

# NATIONAL Estimator

The Society of Cost Estimating and Analysis

Spring 2011

## In this issue ...

- Distance Learning Masters Program
- The Art of Costing
- Software Cost Estimating Relationships
- 2011 ISPA/SCEA Conference Update
- Chapter Updates



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NATIONAL

# Estimator

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A non-profit organization dedicated to improving cost estimating and analysis in government and industry and enhancing the professional competence and achievement of its members.

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# President's Letter

*By Bill Haseltine, SCEA President*

## Tragedy in Japan...

**A**s we approached the publication date for this issue of *The National Estimator*, the world was rocked by the earthquake and subsequent tsunami in Japan. We were all horrified at such massive devastation — homes and buildings washed away, land reshaped, and of course, the disaster at the nuclear power plant. Aside from the shock and empathy that I'm sure we all felt for the tragedy unfolding, I found myself worrying about the health and safety of the SCEA members who call Japan home.

During the past few months the National Board of Directors has been working closely with leading figures in Japan to establish a Japanese Region for SCEA. Following Board approval at the February Board meeting, SCEA has now established its first truly international region, dedicated to advancing the profession and promoting acceptance of SCEA's principles and standards. We are in the process of establishing an international region in Australia and are optimistic that additional international regions will be established in the coming year. SCEA's intent is to establish standards for the cost profession and educate as many estimators and analysts as possible. This expansion has been made possible by the efforts of many National Board members, and we owe them all a debt of gratitude.

## SCEA Means Service

This brings me around to the point I had originally planned to focus on, in this, my penultimate President's Message —“service,” both to the society and our profession. As you read through the articles in this issue, notice “service” as the underlying theme. There are many people to thank for their service to the society — people too numerous to name without surely missing some, but I will try to do so anyway. First, there are the members of the Board of Directors, who have provided me with a depth of counseling I had no right to expect. Then there are the Chapter Presidents, as well as many members, who have offered ideas and recommendations for improving the Society. I also owe a debt of gratitude to the many committee members and conference volunteers that have made our conferences outstanding examples of what SCEA can do to help experienced and junior members learn and expand the professional knowledge base. I also appreciate individuals,

like **Bob Currie**, who saw a need to preserve some of our rich history and chose to take it on himself by way of his photographic talents.

I also thank the following individuals, who have helped me so much over the past three-and-a-half years:

- **Peter Braxton**, whose unswerving dedication to training has been nothing short of Herculean
- **Mike Thompson**, whose work as Chaptering Chair has helped new chapters get started and more established chapters become reinvigorated
- **Peter Andrejev**, for his efforts in leading the restructuring of our certification program
- **Neil Albert**, whose efforts as Jointness Committee Chair, labors to increase our online publishing, and general good counsel have been invaluable
- **Dan Nussbaum**, who as Past President and counselor has helped me keep my eye on the ball
- **Elmer Clegg**, who served as Executive Director and provided me a lifetime of insight and guidance
- **Erin Whittaker and the rest of the National Office Staff**, for their dedication to providing outstanding support to you, me, and anyone else who contacts them with questions

Without these people and many others, this successful Society would not be a professional association but more like a club. We would not have membership topping the 2,000 mark, nor would we have established CEBoK™ as the benchmark for training in the profession, held annual conferences with 600+ attendees, established successful relationships with our corporate sponsors, and improved customer service to our members. With your help, we've expanded beyond our nation's borders, have nearly two dozen active chapters, and run a successful National Awards program. Even outside the bounds of membership, SCEA continues to grow in new and exciting ways, like our group on LinkedIn that now tops 900 members (if you haven't already, stop by and take a look at some of the discussions taking place there).

I hope you are as proud of this Society and profession as I am, and I ask you to look around and see where your skills might be applied to make the whole Society richer. Believe me; we can always use your help.

# Letter from the Editor

By Joe Wagner, National Estimator Editor



I'm

back! With the agreement of our SCEA President **Bill Haseltine**, and the assistance of our Executive Director, **Erin Whittaker**, I am resuming editorship of the *National Estimator*, taking up the reins once again from the very capable but extremely busy hands of **Vicki Kitchens**. Over the three years of her tenure, she has brought innovation and quality to these pages, and I hope to be able to continue with those attributes as we go forward. As always, and echoing Vickie's requests, this magazine depends on you for its content. We depend particularly on the local chapter officers and the dedicated volunteers who spearhead our activities to keep everyone up to date on your programs and achievements. I will do my best to keep in touch with you and to solicit the news and information only you can provide to the membership.

This spring 2011 issue of the *National Estimator* has a theme, as you will discover reading through the pages that follow. That theme is "Service to the Membership". If you visit the SCEA website ([www.sceaonline.org](http://www.sceaonline.org)) you will find on the front page a list of 12 fundamental ways by which this organization fulfills its purpose of promoting cost estimating and analysis. The first two ways are:

- Promoting and enhancing the profession of cost estimating and analysis
- Fostering the professional growth of its members

Whether it is the CEBoK training tool and desktop reference, the annual ISPA/SCEA Conference, the Certification program, your local chapter activities, and yes, this magazine and its sister publication the *Journal of Cost Analysis and Parametrics*, one of the overarching roles of SCEA is to provide professional services to our membership. We do this in furtherance of their individual careers, the betterment of employers and professional associations engaged in cost estimating and analysis, and improvement to the profession of cost estimating and analysis. It is your professional development and the enhancement of cost as a profession that drives the many decisions of our Board of Directors, officers, and national office staff throughout the year. It is a cause and effect. The abilities, achievements, and reputation of our individual members contribute to the reputation of their employers and of the profession as a whole. SCEA is a critical link in that cause and effect. By enabling your professional growth, Goal #2 above, we achieve Goal #1.

This issue of *National Estimator* points out some of the many initiatives and programs of SCEA that contribute to professionalism. The organization holds conferences, produces literature, encourages the local chapters, creates the training tools, writes the exams, and manages the certification benchmarking processes each and every day so that your efforts to improve yourselves contribute to the betterment of the profession in which you toil. I hope as you read through this issue, you will recognize the tremendous effort that goes into the operation of this Society and creation of its programs and products. Also recognize it is truly a "service Society" in which the annual dues paid by the members represent one of the greatest returns on investment you will ever find.

Thanks, and read on.

In an uncertain economy,

## HOW DO YOU MAKE YOURSELF STAND OUT FROM THE CROWD?

Post your resume on the **Cost Estimating Career Center** to be seen by employers in the market for an employee who thinks outside the box.

- Go to <http://careers.sceaonline.org/>
- Click on "Job Seekers"
- Follow link for "Post your Resume"
- Get your name out as an employee who will go the extra mile for the job!

**SCEA**





# SCEA & ISPA Joint Office Operations

*By Erin Whittaker, SCEA National Office*

## 2010

was a busy year for the National Office, and with 2011 underway, I can tell we're in for another exciting year of growth and change. **Erica Wilkening**, our Member Services Assistant, continues to handle member inquiries and maintain our membership database. **Sharon Burger**, Office Administrator who handles everything from scheduling to grading the certification exams, is dealing with added volume as more organizations and individuals realize the value of SCEA certification. **Joe Wagner** is on-hand to provide support as our resident cost professional, for such things as evaluating professional experience in certification requests and performing analysis to make sure we are providing the most benefit to our members at the best possible value. **Elmer Clegg** continues to work as a consultant, offering his years of expertise when needed. And, **Erin Whittaker** was recently named Executive Director, after working as Manager of Business Operations since May 2010.

### We're Here to Help!

The National Office is here to answer your questions and provide timely assistance. We are your connection to SCEA leadership, your one-stop shop for information about training, conferences, membership, certification, and all the other things SCEA provides. Our mission is to meet the day-to-day needs of you, our customers. We hope we are doing that for you. Feel free to address any questions or comments to us at [scea@sceaonline.org](mailto:scea@sceaonline.org).

Membership has grown to over 2,080 people with no sign of slowing down. With a growing membership, we at the National Office realize we need to keep reaching out to members and providing relevant, timely resources. In that vein, we are excited to announce a new initiative that will roll out in April 2011 — weekly E-Newsbriefs. SCEA members will get a weekly email with relevant and up-to-the-minute news about breaking stories in the cost estimating/analysis world. It'll be a great way to keep yourself informed!

### Conferences

The 22nd Annual IPM (Integrated Program Management) Conference, conducted jointly with the PMI

EVM Community of Practice and NDIA, was held in November 2010 and attracted over 700 attendees. It was an outstanding program with keynote speakers from GAO, DCMA, and the Professional Services Council. Bill Haseltine chaired a Cost Track that was well attended and highly regarded.

Plans for the 2011 ISPA/SCEA Conference and Training Workshop are well underway, and we're expecting this year's event to be another great conference and a memorable time for all attendees. Joint training will be offered, as well as 95 professional papers (our highest number to date!). The conference leadership team of **Mel Etheridge**, **Rich Harwin**, **Paul Marston**, **Sherry Stukes**, **Kevin Cincotta**, **Peter Braxton**, and **Roy Smoker** are nailing down the Conference schedule as we speak, and the program is sure to be packed with stimulating events from Tuesday morning right through Friday noontime. Registration numbers are strong so far, and we anticipate high attendance. If you're interested in attending, you can register online (and find lots of other helpful Conference information) at [www.sceaonline.org/events/conference/2011splash.cfm](http://www.sceaonline.org/events/conference/2011splash.cfm). And, if your company would like to sponsor an item or event and connect with hundreds of attendees, contact Erica Wilkening at [erica@sceaonline.org](mailto:erica@sceaonline.org). Read on for more information about the conference in Joe Wagner's conference article. We hope to see you there!

### Journal of Cost Analysis and Parametrics

We printed and mailed our final 2010 issue of the *Journal of Cost Analysis and Parametrics* in December 2010. The Fall 2010 issue (Volume 3, Issue 2), marks the last print-only edition we'll have. Starting in 2011, with Volume 4, Issue 1, we will be offering print and online journals and giving current members access to an archive of past ISPA and SCEA journals.

### CEBoK™ and Certification

CEBoK v1.1 was released in the winter and mailed out to attendees in December 2010. This version features many enhancements over the previous v1.0, such as

- New content and improved Speaker Notes
- Expanded bibliography with recent DODCAS and SCEA/ISPA Conference papers



- Scoring for self-graded exercises and updated solutions.

By this point, all CEBoK license holders should have received the updated version. If you have not, please contact Erica Wilkening at [erica@sceaonline.org](mailto:erica@sceaonline.org).

Certification is a cornerstone of SCEA. It is a way for cost estimators/analysts to demonstrate their knowledge and expertise to potential customers and employers, and it's a way for employers to gauge the value of a potential hire. If you haven't yet applied for the Certification Exam, consider signing up for the exam following the 2011 Conference in Albuquerque, NM. The exam will be held on June 11<sup>th</sup>. The application deadline is April 29<sup>th</sup>.

Attaining certification is not an end in and of itself; it's a means by which those working in the field can remain up-to-date on changes in the profession. That's why it's equally important that CCEA holders maintain their certification, either by accumulating points or by re-taking the exam. Let's be honest — of those two options, I'm sure you'd much rather recertify by points! All it takes is active SCEA membership and employment in a estimating/analysis position, and you're well on your way to having the points needed to be recertified. We now offer the option to enter your points online as you accumulate them. Visit [www.sceaonline.org](http://www.sceaonline.org) for more information.

## Service to the Membership — The SCEA Career Center

*by Joe Wagner*

**The** SCEA website, [www.sceaonline.org](http://www.sceaonline.org), is the key to accessing any and all services of the organization. The next time you go to the site, direct your attention to the red block at the top of the home page labeled “Career Center”. Started in the spring 2008, the Career Center has become an invaluable tool for employers and job seekers alike — a centralized repository of employment opportunities and resumes.

Once you click on the “Career Center” link, you are sent off to the home page of the **Cost Estimating Career Center**, which offers solutions to both sides of the same issue — the need for employment of skilled costing professionals. At this point, you may continue on as either a job seeker or employer. Whichever way you proceed, the next best step is to register. While casual visits as a job seeker are certainly beneficial and encouraged, those seriously looking for opportunities should post their resume. This allows you to obtain maximum benefit of the Center's operating system. You can do this without revealing your identity online.

For employers, registering in the Center offers the ability to not only publicize their firm but to actively canvas those seeking employment. It offers a place to set up a “recruiting booth” where the company can present itself to the professional workforce. The company can profile its history, products, customers, and needs. Job opportunities can be posted for 60-day increments (available by purchasing a job posting package), also allowing you to view all resumes on the site during that time. The Career Center also lets you screen incoming resumes for specific factors, notifying you by email when a resume matches your needs. That's more value, and less work on your part!

Just like the employer, individuals can set up their own “booth,” posting their resume that highlights their skills and experience. The Career Center provides you with a confidential yet widely accessed location for shopping your talents in the community of interest where you are most employable. It's an easy way to make your resume available online, with a protected identity, and to advertise your specific and unique skills to ensure they will come the attention of the right people at companies who understand what you have accomplished and need your exact experience and abilities.

Obviously, the Career Center is a critical mass type of endeavor. The more employers and job seekers that engage through the Center, the more synergy it achieves and the more beneficial it becomes to everyone. It's a SCEA service designed to match the specific needs of our community. Why not take a look and see if it can do something good for you?





# SCEA Certification Director's Corner

*By Peter Andrejev, Director of Certification*

I was recently invited to participate in an extended working session of the Certification Advisory Group for the International Council on Systems Engineering (INCOSE) to consider improvements in assessing, testing, and certifying systems engineering certification candidates. Similar to SCEA, INCOSE is a professional membership organization whose mission is to “share, promote and advance the best of systems engineering from across the globe”, with goals to “improve the professional status of all persons engaged in the practice of systems engineering.”

The successes and disappointments of their certification program mimic those that we’ve experienced since we embarked on the transformation of our certification program in the fall of 2006. We’ve come a long way from a program that had been characterized as a “four-hour test of statistics” to one that dramatically enhances the cost profession by establishing clearly-

defined competency standards that government and private industry alike recognize as a meaningful measure of professional proficiency.

## What Sets the SCEA Program Apart

As I review the attributes of our certification program relative to other professional organizations, I am struck by the balance we’ve achieved in using both experience and knowledge as the basis for our measures of competency. In an admittedly egregious oversimplification, INCOSE’s employment of two to three “auditors” to assess, verify, and adjudicate the exact nature and relevance of work experience of each individual applicant clearly endorses their preference for real-world know-how as the primary measure of proficiency.

Alternatively, in an equally egregious oversimplification, the Project Management Institute’s four-hour, 200-question examination for its Project Management Professional (PMP®) designation places their preference for measuring competency primarily on the practitioner’s knowledge of the Project Management Body of Knowledge (PMBOK®) and related standards.

Both programs are right for their members’ preferences, but I like best the centrist position SCEA has taken. By requiring five-years of relevant experience and testing on a five-hour, 110-question examination that draws agnostically from across published testable topics, we certify against a measure of proficiency that balances know-how with knowledge.

## Why Get Certified?

Regardless of how a professional organization certifies its practitioners’ competence, the ultimate beneficiary of a certification program is the employer. In its simplest form, certification attests to the transferability of the employee’s skills to the new employer. In other words, certification serves as an indicator of “correctness of fit” of the perspective candidate.

With such weighty expectations, it’s in our collective self-interest that SCEA keeps our standards high and ensures the integrity of the certification process, and that CCEAs as individuals “walk the talk” and exhibit the competency, professionalism, and value-add expected of a master craftsman. It is by the propagation of this quality process that we maximize support to our membership and the profession at large.



### SCEA's new training and reference system!

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Order form available at

<http://www.sceaonline.org/cert/CEBoKorderform.pdf>

Multiple copy pricing and corporate licenses available upon request.

For more information, contact Erin Whittaker at 703-938-5090, or [erin@sceaonline.org](mailto:erin@sceaonline.org).



# Certification Congratulations

In 2010, 150 individuals were challenged to earn cost certification credentials that help to advance their career. With the close of the fall exam cycle, those who have achieved the CCEA or PCEA designation now total nearly 650. In this issue, we would like to acknowledge the thirty-four individuals who became SCEA certified since the last issue of the *Estimator* as well as the 16 members who administered the exam to them. Our gratitude is extended to the following exam administrators:

**John Bates, Richard Bazy, Bruce Broussley, David Don, Tom Dupré, Daniel Garcia, Mark Gindele, Dave Harris, Ken Hunt, Jonathan Lister, Peter Morelli, Richard Osseck, James Roberts, Tad Walls, Brian Welsh, and Pat Zedaker.**

## **Certified Cost Estimator/ Analyst (CCEA) designation:**

Roberta Bardawil  
Richard Beavers  
Jonathan Bell  
Elisa Blagoev  
Neil Chakrabarti  
Christopher Cunningham  
James Deignan  
Steve Graybeal  
Mohamed Hendy  
Mark Hodgins  
Jeffrey Johnson  
Stephanie Leach  
Michael Mahoney  
Kenneth Marshall  
Monte Perry  
Mark Robinson  
Kevin Rathbun

## **The following are those who passed both Part I and Part II of the exam with less than five years of experience. These individu- als have earned the PCEA designation and will auto- matically be awarded their CCEA certification once they have five years of ex- perience in the cost field:**

Chricelle Klippert  
Andrew Laszyn  
Sam Lichtenberg-Scanlan  
Michael McHenry  
Carlos Pascual  
Joshua Patapow

## **Professional Cost Estimator/ Analyst (PCEA) credential:**

Jason Aiken  
Jeffrey Beck  
Jennifer Boyle  
Amanda Gerstner  
Joseph Meyers  
Heather Nayhouse  
James Nowselski  
Aisha Saaka  
Kari Terrio  
Kyle Ward  
Nathan Welch

## **Sustained certification through recertification:**

Neil Albert  
Philip Beenhouwer  
Mostain Dara Billah  
Robert Blansfield

Andy Campbell  
Michael Clay  
Sam Cooke  
Mark Gindele  
Steve Green  
Kenneth Hunt  
Kevin Kuphal  
David Mattingly  
Charles McNitt  
Jeffrey Moore  
Glenn Myers  
Phu Phuong Thi Nguyen  
Richard Osseck  
Gary Redmond  
Barbara Stone-Towns  
Christopher Svehlak  
Jeffrey Wiviott

## Chaptering & Membership

*By Mike Thompson, Chaptering and Membership Chair*



**A**t the February Board meeting, in Williamsburg, VA, the SCEA Board approved the petition for a new chapter in Canberra, Australia. I suspect that the CEBoK training that **Peter Braxton** and **Dick Coleman** did in Australia contributed to the interest in forming a chapter. Most of the current membership of the Canberra Chapter is employees of the Australian Ministry of Defence (MoD). **Joe Vega** is the Chapter's President Pro Tem. Thanks go out to **Karen Lloyd** for her diligence, through emails, to make sure we received all of the paperwork and successfully got this chapter off the ground.

As I've mentioned in previous articles, the Hampton Roads Chapter developed a member survey to gauge the interests of the chapter members, and it could be a good tool for other chapters. If any chapter has an interest, let me know at [mthompson@mcric.com](mailto:mthompson@mcric.com).

With the help of chapter presidents reaching out into their local cost communities, the Society has experienced recent growth that doesn't show any signs of letting up. At the time of this writing, the current membership count is 2,084. Let's keep up the good work of representing our industry!

# A Joint Look to the Future:



## New Distance Learning Masters Program in Cost Estimation & Analysis

*By Dan Nussbaum*

**The** Naval Postgraduate School (NPS) and the Air Force Institute of Technology (AFIT) are proud to announce their new jointly developed Distance Learning Masters Degree in Cost Estimation and Analysis (MCEA). The team at NPS is headed by members of the Operations Research Department, Dr. **Daniel Nussbaum** and Professor **Greg Mislick**, in close cooperation with Professor **Alfred Thal** at AFIT to produce this unique and jointly taught program. The program will include selected courses from the NPS Graduate School of Business and Public Policy to develop a truly interdisciplinary approach.

This program, sponsored by the Naval Sea Systems Command, is significant and unique. Cost estimation currently is in the Congressional and DoD spotlights. The driving force behind the MCEA is the Weapons System Acquisition Reform Act of 2009, which focuses on cost analysis and control with the creation of Director of Cost Analysis & Program Evaluation within the Department of Defense. Currently there is no Distance Learning graduate degree programs in Cost Estimation available to government practitioners. The MCEA addresses the critical need of the DoD as it anticipates a doubling of professional cost estimators in the near future.

The MCEA program is using its expert faculty to teach interdisciplinary courses to give students the appropriate tools to tackle real-world problems. The three Cost Estimation Courses, taught by both NPS and AFIT faculty, provide students with knowledge on topics such as Economic Analysis, Cost Management, Regres-

sion Application, Portfolio Analysis and Cost-Benefit Analysis. Our Cost Estimating and Analysis Capstone will give students the opportunity to solve actual cost problems compiled by the major systems commands and Service Cost Agencies from the departments of the Army, Navy and Air Force. Students will benefit from the diverse makeup of the class, which includes members from the military branches and government contractors, and will work with their classmates to solve the problems put forth in the Capstone Course.

This distance learning degree is designed to be completed in two years, at a rate of two courses per quarter. The two courses per quarter will be divided into one synchronous and one asynchronous course. Synchronous offerings will use video tele-education technology for student-instructor interaction. Asynchronous offerings will be via a web based open source product known as SAKAI to allow students greater flexibility in completing course work. The MCEAs part-time commitment is designed to advance the abilities of students whose professional careers do not allow for full-time education.

The program is open to all services for both military and civilian students. The MCEA program application window is closed for its first cohort starting in March 2011, however applications for next cohort commencing March 2012 are available. Interested persons can find more information by visiting [http://www.nps.edu/DL/Degree\\_Progs/MCEA.asp](http://www.nps.edu/DL/Degree_Progs/MCEA.asp).

This DL MCEA program is just what is needed to fill the current increasing demand for cost estimators. It shall jointly go where no other program has gone before.



# Training Corner

By Kevin Cincotta, Training Chair



## What's Causin' All of This?

**When** the editor of *The National Estimator* magazine asked me for the latest on SCEA training, he wasn't the first to ask, "What's causin' all this?" I'll answer this question of how SCEA provides a valuable service to its members by sharing opportunities that the Society has created for your professional development. You can start by acquiring and maintaining the highly specialized knowledge gathered into our unique educational tool, the Cost Estimating Body of Knowledge (CEBoK™). In addition, SCEA has created a formal, full-immersion training program as a service for our membership.

This program is offered each year at our Conference & Training Workshop, to be held this year in Albuquerque, New Mexico, from June 7 to 10. The first day of the conference (Tuesday June 7) is entirely devoted to training and will be kicked off with a training overview, so be sure to arrive early (or better yet, the day before!). You will be face to face with the experts (many of whom are original CEBoK authors), who can answer your questions and bring out the subtleties of the CEBoK lessons. This year's roster of trainers includes many of our highly rated instructors from years past, representing a variety of experience levels, educational backgrounds, companies, and cost-related areas of expertise. We will once again feature the successful and popular, joint, three-track model for the training sessions. The three tracks are Fundamentals (FD), covering the basics of the cost estimating an analysis body of knowledge, including parametrics; Practitioner (PC), with more in-depth coverage of important topics, including parametric models; and Integration (IN), with more on related topics such as EVM, schedule, and risk, including auditing parametrics. There will be 36 (count 'em!) training sessions, including 14 based on CEBoK and 10 International Society of Parametric Analysis (ISPA) sessions. The ISPA sessions are based on the *Parametric Estimating Handbook* (PEH). Together, the sessions provide ample preparation for the Certified Cost Estimator/Analyst (CCEA) and Certified Paramet-

ric Practitioner (CPP) exams, respectively. I'll co-chair the training with **Peter Braxton** on behalf of SCEA, and **Roy Smoker** will co-chair the training on behalf of ISPA. The three tracks are designed to offer training useful to new analysts and to increase the knowledge of seasoned estimators. We are fortunate to have many instructors returning from prior conference years, and we look forward to seeing them in Albuquerque!

Finally, do you know (or does someone you know) have training content to share? Or maybe you just have feedback of training programs of the past. Or maybe you just want to ask me what everyone else has been asking me ("What is causin' all this?"). Whatever the content, you may share it with me, and it just might appear in the next "Training Corner".







# What Do You Know?

By Peter Braxton, Director, Body of Knowledge, [pbraxton@technomics.net](mailto:pbraxton@technomics.net)

Welcome to the latest installment of my new column, highlighting activities related to the cost estimating and analysis body of knowledge. This time out, I'm echoing the issue's theme of "Service to the Society."

## CEBoK™ in Service to the Society — Version 1.1 and Beyond

The Cost Estimating Body of Knowledge (CEBoK), SCEA's flagship product, is one of the key investments the society has made and continues to make in service to its members. By committing significant funding to the ongoing improvement of CEBoK, SCEA helps ensure its continued relevance and usefulness to the community. As promised in the Fall 2010 *Estimator*, the latest round of investment culminated in the release of version 1.1, which was issued free of charge to all active license holders. It incorporated new and improved content across the 16 modules, as well as numerous additions to the CEBoK bibliography. You can read more about those updates in this column from the previous issue.

I'm pleased to report that the Board of Directors approved the next funding increment for CEBoK maintenance, and we will begin work on version 1.2 in earnest soon. If you have any suggestions, now is a great time to email them to me. I will be finalizing the statement of objectives for this next release shortly, including updates for the latest research and policy and new content in the areas of sensitivity analysis; cost databases; multicollinearity; General-Error Regression Models; input-based, scenario-based, and joint cost and schedule risk; probability distributions; software code growth, productivity, and function points; fully-burdened cost of fuel; and indirect manpower. If you have ideas in any of these or other areas, I'd love to hear them. Reach me using the email address at the top of this article.

## The Society in Service to CEBoK — The CEBoK Steering Committee

To paraphrase a great American — and, as Lloyd Bentsen would say, I'm no Jack Kennedy — "Ask not what SCEA can do for you, ask what you can do for SCEA." While SCEA is a financially sound and self-sustaining non-profit organization and, therefore, able to make financial invest-

ments on your behalf (like the ones noted), the real value of the Society is in bringing cost professionals together — in Chapters, at conferences, and "offline" — to exchange ideas and advance the state of knowledge of the profession. This spans other such areas as certification, training, and conferences, which you'll read about in other articles in this issue, but I wanted to formalize this process in the area of CEBoK. I'm pleased to announce the formation of the CEBoK Steering Committee. Many, including **Dick Coleman, Eric Druker, Matt Pitlyk, Kevin Cincotta, Steve Book, Pat Zedaker, and Alf Smith**, have already graciously volunteered to participate, and the opportunity is open for one primary representative from each CEBoK "stakeholder" organization (i.e., those with enterprise or relatively large defined-quantity licenses), as well as "at-large" representation from members who are not part of such an organization. Contact me if you are interested.


I don't envision that the CEBoK Steering Committee will have regular meetings, but rather it will review (via email, with ad hoc teleconferences as needed) and provide feedback on the aforementioned statement of objectives and draft module updates. Such a committee, led by **Rick Collins** and the Technomics team, existed during the CostPROF-to-CEBoK update effort, but this would be more of a standing committee.

One of the opportunities afforded by the CEBoK Steering Committee is for individual organizations to share training materials they have developed for potential inclusion in CEBoK. The pioneering example of this is the Booz Allen Hamilton risk module, authored by **Eric Druker, Greg Hogan, and Sam Toas**, which will be incorporated into CEBoK Module 9 Cost and Schedule Risk Analysis. Get your first taste of this material at the upcoming conference. Speaking of which...

## Meet Me in Albuquerque

I'm looking forward to the 2011 ISPA/SCEA Conference, where I am co-chairing the Training Tracks with **Kevin Cincotta, Roy Smoker (ISPA), Ashlin Smith, Brian Welsh, and Dave Brown**. If I haven't yet had the pleasure of meeting you, please stop by and introduce yourself. I take my part in service to the Society seriously, and as an elected board member, I want to make sure we're addressing your needs, both in the area of CEBoK and in general.





# The *Art* of Costing: Musings on Estimating, War, and Analytical Rigor

By David L. Peeler, Jr.

*IS* cost estimating an art or a science? Yes! Like war, the estimating field runs the continuum from an almost exact science to artistic creation — both can be beauties to behold. As an estimator, you are both an artisan and a scientist, depending on what you are estimating and the method(s) employed.

Art versus Science is an old argument in several fields, but few disciplines face the pertinence of this distinction more prominently than the fields of economics and warfare. Both are social sciences and, thus, suffer derision from the pure sciences — physics, biology, chemistry, etc. The social sciences — economics, psychology, history, etc. — are seen as less scientific<sup>1</sup>; however, as such, they are harder. Both costing and war are admixtures of both art and science. Cost estimating is definitionally a sub-set of economics, arguably a more formulaic variant, employing statistics in its applications; remember, however, that a lot of art remains in selecting the right cost methodologies.

## *War, Cost Estimating, and Art?*

As a military officer, warfare is my profession. Within the broader swath of military duty, cost estimating is my occupation. Therefore, recognizing similarities and distinctions within these two disciplines is only natural. Each has aspects of both art and science. Art is very much in the eye of the beholder, but education and experience of the connoisseur stabilizes the art and allows for distinction between art and awful. Science, on the other hand, is model and proof driven — if A then B — and replicable. Given the right education, folks can reproduce properly documented estimates. The works of Monet and Michelangelo, on the other hand, not so replicable!

Cost estimating, like war, shares characteristics of both art and science in its application. Turning to war for a bit, we can see the treatment of it argued in the works of people like Sun Tzu, Jomini, and Clausewitz. Sun Tzu treated war very much as an art. His work is even titled *The Art of War* and is the only philosopher of war to work costing into his treatise,<sup>2</sup> addressing both provisioning and O&S. Sun Tzu saw war as an artful set of guiding principles strenuously and intellectually applied to facilitate success rather than a prescriptive list of activities that necessarily produce victory. For Sun Tzu, war was much more art than science.

Carl von Clausewitz's treatment of war is ultimately more as an art than as a science. His most famous precept that "war is a mere continuation of policy by other means"<sup>3</sup> places war squarely within the social sciences — namely political science.

1 The Heisenberg uncertainty principle notwithstanding, as it postulates and has been shown to make less exact the "pure" sciences deeply affiliated with quantum mechanics. First published in 1927 by Werner Heisenberg, and named for him, the Heisenberg uncertainty principle states that certain pairs of physical properties cannot be concurrently known with precision. The principle isn't a statement about measurement fidelity, but about the system being measured. Thus, the social and pure science might not be as different as commonly considered.

2 Sun Tzu, *The Art of War*, translated by Samuel B. Griffith. Oxford University Press: New York, NY; 1963, p. 74.

3 Above is the heading quote, the actual contextual, in-text quote is, "War is not merely a political act, but also a real political instrument, a continuation of political commerce, a carrying out of the same by other means." Carl von Clausewitz in *On War*. Book I. Chapter I. Section 24.

David Peeler was deployed to the Combined Air Power Transition Force in Afghanistan. In his non-deployed position, he is the Chief of Budget Operations at HQ Air Force Materiel Command. His previous areas of assignment include cost, budget, finance, accounting, and two short stints as a program manager. He is a nationally Certified Cost Estimator / Analyst and an Air Force Certified Acquisition Professional.



Thus, for him, the larger context of warfare is the political objective, and the strategy is the interaction of all elements that produce the desired policy outcome.

In opposition to Clausewitz, Antoine-Henri, Baron Jomini took a scientific approach to war. While both men developed their views from the campaigns of Napoleon Bonaparte, they derived vastly differing views of the principles and objectives in warfare. Jomini saw victory as resulting from the proper application of a list of prescribed principles ... do A, get B.

In the same way, cost estimating is divided between theorists and practitioners that see our discipline as either primarily art or squarely in the science arena. I contend that it's both.<sup>4</sup>

Estimating program costs in the initial concept development stage is clearly almost all art, while extending life-cycle estimates for a deployed system's operating and sustainment costs is almost all science. Of course that leaves a wide space of activity in between, where we apply appropriate levels of art and analysis, in the proper mixes, to quantify the costs of program phases. I once had an AFIT professor explain that our job as military systems cost estimators is to defy the statistics rules.<sup>5</sup> Many disagree with this accomplished statistician, but my experience bears out his observation.

### **USEFUL** and *Beautiful?*

This brings us to the question of the usefulness of extreme precision in estimating — I once had the pleasure of a session on the use of eigenvalues in determining the value of the estimating error term. While a fun math exercise, what real value does it provide the program manager or the congressional staffer reviewing the estimate? The point is we can get too deep in the science. Too deep can be defined as far enough down to lose sight of the contextual uses (the art) of the estimate.

The current emphasis on estimating is good for the field and promises much. We must balance the expectation for better estimates with the prospect of overwhelming the audience.<sup>6</sup> In the environment of heightened interest in estimating, it is vital we strike this balance. If we do, we garner a secure long-term role in the decision-making process. We serve a public interest for the taxpayer, as well as stewardship of national security. Our estimates determine affordability, effect development decisions, and influence public trust that ultimately supports the defense of the American people and our nation.

As we serve the nation in our roles both in and alongside the military services, we should realize that the duality of art and science is understood and widely applicable. Estimating military systems is often more art than science; but the analytics available for use, once methods are set, bring rigor to the sub-discipline that is cost estimating. Understanding this duality better serves the interplay between the quality of our products and the actual use of them. As a cost estimator you are both an artist and a scientist.

4 As a theoretical mathematician by education — never had a diffy-Q class — I really enjoy what the higher-order math folks like Drs. Steven Book and Shu-Ping Hu bring to the estimating discipline. However, in practice I relish the task of estimating the program the engineer can't yet define and still has to bend a law of physics to bring to fruition.

5 Often, almost always, we don't have the luxury of estimating within the range of the data set. Furthermore, the item being estimated frequently lacks  $n = 6$  similar predecessors to validate the statistics. We are estimating the next-generation item, and resoundingly, we do a fantastic job of blending science and art, producing computed prophecy.

6 Additionally, "analytical envy" can serve to ostracize estimators that apply mathematical/statistical rigor disproportionately to the needs of the program or understanding of the decision-makers. We must be able to easily explain that which gets questioned. The caution is to apply only as much rigor as is required to produce a creditable estimate.



# Software Cost Estimating Relationships

By Jennifer Leotta

Software cost overruns are a common problem for the majority of software development projects. Increasing amounts of software present in government programs make it imperative to generate accurate software cost estimates. This article, based on a paper presented at the 2010 ISPA-SCEA Conference & Training Workshop, builds on the principles of complex estimating models to look for a simple regression that can be used to generate accurate and defensible cost estimates for software programs.

## Why Software? Why Now?

The expansion in everyday computer use and computer hardware capabilities has produced increased demands on the capacity of software programs. In its May 2002 *Parametric Cost Estimating Handbook*, the National Aeronautics and Space Administration stated that as a system is upgraded or improved, much of the additional capability is achieved through new software. Due to software's flexibility, the Department of Defense's (DoD) appetite for software has been described as "virtually insatiable" since software is an integral part in the development of defense systems.

While software provides many opportunities for increasing a program's capability, software development has its pitfalls. One of the main problems is its consistent overrun of estimated cost and schedule targets. Approximately one-third of all programs are delivered late and exceed their budgets; while two-thirds of all major development programs substantially overrun their original cost estimates (Wu, 1997). To prevent these overruns, various methods of estimating the cost of software projects have been developed.

## Software Estimating: A Quick Background

The first contribution to estimating software development, subsequently incorporated in many estimating methodologies used today, was the 1958 introduction of the Norden staffing profile. Many of the other software estimating tools used today were first introduced in the mid-1970s. Most of these estimating tools were originally developed from 1974 to 1981 with occasional changes and updates, such as refining the algorithms and cost drivers. (Jensen et al., 2006).

The simplest method used to create software cost estimates is an equation that can be used to calculate the total effort of the program primarily through its size:

$$E_d = C_k S_e \quad (1)$$

Where:

$E_d$  = the development effort in man hours

$C_k$  = the productivity factor [defined as man hours / Equivalent Source Lines of Code (ESLOC)]

$S_e$  = the number of ESLOC

This equation has evolved into a more complex relationship that takes into account not only the software's size and diseconomies of scale but numerous environmental factors that can affect software development. A general representation of this is:

$$E_d = C_k \sum_{i=1}^n f_i S_e^{\beta_i} \quad (2)$$

Where

$E_d$  = the development effort in man hours

$C_k$  = the productivity factor (defined as man hours / ESLOC)



- $f_i$  = the  $i^{\text{th}}$  environmental factor
- $n$  = the number of environmental factors
- $S_e$  = the number of ESLOC
- $\beta$  = an entropy factor that accounts for the productivity change as a function of effective product size

While these models can be effective, they are generally older and the formulas used to generate estimates are not accessible to the public due to proprietary information. This “black box” approach makes it more difficult for analysts to defend their estimates. The following analysis uses a publicly accessible DoD database to look for a simple linear regression that can be used to generate an effective software cost estimate.

### Data

To find a workable and simple cost estimating relationship (CER), the data for completed projects from the DoD Software Requirements Data Reporting (SRDR) database was used (time period ending in October 2008) (Defense Cost Resource Center, 2008). First, an examination of the data was done to delete extraneous data points and those projects included in the database that were not completed. A total of 664 data points were left after this examination.

Next, the data was broken up into 20 data sets. Several methods of dividing the data were investigated. One divided the data by performing contractor to get a more unbiased look at variables, such as productivity and peak staff without outside factors contributing. Another method divided by commodity since there have been vast differences observed between military, space, and industrial software development applications. The data was also divided by military branch to determine if there were stronger relationships for software development for one service over the other. Finally, data was also divided by several key development features to determine if there is any difference due to programming language or development paradigm. Data was only divided one time; however, there was no dataset that was sorted by more than one category.

Next, 18 equations were examined for each of the 20 data sets (total of 360 regressions). All regressions were run using CO\$TAT 7.1. Table 1 shows a summary of the dependent and independent variables.

The selection of these variables was based on observable relationships between the data. In past studies, ESLOC was considered the best way to estimate software costs and was assumed to have a positive relationship with duration and productivity (Ross, 2008). My article planned to also account for the effect of team size and

teamwork on total development effort. For this reason, peak staff and the CMMI level were examined. Several relationships were first examined to determine how the dependent variables responded to the independent variables for each dataset. It was expected that Duration : ESLOC would result in a positive relationship and that Productivity : Peak Staff would result in a negative relationship (Ross, 2008). In other words, the benefits from teamwork would display diminishing marginal returns (Hoegl et al., 2001).

Once these basic relationships were established, different combinations of the variables were examined to derive a simple CER using no more than four independent variables to explain either the time spent to develop the software or the software developer’s productivity.

### Regression Results

As expected, there was a positive relationship between the program’s size and duration. This was true for all datasets; however, there were exceptions to the predicted relationship for Productivity : Peak Staff in the Training, Boeing, and Northrup Grumman datasets. This implies the relationship, while still observable in most cases, is not perfect for all cases.

Although many datasets returned statistically significant results, the  $R^2$  and standard deviations were poor for most of the results. Tables 2 and 3 (next page) show the key statistics for these two relationships.

So, even for data sets that expressed the predicted relationships, in most cases the goodness of fit and standard deviation were very poor, indicating that each simple equation by itself would be a poor method to predict cost estimates for a software development program.

### Equation Details

Table 4 (page 19) is a matrix that shows each dataset and equation and indicates whether the equation is statistically significant.

- X = not statistically significant at the 80% confidence level
- NA = Not enough variation in the CMMI dummy variable to run the regression<sup>1</sup>

**Table 1. All variables used in the equations.**

Independent Variables (Quantitative)	Independent Variables (Dummy)	Dependent Variables
Equivalent Source Lines of Code (ESLOC)	CMMI <sup>1</sup>	Duration (Hours)
Productivity (Hours / ESLOC)		Productivity (Hours / ESLOC)
Software Requirements		
Peak Staff	TM	

<sup>1</sup> The CMMI is divided into five maturity levels (with 1 being the worst and 5 being the best). For the regressions, CMMI was determined to be 1 if the reported level was greater than or equal to 3, and 0 if it was left unrated or less than 3.



80 = the F-stat and all t-stats are statistically significant at the 80% confidence level

90 = the F-stat and all t-stats are statistically significant at the 90% confidence level

It can be observed that several of the multivariable equations are statistically significant for the majority of the datasets, which indicates these equations could be used to generate a rough order of magnitude (ROM) estimate in those instances. The following equation shows the detailed results from the Java dataset for three equations used to find the total duration (in hours) of a project:

$$\text{Duration} = -56355 - 803.1 \cdot \text{Peak staff} + 1.738 \cdot \text{ESLOC}$$

R2 = 94.18%

Standard Error = 89,099.42

Observations = 77

$$\text{Duration} = -1.073e + 004 + 1.633 \cdot \text{ESLOC} - 5.531e + 004 \cdot \text{CMMI}$$

R2 = 94.14%

Standard Error = 79,700.04

Observations = 99

$$\text{Duration} = -47943 - 650.6 \cdot \text{Peak staff} + 1.551 \cdot \text{ESLOC} + 4.917 \cdot \text{Software Req}$$

R2 = 94.92%

Standard Error = 83,244.62

Observations = 77

**Table 2. Key Statistics for Duration : ESLOC.**

Duration = ESLOC						
Database	Equation	Adjusted R <sup>2</sup>	Mean	Standard Error	Coefficient of Variation (Fit Space)	Obs
Overall	Hrs = 6.873e+004 + 0.05726 * ESLOC	-0.02%	72,770.47	199,382.44	273.99%	568
Incremental	Hrs = 3.685e+004 + 0.7119 * ESLOC	46.72%	99,119.06	70,894.61	71.52%	90
Spiral	Hrs = 4.562e+004 + 0.0359 * ESLOC	2.06%	49,695.26	84,481.57	170.00%	140
Waterfall	Hrs = 35898 + 0.3278 * ESLOC	25.44%	58,549.11	83,872.29	143.25%	119
Ada	Hrs = (-34255) + 2.141 * ESLOC	56.85%	120,129.25	201,073.29	167.38%	81
C	Hrs = 2.372e+004 + 0.507 * ESLOC	36.68%	66,193.25	89,178.70	134.72%	291
Java	Hrs = (-50558) + 1.606 * ESLOC	93.72%	104,981.83	82,547.30	78.63%	99
Avionics	Hrs = 5.533e+004 + 0.4753 * ESLOC	17.34%	90,215.18	100,253.11	111.13%	32
C4I	Hrs = 1.296e+004 + 0.5464 * ESLOC	21.37%	42,640.65	52,812.11	123.85%	43
Planning	Hrs = (-1.263e+004) + 1.659 * ESLOC	92.30%	73,784.18	47,010.99	63.71%	29
Simulation	Hrs = 57990 + 0.1603 * ESLOC	3.69%	82,848.86	135,201.71	163.19%	22
Training	Hrs = (-21454) + 1.77 * ESLOC	87.23%	44,520.65	29,827.57	67.00%	20
Air Force	Hrs = 32794 + 0.4897 * ESLOC	48.11%	82,052.78	66,075.85	80.53%	74
Army	Hrs = 1.412e+004 + 0.6038 * ESLOC	41.42%	62,212.15	94,404.19	151.75%	277
Navy	Hrs = (-1.717e+004) + 1.565 * ESLOC	69.79%	106,413.49	176,598.70	165.96%	169
BAE	Hrs = 15537 + 0.5101 * ESLOC	29.93%	33,055.15	30,184.73	91.32%	55
Boeing	Hrs = (-53651) + 1.332 * ESLOC	76.38%	255,857.68	259,834.34	101.55%	37
General Dynamics	Hrs = (-3426) + 1.11 * ESLOC	65.47%	48,343.55	59,073.00	122.19%	105
Lockheed Martin	Hrs = 7264 + 0.5217 * ESLOC	48.23%	55,082.13	62,147.02	112.83%	63
Northrup Grumman	Hrs = 3.628e+004 + 0.2429 * ESLOC	21.18%	61,446.55	68,096.08	110.82%	91
Raytheon	Hrs = 2.661e+004 + 0.4418 * ESLOC	32.47%	44,073.50	38,539.34	87.44%	124

**Table 3. Key statistics for Productivity : Peak Staff.**

Productivity = Peak Staff						
Database	Equation	Adjusted R <sup>2</sup>	Mean	Standard Error	Coefficient of Variation (Fit Space)	Obs
Overall	Productivity = 3.072 + (-0.01106) * Peakstaff	-0.17%	2.82	23.23	822.44%	475
Incremental	Productivity = 2.362 + (-0.02111) * Peakstaff	1.80%	1.98	2.05	103.92%	90
Spiral	Productivity = 6.288 + (-0.07778) * Peakstaff	-0.56%	4.58	42.49	928.21%	140
Waterfall	Productivity = 3.771 + (-0.03461) * Peakstaff	0.67%	3.19	5.87	184.30%	95
Ada	Productivity = 3.453 + (-0.03974) * Peakstaff	3.30%	2.66	4.11	154.86%	77
C	Productivity = 3.869 + (-0.01069) * Peakstaff	-0.35%	3.62	31.08	858.25%	264
Java	Productivity = 1.168 + (-0.002139) * Peakstaff	-1.08%	1.11	1.49	134.62%	77
Avionics	Productivity = 3.124 + (-0.02194) * Peakstaff	-2.23%	2.70	4.21	155.92%	32
C4I	Productivity = 1.631 + (-0.04009) * Peakstaff	9.68%	1.11	1.27	114.49%	42
Planning	Productivity = 5.9 + (-0.05403) * Peakstaff	15.45%	3.20	4.00	124.92%	7
Simulation	Productivity = 1.644 + (-0.006277) * Peakstaff	-3.24%	1.52	1.31	86.01%	21
Training	Productivity = 0.6042 + 0.03435 * Peakstaff	11.01%	0.94	0.56	59.60%	20
Air Force	Productivity = 1.431 + (-0.005509) * Peakstaff	-1.10%	1.31	1.73	131.47%	73
Army	Productivity = 3.633 + (-0.01036) * Peakstaff	-0.41%	3.36	33.21	988.05%	229
Navy	Productivity = 3.281 + (-0.02415) * Peakstaff	0.66%	2.88	5.21	180.99%	164
BAE	Productivity = 0.9273 + (-0.002348) * Peakstaff	-4.04%	0.90	0.73	81.21%	26
Boeing	Productivity = 1.028 + 0.0009291 * Peakstaff	-1.55%	1.11	1.00	90.14%	35
General Dynamics	Productivity = 1.446 + (-0.005) * Peakstaff	-1.04%	1.37	1.83	133.43%	77
Lockheed Martin	Productivity = 1.169 + (-0.01115) * Peakstaff	1.95%	0.96	1.20	125.17%	60
Northrup Grumman	Productivity = 0.9979 + 8.072e-005 * Peakstaff	-1.51%	1.00	0.76	76.26%	68
Raytheon	Productivity = 3.843 + (-0.04592) * Peakstaff	0.11%	3.28	5.59	170.30%	108

One potential problem is that the R<sup>2</sup> may be deceptively high for each equation due to the correlation between independent variables, especially between ESLOC and peak staff. These two variables do a much better job at generating a good R<sup>2</sup>; however, their high level of correlation (about 0.83 for the Java dataset) indicates a strong level of multicollinearity. Table 5 shows the correlation matrix for the Java software language dataset.

Table 4 shows a significant amount of correlation between independent variables. The presence of multicollinearity was not accounted for in any of the analysis; however, its presence could be cause to use a simple model (Duration = ESLOC) instead of a complicated multivariable model.

## Problems

Perhaps the central problem facing software cost estimating is the difficulty of accurately estimating a software development program's size, especially early in the development process (National Aeronau-

<sup>1</sup> As a possible correction for this error and to improve the resulting equations, it is possible that the CMMI dummy variable could be 1 for only those cases where the CMMI level was reported at 4 or 5, and 0 for all other cases.

tics and Space Administration, 2002). The program size uncertainty is, in turn, generally due to the high level of uncertainty concerning the program's requirements (Connolly and Dean, 1997). It is imperative for quality estimating that there is a common understanding of the task to be done, not only between management and employees but with the customers as well.

Since the data of this study shows ESLOC is the most consistent measure of duration (i.e., it is consistently statistically significant), one possible solution is to apply a growth factor to the initial ESLOC estimate to account for uncertainty (Dewberry, 2009).

Another solution could be to divide the data into smaller datasets. The following equation was developed (with the following key statistics) for incrementally developed programs written in C++ (Dewberry, 2009):

$$\text{Duration (Hours)} = 41,589 + 0.581 \cdot \text{ESLOC}$$

$$R^2 = 63.89\%$$

$$\text{Standard Deviation} = 69994.54$$

$$\text{Observations} = 30$$

$R^2$  and other key statistical measurements are better than the previous equation results for the C dataset, indicating these were better results than in the datasets used for the initial analysis. This could be due to dividing the data into smaller datasets, i.e., the Dewberry model filters the data twice instead of once. While this method does lower the number of data points available, the statistics are more compelling, indicating a better ensuing cost estimate.

## Conclusion

To obtain accurate cost estimates for software development programs, it is best if an organization collects data regarding variables that are most effective at estimating the cost (specifically program size, peak staff, and software re-

**TABLE 4:** Equation / dataset matrix, linear regressions.

	Duration = peak staff + ESLOC + productivity	Duration = ESLOC	Duration = Productivity	Productivity = peak staff	Productivity = ESLOC	Productivity = Peak staff + ESLOC	Productivity = Peak staff + SW Requirements	Productivity = ESLOC + CMMI	Productivity = SW Requirements + CMMI	Productivity = Peak Staff + CMMI + ESLOC	Productivity = Peak Staff + CMMI + SW Requirements	Duration = Productivity + SW Requirements	Duration = ESLOC + CMMI	Duration = Productivity + CMMI	Duration = ESLOC + peak staff	Duration = CMMI + ESLOC + Peak Staff	Duration = ESLOC + SW Req + Peak staff	Duration = SW req + CMMI + ESLOC + Peak Staff
Overall	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Incremental	90	90	X	80	90	X	80	X	X	X	X	X	X	X	90	X	X	X
Spiral	X	90	X	X	X	X	X	X	X	X	X	X	X	X	80	X	80	X
Waterfall	X	90	X	X	90	X	X	X	X	X	X	X	X	X	90	X	90	X
Ada	X	90	X	90	80	X	X	X	90	X	X	X	90	X	X	X	X	X
C	X	90	X	X	X	X	X	X	X	X	X	X	80	X	90	X	90	X
Java	80	90	X	X	X	X	X	X	X	X	X	X	90	X	80	X	80	X
Avionics	X	90	80	X	80	X	X	80	90	X	X	90	90	X	X	X	X	X
C4I	90	90	90	90	90	X	80	X	X	X	X	90	90	X	90	80	90	X
Planning	X	90	X	X	X	X	X	90	NA	NA	NA	X	X	90	90	NA	X	NA
Simulation	X	80	NA	X	90	X	X	X	X	X	X	X	X	X	X	X	X	X
Training	90	90	90	90	90	X	X	X	X	80	80	90	90	90	80	X	90	X
Air Force	X	90	X	X	90	X	X	X	X	X	X	80	X	X	90	X	90	X
Army	X	90	X	X	X	X	X	X	X	X	X	90	X	X	90	X	90	X
Navy	90	90	X	80	90	X	X	80	X	X	X	X	X	X	90	90	90	X
BAE	X	90	80	X	90	90	X	80	NA	NA	NA	80	X	80	X	NA	90	NA
Boeing	90	90	X	X	X	X	X	X	X	X	X	80	X	X	90	80	90	80
General Dynamics	X	90	X	X	80	X	X	90	NA	NA	NA	X	X	X	90	NA	80	NA
Lockheed Martin	X	90	X	80	90	X	X	90	X	X	X	80	X	X	X	X	X	X
Northrup Grumman	90	90	90	X	80	90	X	NA	NA	NA	NA	90	NA	NA	X	NA	X	NA
Raytheon	X	90	X	X	90	X	X	X	X	X	X	X	X	X	90	X	90	X

quirements, which seem to be the most effective variables to determine a CER for the program). By collecting data and maintaining a company / program specific database, a simple and effective relationship can be used to generate a ROM cost estimate for software development costs.

However, due to changing user needs, it is likely impossible to completely eliminate software cost overruns. Barring a complete understanding of what the nebulous software development project is about, from the beginning of the process, there is always a high probability costs will overrun the original estimates.

**Table 5.** Correlation Matrix.

	ESLOC	Productivity	Software Requirements	Peak Staff	CMMI	Duration
ESLOC	1.0000	-0.0101	0.7433	0.8322	0.2299	0.9684
Productivity	-0.0101	1.0000	0.0491	-0.0496	-0.0103	0.0609
Software Requirements	0.7433	0.0491	1.0000	0.5858	-0.5449	0.7830
Peak Staff	0.8322	-0.0496	0.5858	1.0000	0.0425	0.7844
CMMI	0.2299	-0.0103	-0.5449	0.0425	1.0000	0.1537
Duration	0.9684	0.0609	0.7830	0.7844	0.1537	1.0000



A way to reduce this problem is to include complexity factors either on the ESLOC (as in the Dewberry model) or via Monte Carlo simulations and S-curves.

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**Jennifer Leotta is a Senior Operations Research Analyst for the Department of Homeland Security. She began her career in cost estimating at the Navy Engineering Logistics Office as an Operations Research Analyst in 2005. She currently holds an MA in economics from George Mason University and a BS in quantitative finance from James Madison University.**



# The Estimators: Photo Story of a Profession

By Robert Currie and Mike Thompson

**R**ob Currie has been a consulting DoD cost analyst since 1981. He is an award winning photographer and author of 19 photography books. Rob frequently volunteers to photograph SCEA and DODCAS conferences; you may have seen him at the 2010 ISPA/SCEA conference or his photos in the *National Estimator*. Rob has also photographed events for the Washington Metro Chapter.

In Rob's latest photography book, *The Estimators*, he will feature candid portraits of cost analysis professionals working in DoD cost estimating. His intent is to illustrate the diversity and vitality of our profession in a series of fun dynamic photographs. This effort is a completely self-financed, self-promoted book with no ties to any firm, organization, or government institution.

Rob is looking for Cost Estimators/Analysts to participate in this project. We are a tightly integrated community, and we all make an impact on the companies we work for, the customers we support, and each other.

Participating would be an opportunity to form a lasting tribute to the profession of cost estimating.

*"I am undertaking this project because I'm passionate about image making, and I want to capture the essence of our community through the eyes of you — the working professional cost estimators. I am looking for subjects to volunteer a few moments to allow me to photograph them in either a formal portrait or a more relaxed setting while engaged in a favorite hobby, like cycling, running, triathlons, etc. I will make the completed book available on [www.blurb.com](http://www.blurb.com), where you can find my other publications."*

Opportunities for photographs arise at the conferences, like DODCAS and SCEA, but Rob is willing to travel to accommodate those outside the D.C. metro area. If you want to be included in the book contact Rob at [rjcurrie1@verizon.net](mailto:rjcurrie1@verizon.net) or check out <http://robcurrie.zenfolio.com/>.



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# 2011 Joint Annual Conference & Training Workshop

By Mel Etheridge, Conference Co-Chair

The 2011 Conference and Training Workshop will be held in the heart of the high desert southwest, Albuquerque, NM, from June 7-10. Conference headquarters will be the beautiful Hyatt Regency Albuquerque, which offers a convenient downtown location just minutes from the airport.

This year's event will feature a program that integrates many important aspects of the cost estimating and analysis profession, including:

- In-depth training on three levels,
- Professional papers discussing the latest innovations and techniques,
- Plenary sessions with keynote speakers and panel discussions,
- Preparation sessions for the PCEA and CCEA exams held after the Conference concludes, and
- The opportunity to strengthen your professional network by renewing old associations and making new contacts.

## Professional Development

As in previous years, training at this year's Conference will be a joint program between SCEA and ISPA. 36 90-minute sessions will be presented among the three Training Tracks: Fundamentals, Practitioner, and Integration. This year Kevin Cincotta is taking over as the SCEA Training Co-Chair from Peter Braxton. Kevin, along with his ISPA counter-part Roy Smoker, has put together a comprehensive program based in large part on the Cost Estimating Book of Knowledge (CEBoK™) and the Parametric Estimating Handbook (PEH). The Fundamentals Track covers most of the Core Knowledge sections of 12 of the 16 modules of CEBoK and is intended to help prepare attendees for the PCEA or CCEA exam. The Practitioner Track goes into more depth on many essential topics and focuses on journeymen who are doing estimates and implementing cost and risk analysis on a day-to-day basis. The Integration Track encompasses related fields like Earned Value Management, Schedule Analysis, and Software, and will appeal to a wide range of attendees.

We had over 140 professional abstracts submitted for this Conference — more than any previous year. All of the papers that are submitted will be included in the Conference Proceedings CD and will be eligible for a Best Paper Award. Unfortunately, we only have space for 95 presentations to be given at the Conference. The SCEA Program Co-Chair, Paul Marston, and the ISPA Program Co-Chair, Sherry Stukes, had a very difficult time selecting those papers from among the many deserving contenders. Papers are organized into six tracks: **Applications, Management, Models & Methods, Research, Risk, and Software.**

As always, the professional papers run for 45 minutes and are synchronized with the 90-minute training sessions so that attendees can easily move between tracks and from papers to training.

## Tentative Conference Schedule

### On-site Registration

Monday..... June 6 ..... 2:00 PM - 6:00 PM  
Tues. - Thurs. .... June 7-9 ..... 7:00 AM - 5:00 PM  
Friday ..... June 10 ..... 7:00 AM - 12:00 PM

### Exhibits Schedule

Tuesday ..... June 7 ..... 5:00 PM - 7:30 PM  
Wed. - Thurs. .... June 8-9 ..... 7:00 AM - 5:00 PM  
Friday ..... June 10 ..... 7:00 AM - 12:00 PM

### Conference Events Schedule

#### Technical Program Sessions

Tuesday ..... June 7 ..... 8:45 AM - 5:00 PM  
(Training, Exhibitor Sessions)  
Wednesday ..... June 8 ..... 8:30 AM - 5:00 PM  
(Keynote, Training, & Professional Papers. Free shuttle to Old Town from 5:00 to 9:30 PM)  
Thursday..... June 9 ..... 8:30 AM - 5:00 PM  
(Panel, Keynote, Training, & Professional Papers)  
Friday ..... June 10 ..... 8:30 AM - 12:00 PM  
(Training & Professional Papers)

#### Welcome Reception

Tuesday ..... June 7 ..... 5:45 PM - 7:30 PM

#### Continental Breakfast

Tues.-Fri. .... June 7-10 .... 7:30 AM - 8:30 AM

#### Lunch

Tuesday.. ..... June 7 ..... 12:15 PM - 1:30 PM  
Wed.-Thurs..... June 8-9..... 12:00 PM - 1:30 PM

#### Reception and Awards Banquet

Thursday..... June 9 ..... 6:00 PM - 9:00 PM

#### Testing — SCEA CCEA Exam & ISPA CPP Exam

Saturday ..... June 11 ..... 7:30 AM - 1:30 PM





Debra Lehman, Best Paper Award Co-Chair, is heading a committee that will select a Best Paper in each track, and then a Conference Best Paper from among the track winners. Mike Thompson is heading the SCEA Annual Awards Committee, and winners will be presented at the Conference.

For our plenary session on Wednesday we have invited **Dr. Stephen Chu, U.S. Secretary of Energy** and Nobel Laureate, as our keynote speaker. Dr. Chu won the Nobel Prize for Physics in 1977. Prior to his appointment he was the Director of the Department of Energy's Lawrence Berkeley National Laboratory.

On Thursday we'll hold a panel discussion to address the impact to estimating and risk assessments relative to the recent Department of Defense Affordability, Will Cost/Should Cost initiatives. The intent of the panel is to share insights from both government and industry perspectives. Panelists will include:

- **Steve Bagby, Deputy Assistant Secretary of the Army for Cost and Economics**
- **George Barbic, Director, Corporate Program Assessment & Evaluation, Lockheed Martin**
- **Dr. Richard Burke, Deputy Director, Cost Assessment, Office of the Secretary of Defense/Cost Assessment and Program Evaluation**
- **Dan Noteboom, Director, Pricing and Estimating, The Boeing Company**
- **David Ricci, Director, Pricing, Estimating and Program Control, Northrop Grumman**
- **Duncan Thomas, Technical Director, Naval Center for Cost Analysis**

The social side of any conference is an important part of the total experience. We will open the Conference on Tuesday evening with a Welcome Reception where attendees can mingle with exhibitors while enjoying hearty hors d'oeuvres. We'll cap Thursday with our traditional banquet and awards ceremony.

Albuquerque mixes many cultural influences with a history that dates to the Conquistadors and even earlier. Our hotel is centrally located in downtown Albuquerque. Only two blocks away is Central Avenue (Historic Route 66), and its famed dining and entertainment options. Less than a mile away is Albuquerque's Old Town. Check out Joe Wagner's article on local area attractions to learn more about everything there is to do.

A key factor in the success of any conference is the work done behind the scenes by the Joint Office staff — Erin Whittaker, Sharon Burger and Erica Wilkening. The Conference Planning Committee would like to thank them for their hard work.



## Register today!

Register for the Conference at <http://www.sceaonline.org/events/conference/2011splash.cfm> (click on "Conference Registration"). Registration fees are \$895 for SCEA/ISPA members and government/military employees, \$975 for non-members, and \$825 per person for groups of five or more (group members must be part of the same organization). A company representative must contact the SCEA & ISPA Joint Office at 703.938.5090 to establish the group in advance. Guest registration is available for \$200, and can be paid for when you register online, or can be arranged by contacting the SCEA & ISPA Joint Office.

## Hotel Reservations

Be sure to book your hotel room early! With luxurious accommodations and free in-room internet access for attendees who book before May 7th, the rooms at the Hyatt are sure to go fast! The conference rate is \$161, plus tax. To make reservations, go to <http://www.sceaonline.org/events/conference/2011splash.cfm> and click on "General Information." The conference rate is available until May 16th, or until the room block sells out. If anyone experiences problems when trying to make hotel reservations, please contact Erin Whittaker at [erin@sceaonline.org](mailto:erin@sceaonline.org), or 703-938-5090.



# Registration Form

## REGISTRATION FEE

\$895 for SCEA or ISPA members, military, and govt. \$975 for all other attendees.

## GROUP DISCOUNTS

For 5+ attendees from the same organization, the registration fee is \$825 per attendee.

## WHAT'S INCLUDED?

Registration includes breakfasts, morning and afternoon coffee breaks, lunches, Tuesday's reception, Thursday's Banquet, and the conference program. All attendees get a CD that includes all training materials.

## GUEST REGISTRATION

Guest registration includes breakfasts, breaks, lunches, Tuesday's reception, and Thursday's Banquet = \$200 additional cost per guest.

## CANCELLATION

Before **June 1, 2011** = Full refund. After June 1, 2011 = NO refund. Substitutions are accepted at anytime. To cancel call: 703.938.5090

## PAYMENT BY CHECK

Mail completed registration form to:  
ISPA-SCEA  
Conference 2011  
527 Maple Avenue East  
Suite 301  
Vienna, VA 22180  
FAX: 703.938.5091

## ATTIRE:

Conference attire is business casual.

Date \_\_\_\_\_

## PERSONAL INFORMATION

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I am an active member of: ☐ SCEA ☐ ISPA

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## CONFERENCE OPTIONS

☐ I plan to bring \_\_\_\_\_ guest(s) (\$200 per guest)

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Registration fee: \_\_\_\_\_

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**TOTAL AMOUNT DUE:** \_\_\_\_\_

## PAYMENT METHOD

☐ CORPORATE PURCHASE ORDER

☐ CHECK (payable to: ISPA-SCEA Conference 2011)

☐ CREDIT CARD: ☐ AMEX ☐ VISA ☐ MASTERCARD

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CARD NUMBER

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Exp. date

Signature \_\_\_\_\_

**RESERVE YOUR HOTEL ROOM NOW!** For online reservations, go to [www.sceaonline.org/events/conference/2011splash.cfm](http://www.sceaonline.org/events/conference/2011splash.cfm) and click on "General Information". The ISPA/SCEA Conference rate of \$161 per night is only available for a contracted room block. Rate availability expires when daily block sells out.





# Papers to be Presented at ISPA/SCEA 2011

Title of Paper	Speaker	Track
Targeting Affordability and Controlling Cost Growth through Should-Cost Analysis	Anthony A. DeMarco	Applications
An Application of Data Mining Algorithms for Shipbuilding Cost Estimation	Bohdan L. Kaluzny	Applications
Selection of Data Source for Systems Contractor Labor Rates and Overheads and Their Application	Brian Wilkerson	Applications
Rolling On The Affordability River (While Managing The Acquisition Program in The Rapids)	Christopher S. Svehlak	Applications
Commercialization Activities at NASA and Resulting Cost Implications	James Roberts	Applications
Minimizing Maintenance Costs Using Beyond Economic Repair Analysis	Jerry Le May	Applications
Cost by Capability: Funding the Right Mission Capabilities in a Cost Constrained Environment	John Scardino	Applications
Earned Readiness	John Williams	Applications
Affordability from a Systems Engineering Perspective	Edwin B. Dean	Applications
LORA – Impact on life Cycle Cost	Manmeet Grover	Applications
Mahalanobis Distance: Shortening the Distance Between You and Clean Data Sets	Mike Manchisi	Applications
Use of JCL Data and Information for Programmatic Success	Rey Carpio	Applications
Cost Estimating of NASA Crewed Spacecraft Systems for Development, Production and Operations Activities	Rick Battle	Applications
Budgeting to the Mean	Rick Garcia	Applications
Evolved Expendable Launch Vehicle (EELV) Discrete Event Simulation: Ensuring the Buck Results in a Bang	Scott DeNegre	Applications
Multiply or Divide? A Best Practice for Factor Analysis	Dr. Shu-Ping Hu	Applications
Interconnected Estimating Relationships: Their Derivation and Application	Dr. Stephen A. Book	Applications
Using the New 881 WBS/CES for ERP Acquisition: Lessons Learned	Virginia Stouffer	Applications
Determining Cost Estimating Relationships For Nine FAA WBS Solution Development Elements	William Barfield	Applications
Standardizing the Cost Technical Baseline – Template and Tutorial	Diane Butler	Applications
A Methodical Approach to Performing Multivariate Regression on Large Data Sets	Matthew Pitlyk	Applications
Life Cycle Cost Growth for 20 NASA Science Missions	Claude Freaner	Management
Military Rank	Michael Brozyna	Management
How Cost Arises — How We Can Reduce Cost	Edwin B. Dean	Management
Constructing a Price-to-Win	Frank R. Flett	Management
EELV Should Cost Review Overview and Lessons Learned	James Smirnoff	Management
What to Know When Estimating Virtualized Environment Costs	Jennifer Woolley	Management
Building a Cost Analysis Improvement Group - Best Practices and Lessons Learned	Keith Robertson	Management
Lessons Learned: A Case Study in Labor Cost Estimating in a Data-Poor Environment	Kevin Schutt	Management
How to Estimate and Use Management Reserve in an EVM System	Mark Infanti	Management
Enhanced Cost Analysis in Support of Aerospace Corporation's Decision Support Framework (DSF)	Mel Broder	Management
You Really Don't Have to Lose a Million Dollars a Year, A Cost/Price Analytical Journey through the World of Winemaking	Michael Thompson	Management
Cost Analysis Process in Manufacturing Industry	Mostain Dara Billah	Management
Best Practices in Aerospace Cost Estimation: Observations from US Air Force and NASA	Robert Georgi	Management
Integrating Earned Value Analysis and Independent Cost Estimating for Large, Multi Year System Procurements	Ron Weimar	Management
Mathematical Lessons Learned from a Year's Worth of ICES	Ryan W. Boulais	Management
PARS II: Redefining Program Oversight & Assessment at the Department of Energy	Simon Dekker	Management
NASA Implementation of JCL Policy	James Johnson	Management
Obtaining Greater Efficiency and Productivity in Defense Spending	Kristen Schulte	Management
Comprehensive Assessment of Program Performance using Earned Value Management Data	William Laing	Management
Overcoming Challenges in Estimating Advanced Technology Programs	Zachary Jasnoff	Management
Improving Baseline Execution — A Parametric Approach	Steve Sultzter	Management
Two (of Many) Lessons Learned from an Inflation Study: Combining and Validating Inflation Indices	Eric Mosier	Management



The Shortcut to Fully Burdened Cost of Fuel Analysis	Kristopher Atkins	Management
Instrument Schedule Delays Potential Impact on Mission Development Cost for Recent NASA Projects (Follow-On Study)	Kristina Kipp	Management
Extending FEA and DODAF to Support Cost Modeling	Andreas Tolk	Models & Methods
Operating and Support Cost Estimating Methods: An approach to estimate the US Navy's future cost of Ballistic Missile Defense	Brian A. Welsh	Models & Methods
Utilizing The Capabilities Knowledge Base for Cost Benefit Analysis and Analysis of Alternatives	Chadd Sibert	Models & Methods
Assessing Impact of Funding Constraints to Cost and Schedule	Darren Elliott	Models & Methods
Applying Development Cycle Electronics Hardware Sub-Product Parametric Cost Models to Project Execution	David Bloom	Models & Methods
Trade Space, Product Optimization and Parametric Analysis	Doug Howarth	Models & Methods
Objective System Acquisition Decision Making utilizing the Analytic Hierarchy Process (AHP)	Hisham Jalil	Models & Methods
A Comparison of Military and Commercial Submersible Systems Cost Environments and Methods for Estimating Submersible Development and Production Costs	Janet Vacca-LeBoeuf & Greg C. Bell	Models & Methods
QuickCost Suite of Space Project Cost Estimation Models	Joe Hamaker	Models & Methods
Cost Analysis using Random Forest Prediction	Karen Mourikas	Models & Methods
Multicollinearity in Zero Intercept Regression: They Are Not Who We Thought They Were	Kevin Cincotta	Models & Methods
The Infrastructure Service Provider (ISP) Cost Model	Kyle Thomas	Models & Methods
Analysis of Parametric and Database-driven Cost Estimates in the Transit Industry	L. Brian Ehrler	Models & Methods
Cost Estimation During Early Project Planning	Leigh Rosenberg	Models & Methods
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Economic Elasticity of Tactical Missile Costs	Raymond P. Covert	Models & Methods
Modeling to Establish the Affordability KPP	Samuel Toas	Models & Methods
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A Methodology to Improve the Predictability of CER with Insufficient Data in Korean Weapon System R&D Environment	Yong Bok Lee	Models & Methods
RealTime Analytics	Eric Druker	Models & Methods
Faster & Better Ways to Determine an Engineering Labor Rate for Pre-Award Development Contract Cost Estimates	Michael Sweeney	Models & Methods
Joint Cost Schedule Model – Recent AFCAA Efforts to Assess Integrated Cost and Schedule Analysis	Antonio Rippe	Research
Fuel Cells turn up the Heat	Arlene Minkiewicz	Research
Using Project Performance Data in Cost and Schedule Analysis	Fred Kuo	Research
Ideas from Measurement Theory for Quantifying Intangibles	Mitch Robinson	Research
Parameters in Parametric Cost Estimating	Myung-Yul Lee	Research
NRO CAIG O&M WBS and Duration Guidance	Ryan Timm	Research
Enhancing Cost Realism Through Risk-Driven Contracting: Designing Incentive Fees Based on Probabilistic Cost Estimates	Sean P. Dorey	Research
An Approach to Estimate the Life Cycle Cost and Effort of Project Management for Systems Centric Projects	Leone Z. Young	Research
Patterns of Resource Expenditure: New Approach for Cost Phasing	Dr. Will Jarvis	Research
Effective Use of Cost Risk Reports	Alfred Smith	Risk
Quasi-Monte Carlo Methods: Combating Complexity in Cost Risk Analysis	Blake Boswell	Risk
Covered with Oil: Incorporating Realism in Cost Risk Analysis	Dr. Christian Smart	Risk
Joint Confidence Level Analysis and the Dynamic Integrated Cost Estimator (DICE) Model	Graham Gilmer	Risk
Risk Based Estimating and Alternative Selection Using Value Analysis	Gregory Brink	Risk
Real-time Risk for the Operations Environment	John Teal	Risk
Joint Probability of a Parametric Software Cost and Schedule Estimate: Method and Example	Michael A. Ross	Risk
The Perils of Portability	Peter J. Braxton	Risk
Testing S-Curves for Reasonableness: The NCCA S-Curve Tool	Richard L. Coleman	Risk
EVM Trends to Forecast Cost Risks	Roy Smoker	Risk
Understatement of Risk and Uncertainty by Subject Matter Experts	Peter J. Braxton	Risk
Primer for Analyzing SLOC Counts	Brian Opaska	Software
SEER-SEM to COCOMO II Factor Convertor	Anthony Peterson	Software
Estimation Challenges for 21st Century Software Systems	Barry Boehm	Software
Function Point Analysis: One Size Fits All	Dan French	Software
Is There Magic Associated with Software Benchmarks?	Donald Reifer	Software
The Challenge of Agile Estimating	Heather Nayhouse	Software
Software Cost Estimation Using A Decision Tree Process: A Knowledge Engineering Approach	Sherry Stukes	Software
Enterprise Resource Planning Systems: Sizing Metrics and CER Development	David Brown	Software
NPS and AFIT Masters Degree in Cost Estimating and Analysis	Dr. Daniel Nussbaum	Academic
Teaching Undergraduates How to Estimate Costs	Humboldt C. Mandell, Jr.	Academic



# ALBUQUERQUE

## Route 66 Lives!

By Joseph Wagner

In the last issue of the *National Estimator*, we provided a rundown of fun things to see and do in Albuquerque, New Mexico, the venue of our upcoming ISPA/SCEA Conference. As June draws closer, let's take another look at what's happening in the city, and mention some attractions we missed last fall. Much of the following information is courtesy of the Albuquerque Convention & Visitors Bureau website ([www.itsatrip.org](http://www.itsatrip.org)).

### Route 66 — An Institution

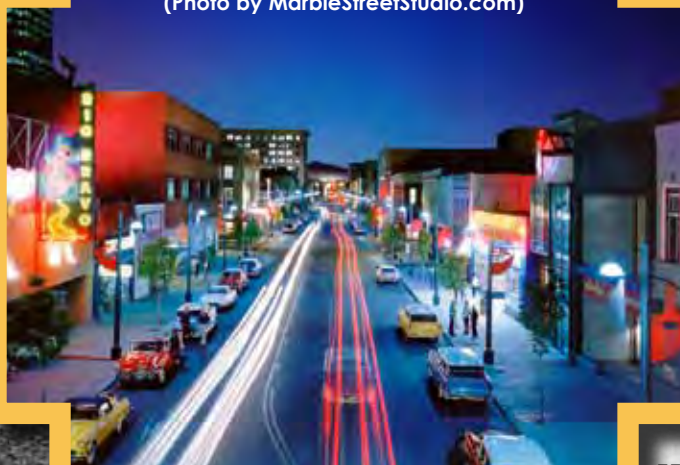
Somehow, I neglected to mention one of the area's biggest attractions in my last article — Historic Route 66, which passes through Albuquerque and has become an American tourist icon. Route 66, which is now Central Avenue in Albuquerque, takes visitors through the heart of the city, from the far west side past the Rio Grande Botanical Garden and the Albuquerque Aquarium through historic Old Town and the modern business district and continuing eastward through the University of New Mexico and the trendy Nob Hill area. Historic neon signs, a hallmark of the 1940s and 50s, still glow on old Route 66. Alongside the vintage signs, you'll see new versions put up by the many businesses that are continuing the aesthetic traditions of old Route 66, adorning their shops with bright, buzzing neon. Our Conference hotel, the Hyatt Regency Albuquerque, is just blocks away from restaurants and other after-hours entertainment options on Central Avenue.

### Rich in Architecture, Culture

Nob Hill spans a mile-long stretch of Central Avenue. It is a vibrant district bursting with eclectic shops, swank dining, and chic nightspots. Route 66 vintage signs and architecture combined with predominantly locally-owned shops, galleries, and restaurants make it a hip and fashionable area located just east of the University of New Mexico. Nob Hill began as a burgeoning downtown Albuquerque suburb in the 1930s. Anchored by the Nob Hill Shopping Center, this neighborhood came of age in the middle of the century, and today, new and old businesses share a commitment to the area's retro style. With its historic buildings, abundant neon and high style, Nob Hill is Albuquerque's premier district for unique shopping, dining and entertainment.

The University of New Mexico, founded in 1889, is worth a visit for the Pueblo Revival architecture and the several museums on campus. You can visit the Fine Arts Museum, the Johnson Gallery of Contemporary Art, Maxwell Museum of Anthropology, and the Museum of Geology & Meteoritics.

Route 66 through the heart of Albuquerque.  
(Photo by MarbleStreetStudio.com)





## Shopping and Entertainment Plus Fun for Kids!

I mentioned Old Town Albuquerque in last fall's article, but there is no shortage of attractions to talk about. While Old Town is often thought of as a shopping and entertainment district, it also hosts seven museums. The newly renovated Albuquerque Museum of Art & History showcases New Mexican cultural heritage. The New Mexico Museum of Natural History and Science stands out with the prominent dome of its planetarium. This innovative and hands-on museum explores botany, geology, computer science and paleontology. The museum's Lodestar Astronomy Center includes a world-class planetarium theater. The National Atomic Museum is America's official museum of nuclear science and history and is affiliated with the Smithsonian Institution. At Explora!, kids of all ages will be amazed by more than 250 interactive science, technology, and art exhibits. Fans of southwestern jewelry will enjoy the Turquoise Museum, where visitors experience the depths of a turquoise mine and view rare and spectacular turquoise specimens from all over the world. Test your bravery at the American International Rattlesnake Museum, which offers the world's largest collection of *live* rattlesnakes. (Please leave the exhibits behind when you return to our conference!)

## Special Events in Downtown during the Conference

If all of the touring and sight-seeing does not completely sew up your free time, there are several special events on tap in Albuquerque during the week of our conference. Savor Albuquerque is a 10-day festival celebration showcasing Albuquerque's incredible artistic and cultural resources, including music, theater, dance, comedy, film, and culinary arts. It begins on the Friday night (June 4) before our conference and runs for 10 days. The opening will feature a *Concours du Soleil* classic car display, as well as assorted musical acts. Other Savor Albuquerque events taking place during our conference week include Festival Flamenco Internacional de Albuquerque, a world-renowned dance festival, and the Warehouse on Wednesday (WOW) street fair in the Warehouse Arts District. For a complete look at the event, including schedules, go to the Albuquerque Convention & Visitors Bureau website: [www.itsatrip.org/savorabq](http://www.itsatrip.org/savorabq).

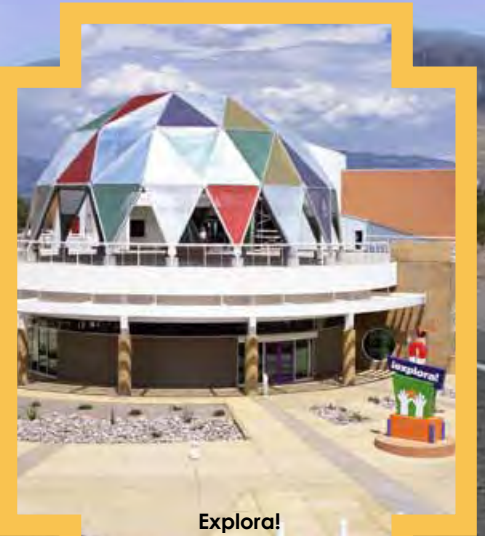
Finally, on Sunday (June 6<sup>th</sup>) and Saturday (June 12<sup>th</sup>), there will be two distinctly different musical performances. The first, Arte Es Vida/ Art Is Life, is a celebration of Albuquerque's classical musical, visual, and spoken word artists. On Saturday the 12<sup>th</sup>, Conference attendees can head over to Summerfest, a free outdoor music festival presented at locations throughout Albuquerque.

## Great Conference with Unique Opportunities

So, after looking at all of the opportunities for staying busy in Albuquerque, it's important to remind myself we're there for a conference. As I said last fall, while attendees can expect to get the same high-caliber professional development and networking opportunities that we've always offered, they can also count on a uniquely southwest blend of area attractions, entertainment, and cultural heritage at this year's conference. There are plenty of options for keeping busy, before, during, and after the conference!



Fun at the New Mexico Museum of Natural History & Science.  
(Photo by MarbleStreetStudio)



Explora!  
(Photo by MarbleStreetStudio)



Working with turquoise, a southwestern tradition.  
(Photo by MarbleStreetStudio)



## Greater Alabama Chapter News

*By Jenny Hunkapiller, Chapter President*

**A**s I reflect on the events and accomplishments of the 2010–2011 year, I am proud to be part of an organization comprised of such outstanding individuals both professionally and personally. Currently, the Greater Alabama Chapter has 104 members, representing DoD and NASA, and of those members, 34 are SCEA certified.

The Greater Alabama Chapter hosts monthly luncheons featuring outstanding presentations relevant to cost estimating and analysis. Recent luncheons featured such topics as “Future Trends in Cost Analysis,” “Work Force Forecasting,” “Weapon System Acquisition Reform Act Impacts upon Cost Estimating,” and “Estimating Risk without Data.”

The past year could not have been successful without such an active board of directors. I'd like to personally thank the 2010–2011 board: Vice President **Ralph Mitchell**, Treasurer **Elizabeth Graham**, Membership Director **Teresa Brown**, Publicity Director **Stephanie Lewis**, Education Director **Christian Smart**, Certification Director **Sam Cooke**, Administrative Director **Lee Smith**, and Past President **Kirk Schneider**.

### Cost Analysis Training and Certification Preparation Sessions

The faculty of the Greater Alabama Chapter conducted the annual Cost Analysis Training and Certification preparation sessions during February and March of 2011. Training sessions were open free of charge to those preparing to take the CCEA or PCEA examinations, as well as those looking to polish their skills. Training was broken into six sessions: Terminology and Concepts, Statistics and Economics, Managerial Accounting, Contracts, Learning Curve Analysis, and Mathematical Problem Solving. Classes were well received with an average weekly attendance of 30 students, five of whom are registered to sit for the certification examination in April. **Dr. Sam Cooke** built the current training program from the ground up and has continued to serve the local cost estimating community by coordinating and updating the training and certification preparation sessions for many years. Dr. Cooke has recruited a highly qualified staff: **Teresa Brown**, **George Cash**, **Denise Cline**, **Jack Davis**, **Stacy Houk**, **Dr. Christian Smart**, and **Barbara Stone-Towns**, most of whom have served for several years. The Cost Analysis Training and Certification Preparation Program is the foundation of the Greater Alabama

Chapter, and directly correlates to the high caliber of cost estimators in the Huntsville, AL, area.

### Care Assurance System for the Aging and Homebound (CASA) of Madison County

One of the goals of the Greater Alabama Chapter is to give back to the community in an increasing capacity. Our chapter annually gives a donation to a local charity at the December Holiday luncheon. This year Care Assurance System for the Aging and Homebound (CASA) of Madison County was chosen as the recipient of the chapter donation. CASA of Madison County is a non-profit organization that provides services to individuals age 60 and over and to the homebound (wheel chair and bed bound) of all ages. Over \$500 dollars was given to CASA along with several bags of supplies donated by chapter members. CASA of Madison County is an organization the Greater Alabama Chapter looks forward to working with in the future. Check them out at <http://www.casamadisoncounty.com/>.

Check out the Greater Alabama Chapter Page at <http://www.sceaonline.org/chapters/alabama/index.cfm> for current event information.

### Send Your Well Wishes to a Sick Child

The Greater Alabama Chapter and the SCEA National Office invite members to show support for **Katrina Mohr**, a member of Greater Alabama SCEA Chapter and new government employee, by sending cards or other tokens of support to her 7-year-old son who is battling cancer. (For information go to [www.caringbridge.org/visit/hutchmohr](http://www.caringbridge.org/visit/hutchmohr).) During her son's treatment, the family is staying at the The Ronald McDonald House, where you can send your well wishes:

The Ronald McDonald House  
Hutch Mohr-RM#20  
535 Alabama Ave  
Memphis, TN 38105

### In Remembrance of Boyd Edmiston

We recently learned of the death of a long-time SCEA member, Boyd Edmiston. Boyd was a graduate of the University of Central Oklahoma, who attended Officer Candidate School and served in the U.S. Army as a first lieutenant Airborne Ranger and decorated sharp shooter during the 1970s. He was an active SCEA member, both on the national level and within the Alabama Chapter. Boyd will be greatly missed.

## Houston / Clear Lake Chapter News

**W**e are pleased to announce the launch of the website at [www.houstonscea.org](http://www.houstonscea.org) and look forward to using it as THE source for cost analysis information. We now have our own logo, and solicit everyone's comments to make it better.

In March, we hosted two seminars on Joint Confidence Level (JCL); the first session was an introductory session on JCL discussing top-level concepts on what JCL is about and general discussion on its implications; second session was "How to Do JCL", a presentation showing how you do JCL and get results. At the end of the seminar, certificates were issued for CEU credit.

### Luncheon Speakers

For our luncheon guest speakers, we had:

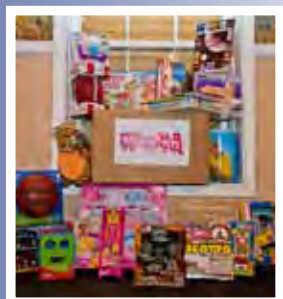
- **Dave Smith**, Mayor of Friendswood (city next to Johnson Space Center) — Dave is in his second term of Mayor for a city that has been named one of the top 100 places to live in the United States in 2007 and 2009. Dave discussed how he has managed the city and the financial impact that the current economy has had on the city and the impacts that NASA has on the area.
- **Dot Swanson**, Chief Financial Officer, Johnson Space Center — NASA. As the CFO of Johnson Space Center, Dot shared her perspective on financial and cost estimating challenges at Johnson Space Center. She has served as the Chief Financial Officer (CFO) for the Johnson Space Center (JSC) since January 2010 and oversees the financial health of JSC and ensures center resources are effectively deployed toward the achievement of NASA's strategic plan. She manages the budget and financial operations, the scope of which includes budget development, cost estimating, cost assessment, and preparation of financial and budgetary reports.

### Toys for Tots

We also participated in the local charity "Toys for Tots" — it was a huge success for Houston's "SCEA Give Back" initiative. We are happy to announce that more than 70 toys were collected at Houston SCEA luncheon.

### Houston SCEA Chapter Stuff

HCLC logo products are here! We are pleased to provide the members with products with our logo. Go to <http://www.cafepress.com/houstonscea> to order t-shirts, hats, mugs, stuffed animals, and more!



(Top left) New web site. (Middle) Speaker Dot Swanson, CFO, Johnson Space Center — NASA. (Top right) 70+ toys donated. (Bottom right) Houston SCEA now on sale.



## Hampton Roads Chapter News

**T**he Hampton Roads Chapter held its first event of the 2010–2011 season on November 11, 2010 by hosting **Dr. Andreas Tolk**, Associate Professor of Engineering Management and Systems Engineering at Old Dominion University (ODU) in Norfolk, Virginia. Dr. Tolk's research is conducted through Virginia Modeling, Analysis and Simulation Center (VMASC), the multi-disciplinary research center of ODU and through the National Centers for System of Systems Engineering (NCOSE), also an enterprise research center of ODU. VMASC supports the ODU's Modeling & Simulation (M&S) degree programs. Working with more than 100 industry, government, and academic members, VMASC furthers the development and applications of modeling, simulation and visualization as enterprise decision-making tools to promote economic, business, and academic development while connecting academia with businesses both locally and at the national level. NCOSE develops and tests theory, methods, technologies, tools, and provides focused training to more effectively deal with complex system problem domains with the primary goals being to advance the body of knowledge and state-of-the practice relating to engineering complex systems of systems.

### Andreas Tolk Talks the Talk!

Dr. Tolk spoke on "Extending Federal Enterprise Architecture (FEA) and the Department Of Defense Architecture Framework (DoDAF) to support Cost Modeling". Dr. Tolk's presentation probed questions such as "What Is an Architecture?" and "Where Are the Costs?" Within the context of FEA and DoDAF, he discussed enterprise capabilities and system functionalities, fit-for-purpose solutions, future systems and their interplay with current solutions to close capability gaps. His current research at ODU in this area includes methods and metrics for assigning costs to operational functions over a system's life cycle and executing these models based on operational constraints and real world observations.

To quote Dr. Tolk's presentation, "We can define costs for all activities and use them as metrics in DoDAF. This allows [the analyst] to not only evaluate for operational efficiency, but also for [the] budgetary implications of [implementing] the system." He went on to explain, "By executing the augmented architecture in FEA Framework-defined contexts, we can generate realistic costs within the context of desired scenarios. The Lifecycle can take more constraints into consideration." He suggested that future work in this area would include actions to enrich DODAF (DM2) with cost data for functions, to enrich operational evaluations with cost evaluations, and to demonstrate how to optimize operational effectiveness within a given budget. For more information, Dr. Tolk can be reached at [atolk@odu.edu](mailto:atolk@odu.edu).

### In Hampton Roads, Charity Begin with SCEA!

During these tough economic times, the Foodbank of Southeastern Virginia continues to see an increase in demand for emergency food supplies. The Hampton Roads Chapter of SCEA continues its support of the Foodbank of Southeastern Virginia by collecting canned food donations from members at each meeting. In the past year, the chapter has collected over 100 lbs of food donations. Last year, the chapter also assisted with receiving and boxing food as part of the Mayflower Marathon Food & Fund drive in Virginia Beach. The Food & Fund drive was a success, and the HR SCEA Chapter looks forward to providing continued volunteer support to the Foodbank of Southeastern Virginia this year. More details on upcoming events can be found at [www.foodbankonline.org](http://www.foodbankonline.org).



**Paul Gvoth (right) of Cask, LLC, Hampton Roads Chapter Vice President, thanks Dr. Andreas Tolk of Old Dominion University for an informative presentation on Extending Federal Enterprise Architecture (FEA) and the Department Of Defense Architecture Framework (DoDAF) to support Cost Modeling**

## Lone Star Chapter News

By Rex Potter, Chapter President

Since the Lone Star Chapter was reinstated last February, it has grown to 36 members, primarily made-up of cost, estimating, and finance professionals from Lockheed Martin Aeronautics and Lockheed Martin Missiles and Fire Control. We are contacting other commercial and defense companies in the area to broaden our membership. We also continue to involve and engage the younger professionals in SCEA; any suggestions are appreciated.

We are setting up a study group for a future exam; let me know if you are interested in participating by emailing [rex.m.potter@lmco.com](mailto:rex.m.potter@lmco.com).

We have held three meetings with excellent attendance. **Dick Janda** (Lockheed Martin Corporate VP – Program Assessment & Evaluation) was the speaker at our last meeting, and he provided his perspective on a more efficient and effective cost estimating and contract negotiation process. He discussed the current



*Dick Janda gets his cowboy on at a Lone Star Chapter meeting.*



environment and emphasized the need to redefine and streamline the government acquisition process. The content of his paper was discussed, and it will be presented in the next issue of the *National Estimator*.

## New England Chapter News

### All the snow is getting us down!

The New England SCEA Chapter has had a very busy winter and spring is looking promising as well! We kicked off the New Year with a presentation from Lieutenant Colonel **David Peeler**, Deputy Director of ESC/FM. He spoke about his experiences during recent deployments and how valuable out in the field the skill set that cost estimators have.

We also welcomed back one of our own Board members fresh from a nine-month deployment, six months of it spent in Afghanistan. Major **Stephen Gray** came back to us nicely tanned and with a very well deserved promotion to Major.

### Luncheons and Training

Mr. **William Lane** was our March luncheon speaker; his topic centered on how to structure our estimates in ACE to respond to what-if drills and how to utilize POST to better communicate those results.

Following on last year's success with the CEBoK training program, we are hoping/planning to kick off the 2011 program again soon. Many thanks to **Eric Timinski** for organizing this monumental effort and to **Kelly Kane** and **Jonathan Lister** for proctoring

the exams. Congratulations go to our chapter's newly certified analysts: **Mary Anne Scully**, **Andrew Walker**, **Christopher Cunningham**, **Richard Beavers**, **Michael Mahoney**, and **Kenneth Marshall**.



*New England Chapter Officers — Vice President Peter Meisl, Board Member Eric Timinski, Treasurer Mark Aimes, Secretary Cari Pullen, President Ellie Bassett, Board Member Kelly Kane, Board Member Maj Stephen Gray.*



# Chapter Updates

## Nominate for Awards and Speakers

Our chapter awards activities are well under way. We have opened up three categories to our membership, should a member choose to nominate someone; Management, Technical Achievement, and Education. All winners of our local chapter's awards will be nominated at the National level as well.

We have several activities planned in the coming months; a social is planned for May with a Cinco de Mayo

theme where we hope to toast to all of the snow being melted! A cost workshop is in the early planning stages for May as well and is already shaping up to be a great event! Anyone looking for an excuse to travel to New England in the spring should contact our Board as we're still filling out the roster of speakers and topics for the workshop. An election committee has been formed as the Board of Directors wind down their current terms with a new term slated to start in September.

## Northwest / Washington Chapter News

*By Julie Wallace, Chapter Fundraising Chair*

**T**he SCEA Northwest/Washington Chapter has been focusing on a number of goals, including increasing our membership, encouraging member involvement, expanding the number of general meetings held, and growing our members' skills.

## Membership Stats

Our membership count today stands at 107, a 53% growth from our 2009 end year member count of 70. We now have members from Motive Power, Inc.; Booz Allen Hamilton; C/S Solutions, Inc.; Red Hawk Tech Services; Project Time and Cost, Inc.; Earth Tech; Steve Meyers and Associates; US Navy; Aerojet; Initiate Government Solutions; Precor; and Chipton Ross as well as from Boeing. Many of these companies have a single member so we will be looking to increase membership and provide greater opportunities for interaction in the coming year.

## The FUN in Fundraising!

To be able to fund activities for our members, we needed money. We chose to raise funds by operating a food and beverage stand during our local professional baseball team's home games. (Go Seattle Mariners!) We went into this fundraiser with two goals in mind; to make money for our chapter and to encourage member involvement. Both goals were a success. Fundraising in 2010 brought in 30% more revenue than we had originally anticipated, but the real gain was in member involvement. The 23 members who participated were able to meet, work beside, and get to know their fellow estimators. Our follow-up survey showed that the social aspect was what members benefited from most. These efforts also allowed us to donate money to our local homeless shelter, benefiting our community as well. Due to our resounding success in 2010, we will be continuing this fundraiser during the 2011 baseball season.



**2011-2012 SCEA Northwest / Washington Chapter Officers — Secretary Cheryl Wilson, Training Pat Zedaker, Vice President Spencer Comert, President Mike Doherty, Treasurer Stacy Dean, Fundraising Julie Wallace.**

## Training

Each year, our chapter provides its members with two CEBok™ training sessions. After each training session, students are encouraged to take the certification exam. The year 2010 brought five new certifications. The percentage of members who are certified now stands at 20%. Our next CEBok training session will be held April through May in the Everett area. If you are interested, please contact our Northwest/Washington Chapter Training and Certification Director **Pat Zedaker** at [patricia.m.zedaker@boeing.com](mailto:patricia.m.zedaker@boeing.com). Our chapter will also be contributing trainers during the 2011 ISPA/SCEA Joint Annual Conference & Training Workshop in Albuquerque, New Mexico, June 7 –10.

Our newly elected board is looking forward to continuing efforts to grow and serve our members. Specific goals new for 2011 are to create a Northwest/Washington Chapter website and to determine and implement activities to serve our members using our newly acquired funds.

## Pikes Peak Chapter News

By Christina O. Brims, Air Force Cost Analysis Agency-Space Programs, [christina.brimms@peterson.af.mil](mailto:christina.brimms@peterson.af.mil)

### Leadership Update

**W**e are pleased to announce that current chapter officers agreed to serve another term beginning in the fall of 2010; however, we recently said farewell to **Judy Davis**, chapter secretary, as she accepted a promotion with the AF Cost Analysis Agency's operating location at Eglin Air Force Base. We wish Ms. Davis continued success in her new endeavors as she returns to Eglin as a federal civilian employee. Besides the secretary's position, we will solicit for the program chair's position to complete the board's leadership. The outstanding news is the return to half-time work of Awards Chair **Gerry Corwin** after his extended absence and rehabilitation. Gerry's determination to return to work and his resiliency, despite a life-changing stroke, is remarkable. He truly is an exemplar in the face of adversity — welcome back, Gerry!

### Program Update

Our program year started in October 2010 by hosting **Dr. Neal Hulkower**, MCR Vice President for Technical Planning and Quality Support. Dr. Hulkower presented "Decisions, Decisions, Why You Oughta Use Borda" at our chapter luncheon. Borda was a mathe-

matician in the late 1700s, and he developed a process to rate student candidates in a more effective way for entry into higher learning. His decision tool, the "Borda Count," rates alternatives and chooses outcomes that are especially useful in several scenarios, one being for candidates in elections. Strictly speaking, Borda originated his method because he didn't like the way members of the French Academy (equivalent to our National Academy of Sciences) were selected. The chapter members gained a new perspective on rating alternatives and voting methods. Amazing how Borda's personal motivation revolutionized ranking methodologies!

Dr. Hulkower's published article, "The Probable Lowest-Cost Alternative According to Borda," appeared in the SCEA and ISPA *Journal of Cost Analysis and Parametrics* in Fall 2010 (Vol 3, Issue 2). If you haven't done so, we highly recommend you read his article.

Finally, we invite other chapters to join us in honoring guest speakers at chapter meetings in a new way. In the past, we thanked our guests by presenting a chapter mug, coffee gift card, or Colorado photo book. While our guests appreciated these personal tokens of our gratitude, we now make a donation in their honor to the Wounded Warrior Project. All our speakers have been profoundly impressed by this gesture. Please visit this organization's web site at [www.woundedwarriorproject.org](http://www.woundedwarriorproject.org) to learn more about their work and consider making one-time donations in honor of your guest speakers.



**Dr. Neal Hulkower introduced the Borda Count to SCEA Pike Peak Chapter members.**



**All guest speakers are now honored with a contribution to the Wounded Warrior Project.**



# Chapter Updates

## St. Louis Chapter News

### SCEA: Now on Facebook!

facebook

Everyone now has the chance to become a fan of SCEA on Facebook! Search for SCEA (or the Society of Cost Estimating and Analysis) and you will be taken to our Facebook page. Although ramping up now, this page will be used extensively starting at this summer's National Conference to provide information on the conference as well as after-hours social gatherings. Don't miss out on the fun this summer — join the SCEA page today!

### St. Louis Gateway Chapter SCEA Update

The St. Louis Gateway SCEA chapter held our winter seminar on Friday, January 14<sup>th</sup>, at DRS Technologies. Speakers included **Major James Lowe** with US Transportation Command, **Mark Schankman** from Booz Allen Hamilton, and **Phil Frohne** from the International Society of Logistics. Highlights included learning about reliability using balloons as examples and refreshing members cost estimating skills with a game of Cost Estimating Body of Knowledge (CEBoK™) Jeopardy! Upcoming events will include a speaker and social in O'Fallon, IL, to provide an activity more convenient to our Scott Air Force Base cost analysts and a spring speaker.

## Southern California Chapter News

By **Dave Graham, Acting Southern California Chapter President**

**A**lthough I retired from federal service as of 31 December 2010, I'm still involved with SoCal SCEA Chapter activities. For the past two years, those activities have been limited to working with the SoCal ISPA Chapter in supporting joint SoCal ISPA/SCEA tri-yearly local workshops. By the way, the last joint workshop was held 16 Mar 2011 at the Galorath offices in El Segundo. I hope you all got that information ahead of time and were able to attend (and got lucky in winning some door prizes!). I am investigating using the Aerospace Corp conference rooms attached to their cafeteria for lunchtime lectures in between the joint ISPA/SCEA tri-yearly workshops. Using these facilities worked out well in the 1990s since

there was no need for catering, you just buy your lunch (at good prices too!), walk into the conference room, and eat lunch while listening to a presentation.

### Upcoming Speaker Topics and Elections

There's lots to talk about what with the new DoD efficiency directives, FPIF vs. CPFF contracting strategies, Joint Cost/Schedule Confidence Level approaches to improving setting cost and schedule targets, discrete statistical scenario-based risk, etc., so I hope we can have some informative presentations and discussions. Tune into the SoCal SCEA Chapter website for information on this topic. I am also organizing an election of officers soon and will try to do them electronically like the SCEA National Office does. That information will also be on the SoCal SCEA Chapter website. Be talking to you — stay tuned!

*Good times and great information at the Southern California ISPA / SCEA Workshop held in December 2010. Another Workshop was held in March 2011.*



## Washington D.C. Metro Chapter News

By **Tim Anderson**, Chapter Program Chair, and  
**David Stem**, Chapter Vice President

### Washington Area Luncheon News

**A**s we look forward to a great new year of luncheon presentations, I would first like to look back and congratulate the winners of the first annual luncheon speaker award, given at the Annual Washington DC Metro Chapter meeting on January 25. The winning presentation was “Competition in DoD Systems Acquisition: Past Lessons and Future Considerations” by **Rick Collins**, **Brian Torgerson** and **Dr. Michael Beltramo**. This presentation was given at the August 2010 SCEA Luncheon. Congratulations Rick, Brian and Mike!

The 2011 luncheon series is off to a great start, with exciting speakers lined up through June. Since our last newsletter, we have had the following luncheon presentations:

- **December 2010 Luncheon: The Implications of Scoring Methods in Cost Analysis Trade Studies**

The December luncheon was held at Technomics, Inc., in Arlington and featured **Dr. Neal Hulkower** of MCR, LLC. He gave a talk titled “Decisions, Decisions: Why You Oughta Use Borda.”

- **January 2011 Luncheon: Pardon Me ... Have You Gained Weight in Your Tail?**

The January luncheon was held at MCR Headquarters in McLean, VA, and featured **John Neatrou** of MCR, LLC. He gave a talk titled “Fat Tailed Distributions for Cost and Schedule Risk Analysis.”

### More Luncheon Information

Upcoming luncheons until June will feature **Bill Barfield**, **Steve Oxman**, **Brian Flynn**, and **William Taylor**. As always, the our luncheon series provides a great venue for local speakers and guests. If you have never attended a luncheon, then we invite you to check it out. Washington DC Metro Chapter members receive monthly invitations in their e-mail in-boxes. If you are not yet a member or your e-mail address has changed, you can sign up to receive invitations at the chapter website, [www.washingtonsce.com](http://www.washingtonsce.com), or by contacting your program chair, **Tim Anderson**, at [timothy.p.anderson@aero.org](mailto:timothy.p.anderson@aero.org). Finally, if you would like to give a presentation at an upcoming luncheon, contact your program chair. We are always looking for interesting speakers and topics, and this is one of the last “free lunches” available in town!

### Washington Chapter Holds Annual Meeting

On January 25, we held our annual meeting at the Washington Golf and Country Club. The annual meeting is an opportunity to bring together a significant number of members to see what the Chapter's Board has been working on for the past year and what they are planning for the next year. It gives membership a networking opportunity and a chance to participate in the planning for the next year.



(From left to right) **Technical Achievement** — **Paul Hardin**. **Leadership / Management Award** — **Ken Hunt** (on behalf of **Gary Erdwins**). **Junior Analyst** — **Jennifer Swartz**.



# Chapter Updates

## Keynote Speaker Addresses DoD Future

In addition to the networking that occurred, **Peter Andrejev**, Principal at Booz Allen Hamilton and SCEA National Director of Certification, gave an overview of the changes he is seeing in the world of cost analysis in the Defense Department. With the passage of the Weapons System Acquisition Reform Act of 2009, Peter described new areas in the decision making chain of events that are providing greater need for cost analysis during the life cycle of a program and, hence, greater opportunities for cost analysts.

## Chapter Awards Presented

This year's Annual Meeting also featured an awards ceremony to recognize significant achievements during the past year by members. Nominations were collected from various organizations representing the DC chapter, and winners were judged by former presidents of the chapter. The award categories were technical achievement, luncheon speaker, leadership/management, team achievement, and junior analyst.

- **Technical Achievement.** The first recipient was **Paul Hardin**, Technical Director of Technomics. In this role, Paul is responsible for ensuring technical excellence and innovation in the company's products and has instituted Technical Excellence Standards to guide analysts during the course of a project. The second winner was **Blake Boswell** from Booz Allen Hamilton. Blake developed innovative tools to speed the calculations used in simulations for uncertainty analysis and developed approaches for detecting outliers. While developing these innovative tools, Blake also mentored an intern making him an immediate asset to his team.
- **Luncheon Speaker.** The team of **Brian Torgerson**, **Rick Collins**, **Emily Beltramo**, and **Michael Beltramo** from Technomics won the best luncheon award for a presentation they gave titled "Competition in DoD Systems Acquisition: Past Lessons and Future Considerations." This presentation along with other past presentations can be found on our website: [www.washingtonscea.com](http://www.washingtonscea.com).
- **Leadership / Management.** **Ken Hunt** (Associate Director of Cost Analysis and Estimating Directorate at the Navy Engineering Logistics Office) has been a charter member of SCEA and has worked in several cost areas in and out of the government. In his latest job, he has been instrumental in ensuring competence through training for early and mid-career analysts and in establishing standards for cost estimating terminology and analyst certification.
- **Team Achievement.** A team of analysts from the Air Force Cost Analysis Agency won for developing one of the first "should cost" estimates within the Air Force. In response to an OSD request to investigate a "should cost" on the Global Hawk program in accordance with the new policy, the team identified cost savings that had the potential to save several hundreds of millions of dollars. Given that the analysis was so well received in the Air Force, it will serve as the template for other programs to follow when performing "should cost" analysis.
- **Junior Analyst.** **Jennifer Swartz** for her work at Booz Allen Hamilton and Kalman and Company, Inc. At Booz Allen, Jennifer developed estimating tools for the Marine Corps Systems Command for estimates for the Assault Amphibious Vehicle (AAV) and the Joint Light Tactical Vehicle (JLTV). She further extended these accomplishments working at Kalman where she developed a "should cost" estimate for the Common Analytical Laboratory System (CALS).



**Technical Achievement —**  
**Blake Boswell**



**Best Luncheon Presentation — Rick Collins,**  
**Brian Torgerson, and Emily Beltramo.**



**Team Achievement — John Dubelko,**  
**Meghan Kennedy, and Dave Stem.**



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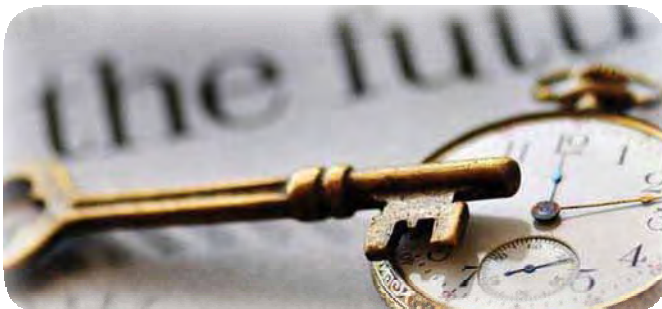
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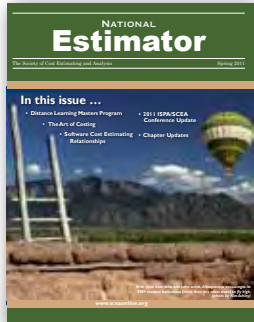
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