

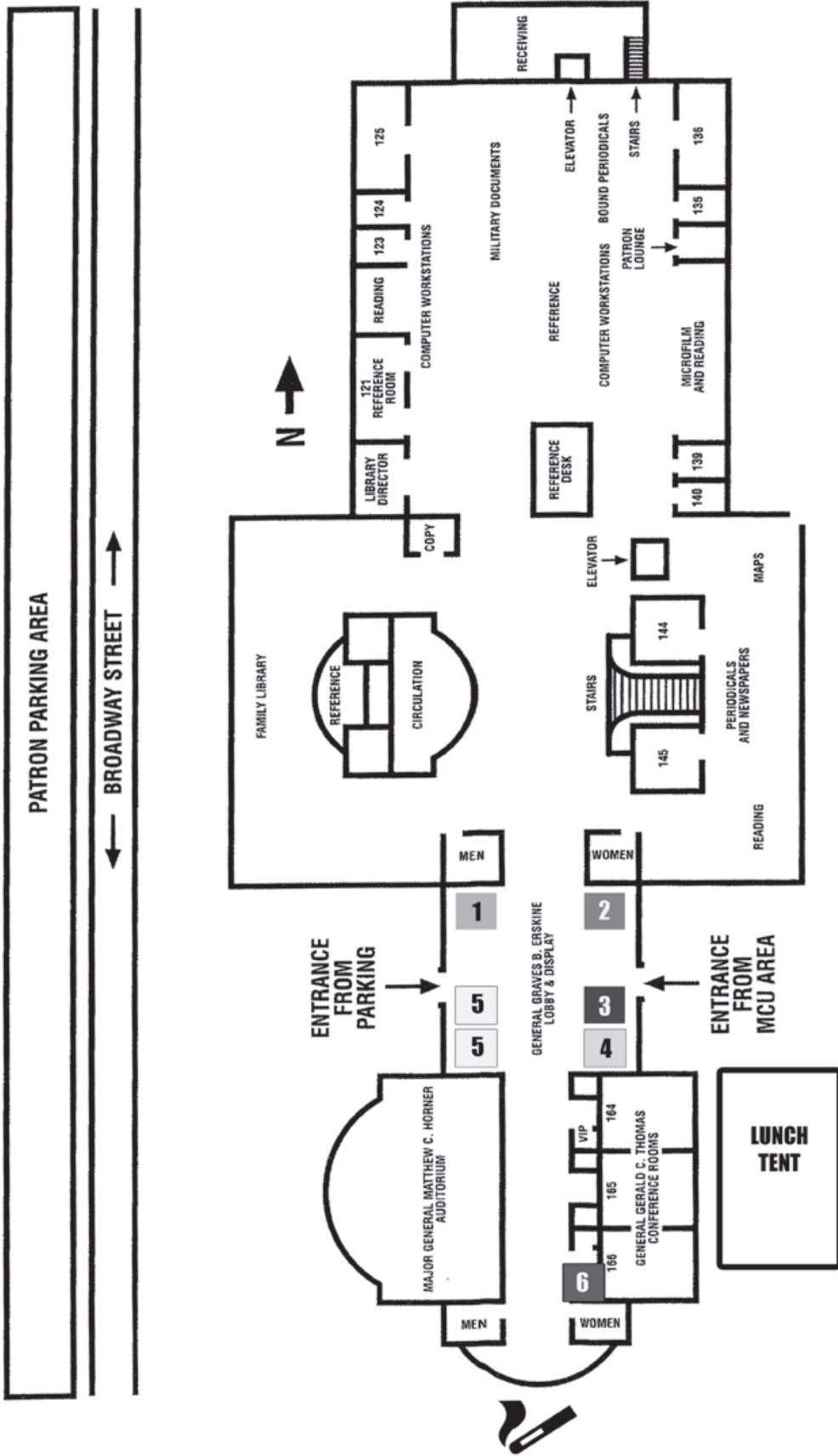


4<sup>TH</sup> ANNUAL  
NAVY/MARINE CORPS

# COST ANALYSIS SYMPOSIUM

16 SEPTEMBER 2010  
GRAY RESEARCH CENTER  
MARINE CORPS BASE QUANTICO

# Gray Research Center Event Map



- 1** ON-SITE REGISTRATION
- 2** SCEA
- 3** A-L PRE-REGISTERED BADGE PICK UP
- 4** M-Z PRE-REGISTERED BADGE PICK UP
- 5** LUNCH ORDER TABLES
- 6** COFFEE MESS

# Welcome

Welcome to the fourth annual Navy/Marine Corps Cost Analysis Symposium! As we continue to experience changing and challenging times with new laws, guidance, and responsibilities, this symposium should serve to provide useful perspectives on what lies ahead.

We are fortunate to have experienced, senior DoD leaders to address this year's theme: Cost Estimating - Meeting the Challenge. We will also have a 'Cost Users' panel discuss how our customers view our products. New this year, will be a track focusing on lessons learned from recent development of AIS/C4I cost estimates.

Many thanks to all our presenters who have taken the time to share their knowledge and insights. We all appreciate the significant effort put forth by our Marine Corps hosts for this fourth well-managed event in the state-of-the-art Gray Research Center.

I hope you enjoy the symposium. Please ask questions, share your perspectives where appropriate, and take ideas back to your own organization. Also take advantage of this opportunity to network with your colleagues within the DON cost estimating community who are in attendance today. Thanks for your participation.

Wendy P. Kunc  
Deputy Assistant Secretary of the Navy (Cost & Economics)



# Contents

4<sup>TH</sup> ANNUAL  
NAVY/MARINE CORPS  
COST  
ANALYSIS  
SYMPOSIUM

Agenda	2
Abstracts	3
Cost chief Biographies	9
Keynote Biographies	12
Presenter's Biographies	13
Notes page	20

# Agenda

## Navy-Marine Corps Cost Analysis Symposium

16 September 2010, Gray Research Center, Marine Corps Base Quantico

### Theme: Cost Estimating - Meeting the Challenge

Start	End				Mins
8:00	9:00	Check In and Coffee Social (Lobby)			60
9:00	9:10	Welcome and Administrative Items (Auditorium) Wendy Kunc DASN Cost & Economics			10
9:10	9:50	Keynote -The Honorable Mrs. Gladys Commons ASN(FM&C) The Importance of Cost Estimating to DON Senior Managers			40
9:50	10:30	Plenary Speaker - Ms. BJ White-Olson DASN Management & Budget The ABC's of Acquisition Budgeting & Costing			40
10:30	10:45	Break			15
		<b>Cost Leadership and Education</b> Auditorium	<b>Cost Estimating Best Practices</b> Conference Rooms 164-165	<b>AIS &amp; C4I Estimating Heeding History's Lessons</b> Conference Room 166	
10:45	11:30	Cost Users Panel NCCA, DASN(M&B), DUSN(BO&T), CAPE, N80	Competition in DoD Systems Acquisition: Past Lessons and Future Considerations Mr. Brian E. Torgersen Technomics	You want me to do WHAT?: CAPE Implementation Strategy for the MAIS WSARA Requirements - A panel Presentation Chaired By: Mr. Kelly Hazel OSD CAPE	45
11:30	11:35	Transition			5
11:35	12:20	Here There Be Dragons: Considering the Right Tail in Risk Management Dr. Christian Smart MDA	Overhead Costs of DoD Contractors Ms. Kim Fuller Air Force/FMC Capt Joseph M. Barnum USAF	The Service Cost Position: A Process to Follow Mr. Carlton Lavinder NCCA	45
12:20	13:10	Box Lunch (Tent and Conference Rooms)			50
13:10	13:55	Impact of Globalization & Shifting Defense Priorities on the Defense Industrial Base Dr. Nayantara Hensel NCCA	NAVSEA 05C's New Processes and Products Mr. Bruce Parker and Mr. Morris Fields	Cost Estimating: Its A Risky Business Mr. Ian Anderson NCCA	45
13:55	14:00	Transition			5
14:00	14:45	Educational Opportunities SCEA, DAU, NPS	The Integration of Cost Estimating and Program Management at NAVAIR Mr. Dave Burgess AIR 4.2	Cost Models: Why Size DOES Matter Mr. Brett Hays SPAWAR 1.6	45
14:45	14:55	Break			10
14:55	16:00	Cost Chiefs Updates and Panel Questions (Auditorium) Wendy Kunc NCCA and DON cost chiefs			65
16:00		Wrap-up and Closing (Auditorium)			

# Abstracts

## Keynote Speakers

**9:10-9:50**

**The Honorable Mrs. Gladys Commons, ASN(FM&C)  
The Importance of Cost Estimating to DON Senior Managers**

**9:50-10:30**

**Ms. BJ White-Olson, DASN Management & Budget  
The ABC's of Acquisition Budgeting & Costing**

## Track I

### Cost Leadership and Education

#### Auditorium

**10:45-11:30**

#### Cost Users Panel

**Chaired by Mr. Duncan Thomas, Technical Director, NCCA**

The panel will discuss how cost estimates can be improved to best support planning, budgeting and acquisition decisions. Panel participants are: Walt Cooper, the CAPE head of O&S cost estimating, Ms. White-Olson DASN (Management & Budget), Mr. Howard Fireman, OPNAV Programming Division (N80), and Mr. Kenneth Spiro, DUSN (Business Operations and Transformation).

**11:35-12:20**

#### **Here There Be Dragons: Considering the Right Tail in Risk Management**

**Dr. Christian Smart, MDA**

The portfolio effect is the reduction of risk achieved by funding multiple projects that are not perfectly correlated with one another. It is relied upon in setting confidence level policy for programs that consist of multiple projects. The idea of a portfolio effect has its roots in modern finance as pioneered by Nobel Memorial Prize winner Harry Markowitz. However, in three recent ISPA-SCEA conference presentations, "The Portfolio Reconsidered" in 2007, "The Fractal Geometry of Cost Risk" in 2008, and "The Portfolio Effect and the Free Lunch" in 2009, the author has demonstrated that the portfolio effect is more myth than fact. However, current NASA and Department of Defense policy guidance relies heavily upon this chimerical effect. This is seen in policy that sets funding at a set percentile, typically at the 70th or 80th percentile. The inherent, optimistic belief is that the portfolio effect will allow total funding agency-wide to be much higher, above the 90th percentile. However, in the absence of such an effect, policy guidance that specifies funding at a relatively low percentile, like the 70th or 80th, will result

in numerous overruns, insufficient reserves, and other financial difficulties at the agency level. Funding at such levels will result in overruns for 20-30% of missions, so cost growth will be a common occurrence. And by funding only at a percentile, there is no insight into how much will be needed in extra reserves. Depending upon the variance of the cost risk distribution and other characteristics, such as skewness and kurtosis, this amount can vary significantly. Thus the right tail must be taken into consideration when establishing reserves. A superior alternative has been proposed that measures this expected shortfall, called Conditional Tail Expectation. Also called Tail Value at Risk, its use is growing in popularity in a variety of industries, including insurance. Recently, the notion of coherence has been proposed and adopted for risk measures. The notion of coherence is discussed, and its relevance to Value at Risk and Tail Value at Risk is examined.

**13:10-13:55**

## **Impact of Globalization & Shifting Defense Priorities on the Defense Industrial Base**

**Dr. Nayantara Hensel, NCCA**

The defense industrial base in the US has witnessed many changes over the past twenty years, following the end of the Cold War and has been reshaped by a variety of significant forces. This presentation examines the impact of macroeconomic conditions (the federal budget, labor market conditions) and the recent shift in defense priorities toward irregular warfare on the defense industrial base, as well as the globalization of the defense sector. The presentation examines trends in the federal debt / deficit and defense spending over the past fifty years and assesses concerns over the reduction in skill sets in certain areas of the defense industrial base, due to possible reduced procurement rates and due to the shift in defense priorities toward irregular warfare. The presentation also examines the global nature of the defense marketplace, including the involvement of foreign defense contractors in the US defense industrial base and the success of global supply chain alliances between foreign and US defense firms.

**14:00-14:45**

## **Educational Opportunities**

**SCEA , DAU, NPS**

Mr. Peter E. Andrejev representing the Society of Cost Estimating and Analysis (SCEA) will briefly discuss their educational opportunities and certification process.

Ms. Sharon Jackson from the Defense Acquisition University (DAU) will discuss their educational programs for the cost community.

Dr. Daniel A. Nussbaum from the Naval Postgraduate School (NPS) will discuss the new NPS masters program: “Masters in Cost Estimating and Analysis”.

**Track II**  
**Cost Estimating Best Practices**  
**Conference Rooms 165-165**

**10:45-11:30**

**Competition in DoD Systems Acquisition: Past Lessons and Future Considerations**

**Dr. Michael N. Beltramo, Rick Collins, Brian E. Torgersen**  
**Technomics, Inc.**

The Weapon Systems Acquisition Reform Act of 2009 and DoDI 5000.02 Operation of the Defense Acquisition System are the most recent in a storied history of legislation and administration instructions aimed at improving defense acquisition outcomes through the use of competition. Specifically, these latest reforms mandate the use of competitive prototyping as well as require programs offices ensure the option to introduce competition throughout the life of programs to improve contractor performance.

This presentation describes the results of a study performed by Technomics, Inc. for the Office of the Secretary of Defense (OSD) Cost Assessment and Program Evaluation (CAPE). The study, which leverages a comprehensive library of nearly 300 competition-related studies spanning from the late 1960s through the 2000s, examines the historical success (or lack thereof) of competition at improving acquisition outcomes for past programs. It first addresses this issue from an economic/cost perspective, the focus of the majority of previous studies on competition, and then delves into competition's effects on other factors of a program's success such as risk reduction and industrial base stabilization. The study questions previous speculation that competition consistently results in cost savings by looking at the limitations of the data used, the exclusion of a number of costs (e.g., second source nonrecurring start-up, government costs, litigation costs, etc.), and the cost improvement curve sensitivity of previous estimates.

Insights and lessons learned gleaned from experiences on past programs are used to develop a framework that the acquisition workforce can use to evaluate competition options as part of their acquisition strategy at the program-level. The framework presents a systematic process for evaluating alternative strategies based on a variety of input parameters and objectives by utilizing cost analysis, industrial base analysis, technical analysis, and program analysis.

While DoD tends to evaluate competition on a program-by-program basis, defense contractors view competition for an individual program from an enterprise perspective. The study investigates how DoD might similarly evaluate competition in a broader context by using system dynamics to develop a framework for evaluating competition at the enterprise-level of DoD.

**11:35-12:20**

**Overhead Costs of DoD Contractors**

**Ms. Kim Fuller, Air Force/FMC and Capt Joseph M. Barnum, USAF**

Overhead costs account for over half of the money spent on Defense acquisition contracts but lack the oversight that direct costs receive. To address rising costs on Air Force contracts the Assistant Secretary of the Air Force for Acquisition commissioned a study of the overhead costs and rate structures of the largest Defense contractors. This presentation discusses the key findings of the study and the steps being taken to improve the overhead cost oversight.

**13:10-13:55**

**NAVSEA 05C's New Processes and Products**

**Mr. Bruce Parker and Mr. Morris Fields , NAVSEA 05C**

NAVSEA 05C remains a cutting-edge organization by continuously improving their processes and revising procedures to meet ever-evolving customer needs. These improvements fundamentally change the way they do business and broaden the perspective and advice they can provide to decision-makers. NAVSEA 05C is improving the accuracy of Government Furnished Equipment (GFE) cost estimates by transforming the estimating process to a more collaborative effort between the cost estimator, Ship Acquisition Program/Project Manager (SHAPM), and Program Acquisition Resource Manager (PARM). They have also formed a Portfolio Analysis Team to work across the various ship platforms in an effort to drive cost and schedule related strategies, opportunities and initiatives that impact multiple ship types and benefit the larger Navy organization. This presentation will highlight these changes and the benefits associated with them.

**14:00-14:45**

**The Integration of Cost Estimating and Program Management at NAVAIR**

**Mr. Dave Burgess, AIR 4.2**

Over the last 5 years, the Naval Air Systems Command (NAVAIR) Cost Department has increased its focus on positively affecting the outcome of naval aviation programs in addition to continuing its endless strife for analytical excellence and rapidly transforming data into actionable information. Since 1980, the NAVAIR Cost Department has evolved from a small team of cost analysts dispersed across high-profile programs to a consolidated, competency-aligned organization embedded in nearly every program whose broad array of products and services cover the entire acquisition life-cycle and provide complete cost, schedule and technical integration. Some of the Department's recent and current initiatives include: Total Ownership Costs (TOC) visibility across the entire naval aviation portfolio; Program performance data transparency; Visibility into a supplier's supply chain; Developing and implementing an official process to improve the technical inputs used for cost estimates; Reducing analysis cycle time; and the integration of all of these initiatives into a visual workspace dubbed the "Command Information Center" (or CIC) that's tailored for individual programs.

**Track III**  
**AIS & C4I Estimating: Heeding History's Lessons**  
**Conference Room 166**

**10:45-11:30**

**You want me to do WHAT?: CAPE Implementation Strategy for the MAIS  
WSARA Requirements**

**A Panel Presentation Chaired by:  
Mr. Kelly Hazel, OSD CAPE**

The Weapon Systems Acquisition Reform Act (WSARA) of 2009 established the Office of the Director of Cost Assessment and Program Evaluation (CAPE) with many responsibilities related to the cost estimation of Major Automated Information Systems (MAIS). These responsibilities include reviewing/evaluating all cost estimates associated with MAIS programs, issuing general MAIS cost estimating guidance, and performing independent cost estimates (ICEs). This presentation provides a status overview on the implementation of MAIS-related CAPE cost estimating policy and the impact on you and your work. Topics include data collection, critical change breaches, and review procedure for cost estimates. Much of this policy is in development and we invite dialogue on how this would be implemented and potential consequences (both intended and unintended).

**11:35-12:20**

**The Service Cost Position: A Process to Follow**  
**Mr. Carlton Lavinder, NCAA**

The Department of the Navy Service Cost Positions (SCP) memorandum of January 2009 signed by both ASN (FM&C) and ASN (RD&A) provides the process and policy for establishing and approving a service cost position for Department of Navy (DoN) Acquisition Category (ACAT) ID, IC, IA and selected ACAT II programs. The SCP is the DoN life-cycle cost estimate of all resources and associated cost elements required to develop, produce, deploy, sustain and dispose of a particular system. This presentation will review how this process has been implemented, show timelines and events associated with the establishment of the SCP, and discuss the interaction and cooperation required between NCCA, SYSCOMs and program office teams. The end goal of the SCP process is to provide decision makers with a timely cost estimate that is sound, defensible and explains cost implications of risk associated with the program.

**13:10-13:55**

**Cost Estimating: Its A Risky Business**  
**Mr. Ian Anderson, NCCA**

This brief will begin with a fundamental theoretical discussion of risk and uncertainty analysis. Following this discussion the briefer will propose practical methods for implementation. Methods will focus on the Crystal Ball statistical analysis software package – as an ad-in to Microsoft Excel. Time saving tips and tricks will be presented. Correlation will be briefly discussed. The brief will wrap up with a case study of the CANES program.

**14:00-14:45**

**Cost Models: Why Size DOES Matter**

**Mr. Brett Hays SPAWAR 1.6**

When it comes to performing cost risk assessments, the underlying cost model architecture can greatly influence the time it takes to execute simulation runs. The SPAWARSYSCOM cost analysis group has developed many Excel-based cost models in recent years and has utilized Crystal Ball when modeling cost risk. We have actually established a Crystal Ball working group to document and implement lessons-learned.

This presentation offers specific recommendations on how to streamline your Excel cost models to minimize the time it takes to perform Crystal Ball Monte Carlo and Latin Hypercube simulations. In addition to minimizing file size, several other effective techniques will be presented. This includes measured run-time improvements from actual projects. The briefing will conclude with a real-time Crystal Ball demonstration of a base case versus a streamlined model.



# Cost Chiefs' Biographies

Ms. Wendy P. Kunc

Deputy Assistant Secretary of the Navy for Cost and Economics  
OASN (FM&C)

Ms. Kunc is the Deputy Assistant Secretary of the Navy for Cost and Economics and serves as the Executive Director of the Naval Center for Cost Analysis (NCCA). In this capacity, she advises DON leadership on cost issues, develops defensible independent cost estimates and assessments for major acquisition programs, provides cost analysis tools, and performs special studies. Ms. Kunc chairs the DON Cost Review Board and Cost Estimating Stakeholders Group.

Previously, Ms. Kunc led NCCA's Cost Analysis Tools Division, managing the Naval Visibility and Management of Operating and Support Costs (VAMOSC) management information system and the Operating and Support Cost Analysis Model suite. Ms. Kunc also spent 15 years with the Department of the Air Force. In 2000, she led the Cost Factors Branch within the Air Force Cost Analysis Agency's Forces Analysis Division, developing the multi-billion dollar Cost Per Flying Hour program. In 1993, Ms. Kunc managed Air Force VAMOSC and led the expansion into the more comprehensive Air Force Total Ownership Cost (AFTOC) management information system. Ms. Kunc served as an operations research analyst at what is now the Air Force ISR Agency in San Antonio. Various positions included Chief of Software Support where she developed Air Force Cryptologic Support Center software applications. Ms. Kunc began her government career as a cartographer with the Defense Mapping Agency.

Ms. Kunc holds a Bachelor's degree in Mathematics from the University of Missouri and a Master of Science degree in Computer Information Systems from St. Mary's University, San Antonio, Texas. She received a Master of Science degree in National Resource Strategy from the National Defense University and completed the Industrial College of the Armed Forces Senior Acquisition Course. She completed the National Defense University's CIO certification program in 2005. Ms. Kunc received the Department of the Navy Superior Civilian Service award in 2009 and the Air Force Headquarters civilian award for Outstanding Contribution to Financial Management and Comptroller in 1998. She received the OSD Comptroller team award for Innovative use of Technology in Financial Management in 1999 and 2002. She is a Certified Defense Financial Manager, is Level III certified in the Defense Acquisition Workforce, and is a member of the Acquisition Corps.

Mr. David E. Burgess

Director, AIR-42 Cost Department  
Naval Air Command (NAVAIR)

Mr. Burgess was selected to the Senior Executive Service in 2001 as Director of the Naval Air Systems Command (NAVAIR) Cost Department. As such, he currently serves as NAVAIR's principal spokesman and technical advisor for naval aviation cost analysis, cost estimating, and Earned Value Management (EVM). He leads a national competency comprised of four major sites and over 300 personnel. Mr. Burgess received the prestigious Presidential Rank Award for Meritorious Senior Professionals in 2008 for his many accomplishments in his current role.

In 1997, Mr. Burgess was appointed NAVAIR's Deputy Director of Corporate Business where he advised NAVAIR senior leadership in balancing naval aviation resources to meet customer/Fleet requirements. He performed a key role in developing strategies that ensured naval aviation operations were efficient command-wide. For his significant contributions in that regard, Mr. Burgess was awarded the Department of the Navy's Superior Civilian Service Medal.

In 1995, Mr. Burgess was appointed NAVAIR's Cost Department Deputy Director. Just prior, he served as Cost Department Site Manager for the Naval Air Warfare Center Aircraft Division. There he established naval aviation cost estimating capabilities within a Navy Working Capitol Fund environment. He was awarded the Department of the Navy's Meritorious Service Medal for this achievement.

In 1992, Mr. Burgess was appointed Division Director for Advanced Concepts and Enterprise Activities where he developed life-cycle cost estimates for such aircraft as the F-117N, S-3AEW, AFX (now F-35), and MLR (now CH-53K). Additionally, he coordinated a

program-by-program review of all cost estimates as part of the Navy's "bottoms up" review.

In 1989, Mr. Burgess was selected by the Assistant Secretary of the Navy for Ship Building and Logistics to lead a team of senior cost analysts in conducting an independent cost assessment of the V-22 Osprey. The result was a \$400 million reduction in the estimated cost for production tooling and test equipment.

In 1984, he directed cost analytical support for over seven major weapon systems including HARM, ASPJ, SLAT and Phoenix. While serving in this capacity, he gained the additional responsibility of Lead Cost Analyst for Advanced Missile Weapon Systems.

Mr. Burgess began his service with NAVAIR in 1981 as a junior cost analyst. Since then, he has been instrumental in building NAVAIR's cost analysis, cost estimating, and EVM capability.

He is a graduate of George Mason University, with a bachelor's degree in business administration. He is also a certified member of the Navy's Acquisition Professional Community.

## **Donald M. Burlingham** **Office of the Assistant Commander for Programs** **Marine Corps Systems Command**

Mr. Burlingham is a graduate of the United States Naval Academy, the Naval Post Graduate School, the Marine Corps Command and Staff College, and the Marine Corps School of Advanced Warfare.

Then Lieutenant Colonel Burlingham joined the Marine Corps Systems Command for his final active duty assignment in September 2001. In April 2002, LtCol Burlingham was assigned a critical role directing Command-level Operations functions, including the coordination of MARCORSSYSCOM support for urgent material support of Marine forces during Operation Iraqi Freedom.

In December 2003, Mr. Burlingham transitioned to federal service to fill the newly established position of Supervisory Operations Research Analyst, where he led the Requirements Transition Team for the Assistant Commander for Programs.

Mr. Burlingham assumed his current duties as the Head of the Economic and Business Analysis Branch in August 2008.

## **Mr. Nidak A. Sumrean** **Director, Cost Engineering & Industrial Analysis** **Naval Sea Systems Command**

Mr. Nidak A. Sumrean was selected for the Senior Executive Service position of Director, Cost Engineering and Industrial Analysis, Naval Sea Systems Command, in January 2009. In this position, Mr. Sumrean is responsible for all aspects of cost estimating and analysis for programs under the cognizance of NAVSEA and NAVSEA affiliated Program Executive Offices (PEOs). These programs include ships, shipboard combat systems, ship launched missiles, ship launched vehicles, torpedoes, and mine warfare systems that are developed, acquired and supported by NAVSEA and the PEOs. He serves as an authoritative consultant to the Commander, NAVSEA (COMNAVSEA), functional directorates, PEOs, and higher authority on ship acquisition, life cycle cost, and matters concerning the historic, current, and emerging trends in the shipbuilding and related industrial base to assist in the decision making process for planning, programming, budgeting and acquisition of ships and associated weapons.

In his previous position as the Deputy Program Manager, Strategic and Theater Sealift Programs, Program Executive Office Ships, he was responsible for program management of Maritime Propositioning Force (Future) and Joint High Speed Vessel programs along with associated research and technology development. Prior to this position, he was the Director for Naval and Commercial Construction at the Office of the Assistant Secretary of the Navy (Research, Development and Acquisition) where he was responsible for program oversight of all Auxiliary and Amphibious shipbuilding and conversion programs. Mr. Sumrean possesses a Bachelor's Degree in Aerospace Engineering from North Carolina State University, a Master of Science Degree in Systems Management from University of Denver/Capital University and a Master of Science Degree in National Resource Strategy from Industrial College of the Armed Forces.

**Mr. Brian P. Ullrich**  
**Director Cost Analysis and Estimating**  
**Navy Engineering Logistics Office**

Mr. Ullrich is currently the Director of Cost Analysis and Estimating at the Navy Engineering Logistics Office (NELO).

Mr. Ullrich began his federal career with the Defense Logistics Agency in September 1977. He was assigned to the DCASMA Garden City New York office where he completed an intern program specializing in Quality Assurance for Electronic Systems and Subsystems. In November 1982, Mr. Ullrich moved to the Washington DC area where he became a Cost Analysis professional for the Naval Air Systems Command, Cost Analysis Division (AIR-524). While at NAVAIR, from 1982 through 1986, he worked in both the Advanced Concepts Branch as well as the Production Aircraft Branch, where he supported a variety of Naval Aviation programs including the T-45 GOSHAWK Advanced Jet Training System, V-22 OSPREY Tilt Rotor Program and the F-14 TOMCAT Fighter Program. In 1987 Mr. Ullrich was selected for promotion by the Navy Engineering Logistics Office and was assigned as the lead cost analyst on numerous classified programs. In the fall of 1988, Mr. Ullrich returned to NAVAIR, but now as a supervisor in the AIR-524 Data and Research Methods Branch.

Prior to his current position Mr. Ullrich has spent the last 18 years as a Supervisor and Associate Director of Cost Analysis in the Navy Engineering Logistics Office.

Mr. Ullrich holds a Bachelor's degree in Business from St. Johns University NY as well as an Associates Degree in Electrical Engineering Technology from the State University of New York and a Masters in Industrial Engineering Operations Research from Virginia Tech.

**Mr. Mourad Yacoub**  
**Division Director, Cost Estimating and Analysis**  
**Space and Naval Warfare Systems Command (SPAWAR 1.6)**

Mr. Yacoub is the Division Director for Cost Estimating and Analysis at the Space and Naval Warfare Systems Command (SPAWAR 1.6). He is the Team SPAWAR focal point for cost estimating policy, procedures, and guidance. Mr. Yacoub is responsible for coordinating and managing all SPAWAR inputs to Navy and DOD leadership related to Life Cycle Costs, affordability, and Earned Value Management.

Prior to his current position in SPAWAR, Mr. Yacoub held numerous positions in and outside the government working on a variety of DoD programs in the areas of cost estimating, analysis, research, and project management. He interfaces regularly with Acquisition managers to assess affordability of capabilities delivered to the warfighters. Among many of his assignments he served as an acquisition manager for the Joint Chemical and Biological Defense program office in Program Executive Office for Communications, Command, Control, Computers, and Intelligence (PEO/ C4I), where he was responsible for acquisition planning and control.

Mr. Yacoub received numerous awards and recognitions for his contributions. He received the SPAWAR Exemplary Achievement Award for his leadership and management of cost estimating and analysis issues in the Command. Mr. Yacoub is a recipient of the David Packard Excellence in Acquisition Award for his work on the DoD Integrated Program Management Initiative Joint Team. His contribution on this team led to implementing the process of transitioning Earned Value Management ownership and responsibility from the government to industry, and has created a recognized international best practice. Mr. Yacoub was recognized by the USD (A&T) for his contributions to the education, training, and development of the acquisition workforce, and he was also awarded the Naval Sea Systems Command (NAVSEA) Quality Champion Award for his leadership in process improvements in NAVSEA.

Mr. Yacoub holds a Bachelor of Science degree from Polytechnic Institute of New York University, a Masters of Science from George Washington University in Civil Engineering; and a Masters of Science in Strategic Studies from the U.S. Army War College. He is a graduate of the DSMC program management course; and a member of the Defense Leadership and Management Program. Mr. Yacoub chaired several program management tracks at the annual International Cost Performance Management Conference, and is a member of the Society of Cost Estimating and Analysis.

# Keynote Speakers

# Biographies

## The Honorable Mrs. Gladys J. Commons

Assistant Secretary of the Navy (Financial Management and Comptroller)

ASN (FM&C)

Mrs. Gladys J. Commons was sworn-in as the Assistant Secretary of the Navy (Financial Management and Comptroller) on November 3, 2009. She started her federal service career in July 1969 with the Social Security Administration as a Claims Representative. In 1971, she joined the Comptroller staff at the Office of Naval Research as a Budget Analyst. In 1977, she was selected as Lead Budget Analyst for the Operations Program/Budget Division in the newly formed Naval Data Automation Command, Washington, DC. In 1980, Mrs. Commons became the Supervisory Budget Analyst and Branch Head of the Budget and Operations Branch at the Naval Facilities Engineering Command (NAVFAC). In 1983, she became the Budget Officer and Head of the Materiel Program and Budget Branch, Materiel Division, Installation and Logistics Department, Headquarters Marine Corps. In 1986-87 she attended the Industrial College of the Armed Forces, Fort McNair, Washington, D.C. Also in 1987, Mrs. Commons became the Comptroller of the Marine Corps Research, Development and Acquisition Command – currently the Marine Corps Systems Command. She was promoted to the Senior Executive Service in August 1991.

Mrs. Commons served as the Principal Deputy Assistant Secretary of the Navy for Financial Management and Comptroller from February 1994 to September 2002 and served as Acting Assistant Secretary of the Navy for Financial Management and Comptroller from March to October 1998. She served as Comptroller of the Military Sealift Command from October 2002 until her retirement from federal service in March 2004.

Mrs. Commons has received numerous awards during her federal service, including various Outstanding and Sustained Superior Performance Awards, the Department of the Navy Distinguished Civilian Service Award, the Department of Defense Meritorious Civilian Service Award, and the Presidential Rank Award of Meritorious Executive.

Mrs. Commons graduated from Fayetteville State University with a Bachelor's degree in Education and holds a Master of Public Financial Management degree from the American University.

## Ms. BJ White-Olsen

Deputy Assistant Secretary of the Navy for Management & Budget

DASN (M&B)

Ms BJ White-Olsen began serving as the Deputy Assistant Secretary of the Navy for Management and Budget in December 2009. In this capacity, she serves as principal advisor and coordinator for all matters pertaining to the planning, programming, budgeting and execution of over \$60 billion in Department of the Navy RDT&E and procurement investment funds. In addition, she leads the acquisition staff organization charged with overseeing business planning and operation of the ASN (RD&A) organization.

Ms White-Olsen was appointed to the Senior Executive Service in July 2002 and currently has 36 years of civilian service within the Department of Defense.

Prior to her current assignment, from January 2006 to December 2009 Ms White-Olsen served as the Director for Budget Management and Execution, Office of the Deputy Assistant Secretary for Budget, Washington, D.C. where she was responsible for the management and oversight of budget formulation and execution activities of \$130 billion in Air Force appropriations, establishing and enforcing budget policy Air Force wide, as well as formulation, justification, and execution for the Air Force Working Capital Funds and for Air Force security assistance budgets.

From July 2002 to January 2006, Ms White-Olsen was the Associate Deputy Assistant Secretary for Cost and Economics, Office of the Assistant Secretary of the Air Force for Financial Management and Comptroller, Washington, D.C. where she assisted the Deputy Assistant Secretary of the Air Force for Cost and Economics in directing and supervising Air Force cost, economic and business case analysis.

Prior to becoming a member of the Senior Executive Service she served as the Special Assistant for Financial Management Transformation, Office of the Assistant Secretary of the Air Force for Financial Management and Comptroller and previous to that was the Technical Director, Office of the Deputy Assistant Secretary for Cost and Economics, Office of the Assistant Secretary of the Air Force for Financial Management and Comptroller.

Ms White-Olson began her career with the Department of the Air Force in 1973 and she has held progressively more responsible positions in the areas of budget formulation and execution, cost and economic analysis, and resource management at all organizational levels within the Air Force.

Ms White-Olson earned a Bachelor of Science in Production Management from Wright State University, Dayton OH in 1981, a Master of Public Administration from Troy State University, Troy AL in 1994 and a Master of National Resource Strategy from the Industrial College of the Armed Forces, National Defense University, Washington, DC in 1996.

Ms White-Olson's awards include the Presidential Rank Award (Meritorious Executive) in 2008, the Presidential Award for Leadership in Federal Energy Management in 2007, the Department of the Air Force Award for Exceptional Civilian Service in 2009 and the Department of the Air Force Award for Meritorious Civilian Service in 2007 and 2005.

Ms White-Olson is a Certified Defense Financial Manager and has a level III Acquisition Professional Development Program certification in Budget, Cost and Financial Management.

# Presenters Biographies

## Mr. Ian Anderson

### NCCA

Ian has spent the last five years as a cost estimator -- first with NAVAIR 4.2 upon graduation from Penn State University and most recently with the Naval Center for Cost Analysis. Studying Industrial Engineering at the nation's fifth best program positioned him well for a future career as a Cost Analyst. While at Penn State Ian worked full time on co-op rotations with both Wal-Mart Stores Inc., and Lutron Electronics Inc. At Wal-Mart's headquarters in Bentonville, AR, Ian spent most of his time analyzing logistics and operations -- traveling to many distribution centers across the country. His work at Lutron Electronics was similar, although it added the challenges of a high volume manufacturing environment.

While at NAVAIR 4.2 Ian supported the P-8A cost team lead and PMA-290 in execution of all cost estimating duties associated with the 26.4 billion dollar estimate. Additionally, he served as the primary aid to the H-1 cost team lead. He was responsible for developing the Milestone III production estimate, totaling ~ 9 billion dollars. Ian is a graduate of NAVAIR's Engineering Science and Development Program (ESDP) and has had rotations with the P-8A software integration team as well as the P-8A Budget and Financial Management team.

While at the Naval Center for Cost Analysis Ian has acted as the team lead for all Operations and Support (O&S) cost associated with the Large Aircraft Infrared Countermeasures (LAIRCM) program. His bottoms up estimate successfully supported the Navy's Gate review and Milestone B decision. Most recently he has acted as the cost team lead for the Consolidated Afloat Network Enterprise System (CANES). He was responsible for leading a handful of government civilians and contractors at both NCCA and SPAWAR 1.6 Headquarters towards the Navy's agreed upon Service Cost Position -- totaling ~12.7 billion dollars in total ownership costs.

## Mr. Peter E. Andrejev

### Booz Allen Hamilton

As SCEA's Director of Certification, Mr. Andrejev oversees the refinement and administration of the CCEA professional certification program. He was named the 2000 National Cost Estimator/ Analyst of the Year and has held numerous postings as a SCEA national officer and member of the Board of Directors. He retains current CCEA and PMP certifications, and last year served as an advisor to the Business Executives for National Security (BENS) Task Force on Acquisition Law and Oversight. In his current capacity with Booz Allen, Mr. Andrejev is managing the stand-up of the firm's Acquisition and Program Management Center of Excellence.

## Capt Joseph M. Barnum USAF

Capt Joseph Barnum attended the Hawaii Pacific University and graduated in May 2003 with a bachelors of science in Finance. Capt Barnum attended Officer Training School in April 2004 and upon graduation was stationed at Andrews AFB, MD. There, he was assigned to the 89th Comptroller Squadron, after a change of command the 316th Comptroller Squadron, where he worked at different times as the Commander or Deputy Commander Financial Analysis Flight. In August 2007, Capt Barnum began working on his Masters degree in Cost Analysis at the Air Force Institute of Technology. After graduating in March 2009, he began work as a Cost Analyst at the Air Force Cost Analysis Agency in Arlington, VA.

## Mr. Walt Cooper OSD CAPE

Walt Cooper is an operations research analyst in the Cost Assessment and Program Evaluation (CAPE) Directorate, Office, Secretary of Defense (OSD). Walt oversees several important initiatives in the area of operating and support (O&S) costing. He is the OSD coordinator of the Department's program to collect O&S costs for Army, Navy and Air Force weapon systems: the Visibility and Management of Operating and Support Costs (VAMOSOC) program. He recently completed a congressionally-directed study of systems and methods used to track and assess O&S costs for major defense acquisition programs. This review culminated in several important recommendations aimed at increasing the consideration that O&S costs receive in acquisition program decision-making. Walt leads a multi-service effort to establish cost-reporting requirements for sustainment contractors. This project will lead to standardized reporting requirements by the end of 2010. The Science Advisor to the Director, Operational Test and Evaluation Directorate, proposed that information from operational tests and evaluations be made available to the cost analysis community. Walt heads an effort to establish and communicate cost analysts' requirements to the T&E community. To date, more than 100 test reports on a wide variety of platforms have been posted to the departments' VAMOSOC web sites.

In previous CAPE assignments, he led the independent cost estimating of the Army's Future Combat Systems, the second largest acquisition program in the Department of Defense. He also led estimating efforts for the reconstruction and renovation of the Pentagon, the operating and support costs of the Navy's Future Aircraft Carrier and the Marine Corps' V-22 OSPREY tilt-rotor aircraft, and the acquisition costs of the Navy's Extended Range Munition. In 2004, he served as the United States exchange officer with the Australian Department of Defence in Canberra, Australia Capital Territory, where he developed independent cost estimates of several new acquisition programs and modernized munitions facilities.

From 1989 to 2001, he was a research fellow with LMI, a non-profit consulting firm in McLean, VA. Prior to his work with LMI, Walt served in a variety of leadership and resource analysis assignments in a 21-year career with the United States Army. He holds a BA degree in mathematics from the University of Vermont, an MBA in operations research from Tulane University, and an MS degree in finance from The American University.

## Lt. Col. Steve Cox USAF, OSD CAPE

Lieutenant Colonel Steve Cox graduated from the Air Force Academy in 1992 with a Bachelor's degree in Mathematics. He has since earned his M.S. and Ph.D. degrees in Operations Research from the Air Force Institute of Technology at Wright Patterson AFB in Dayton, Ohio. As a career Air Force scientific analyst, he has served as an electronic combat test support analyst, air combat mission analyst, instructor at the Air Force Academy, and Chief of Operations Assessment. He has deployed for four months to Qatar to assess air operations and for one year to Iraq to assess Iraqi public opinion. His current assignment to the Office of the Secretary of Defense (OSD) Cost Assessment and Program Evaluation (CAPE) directorate involves estimating the life cycle cost of both major defense acquisition programs (MDAP) and major automated information systems (MAIS).

## Mr. Morris Fields Division Director, Portfolio Assessment Team (NAVSEA 05C)

Morris Fields civil service career began in 1997, as a Navy cost intern within NAVSEA 017. From 1997-2001, Mr. Fields provided cost engineering support for the DDG51 Surface Combatant program. Starting in 2001, he worked as team leader and then director in the SEA 05C1 Industrial Planning and Analysis division. From 2005-2007, Mr. Fields successfully developed cost risk analysis capa-

bilities within NAVSEA 017/05C and educated decision makers on the use of cost risk in the budgeting process. Mr. Fields is currently standing up and serving as the director for the Portfolio Assessment Team, a new division within NAVSEA05C.

Mr. Fields received a BS in Industrial Engineering from the University of Pittsburgh in 1997. He also earned a Master of Systems Engineering degree from the University of Virginia in 2001. Mr. Fields received the Meritorious Civilian Service Award and the ASN RDA Emerging Investigator Award for 2006 for his work in developing cost risk analysis into a Navy budgeting tool.

## Mr. Howard Fireman OPNAV N80

Howard Fireman is the Deputy Director of the Navy's Programming Division. He oversees the building of the Navy's Program Objective Memorandum (POM), which serves as the financial plan for the Department of the Navy. He also works as the Executive Secretary for the Resources and Requirements Review Board, the Navy's three- and four-star decision-making forum for Navy Capabilities requirements.

Howard Fireman received his Bachelors and Masters Degree in Naval Architecture and Marine Engineering from the University of Michigan. He also holds a Masters Degree in Technical Management from Johns Hopkins University. In 2010, he was the recipient of the Rosenblatt-Michigan Award from the University of Michigan Department of Naval Architecture and Marine Engineering. In previous years, he received the American Society of Naval Engineers Gold Medal for sustained superior performance and the Meritorious Presidential Rank Award for his contributions to the US Navy and the Senior Executive Service.

## Ms. Kim Fuller Air Force FM&C

Kimberly S. Fuller, a YD-03, is a Senior Financial Analyst for the Economics Division, Business and Economic Directorate, Office of the Assistant Secretary of the Air Force for Financial Management and Comptroller, Washington, D.C. She is responsible for providing policy guidance and oversight on business case, economic, and cost analyses for a variety of Air Force projects.

Ms. Fuller began her career as a cost analyst and industrial engineer for Naval Air Systems Command, Patuxent River, MD, where she supported a number of different aircraft platforms in both the acquisition and operational communities. During her time with Naval Air Systems Command she also worked with their Corporate Business Office to develop budget planning and execution tools for headquarters operations

## Mr. Brett Hays SPAWAR 1.6

Mr. Hays leads the Cost Analysis West Coast group within the SPAWAR cost department. He has over twenty-eight years of experience in production engineering and cost analysis, all within the defense industry. Mr. Hays has provided cost analysis support for PEO C4I programs since 1998, accepting a position with SPAWAR Code 1.6 in 2007. He has been responsible for the development of complex PLCCE models for numerous C4I programs, including Global Command and Control – Maritime (GCCS-M) and Consolidated Afloat Networks and Enterprise Services (CANES). Mr. Hays holds a bachelor's degree in Industrial Engineering from Iowa State University, an MBA from San Diego State University, and a database application developer certificate from the University of San Diego California. He is also a graduate of the Cisco Networking Academy program.

## Mr. Kelly Hazel OSD CAPE

Mr Kelly Hazel is an acquisition professional with over twenty eight years in the acquisition of both large and small scale weapons systems to include the B-1B, B-2, assorted air to ground munitions, as well as advanced space systems to include the Defense Support Program (DSP), Space Based Infrared System (SBIRS), Global Positioning System (GPS), and several satellite communication systems. Kelly led the effort to deploy the first operational ground segment for the SBIRS program as well as an operational prototype that provided theater missile warning and cueing to missile defense systems. Kelly has served in a variety of field, Major Command, and OSD billets. He is currently assigned as an Operational Research Analyst in the Advanced Systems and Cost Analysis Division in the Cost Assessment and Program Evaluation Directorate.

## Dr. Nayantara Hensel

### Chief Economist, Dept. of the Navy, ODASN(C&E)

Dr. Nayantara Hensel is the Chief Economist for the Department of the Navy, and works for the Office of the Deputy Assistant Secretary of the Navy (Cost and Economics). She provides economic guidance on growth projections, the federal budget, interest rates, unemployment, exchange rates, inflation, the financial health of defense contractors, as well as trends in the broader economy and in the defense sector. Dr. Hensel received her BA, MA, and Ph.D. from Harvard University, where she graduated magna cum laude and Phi Beta Kappa and specialized in finance and economics. She has taught at Harvard University, the Stern School of Business at New York University (NYU), and the US Naval Postgraduate School's Graduate School of Business and Public Policy. In the private sector, Dr. Hensel previously served as Senior Manager and Chief Economist for Ernst & Young's litigation advisory group, managing economist for the New York City office of the Law and Economics Consulting Group (LECG), and an economist in the economic consulting arm of Marsh & McLennan. Dr. Hensel has written over 30 articles and research reports. Her recent research has focused on globalization and the US defense industrial base (the USAF tanker competition), the role of defense mergers in improving weapons systems cost efficiency, efficiency in IPO auctions relative to traditional processes, the factors impacting discount rates for US Marine Corps personnel, and market structure-specific and firm-specific factors impacting economies of scale and density in European and Japanese banks. She has published in the International Journal of Managerial Finance, the Review of Financial Economics, Business Economics, the European Financial Management Journal, the Journal of Financial Transformation, and Harvard Business School Working Knowledge. Dr. Hensel has presented her work at a variety of institutions, including the Federal Reserve Banks in Chicago, Dallas, Boston, and Cleveland, the Federal Reserve Board of Governors, Department of Justice, the US Treasury, and RAND, as well as universities, such as London Business School, and Harvard University. Dr. Hensel is also a frequent presenter at conferences, including the USAF Air and Space Technology Exposition, the NBER National Security Working Group, the National Association for Business Economists (NABE) annual conference, the Western Economics Association, the Midwestern Economics Association, and the European Financial Management Association.

## Ms. Sharon Jackson

### DAU

Ms. Sharon Jackson joined the Defense Acquisition University (DAU) in April 2007, as the Director for Business, Cost Estimating and Financial Management. As such Ms. Jackson directs the design, development, and integration of all learning assets across the AT&L Business Performance Learning Model (PLM) of acquisition. Ms Jackson also serve as the Executive Secretary to OUSD (AT&L/ARA) the Functional Advisor (FA) for Business and the primary interface with the Functional IPT (FIPT) involved in the formulation of acquisition policy, processes and procedures that impact DAU learning products.

From August 2003 to April 2007, she served as a senior Program Analyst for the Office of the Under Secretary of Defense (Acquisition, Technology & Logistics), Acquisition Resources and Analysis OUSD(AT&L/ARA). Overseeing the OSD(AT&L) resource throughout the Planning, Programming, Budgeting, and Execution (PPBE) process. Providing oversight to \$200 billion AT&L programs and directly responsible for the management and execution of \$1.8 billion in AT&L direct budget.

Prior to joining the Office of the Secretary of Defense in 2003, Ms. Jackson served as a lead budget analyst to the Assistant Secretary of the Navy, Financial Management and Comptroller (ASN(FM&C)). In this capacity, she was accountable of Other Procurement Navy (OPN), Weapons Procurement Navy (WPN) and Procurement Marine Corps appropriations; and all Command, Control, Communication, Computers, and Intelligence (C4I) programs funded under Research Development Test and Evaluation (RDT&E).

In June 1998, she joined the Chief of Naval Personnel, where she served as the Senior Budget Analyst for the Washington Liaison Detachment/Support Staff (Pers-02L/00Y).

In 1988 Ms. Jackson embarked on her career with the Naval Air Systems Command (NAVAIR) where she spent a short period of time in the Managerial Accounting Division of the Comptroller Office (AIR-7.6.2) serving as a Financial Analyst. In this capacity, she was responsible for executing various funding appropriations. In August 1995, Ms. Jackson was selected to the F/A-18 A/B and C/D FMS New Business program. Her efforts as a Budget Analyst during this time were important to the continued success of F/A-18 New Business Programs. Her insightful analysis was instrumental in leading to a Letter of Offer and Acceptance by the Royal Thai Air Force. Consequently, Ms. Jackson was promoted in February 1997, to the Business/Financial Manager for the \$392 million Thailand Program. She has over twenty-three years of government experience, primarily relating to weapon system program financial management, acquisition and policy management.

Ms. Jackson lives with her two children Shannon and Kristopher, at her home in Virginia.

Mr. Carlton L. (Lee) Lavinder  
Director, Cost Estimating Division, NCCA

Mr. Lavinder is a former Naval Officer. He graduated from North Carolina State University in 1989 with a degree in Civil Engineering. He earned his commission through ROTC was designated a Naval Flight Officer in July 1990. He then completed initial training as an F-14 Radar Intercept Officer (RIO).

After a fleet squadron tour, Mr. Lavinder earned his Master of Science in Operations Research from the Naval Postgraduate School in Monterey CA. He completed various follow-on tours including tours at the Naval Center for Cost Analysis and N12. Mr. Lavinder left active service as a LCDR in 2001.

After leaving the service, Mr. Lavinder worked in private industry on a variety of projects conducting modeling and simulation and other analytical support.

Mr. Lavinder joined the Civil Service in July 2002. He is currently the Cost Estimating division director at the Naval Center for Cost Analysis.

Mr. Dave Lyons  
OSD CAPE

Mr. John Moskowitz  
NCCA

Since July 1998, Mr. John J. Moskowitz has been an Operations Research Analyst for the Naval Center for Cost Analysis (NCCA), which reports to the Assistant Secretary of the Navy (Financial Management and Comptroller). His primary responsibility is as a cost estimator in the Automated Information Systems/Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (AIS/C4ISR) Branch. In over twelve years of service at NCCA, he has completed cost estimates on such programs as the Theater Medical Information Program (TMIP), Navy Standard Integrated Personnel System (NSIPS), Defense Travel System (DTS), Distributed Common Ground System - Navy (DCGS-N), and Common Aviation Command and Control System (CAC2S). He has also supported NCCA's Platform Program Support Branch by performing estimates on the Advanced Deployable System (ADS), V-22 Osprey, and KC-130J Hercules.

Prior to joining NCCA, Mr. Moskowitz spent five years working as an Industrial Engineer at the Philadelphia Naval Shipyard supporting the service life extension program for conventional aircraft carriers. He graduated with honors from Lehigh University with a Bachelor of Science degree in Mechanical Engineering and has been a member of the American Society of Mechanical Engineers since 1990. He currently lives in Alexandria, Virginia and enjoys sports, gardening, and other outdoor activities.

Dr. Daniel A. Nussbaum  
Naval Postgraduate School

Dr. Nussbaum has over 30 years of continual involvement supporting the senior management level of government and the commercial firms, in cost and schedule estimating and control, financial modeling, economics and operations research. Since 2004 he has been a visiting professor at the Naval Postgraduate School (NPS) in the Operations Research Department. There, in addition to teaching graduate level courses, Dr. Nussbaum is leading and conducting research, acting as thesis advisor, and developing strategies to establish an NPS presence in the National Capital Region.

From 1999-2004 he was a principle at Booz Allen Hamilton(BAH) responsible for a broad range of cost, financial and economic analysis with clients across the government and commercial spectrum. Prior to joining BAH he was a member of senior management at the Naval Center for Cost Analysis (NCCA). Initially, (1987-1996) by heading the cost engineering, aircraft, and weapons divisions; and finally, (1996-1999) serving as Director of NCCA. Additionally, he has held numerous positions performing and directing complex analysis with the Navy and U.S. Army.

Dr. Nussbaum is a member and official of several professional organizations including; Society of Cost Estimating and Analysis (past president and current board member),

Washington Institute for Operations Research and Management Science (past president and vice president) and the Military Operations Research Society (MORS) (past board member)

He received a BA in Mathematics and Economics from Columbia University and a PhD in Mathematics from Michigan State University. He was a National Science Foundation Fellow in Econometrics and Operations Research and a Senior Officials in National Security (SONS) Fellow at Harvard's Kennedy School of Government. Additionally, he has completed programs at the National Defense University and US Naval War College.

## Mr. Bruce Parker

### Division Director, Combat and Weapons Systems (NAVSEA 05C)

Bruce Parker is the director of the Combat and Weapons Systems Cost Estimating Division, NAVSEA 05C4. He has 26 years of cost estimating experience in NAVSEA including submarine, littoral warfare, and surface ship combat and weapons systems. He is the NAVSEA Cost Engineering Manager - Technical Warrant Holder for NAVSEA Weapons Systems.

Bruce received a Bachelor of Science degree in Industrial Engineering and Operations Research from Virginia Tech in 1984. He has a primary DAWIA level III certification in business, financial management, and cost estimating and a secondary DAWIA level III certification in program management.

## Dr. Christian Smart

### Missile Defense Agency

Dr. Christian Smart is currently employed as an operations research analyst with the Missile Defense Agency, where he serves as the deputy chief for sensors cost estimation. Prior to joining MDA, Dr. Smart worked as a senior parametric cost analyst and program manager with Science Applications International Corporation. An experienced estimator and analyst, he was responsible for risk analysis and cost integration for NASA's Ares launch vehicles. Dr. Smart spent several years overseeing improvements and updates to the NASA/Air Force Cost Model and has developed numerous cost models and techniques that are used by Goddard Space Flight Center, Marshall Space Flight Center, and NASA HQ. In 2010, he received an Exceptional Public Service Medal from NASA for his contributions to the Ares I Joint Cost Schedule Confidence Level Analysis and his support for the Human Space Flight Review Panel. Dr. Smart is a past president of the Greater Alabama Chapter of SCEA, and is the managing editor for The Journal of Cost Analysis and Parametrics. He has given numerous presentations on cost modeling and risk analysis both in the U.S. and abroad. Dr. Smart was cited as 2006 Professional of the Year for the Greater Alabama Chapter of SCEA. He was awarded best of conference paper at the 2008 Annual Joint ISPA-SCEA conference in Noordwijk for "The Fractal Geometry of Cost Risk," best of conference paper at the 2009 Annual Joint ISPA-SCEA conference in St. Louis for "The Portfolio Effect and the Free Lunch" and best of conference paper at the 2010 Annual Joint ISPA-SCEA conference in San Diego for "Here, There Be Dragons: Considering the Right Tail in Risk Management." In addition, Dr. Smart was awarded the 2009 Parametrician of the Year award by ISPA. He is a SCEA certified cost estimator/analyst (CCEA), a member of the Society for Cost Estimating and Analysis (SCEA) and the International Society of Parametric Analysts (ISPA). Dr. Smart earned bachelors degrees in Economics and Mathematics from Jacksonville State University, and a Ph.D. in Applied Mathematics from the University of Alabama in Huntsville.

## Mr. Kenneth Vincent Spiro

### DUSN,(BO&T)

Ken Spiro is a senior analyst for the Deputy Under Secretary of the Navy for Business Operations and Transformation. There he assists the Under Secretary by assessing, facilitating, and monitoring organizational structures and business processes. Some of his specific areas of responsibility have involved developing efficiencies associated with the Secretary's initiatives to realize savings and reduce future costs in the Department of the Navy, as well as governance oversight of a number of acquisition programs.

Ken Spiro graduated from the United States Naval Academy and served for more than 27 years as a Surface Warfare Officer in the Navy before retiring at the rank of Captain. He was the first commanding officer of USS PORTER (DDG 78) and the program manager for the Cruiser Modification Program. Upon transitioning from an active duty, he entered civil service as a senior analyst and acquisition lead in the Office of Program Assessment (OPA). While there, he assessed programs and processes in support of the Secretary of the Navy including monitoring and facilitating the acquisition governance oversight process, organizational relations, manning, readiness, and force structure, as well as coordinating and leading multiple study groups.

Mr. Duncan Thomas  
Technical Director, NCCA

Mr. Duncan Thomas currently serves as the Technical Director for the Naval Center for Cost Analysis, Office of the Deputy Assistant Secretary of the Navy (Cost and Economics), Washington, D.C. He oversees the quality of all cost and economic analyses that support major Department of the Navy resource allocation decisions, and authors Naval policy for cost and uncertainty analysis. Mr. Thomas was appointed to his position as member of the scientific and technical cadre of senior executives in November 2009.

Prior to his assignment as Technical Director, Mr. Thomas served as the Director of the Cost Estimating Division at the Naval Center for Cost Analysis and as the Technical Advisor and Chief of the Space Programs Division for the Air Force Cost Analysis Agency. Prior to Government service, Mr. Thomas was a senior analyst at Tecolote Research, Inc. responsible for providing analysis to support major Army, Air Force, Navy, Marine Corps, and Federal Aviation Administration acquisition decisions. He is also the author of several cost research papers including “Methods for Estimating Radar Transmit/Receive Modules” and “Cost Estimating Relationships for Tooling for Composite Parts”.

Mr. Thomas graduated from UCLA in 1989 with a Bachelor of Science degree in Applied Mathematics.

Mr. Brian E. Torgersen  
Technomics, Inc.

Mr. Torgersen has over two years of cost analysis experience with Technomics, Inc. During his time at Technomics, Mr. Torgersen has provided support to the OSD Defense Cost and Resource Center (DCARC) as well as the Navy’s PEO IWS 2E on the Surface Electronic Warfare Improvement Program (SEWIP) in both cost analysis and systems engineering. He has a B.S. in Industrial & Systems Engineering from Virginia Tech.





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