was a very brave decision ... to take a chance on a relatively unknown company with a new idea, and it leads to my two main messages today. As you take advantage of this wonderful education you've been given, become more receptive to new ideas. Be innovative. Be open to new possibilities and new approaches. If you are, the future is very exciting. And – as Jack Wozencraft was very positive and emphatic – understand the theory, but find its real-world applications. Take the theory and put it to use. Put it into practice."

"The Naval Postgraduate School offers the unique opportunity to earn a first-rate graduate degree while applying what you've learned to real-world military issues, what both Dr. Wozencraft and Dr. Jacobs said are so important," noted Lt. Jamie Vandyke, winner of the Monterey Council Navy League Award for Highest Academic Achievement. "NPS has earned my highest recommendation. The ability of the faculty to provide top-notch graduate education while simultaneously applying their talents to solve current military issues has equipped me with the analytical decision-making tools to be successful in the fleet."



NPS Professor Emeritus of Mechanical and Aerospace Engineering and renowned aeronautical engineer Dr. E. Roberts "Bob" Wood, right, shared a moment with one of his students, Systems Engineering graduate Cmdr. Clay Davis. Davis will take over as commanding officer of the Defense Contract Management Agency at Lockheed Martin in Owego, N.Y.

Students' Smart Phone App Maps "Human Terrain"

By Barbara Honegger

Thanks to a faculty-student team at the Naval Postgraduate School, smart phones will play an even greater role in field-based data collection for a variety of missions, from humanitarian assistance and disaster response (HA/DR) to counterinsurgency operations.

The prototype of a new smart phone application, called Field Information Support Tool (FIST) Light, was developed by two NPS students – signals intelligence officer Marine Corps Capt. Carrick Longley and Army CW3 Chad Machiela – under the guidance of Information Sciences Research Associate James Ehlert and the Co-Directors of the Common Operational Research Environment (CORE) Lab in the Defense Analysis Department, Prof. Nancy Roberts and Assistant Professor Sean Everton. Longley conceptualized and designed the knowledge management system for his master's thesis in Information Warfare Systems Engineering, and Machiela developed its ethnographic socio-cultural module.

"FIST fundamentally changes the way we collect, process, analyze, aggregate, display and disseminate data in a variety of environments by leveraging the power of smart phones for field-based data collection and fused situational awareness," Ehlert said. "It's an easy-to-use, inexpensive hand-held solution to achieving

communications interoperability and a common physical and human terrain operating picture for both on-the-ground field collectors and tactical decision makers."

Building on a previously developed system at NPS, FIST enables data to be collected in the field, sent to a remote server and pushed to existing databases. Additionally, it enables data manipulation by exporting data into native formats for various analysis applications.

"FIST is an ideal information tool as it allows the 24/7 visualization of detailed data about a population's composition, social structure and physical terrain that informs decision making," Longley said. "In fact, a team from the University of Central Florida Institute of Simulation and Technology is using it to collect survey data in the wake of the earthquake in Haiti.

"FIST is the result of a bottom-up process, based on the field experience both Chad and I had in Iraq," Longley stressed. "When I was a radio reconnaissance platoon commander and then an officer-in-charge during combat operations in Operation Iraqi Freedom, I asked myself, 'There are thousands of smart phone apps. Why can't there be one that makes it easy to pull together and visualize all this data we're collecting?' So we designed a customized software solution to meet

our own operational need. If we'd had FIST then, we could have gotten them to a much larger collector team, and had a much wider and deeper sensor network."

From May 14-21, Longley, Ehlert and Information Sciences Lecturer Ed Fisher operationally validated FIST Light as part of the 2010 Cooperation Afloat Readiness and Training (CARAT) Thailand joint training exercise between the U.S. Navy and Marine Corps, and Royal Thai Navy. "The demonstration of FIST Light as an integrated HA/DR and reconnaissance platform in CARAT Thailand 2010 was a definite success," said Ehlert. "This was stated by Rear Admiral Nora Tyson, Commander of Combined Task Force 73 and Logistics Group Western Pacific, which is exploring making the Naval Postgraduate School a clearinghouse for technology requests from host nations for the CARAT 2011 series of exercises."



NPS Information Warfare Systems Engineering student Marine Corps Capt. Carrick Longley holds a smart phone loaded with Field Information Support Tool (FIST) Light, the prototype application he helped develop for field-based collection and robust data fusion/visualization across a spectrum of potential missions.

IN BRIEF

- ♦ The Undersea Warfare (USW) Academic Committee has been reinstated to the level of an Academic Group. Chaired by Oceanography Prof. John Colosi, with support from Rear Adm. Jerry Ellis, Chair, USW and Director of the USW Research Center, and Rear Adm. Rick Williams, Chair, Mine and Expeditionary Warfare, the group will develop and maintain NPS as a Navy USW center of excellence and will actively explore educational and research partnerships. Its charter is at <https://intranet.nps.edu/Code01/Default.htm>.
- ♦ The 10th Annual MOVES Institute Research and Education Summit will be held at NPS from July 13-15. Simon Bradley, Vice President, Technical Capability Centre 5 – Simulation, IT & Systems, and Dr. Rick Satava, Professor, Department of Surgery, University of Washington, are the keynote speakers. Pre-registration is required. For a complete agenda, go to www.movesinstitute.org. For more information or to register, contact Holly Hatlo, hehatlo@nps.edu.
- ♦ The Staff Development Council is sponsoring Handling Conflict With Tact and Finesse in Ingersoll 122 on July 13 from 8:30 a.m. to 3:30 p.m., and two pre-retirement planning workshops on July 27 (CSRS) and 28 (FERS) from 8:00 a.m. to 4:00 p.m. in the ME auditorium. Contact Laura Cole to register: lcole@nps.edu or Ext. 2414.
- ♦ The Committee on the Future, charged by President Oliver with evaluating the landscape of higher education and providing recommendations on how NPS can fully develop its potential as a national resource, will be conducting its first meeting in mid-August.

A Message From Colleen A. Nickles
Vice President for Finance and Administration



As I begin my 26th year of service to higher education, I am proud to be associated with NPS, an institution with a long and rich history. As the first and incoming Vice President for Finance and Administration, I intend to contribute to that history for the benefit of the institution, the Navy, and the greater NPS community.

I came to NPS from the Chancellor's Office of the California State University, where I was the Assistant Vice Chancellor for Financial Services, with system-wide responsibility for Accounting, Sponsored Programs, Contracting/Procurement, and Finance/Treasury. I have also been the Associate Vice President for Finance and auxiliary director for CSUMB. And, I spent 17 years with the University of California in budget, finance, and management roles in the Office of the President and the San Francisco campus. My undergraduate degree is from the University of Illinois, and my master's degree in Higher Education Administration is from UC Berkeley.

In assuming the VP and CFO position on July 6th, I take organizational responsibility for the Comptroller's Office, Manag-

ers' Internal Control Program, Financial Systems support, and a new office that is being formed, the Resource Planning & Management Office (RPMO). The RPMO will be tasked with addressing the fundamental resources of NPS – people, facilities and money. The functions of RPMO will be assembled mainly from existing resources and people already employed at NPS, and the office will have oversight responsibility for the budget activities at NPS, as well as Naval Support Activity-Monterey Human Resources and Facilities functions. Other support functions, such as contracting, will be transitioned into this office over the next year.

Following are some of the efforts undertaken this past year that I look forward to taking to the next level during this coming year.

Customer Satisfaction Survey – Last December NPS conducted the first-ever Customer Satisfaction Survey to all faculty, administrators, staff and contractors at NPS about support services. The survey results have provided valuable feedback to the service providers, who will be targeting their budget responses toward making improvements to customer service for FY 2011.

The survey received a 45 percent response rate, indicating high interest on campus, with an average score for all services of 6.7 out of 10. Concerns noted by survey responders fell into major categories: adequacy of communication with customers; need for process improvements and streamlining; responsiveness/timeliness; staff skill deficiencies.

As a follow-on to the survey, we also conducted faculty and administrator/

staff focus groups. Participants noted the aspects of NPS they appreciated, such as the variety and flexibility of activities, an ability to pursue their professional interests, the academic environment for research and teaching, and the people at NPS, including students and working colleagues. Concerns noted were consistent in the three focus groups: Inefficient and inconsistent processes and procedures, lack of transparency and communication, and lack of a coherent organizational identity – being caught between regulations of the federal government, the military and the university.

The Customer Satisfaction Survey will be re-administered on a periodic basis, to track progress and provide ongoing feedback.

Kuali Financial System – I serve as the Executive Sponsor for the Kuali Financial System (KFS). It is my responsibility to ensure project success through the provision of appropriate resources – money, people, leadership support and communication. We've made good progress over the past nine months with KFS since going live at the start of this fiscal year, but have farther to go before we complete the planned cut-over to full operation at 1 October. Please provide your support to KFS by attending KFS user training, by using KFS during the parallel processing period of 6 July to 30 September, and by letting us know of problems or concerns you have with KFS.

NPS is a fascinating and exciting place to work. I'm always looking for feedback about financial and administrative services – you can reach me at ext. 7537 or cnickles@nps.edu.

Announcements

The Military Operations Research Society (MORS) has selected **Distinguished Prof. Gerald Brown** to receive the 2010 Thomas Award, which recognizes outstanding individuals in the national security operations research profession.

Operations Research **Senior Lecturer Larry Shattuck** and National Security Affairs **Assistant Prof. Maiah Jaskoski** have been appointed Chair and Vice Chair respectively of the

NPS Institutional Review Board which oversees the Human Research Protection Program.

Dr. Phil Durkee has been reappointed as Chairman of the Department of Meteorology effective July 1, 2010.

Oceanography **Associate Prof. Timour Radko** received the Rear Admiral John Jay Schieffelin Award for Teaching Excellence for the 2009 academic year.

Faculty Notes

Operations Research **Prof. Jim Eagle** and **Sr. Lecturer Jeff Kline** are serving on the National Research Council/Naval Studies Board Committee on U.S. Naval Forces' Capabilities for Responding to Small Vessel Threats.

GSBPP **Professors Aruna Apte, Uday Apte and Rene Rendon** won first place in the professional category at the 2010 W. Gregor Macfarlan Excellence in Contract Management Research and Writing Program, National Contract Management Association (NCMA) for their paper "Con-

tracting for the Services in the U.S. Army: Empirical Study of the Current Management Practices."

GSBPP **Assoc. Prof. David R. Henderson** attended a Liberty Fund Conference "Limits of Spontaneous Order," with 14 other economists, political scientists, and philosophers. Henderson was also quoted in *USA Today* in "Private Pay Shrinks to Historic Lows as Government Payouts Rise," and was interviewed on Lou Dobbs' radio show.

Another Milestone for Kuali Financial

By Joan Ackerman

On July 6, 2010, Kuali Financial System (KFS) is slated to begin running parallel with the current internal legacy financial information management and reporting systems used throughout the campus. On October 1, 2010, KFS is expected to replace the legacy systems as the school's internal information management and reporting system.

The Kuali community of open source software for higher education developed KFS, a java-based, sustainable module that has no licensing costs, is scalable and accessible, and provides transparency, simplicity, on-demand access, one-stop tracking of all financial data – including labor and travel expenditures – and a repository for high-level historical data. Unlike existing systems, KFS also provides

clear audit trails, the ability for end users to track transaction status at all times, a single entering, routing and tracking process for all procurements, and the capacity to attach documents and pictures.

For ease of use at NPS, some customizations and/or enhancements are being developed and reports are being created in KFS that offer the same level of detail as the existing systems.

The KFS Communications Advisory Committee has loaded the KFS Web site with training schedules, the project plan, a list of committee members, and the *Get Smart with Kuali Training Manual* which can be found at <http://intranet.nps.edu/ITACS/KFS/index.html>.

"The Kuali Financial System project is another way in which the Naval Postgraduate School leads in innovation. This is a

promising direction for higher education and government administrative systems – an effective combination of technological and functional area expertise working together to improve our financial processes and to make them more transparent," said NPS President Dan Oliver.

Five years after its conception, the Kuali community has grown to more than 35 members and from a single project with four collaborative member organizations to four thriving projects.

Other Kuali modules in development and awaiting implementation at NPS are Kuali Rice, an identity management enterprise application; Kuali Student, which will replace Python in 2012; and Kuali Coeus, a research administration module originally developed by MIT.

CALENDAR

July 5

Independence Day Holiday Observed

July 7

Team Monterey
 NPS site visit
 POC Protocol Ext. 7773

July 8

Mark Gorenflo
 Principal Deputy to the Deputy Under Secretary of the Navy for Plans, Policy and Integration
 Menneken Lecture
 POC Rear Adm. (ret.) Jerry Ellis Ext. 2488

July 13-15

MOVES 10th Annual Research and Education Summit
 POC Holly Hatlo Ext. 7765

July 16

Teri Takai
 Chief Information Officer of California
 POC Rachel Sandberg Ext. 3275

July 20

Phil Midland
 President, IIHS International, LC
 Secretary of the Navy Guest Lecture
 POC Protocol Ext. 7773

July 22

Capt. (ret.) Dave Norris
 Science and Technology Mgr.
 Applied Signal Technologies, Inc.
 Menneken Lecture
 POC Rear Adm. (ret.) Jerry Ellis Ext. 2488

July 29

Joe Johnson
 Director, Advanced Development of Undersea Systems
 Menneken Lecture
 POC Rear Adm. (ret.) Jerry Ellis Ext. 2488

IN MEMORIAM

Richard W. Bell

Richard W. Bell, born in 1918, started out his career working on research and development for military aircrafts used in WWII and the Korean War. He served as a lecturer in Aeronautics at CalTech, specializing in aerodynamics and propulsion. His extensive background and expertise earned him a place at NPS in 1951 as professor and chairman of the Aeronautics Department. During his time at NPS, he signed off on multiple thesis projects for astronauts who would later be involved in the Apollo missions.



Milton Harold Bank, II

Milton H. Bank, II was born in 1935 in Brockton, Mass. He graduated from the U.S. Naval Academy at Annapolis in 1957 and went on to serve aboard four aircraft carriers before his retirement from active duty in 1968. After earning his graduate degree from NPS, Bank began teaching in the Department of Aeronautics in 1971. He later taught in the School of Aviation Safety. Upon his retirement from teaching in 2005, Bank worked for NPS' Center for Interdisciplinary Remotely-Piloted Aircraft Studies. He served as a valued member of the NPS community for 35 years.

