



NAE Selects OR Professor for Lifetime Membership

by MC3 Kellie Arakawa

After an extensive, confidential nomination process and a month-long election, Operations Research (OR) Distinguished Prof. Gerald Brown received a surprise notice on Feb. 8 of his selection into one of the most prestigious engineering institutions in the country.

From Ivy League professors to executives and researchers at leading technology companies, the National Academy of Engineering (NAE) elected its 65 newest members based on their significant contributions to the field of engineering.

Founded in 1964, the NAE operates under a congressional act of incorporation signed by President Abraham Lincoln in 1863 that originally established the National Academy of Sciences (NAS).

According to NAE membership guidelines, members are recognized for at least one of two categories, which include "engineering research, practice or education, including, where appropriate, significant contributions to the engineering literature," and "the pioneering of new and developing fields of technology, making major advancements in traditional fields of engineering or developing/implementing innovative approaches to engineering education."

The process involves a lengthy examination of a candidate and can take as long as one year to confirm. Also, candidates cannot request membership; they must be nominated by a current NAE member with at least three supporting references from other members. A peer committee reviews and recommends all nominees to a membership committee, which offers a final ballot to the entire academy.

NAE describes its memberships as one of the highest professional distinctions accorded to an engineer.



Brown, a professor with a 35-year career in the OR Department, was elected for his contributions to large-scale optimization theory and its military and industrial applications. His developments in basic optimization theory and algorithms have been widely used in both military and business strategies.

"I was not expecting it and was very surprised," Brown said of his new NAE membership. "It's a real honor."

Brown's election to the academy makes him the only faculty member at NPS with a NAE membership.

Prof. James Eagle, Chairman of the OR Department, called Brown "the nation's leading developer of optimization-based decision-support systems for military planning and operations."

Brown participated in a recent bioterrorism study with the NAS and has received

numerous awards for his work, which include a Koopman Award for best publication in military operations research, a Navy Superior Civilian Service Award for projects involved with Operation Iraqi Freedom and the NPS Schieffelin Award for Excellence in Teaching.

He is a fellow of The Institute for Operations Research and the Management Sciences, and his optimization research is used by many Fortune 200 companies.

Brown called his NAE membership a testament to the quality of education and research at NPS. "People involved in the NAE, which include a mix of industry types, academics and major universities, have finally started to recognize NPS," he said.

Eagle also shared the same thoughts about Brown's NAE membership and its impact on the school. "It's huge. It recognizes the

national-level contributions NPS makes in science and engineering," he said.

Brown hopes the national recognition creates a precedence, which will bring attention to other faculty members and their research. "There are many very well-qualified candidates on this campus and I hope what this does is make it possible to have more of these people honored in that way," he explained.

Despite his numerous awards and newly appointed NAE membership, Brown spoke most enthusiastically about his students, who are a driving force behind his passion for teaching.

He described many of his students as "unstoppable" officers who arrive at NPS with a burning passion to study and apply their knowledge to the work they conduct in the field and fleet.

"The energy, inventiveness and ingenuity of these people is unbelievable ... they make me proud to work here," he said.

Brown frequently advises his younger colleagues to provide as much support as possible to the students, because they may one day serve as some of the most powerful leaders in the country.

His former students include a thesis student who later became the Secretary of the Army and Adm. Mike Mullen, Chairman of the Joint Chiefs of Staff, who graduated with a master's degree from the Operations Research Department in 1985.

Although he has been encouraged to go on sabbatical, Brown said his high regard for the OR faculty and students makes him reluctant to take significant leave from the department. "I work at the best place on the planet," he said. "This is the best group of people in OR and optimization, and I'm delighted."

NPS Participates in Community Discussion

Take a deep breath in, take a deep breath out. Breathe in again, breathe out and for every other breath, thank the ocean, said Marcia McNutt, President and Chief Executive Officer of the Monterey Bay Aquarium Research Institute (MBARI), during an environmental forum at the Monterey Conference Center Feb. 20.

NPS joined the Higher Education Communications Alliance (HECA) in presenting the public discussion with McNutt, titled, "Environment 2008 ... Where Do We Grow From Here," the first of a three-part environmental series.

"Bringing information and open dialogue on our local and global environment to local residents in a free and open, public forum is part of our collective institutions' educational mandate," said Alan Richmond, Chairman of HECA and Director of Communications and Marketing at NPS.

Members of the organization include NPS, which helped establish the alliance in June 2007, the Defense Language Institute, Monterey Institute of International Studies (MIIS), Monterey College of Law, California State University Monterey Bay, Hartnell College and Monterey Peninsula College.

In support of the event, special guests Chuck Della Salla, Mayor of Monterey, Calif., and NPS Provost Leonard Ferrari were also in attendance.

McNutt, who was introduced by Richmond as one of the world's leading oceanography authorities, discussed the negative effects of climate change on the world's oceans.

"Although I love the fact that there seems to be a groundswell of recognition that climate change is real ... I don't think enough people realize the impact on the ocean and the fact that it is an important driver in climate change," she said.

In her presentation, McNutt pointed out that the ocean absorbs 30 times more heat than the Earth's atmosphere, and 500 billion tons of carbon dioxide have been absorbed by the ocean since the dawn of the Industrial Revolution.

About 50 percent of the Earth's photosynthesis occurs among plants in the ocean, McNutt added, and the impact of global warming on the ocean's ecosystems will affect the amount of available oxygen.

"Climate change is not about the survival of the planet, it's about the survival of the human race," she asserted.

During the question and answer session, Ferrari raised the issue that countries seem to be relying too heavily on science and technology for solutions rather than focusing on policy to alleviate the problem.

When asked what concerned citizens can do to prevent further damage to the ocean, McNutt emphasized the importance of community support and personal action.

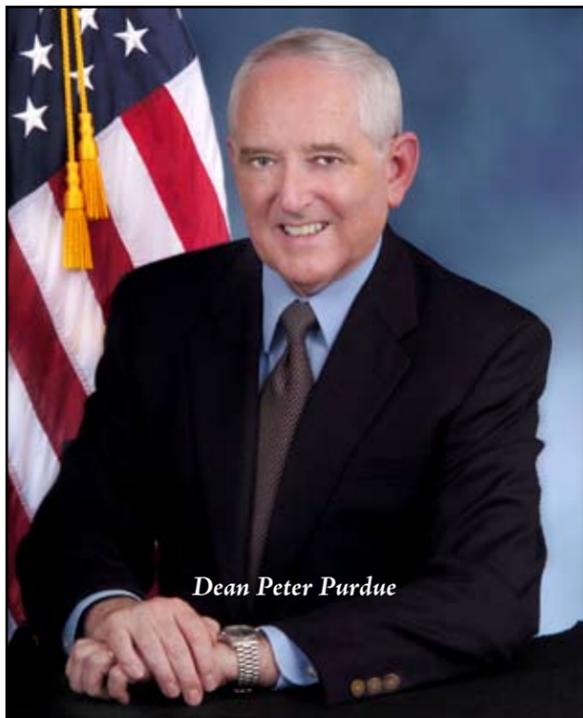
"We've always known that California in general and Monterey Bay in particular have been at the vanguard of changing the way that people behave. I would hope that people here tonight will be part of changing the way that people behave in terms of personal actions ... in the decisions they make in their daily lives, in the policies they support," McNutt explained. "I think that will make a big difference."



IN BRIEF

- ♦ "Enhancing Combat Effectiveness through Synchronization and Integration of Information Operations" is the theme of the 14th Phoenix Challenge Conference which will be held April 1-3, 2008 at NPS. The agenda includes a comprehensive series of IO topics with perspectives from senior-level leaders, warfighters, industry and academia. The conference is co-chaired by the Office of the Deputy Under Secretary of Defense for Warfighter Support, IO and Strategic Studies and the Air Force Information Operations Center. A minimum of a secret clearance is required to attend presentations. The round-table events do not require a clearance. For more information, go to <https://www.phoenixchallengeconf.org/>
- ♦ *The Acquisition Review Journal* has selected Ali Trevino and Matt Paskins, along with their co-authors Geraldo Ferrer and John Dillard, as winners in their 2008 Defense Acquisition University Alumni Association Research Paper competition. The article is entitled, "Employing Organizational Modeling and Simulation to Deconstruct the KC-135 Aircraft's Programmed Depot Maintenance Flight Controls Repair Cell," and uses computational organizational modeling to examine workflows versus organizational structure for optimization. December graduates of NPS, the former students submitted the paper as thesis work. The paper will be presented at the April symposium at Defense Acquisition University in Washington, D.C., and again at the Acquisition Research Program's Symposium held at NPS in May.
- ♦ The Staff Development Advisory Committee (SDAC) will present survey findings at an All Hands presentation March 13 at 9:30 a.m. in the ME Auditorium. The presentation will be followed by a brief question and answer period. SDAC collected data from the staff to obtain opinions and ideas surrounding staff development.
- ♦ To launch its upcoming Centennial, and to celebrate its long history of excellent leadership, NPS will be hosting a first in April: The Inauguration of President Dan Oliver and the NPS leadership team, which will occur on Monday April 21, 2008 at 1:00 p.m. in King Hall. The Inauguration Event Planning Committee has been meeting to arrange all the details for both the ceremony and the reception, which will be held in Herrmann Hall.

Message From
**Dean of Graduate School of
Operational and Information Sciences**



Dean Peter Purdue

Recent events have provided GSOIS and NPS with moments of great sadness and great joy. The death of Distinguished Prof. Rick Rosenthal left a huge hole, not only in the Operations Research department, but in NPS as a whole and indeed in the entire DOD analysis community. The election of Distinguished Prof. Jerry Brown of the Operations Research department to membership in the National Academy of Engineering is a true landmark in the evolution of NPS as a major research university.

GSOIS supports a range of programs across a wide swath of operational and information science and technology areas. Here are just a few examples.

We are a major contributor in NPS' support to the Joint Improvised Explosive Device Defeat Organization (JIJEDDO). This is a cross-campus, multidisciplinary effort, under the direction of Col. Andy Hernandez, Associate Dean of GSOIS, involving each of NPS' research institutes and graduate schools. Prof. Kyle Lin (OR) has partnered with Prof. Yu-Chu Shen (GSBPP) to develop a methodology to shape a jamming policy for U.S. and coalition forces. Senior Lecturer Dr. Hy Rothstein (DA) is addressing conflict issues that range from religion to legal systems for the OSD Rapid Reaction Technology Office

(RRTO) that has teamed with the JIEDDO in this critical work. Prof. Gordon Bradley (OR) developed and implemented a program for IED instruction and research that reaches onto the battlefield, real-time, and also reaches students and faculty across every school at NPS. He recently received the Navy Meritorious Civilian Service Award for these efforts.

Dr. Shelley Gallup, Information Sciences Department, has created the Distributed Information and Systems Experimentation program that encompasses a variety of experiments and demonstrations that include the Navy's primary FORCEnet experiment, Trident Warrior 08, a National Geospatial Agency and JFCOM- sponsored national- level experiment, Empire Challenge 08, a Joint Capabilities Technology Demonstration called the Joint Multi Mission Electro-Optical System, Maritime Domain Awareness demonstrations, a Biometric Fusion Center process experiment, and OSD's Human Interoperability Experiment. Each project is complex, multi-faceted and includes many months of intense effort that literally spans the globe. During execution phases, all of the associates in these projects deploy on Navy ships, to China Lake in July, or to network nodes.

Defense Analysis Department Professors Douglas Borer and Nancy Roberts recently established the Common Operational Research Environment (CORE) Lab in ROOT Hall. The CORE program supports special operations, intelligence, information operations, psychological operations, civil-military operations, counter-insurgency, counter-terrorism, and irregular and asymmetric warfare. The project was partially funded by the OSD RRTO.

Within the Computer Science department, Prof. Cynthia Irvine is designing trusted servers that can be embedded into the Internet to provide multilevel secure systems. Prof. Simson Garfinkel is developing advanced tools for retrieving data from discarded disk drives in non-US countries. Prof. Craig Martell is applying natural language processing to chat sessions to discover gender and backgrounds of speakers. Prof. Gurminder Singh has developed protocols for sharing information among cell phones, transforming them into a handheld local network that supports tactical operations. Prof. Peter Denning has developed a generative framework for teaching people practices that enable them to become repeatedly successful innovators.

This is simply a snap-shot of some of the highly innovative and critically important work that is underway in GSOIS. Thanks for allowing me to share this with you!

Faculty Notes

Just published by a Graduate School of Business and Public Policy faculty member is the book *Budgeting, Financial Management, and Acquisition Reform in the U.S. Department of Defense*, by **Lawrence R. Jones** and **Jerry L. McCaffery**, (Charlotte, NC: IAP 2008).

Prof. David Henderson of the GSBPP gave a speech to the Monterey Rotary Club titled, "Do We Need to Go to War for Oil?" The meeting was attended by 80 people, and a lively discussion ensued about the topic and on the economy in general. Henderson gave another speech at the World Affairs Council in San Francisco on Feb. 5, titled, "Iraq End Game" which was attended by 60 people.

Patrick Colloton, Ben Maitre and **Tommy Stoner**, December Defense Analysis graduates, and Professors **Nancy Roberts** and **Sean Everton** presented a paper entitled "Insurgency in Sudan: Creating a Nexus Topography" at the International Social Network Analysis Sunbelt Conference in Tampa, Florida, Jan. 29, 2008.

On Jan. 31, 2008, **Ben Maitre** and **Nancy Roberts** also briefed SOCOM on the DA CORE Lab (Common Operational Research Environment) and The Insurgency in Sudan Project. Representatives from Palantir, a Silicon Valley based company whose software CORE is fielding, joined them in the brief to demonstrate its temporal,

geospatial and relational visualization capabilities.

New Hires:

Staff

Maria Morales
International Activities
Coordinator

Tiffany Montague
Administrative Support
Assistant

Carmel Legacy
Library Technician

Grand Opening Of Club Del Monte's El Prado Room

Club Del Monte at the Naval Postgraduate School is proud to announce the grand opening of the newly remodeled El Prado Room in mid-March. During its prime, Hotel Del Monte was a pioneer among luxury destination resorts. MWR Director Megan Ryan and the Naval Support Detachment are bringing back the fine dining of the historical luxury hotel to Club Del Monte's carte du jour. The historical elegance of the hotel has been remarkably captured in the renovated facility, creating the ambiance of luxury dining.

The Naval Support Detachment at Monterey and the Navy Region Southwest construction teams have worked hard to upgrade the El Prado room incorporating a plethora of enhancements, some of which include a user-friendly serving

area, relaxing seating area, a more extensive menu to include sandwiches and deli, and a Grab n' Go area for a quick breakfast or lunch. Healthy options have also been increased, and include fresh sandwiches and soup, and a new unique self-serve coffee system that will provide the latest coffee products.

The El Prado Room will honor the new, "Buy 9 Get One Free Loyalty Card." The card will also be available at other dining locations that are part of the Naval Postgraduate School's dining services. Wireless access will also be provided by MWR.

In addition, the new facility offers a large area available for catered parties, meetings or other events for as many as 175 guests.

All are welcome to come enjoy the experience of the new and improved El Prado Room. We look forward to serving you!

CALENDAR

March 5 - Seminar: Integrated Technology for C4ISR and Large Military Systems
Paul Shebalin - Meyer Institute
Glasgow East 117 1 - 4 p.m.
POC Luqi Luqi Ext. 2735

March 11 - Mr. Mario Mancuso, Under Secretary for Commerce Industry and Security Secretary of the Navy Guest Lecture
POC Protocol Ext. 2466

March 12 - Seminar: Experiences in Getting a Doctorate of Philosophy, Ph.D. students
Glasgow East 117 1 - 4 p.m.
POC Luqi Luqi Ext. 2735

March 13 - Survey Results
Staff Development Advisory Committee
ME Auditorium 9:30 - 10:30 a.m.
POC Mike DiFranco Ext. 7849

March 18 - Winter Quarter Awards Ceremony
King Hall 3:00 p.m.
POC Protocol Ext. 2466

March 18 - The Honorable Gordon England Deputy Secretary of Defense, NPS visit
POC Protocol Ext. 2466

March 18 - Brig. Gen. Bruce Carlson Commander, Air Force Material Command Secretary of the Navy Guest Lecture
POC Protocol Ext. 2466

March 19 - Seminar: Electrical Engineering Research, Glasgow East 117 1 - 4 p.m.
POC Luqi Luqi Ext. 2735

March 20 - NPS Foundation President's Circle Event, Phoenix, AZ
POC Katie Van Dolah Ext. 7781

March 25 - New Student Orientation and Information Fair 8:00 a.m.
POC Protocol Ext. 2466

March 26 - Seminar: Perspective, Practices, State of Art and Future Software Engineering Research
Glasgow East 117 1 - 4 p.m.
POC Luqi Luqi Ext. 2735

March 27 - New Alumni Reception
NPS: Trident Room 2:30 p.m.
POC Katie Van Dolah Ext. 7781

March 28 - Graduation Ceremony and Reception
Adm. Gary Roughead, CNO
Guest Speaker 10:00 a.m.
POC Protocol Ext. 2466

HISTORICAL HIGHLIGHTS

On March 20, 1944 – more than 13 months before victory in Europe and 17 months before victory in Japan – Vice Admiral William Pye, president of the Naval War College, convened a Navy Department board to plan for post-war growth of the Naval Postgraduate School. There were six voting members on the board – four admirals, one Marine Corps general and the president of Northwestern University. The board's recommendations led to the subsequent purchase of the Hotel Del Monte in Monterey and the post-war move of NPS from Annapolis.



Vice Adm. William Pye 1942

Historical Highlights are provided by the Dudley Knox Library