



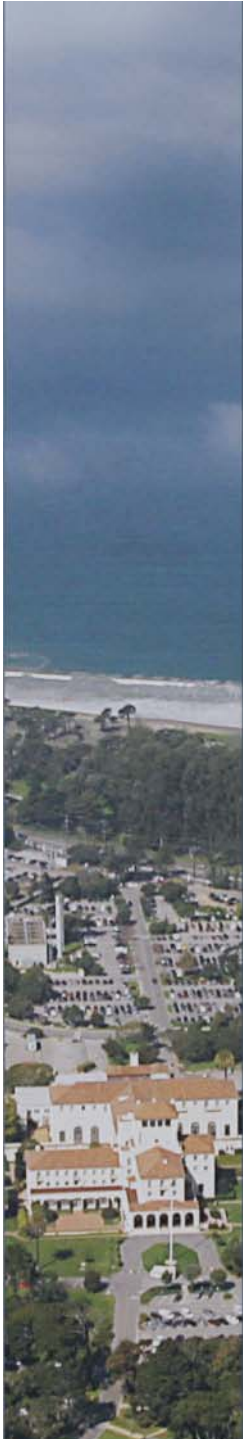
NAVAL  
POSTGRADUATE  
SCHOOL

**Operations Research Department**  
*Modeling, Simulation and Analysis  
for Making Better Decisions*

Professor Robert Dell  
Chairman, NPS OR Department  
3 December 2009

The Nation's Premiere Defense Research University

Monterey, California  
[WWW.NPS.EDU](http://WWW.NPS.EDU)









NAVAL  
POSTGRADUATE  
SCHOOL

# Naval Postgraduate School (NPS)

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*“The best and the brightest military officers from the United States and around the world come to the Naval Postgraduate School in Monterey, California to work with world-class faculty on real military and defense problems.”*

Former President of the United States George H.W. Bush

42 Master's and 18 Doctoral Degrees

\$338 million revenue in 2008 (30% direct Navy funds)

676 faculty (248 tenure track)

1,452 resident students includes 216 international students from 42 countries

700 distributed learning degree students

247 certificate students





# Graduates

## 43,000 Graduates

- Representing all U.S. Military Services and many U.S. Government agencies
- 4,913 Officers from 99 countries
- 33 Astronauts
- 25% of U.S. Navy active-duty Flag Officers
- Many Flag and General officers from around the world



ADM Mike Mullen  
Chairman, Joint Chiefs  
of Staff



GEN Michael Hagee  
Former Commandant  
U.S. Marine Corps



King Abdullah  
of Jordan



James G. Roche  
Former Secretary  
of the Air Force



NPS is

- A graduate university granting master's and doctoral degrees
- A research university carrying out a variety of studies related to national defense and security
- Directly funded through the Department of the Navy and other federal sources



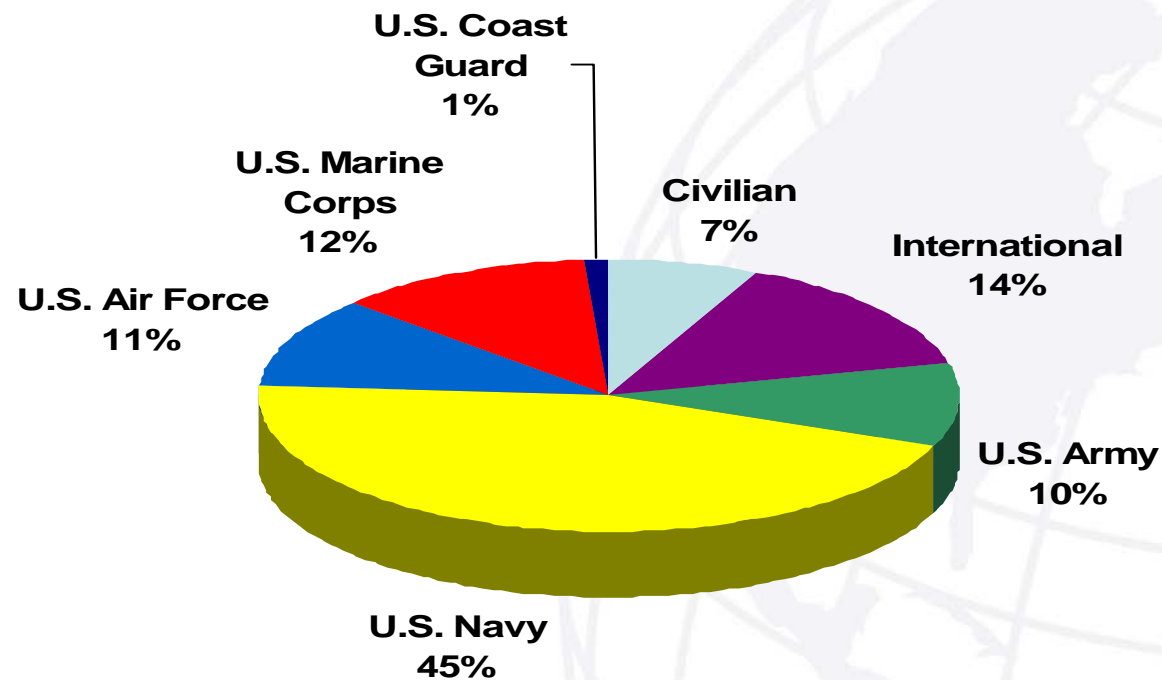


## Resident degree program enrollment (Winter (2nd Qtr) AY 2009)

Total: 1,452

*U.S. 86% - All Military Services and Other Government Agencies*

*International 14% - 216 Residents from 42 countries*

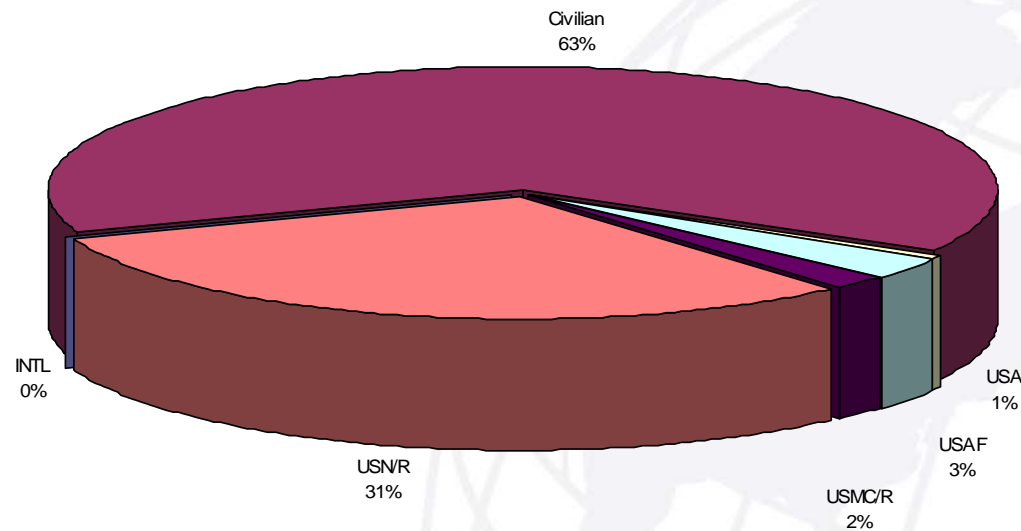




## Non-resident degree program enrollment (Winter (2nd Qtr) AY 2009)

Total: 725

63% Civilian





A student may obtain (in addition to a degree)

- A refresher set of courses to ready them for graduate education
- A set of courses to satisfy the curriculum sponsor for professional qualification beyond the degree requirements
- Joint Professional Military Education



- Robust mix of tenured and research faculty, lecturers, military faculty, visiting professors and others
- 10% comprised of military personnel with strong academic credentials and recent operational experience
- Integrate teaching with research to form strong graduate program
- No teaching assistants



# Organizational Structure

• **Integrated** • **Systems-Oriented** • **Flexible** • **Partnered for Strength**

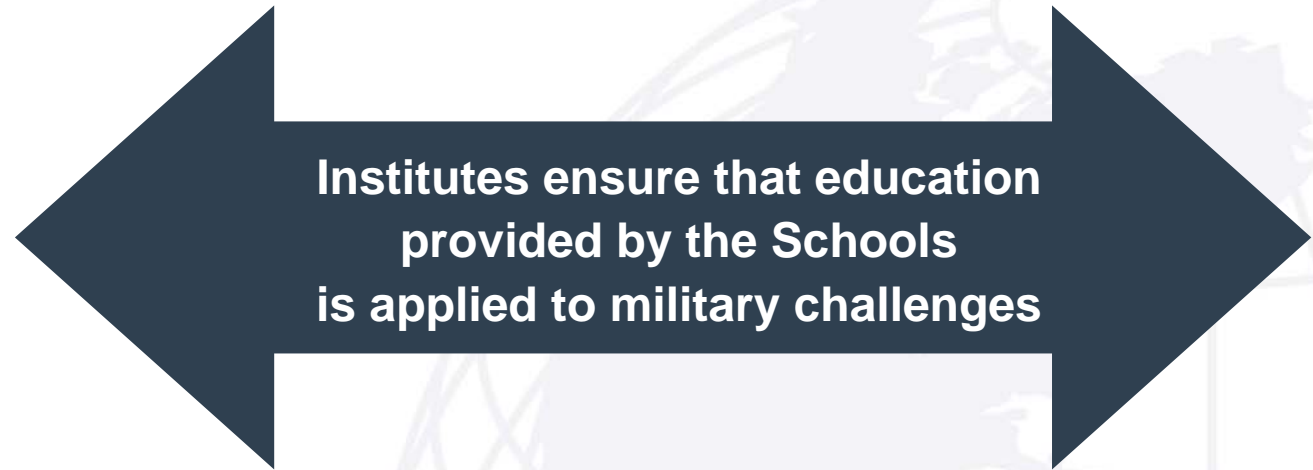
## 4 Institutes

**The Cebrowski Institute** for  
Information Innovation and  
Superiority

**The MOVES Institute**  
Modeling, Virtual  
Environments, and  
Simulation

**The Meyer Institute**  
of Systems Engineering

**National Security Institute**  
Partnership developed for  
National Security research  
and education



## 4 Schools

**Graduate School**  
of Engineering and  
Applied Science

**Graduate School**  
of Operational and  
Information Sciences

**Graduate School**  
of Business and  
Public Policy

**School of**  
International  
Graduate Studies





# What is Operations Research?

*The development and application of mathematical models, statistical analyses, simulations, analytical reasoning and common sense to the understanding and improvement of real-world systems and operations.*

In other words ...

*We help people better understand complicated systems and processes and make better decisions in their design and operation.*



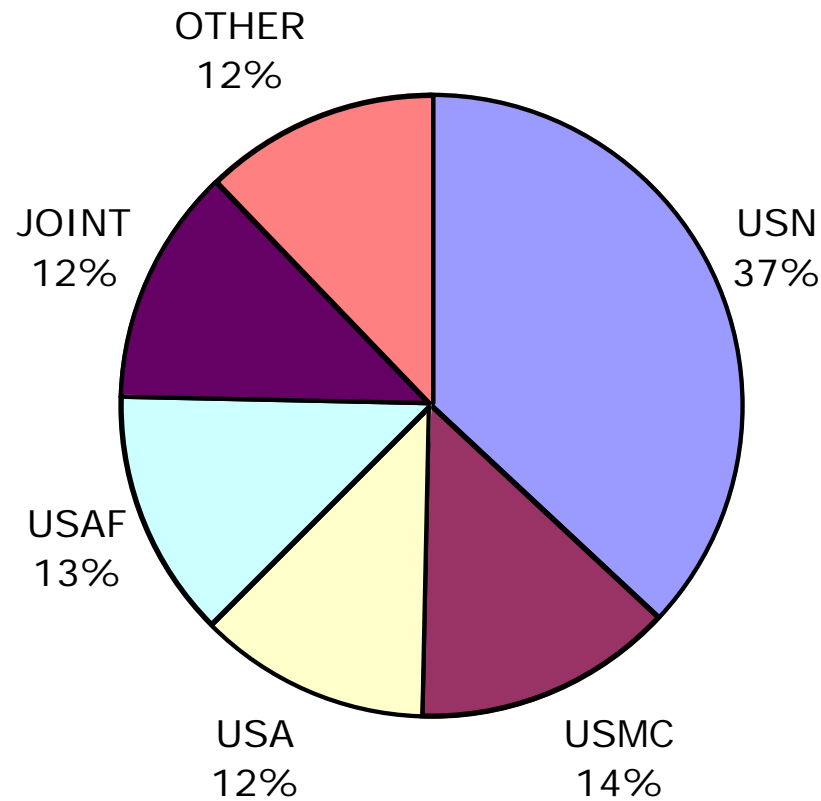
# Operations Research at NPS

- Oldest OR instructional program in the US
- One of the largest (50 faculty, 250 graduate students)
- Competitive with top civilian programs
  - Berkeley, Georgia Tech, Michigan, MIT, Northwestern, Stanford
- Career faculty committed to solving urgent DoD problems
  - Work synergistically with operationally current thesis students
- Advancing theoretical and applied frontiers
- Sustained reimbursable research relationships with DoD sponsors (\$5.9 million in FY08)



# FY08 Reimbursable Research

**\$5.9 million total**





# Faculty Research Areas

Optimization

Simulation

Statistics and Data Analysis

Human Systems Integration

Warfare Studies and Analyses

Logistics



# 2008/9 Awards and Recognition

- Professors Brown, Gaver, and Washburn elected to the National Academy of Engineering
  - Only three at NPS
- Professors Brown and Carlyle win the 2009 Kuhn Award
- Professor Gaver wins the 2009 U.S. Army Wilks Award
- Associate Professor Fricker selected a Fellow of the American Statistical Association (in 2009)



# 2008/9 Awards and Recognition

- Professor Kress and Assistant Professor Royset win the 2009 MOR Journal Award
  - best paper of 2008 published in MOR
- Assistant Professor Royset and Major Reber win the 2009 MORS Barchi Prize for
  - best paper presented at 2008 MORS annual meeting
- Professor Dell and Major Sparling win the 2008 MORS Rist Prize competition
  - best implemented operations research study



# OR Department Summary

- 3 Resident Curricula: OA, OL, HSI
- 1 DL Curriculum: MSA
- 6 topical areas
  - Optimization
  - Simulation
  - Statistics and Data Analysis
  - Human Systems Integration
  - Warfare Studies and Analyses
  - Logistics
- 50 Faculty Members
- 250 Students
- \$5.9 M Research Program (FY08)