

---

# NATIONAL Estimator

---

The Society of Cost Estimating and Analysis

Fall 2008

---

## In this issue ...

- Risk, Uncertainty and Trouble: Escaping the RUT of Program Instability
- United States Aerospace Industry Cost Risk Analysis Survey
- Certification Updates
- 2008 Joint SCEA-ISPA Conference Recap
- Reports from SCEA Leadership
- Chapter Updates



**Work that makes a difference.**

**Opportunities that expand your horizons.**

**Teammates who share your values.**

**Success that fits your life.**

**Ready for what's next in your career?** At Booz Allen Hamilton, our ability to help clients solve their toughest problems and achieve their missions hinges on our people. Which is why we hire staff with great minds and a passion for making a difference, and provide them with ongoing learning opportunities, a vibrant team-based culture, a comprehensive rewards package, and the chance to make an impact in our firm, our communities, and our nation.

As a **cost analyst** at Booz Allen, you'll provide specialized expertise and insight to key DoD and national security clients regarding investments techniques and evaluations of their strategic programs. Use your quantitative skills to perform risk analysis, total cost of ownership studies, trade studies, analysis of alternatives, decision modeling, and estimates on major systems acquisition programs.

We have immediate opportunities in Washington DC; San Diego/Los Angeles, CA; Dayton, OH; San Antonio, TX; Troy, MI; Huntsville, AL; Eatontown, NJ; Eglin AFB, FL; Norfolk, VA.

**Basic Requirements:**

- Qualified candidates should have 5+ years of experience in cost estimating for DoD weapons programs or key national security programs.
- Candidates with an educational background in Economics, Statistics, Mathematics, Operations Research, Industrial Engineering, or similar field are highly desired.
- ACCE/A designation is a plus.

If you're ready for what's next in your career, e-mail your resume to [morris\\_cristina@ne.bah.com](mailto:morris_cristina@ne.bah.com)

We are proud of our diverse environment, EOE, M/F/D/V. Applicants selected will be subject to a security investigation and may need to meet eligibility requirements for access to classified information.

**Ready for what's next.** [www.boozallen.com/careers](http://www.boozallen.com/careers)

**Booz | Allen | Hamilton**  
delivering results that endure



The Society of Cost Estimating and Analysis

SCEA/ISPA Joint Office  
527 Maple Avenue East, Suite 301  
Vienna, VA 22180  
703.938.5090 • FAX: 703.938.5091  
Email: [scea@sceaonline.net](mailto:scea@sceaonline.net)  
[www.sceaonline.org](http://www.sceaonline.org)

#### National Officers

##### President

William Haseltine

##### Vice President

Joseph Dean

##### Secretary

Robyn Kane

##### Treasurer

Joseph Wagner

##### Past President

Daniel A. Nussbaum

#### Directors

Steve Bagby  
Richard Coleman  
David Graham  
Mary Harmon  
Richard Hartley  
Carol Hibbard

#### Regional Vice Presidents

Paul Marston—Region 1  
David Stamm—Region 2  
Vicki Kitchens—Region 3  
Linda Turner—Region 4  
Robert Devaney—Region 5  
Blaine Webber—Region 6

#### Director of Certification

Peter Andrejev

#### Training Chair

Peter Braxton

#### Executive Director

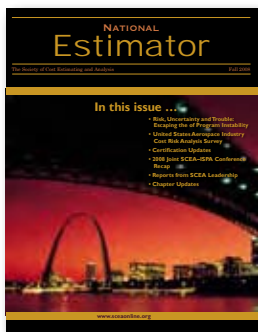
Elmer Clegg

#### National Office

Sharon Burger  
Erin Whittaker

The *National Estimator* is a publication of the Society of Cost Estimating & Analysis. Members of the Society receive copies as a benefit of membership. Subscriptions for non-members are on a yearly basis at a cost of \$30.00 per year. Publication of materials is at the discretion of the Editor and Officers of the Society. Opinions expressed by contributors are not necessarily those of the Society of Cost Estimating & Analysis. The Society endorses no product or service, does not engage in any form of lobbying, and does not offer for sale any commercial product or service for a profit. All revenue received from the activities of the Society are used solely for the professional benefit of its members.

ISSN 10404-20



NATIONAL

# Estimator

## The Society of Cost Estimating and Analysis

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.

### Table of Contents

President's Letter	
By Bill Haseltine, SCEA President .....	4
Letter from the Editor	
By Vicki Kitchens, National Estimator Editor .....	5
SCEA Certification Director's Corner	
By Peter Andrejev, Director of Certification .....	6
Certification Congratulations .....	7
SCEA Certification Program	
By Kate Hiebert, SCEA Certification Transition Team Leader .....	8
SCEA & ISPA Joint Office Operations	
By Elmer Clegg, SCEA Executive Director .....	10
Training Corner	
By Peter Braxton, Director of Training .....	12
United States Aerospace Industry Cost Risk Analysis Survey	
By Hollis M. Black, The Boeing Company .....	14
Risk, Uncertainty and Trouble: Escaping The RUT of Program Instability	
By Col Brian Shimel, USAF .....	18
2008 SCEA-ISPA Joint Annual Conference Recap .....	22
2009 ISPA / SCEA Joint Annual Conference and Training Workshop .....	28
Chapter Updates	
Gateway – St. Louis Chapter News .....	30
Houston / Clear Lake Chapter News .....	30

## Advertise in the NATIONAL Estimator

### and Hit Your Mark!

Whether you're advertising job openings, cost services, or software products, hit your target audience by advertising in *The National Estimator*. Demographics include cost estimators and analysts at all levels of management and at all levels of expertise from the government, private sector, and academia. (All print ads are full color! Call 703.938.5090 for more information.)

#### Covers Ads

Inside Front Cover .....	Full Page .....	8.5 x 11 .....	\$600
		(with 1/8 inch for bleeds)	
Inside Back Cover .....	Full Page .....	8.5 x 11 .....	\$600
		(with 1/8 inch for bleeds)	
Outside Back Cover .....	Half Page .....	5.5 x 8.5 .....	\$600

#### Interior Ads

Interior Page Ad .....	Full Page .....	8.5 x 11 .....	\$500
		(with 1/8 inch for bleeds)	
Interior Page Ad .....	Half Page .....	4.25 x 11 or 5.5 x 8.5 .....	\$400
Interior Page Ad .....	Quarter Page .....	2.15 x 11 or 4.25 x 5.5 .....	\$300





# President's Letter

*By Bill Haseltine, SCEA President*

**This** issue features a number of articles compiled following our National Conference, held at the Pacific Palms Resort in Industry Hills, California. Based on a number of different means of comparison, this conference was our most successful to date. In the organizational meetings leading up to the conference, we discussed our desire to try a number of new ideas and activities. Many of these new approaches were successful, and attendees seemed to genuinely appreciate both our efforts and the results. We had the opportunity to see just how much these efforts were appreciated by collecting direct feedback from attendees using a recently implemented online surveying method.

## **Making the Most of SCEA's On-line Tools**

### **SCEA Survey**

Past SCEA surveys have garnered responses within the range of 10% to 15%. The on-line survey we did for this June's conference provided us with three-times that response rate — a rate that is remarkable — and the best part of a response rate like this one is, it provided us with the ability to better understand the expectations of our conference attendees.

This on-line survey success got me to thinking about ways we could use this new capability to be more open to the comments and feedback of our membership. As we're all aware, web-based tools make it possible to more cost effectively contact membership directly, more frequently, and on a range of topics. One such example is the SCEA Survey.

Historically, the SCEA survey is mailed out to our membership every other year. With postage fees and the number of SCEA members both at all-time highs, the cost of a traditional mailing like this might be in excess of \$2,500. Using my earlier metric of 10% to 15% response rate means we could expect less than 250 respondents. In other words, the cost per response would be at least \$10. Instead, with our new on-line survey capability, we can bring this cost down to pennies (or at worst, dimes) per response. That's a big cost savings for a small, non-profit organization like SCEA.

### **Conference Management Tools**

Additionally, with the help of our IT support person **Donald Clarke, Mike Thompson** implemented a web-based conference management tool that helped us collect and organize a record number of professional paper submittals. Since the effort associated with

reviewing, categorizing, and scheduling papers is supported entirely by volunteers, any labor saved is greatly appreciated by Program Chairs like Mike as well as the all-volunteer team. These changes, as well as the previously implemented improvements in online registration and registrant management software, are great examples of how Don's contributions have benefited, and will continue to benefit, SCEA.

### **Cost Estimating Career Center**

Also, you may have noticed the Cost Estimating Career Center was recently launched by our National Office staff. The Career Center is intended to provide users with a better interface as well as increased opportunities for relevant employment within the cost community. People may post their resumes here, and employers who post jobs on the site will be given access to those resumes. So far this endeavor has been incredibly successful. If you haven't already, we welcome everyone to visit this new portion of our website. The Career Center can be accessed at <http://careers.sceaonline.org>.

As we make additional progress implementing improvements over the coming months, you should notice other changes meant to enhance your membership experience within the SCEA community. These improvements will include social networking and Wikipedia-like capabilities. The intent of these capabilities is to help SCEA more readily reach an ever broadening and diversifying cost community, and to provide our membership with information that can be more easily used on a daily basis.

## **Certification Update**

Finally, I am happy to announce that a solution to the debate over the work experience requirement for the CCE/A exam has been reached. Thanks to the hard work of the Certification Committee, facilitated by **Kate Hiebert**, a two-tier CCE/A program will be implemented in 2009. After the long debate, the SCEA Board was able to unanimously approve this solution, which will benefit all current and potential CCE/A holders. For more information about this change to the CCE/A program, be sure to read the certification article from Kate Hiebert and **Peter Andrejev** in this issue.

We have made great progress in recent years in operations, certification and responsiveness. It is my belief that, in the coming years, SCEA and its members will have a unique opportunity to be leaders within an active, vital and expanding cost community.

# Letter from the Editor

By Vicki Kitchens, National Estimator Editor



**I**t was a day that started out like any other, but ended more tragically than any day before or since. I am writing this letter to you on the seventh anniversary of 9-11 — a day that changed all of us and will forever be remembered for the overwhelming loss and impact to our great nation. I remember where I was, as I am sure all of you do. I had just dropped my two children off at their schools when the news came over the car radio. In those first moments, it was hard for me to comprehend just what was happening. After the second plane attacked the World Trade Center and then the Pentagon, it was all I could do to keep from driving back to my children's schools to make sure they were safe. I was hesitant about driving into Huntsville, Alabama, near Redstone Arsenal because at that moment I did not know the scope of the attacks and who else might be targeted, but being a diligent support contractor to the Department of Defense, I continued on my journey. Although I did not personally know anyone affected by this event, I am sure there are some reading this letter who felt a personal impact. To those of you, may I express my deepest respect for the loss that your family and/or friends sustained. It is my hope and prayer that the spirit of the American people demonstrated in the days that followed that tragic event will continue to bring our country together for a common fight against those that would do us harm because of who we are and what we stand for. May we never forget that day.

I trust that you will find this issue of the *National Estimator* packed with useful information. Included are numerous articles about our recent and highly successful annual conference. In case you were not able to attend the conference or missed the opportunity to sit in on a particular track, please read **Erin Whittaker's** article on the Best Paper Awards. Her article provides a great summary of the Best Papers in each track. Each Best Paper can be viewed at the SCEA website, [www.sceaonline.org](http://www.sceaonline.org), by following "Products">"Awards">"Best Paper." Congratulations to all of our winners and hearty "thank you" for all of your submissions.

This issue also features two content articles. "U.S. Aerospace Industry Cost Risk Analysis Survey," by **Hollis Black**, is an article based off of Hollis's presentation given at this year's Conference. Also in this issue, you will find the article "Risk, Uncertainty and Trouble: Escaping the RUT of Program Instability," by **Brian Shimel**.

SCEA is once again one of the sponsors of the Annual Integrated Program Management Conference and Training Seminars. This year's event will be held November 17–19 at the Hilton Alexandria Mark Center in Alexandria, Virginia. Information about the conference is included in this issue. You can register at the SCEA homepage.

We have already started the planning for our 2009 National Conference, and I encourage you to start thinking about a paper that you would like to present. More information is provided in the Call for Papers in this issue! Further details on this event can be found at the SCEA website, [www.sceaonline.org](http://www.sceaonline.org).

Remember, this publication is a team effort and we depend on your contributions. Thank you to those who provided submissions for this issue. If you have suggestions for feature articles or recommendations for future issues, please feel free to contact me. I trust that you will continue to support and enjoy this publication. Last but not least, do not forget to **VOTE** on November 4<sup>th</sup>!

> > > > **OUR PEOPLE  
YOUR POTENTIAL**

> > > **SCEA is pleased to introduce the Cost Estimating Career Center - the only online job board built exclusively to meet the needs of the cost estimating and analysis profession.**

- > **FREE Resume Posting**
- > **Affordable Job Posting**
- > **Featured Jobs**
- > **Job Agents**

**SCEA**

<http://careers.sceaonline.org>



# SCEA CERTIFICATION Director's Corner

*By Peter Andrejev, Director of Certification*

**SCEA** was founded in 1990 with four major long-term objectives: unify the entire cost community; work towards a common understanding of cost estimating techniques and methods; set standards and promote cost estimating and analysis within the federal government and private industry; and uphold the ethical standards of conduct throughout the profession. While successful in achieving these goals throughout the past two decades, today SCEA has embarked on a major transformation in the realm of certification. This transformation is intended to dramatically enhance the cost profession by establishing clearly-defined competency standards that government and private industry alike can recognize as meaningful measures against which practitioners can be tested and ultimately certified for achieving professional proficiency.

Senior leaders in business and government have long recognized that accurate cost estimates are invaluable in informing decisions that impact both top-line resource allocations and bottom line performance or profitability. Significantly, Congress recently directed that qualified cost estimators be thoroughly integrated into the acquisition process for defense programs; whereas business shareholders have always demanded transparency and accuracy in major capital investment options. Clients and employers alike are seeking some form of assurance that the cost estimator has the appropriate knowledge and skills needed to generate quality cost estimates efficiently. In addition, individuals inside the cost community are seeking to improve and distinguish themselves among their peers by demonstrating their cost analysis capabilities.

For many years SCEA has vetted and certified its qualified members as a Certified Cost Estimator/Analyst (CCEA) through a program that loosely aligns training materials and minimal experience requirements with a testing filter. With increasing demand for the estimator to do and be more, however, the standards necessary to certify the estimator/analyst's abilities must change. A career in cost analysis now requires the practitioner to have a working knowledge of contracts, program management, statistics, and financial management, in addition to insight and understanding of the underlying systems and technologies he or she is estimating. While the CCEA moniker will

remain as the designation of a master practitioner, the proficiency requirements of the certification program must change to reflect these new realities in the cost analysis profession.

As we began developing the new certification program, criticism arose from within the cost community that merely raising the test standards alone was not the right solution. The end objective, all agreed, is for the practitioner to attain a minimum level of proficiency through training and real-world experience, and to demonstrate retention of said competency through a recognizable testing standard. With this as our goal, we are working very hard to create a program that reinforces attainment of enduring knowledge and skills, rather than prompting mastery of short-term test-taking skills. I pledge to provide you with a clearly defined certification program that includes reengineered examination requirements aligned with, and supported by new, comprehensive training programs and materials, redefined experience and eligibility requirements, greater examination visibility and practice samples, and a chance to attain professional recognition at multiple levels over one's career in the cost field.

The next several pages detail the specifics of the SCEA Certification Program. I hope that you appreciate and recognize the hard work innumerable individuals contributed in creating a program that aims to train, attain, and sustain the high levels of excellence for its members in this day and age when certification matters so much.



# Certification Congratulations

**The SCEA Certification exam was administered to 88 applicants between April 2008 and the end of July 2008. Of those 88 candidates, 45 passed! Congratulations to all for your hard work earning this important professional distinction in the field as a Certified Cost Estimator/Analyst!**

Rajeev Agrawal  
Brian Alford  
Christopher Bowman  
Kimberley Brantley  
Donald Brown  
Janice Burke  
Michael Burke  
Ian Cappitelli  
Craig Chalmers  
Jonathan Clausen  
Zelphia Cobb  
James Condrey  
Michael de la Guardia  
Aileen Donohue  
Kishan Dudkikar  
Christopher Edwards  
Mark Gornall  
Paul Grim  
Eric Hawkes  
Jeffrey Haycraft  
Ken Hendershot  
Richard Hoffacker  
Christopher Jarvis  
Jonathan Joo  
Bill King  
Walter Kuo

William Labbe  
Travis Logsdon  
Jerry Long  
Marian Mahoney  
Mary Margaret Mertz  
Eric Mosier  
Michael Nelsen  
Eric Peters  
Ann Repczynski  
Maria Sandu  
Kirk Schneider  
Joanna Scott  
Krista Stroh  
Charles Tapp  
Aaron Thomas  
Suleman Timol  
Dalton Wilkins  
Linda Williams  
Fan Yang

**We would also like to recognize the 30 individuals who sustained their certification this year. Those individuals who were recertified through the end of July are as follows:**

Henry Apgar  
John Bielecki  
Kurt Brunner  
Mark Button  
Kellie Cenzano  
Cynthia Cook  
Gerald Corwin  
Matthew Fraider  
Theresa Giordanella  
David Graham

James Hamilton  
Ross Jackson  
David Krueger  
Grant Lawless  
Alan Markell  
Kevin McKeel  
Gary Moore  
Nichols Morales  
Joseph Parisi  
Diana Pry  
David Rossmeisl  
Daniel Schluckebier  
Robert Schwartz  
Richard Shea  
James Strachan  
John Sullivan  
Scott Vickers  
Ian Walker  
Janet Wentworth  
Obaid Younossi

**Finally, the National Office would also like to acknowledge those who proctored the Certification Exam thus far in 2008. The cooperative effort and dedication of these individuals in administering the exam across the United States, United Kingdom, and Australia enable cost practitioners to earn a professional credential distinguishing them in the field of cost estimating and analysis. The proctors who served**

**the Society in this vital capacity were as follows:**

Tim Andersen  
Rick Battle  
Sam Cooke  
Ben Costley  
Chris Dalton  
Clyne Grant  
Donna Gravely  
Gary Hill  
Ken Kennedy  
Justin Knowles  
Tim Lawrence  
Chad Lucas  
Bill Lueker  
Tina McMillian  
Weland Mehar  
Sonny Nguyen  
Erik Rasmussen  
Timothy Salvage  
Rick Schwikert  
Ann Sylvester  
Blaine Webber  
Alex Wekluk  
Thomas Williams

**Those who earn their CCE/A during the fall exam cycle, who proctor the exams, or who recertify between August 1 and December 31, 2008 will be recognized in the Spring 2009 issue of *The National Estimator*.**

# SCEA CERTIFICATION PROGRAM

Because the career field requires top-notch cost estimators and analysts, the SCEA Board of Directors agreed for the need to develop a more robust certification program, one that vets the applicants and clearly assures individuals and employers alike that the certified individual has mastered the knowledge, skills, and judgment to provide capable cost estimating and analysis on any given major program or system.

The role of certification also supports a variety of Society goals and objectives, including:

- Promoting and enhancing the profession of cost estimating and analysis
- Fostering the professional growth of its members
- Promoting a Common Body of Knowledge as a standard for individual excellence
- Rewarding achievement through an appropriate program of recognition and certification
- Developing and maintaining high standards of proficiency and performance
- Establishing common standards in the terminology, conduct, and application of cost estimating and analysis

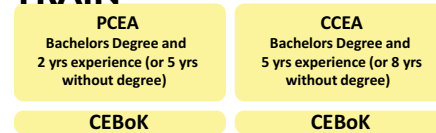
The certification program has been designed to offer members and non-members an opportunity to demonstrate their capabilities at various levels. Because cost estimating and analysis is a profession that combines understanding math and statistics with the principles of engineering, program management, procurement, budgeting and accounting, the mastery of cost estimating and analysis requires a solid foundation of cost knowledge woven together with a variety of cost experiences. Figure 1 depicts the newly approved SCEA certification program, which comprises a two-tier general certification program, a retention program to assure currency in the profession, and an optional specialty certification program to designate mastery of specified topics or market application. The program changes include:

1. Two designation levels plus specialization in a variety of disciplines
2. Increased timeline to attain the CCEA
3. Better defined knowledge requirements found in the Testable Topics List
4. Better training tools and materials (CEBoK)
5. More rigorous and longer examination and exam process
6. Grandfathering of all current CCEA-holders

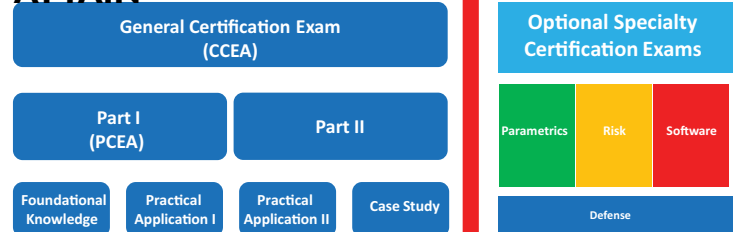
## Training

Training is the most critical component of the cost career field. Without thorough training at all levels, it would be difficult to understand the breadth and depth of knowledge and skills required to generate quality cost estimates and nearly impossible to keep up with the continual updates in the profession. In recent years, SCEA had endorsed the creation of CostPROF, which is an excellent cost training guide. However, with the expansive changes to the cost certification program and an increased need for better training materials to prepare for the CCEA, CEBoK is now being developed to provide a comprehensive and authoritative reference tool for cost

## TRAIN



## ATTAIN



## SUSTAIN



Figure 1. SCEA Certification Program.

By Kate  
Hiebert,  
SCEA  
Certification  
Transition  
Team  
Leader



DESIGNATION/ CREDENTIAL	EDUCATIONAL REQUIREMENT	EXPERIENCE REQUIREMENT	EDUCATIONAL EXCEPTION
PCEA	Bachelor's Degree in any field from an accredited college	Two years of cost experience	Five years of cost experience in lieu of a Bachelor's Degree
CCEA	Bachelor's Degree in any field from an accredited college	Five years of cost experience	Eight years of cost experience in lieu of a Bachelor's Degree

**Figure 2. Eligibility Requirements.**

estimators. The foundations of CEBok and the initial development of the improved CCEA examination share common ground in covering the same Testable Topics List derived from the SCEA Body of Knowledge. Therefore, utilizing CEBok to its fullest potential will enable cost estimators to best understand the foundational knowledge and practical applications of cost and, when combined with actual cost experience, will best enable an individual to pass both the Professional Cost Estimator/Analyst (PCEA) and the Certified Cost Estimator/Analyst (CCEA) exams.

## Attain PCEA and CCEA

The master certification examination has two parts. The first part tests proficiency in the basic foundational knowledge of cost estimating and analysis and also tests the ability to perform basic cost applications. Successfully passing this part of the exam authorizes a cost estimator to carry the credential PCEA (Professional Cost Estimator/Analyst). Part two of the exam validates that the individual has mastered more complex cost applications and analyses and is able to evaluate and judge the quality of an estimate in context. Because the two parts measure different areas of cognitive knowledge and levels of experience, they each have different eligibility requirements. However, the CEBok, which has been fully endorsed by SCEA, provides a comprehensive training program to prepare cost estimators for both parts of the exam.

### Professional Cost Estimator/Analyst (PCEA)

The PCEA certification exam may be taken after meeting the eligibility criteria (see Figure 2) and scheduling an exam (information on SCEA website soon). The intent of this designation is to offer junior cost estimators a chance to validate their knowledge and demonstrate progression towards a CCEA.

### Certified Cost Estimator/Analyst (CCEA)

The CCEA certification exam may be taken after meeting the eligibility criteria (see eligibility requirements) and scheduling an exam (information to be published soon on SCEA website). The intent of this credential is

to assure the individual and the employer that the certificate holder has attained master proficiency in the cost profession. It is not required that an individual possess the PCEA before achieving the CCEA, but those who do possess the PCEA need only complete Part II of the exam to attain CCEA status.

## Specialty Certifications

Specialty certifications include a variety of assessments that examine an increased depth or breadth of knowledge found in the SCEA Body of Knowledge. The specifications of each specialty certification will be published in its own handbook or reference guide.

## Eligibility Requirements

To qualify for one of the designations/credentials described in Figure 2, an individual must meet the educational and experience requirements. Applicants will be required to provide supporting documentation for their eligibility consistent with current validation requirements.

It is important to note that those applying for the PCEA for the first time will have a one-time opportunity to take the entire exam (Part I and Part II). If they successfully pass both parts, they will be awarded the PCEA immediately, and, upon reaching five years of cost experience, will automatically receive their CCEA. If they fail Part II, they must wait until they have reached five years of experience before attempting Part II again. Furthermore, those who possess the PCEA and have five years of experience need only to take Part II of the exam to attain the CCEA. In addition, any individual with five years or more of cost experience can take the entire exam (Part I and Part II) without ever achieving the PCEA.

## Sustain

Once the CCEA is attained, the individual can retain the designation through the accumulation of recertification points that measure the individual's active participation and continued work experience in the cost profession, contributions and service to the Society, and attainment and sharing of knowledge with the rest of the cost community. The recertification program, too, has been revamped and members should see the rules and guidelines governing recertification on the SCEA website within the next couple of months.



# SCEA & ISPA Joint Office Operations

*By Elmer Clegg, SCEA Executive Director*

**The** year 2008 is proving to be another year of steady progress for both SCEA and our Joint Business Office. Here are some highlights since our last issue of the National Estimator.

## Cost Estimating Career Center

In May, we introduced our new Career Center at <http://careers.sceaonline.org>. Intended as a meeting place for everyone in the Cost Community — both professionals and employers — the features of the Career Center are not restricted to SCEA members. For individuals, it's a place to survey professional job openings and to post your resumes while protecting your privacy to the degree you choose. Already, there are over 50 resumes online. For employers, it's a tool to assist in recruiting by placing employment opportunities and evaluating posted resumes. If you haven't visited the site yet, you'll find that the number of job opportunities posted is double what we experienced under our old system. And we're in discussion with more companies every week.

## Conference Planning and Support

This issue contains loads of pictures and **Erin Whitaker's** summary article on the June 2008 Annual Conference in Southern California. Pacific Palms proved to be a unique resort experience, and the week was highlighted by topnotch papers, keynote speakers, in-depth training, networking opportunities, and some relaxing free time activities. We were pleased with your response to the event. Planning a conference in a self-contained resort location requires more attention to off-hour activities. It's a different experience than a meeting at a downtown hotel, and there are benefits to each. We'll try to vary the venues for you in years to come. Our first attempt at an on-line conference evaluation proved very worthwhile, both in the

number of responses received and in the value of the feedback. Thanks to **Bill Haseltine** for his leadership and energy invested to make the 2008 Annual Conference a great success. Thanks also to **Mike Thompson** and **Peter Braxton** and their teams of track chairs and presenters for the professional papers and training workshops. A special thanks to Erin and to **Linda Apodaca** for their conference preparation and for their 24-hour days during the week.

Check out the ad in this issue for the 20<sup>th</sup> Annual IPM Conference scheduled for November 17 – 19 in Alexandria, VA. The Integrated Program Management Conference, sponsored by SCEA, PMI-CPM, and NDIA, is the premier training event on earned value management topics and features a cost integration track chaired by SCEA Board Member **David Graham** of AFCAA.

Planning for the 2009 ISPA/SCEA Annual Conference and Training Workshop is well underway with **Mel Etheridge** of MCR and **Mary Sue Collins** of Wyle as Conference Co-Chairs. We'll be meeting and staying at the highly rated Renaissance Grand Hotel in downtown St. Louis — and this isn't your grandpa's St. Louis any more! The Renaissance Grand is situated on revitalized Washington Avenue in the midst of a burgeoning development of condominiums and a new conference center along with a host of inviting restaurants, shops, and wine bars. Getting around the city and to and from the airport is a breeze using the Metro system. A Metro stop is two blocks from the hotel, so a rental car is not a necessity.

In your free time, St. Louis offers a number of unique diversions, many within walking distance of the hotel. Stroll Riverfront Park and take the elevator to the top of Gateway Arch for memorable views of the Mississippi. Visit the Anheuser-Busch brew house and museum, complete with Clydesdales. Cruise the mighty Mississippi on an authentic paddle wheeler. Sample

the nightlife and riverfront casinos at restored LaCledé's Landing or enjoy jazz and some Scott Joplin rag at the clubs in historic Soulard. If your interest leans to culture, visit the Art Museum, Zoo, Science Center, or Botanical Garden. For history, follow the footsteps of Lewis and Clark or tour the Cahokia Indian Mounds. For railroad and architecture buffs, a visit to restored Union Station and Museum will be unforgettable. You baseball fans are in for a treat. Visit Busch Stadium, site of the 2009 MLB All Star game, with its new stadium village and shops, and take in a night game when the Cardinals host the Cincinnati Reds during our conference week. For a great program and great fun, join us in St. Louis in June!

### **Journal of Cost Analysis and Parametrics**

The inaugural issue of our new technical journal was published in May 2008. **JCAP** is a collaborative effort between SCEA and ISPA with impetus for the publication provided by the ISPA / SCEA Jointness Committee chaired by **Neil Albert**, former SCEA President. Co-Editors of JCAP are **Tony White** of AFIT and **Steve Book** of MCR. Two issues per year are planned to include four or five technical/research papers and usually a lead management article.

**JCAP** is a professional publication by and for the cost community. The Jointness Committee is pursuing ideas for expanding visibility, distribution, and readership, but the project can only meet its objectives if members of the cost community support the *Journal* with a flow of research and technical papers. Guidelines for submitting papers and contact information for co-editors are available on the SCEA web site. Have you been involved in a research, development, or analysis project of interest to cost practitioners or cost educators? Have you presented a professional paper at a cost community conference or symposium? Why not contact one of the co-editors and discuss publishing? Your peers in the cost community will benefit from your experience and, if you hold CCEA or CPP certification, publishing is a great way to compile points toward recertification.

### **SCEA Certification**

The many members of our cost community who contributed time and effort on committees and working groups to determine the future of SCEA's Certification Program deserve our gratitude. The final program definition has received both Board approval and endorsement by our many government and industry

## **SCEA's Top 15 Employers**

1. Boeing
2. U.S. Air Force
3. Northrop Grumman
4. Booz Allen Hamilton
5. Tecolote Research
6. MCR
7. Lockheed Martin
8. U.S. Army
9. U.K. MoD
10. U.S. Navy
11. BAE Systems
12. Technomics
13. SAIC
14. L-3
15. Wyle

constituencies. Launch of the new program will occur in the first half of 2009. Read on for more from **Peter Andrejev** and **Kate Hiebert**. Congratulations and thanks to all who contributed!

### **SCEA Membership Dynamics**

At the Joint Office, we spend much of our time interacting with individual SCEA members. While we measure SCEA's size in terms of number of individual members, I thought you would be interested to see the top contributors to our membership. Our vitality is greatly facilitated by the many companies and government organizations that comprise our constituent groups.

Thanks to each of our individual members for your personal commitment and involvement in SCEA activities. And to your employers, thanks for your continued endorsement and support of SCEA and your Cost Estimating professionals.





# Training Corner

by Peter Braxton, Director of Training,  
[Peter.Braxton@ngc.com](mailto:Peter.Braxton@ngc.com)

**My** time and energy, as well as those of numerous enthusiastic volunteers, has been devoted to two main SCEA training endeavors this year: the training program at two joint conferences, and the delivery of CEBoK.

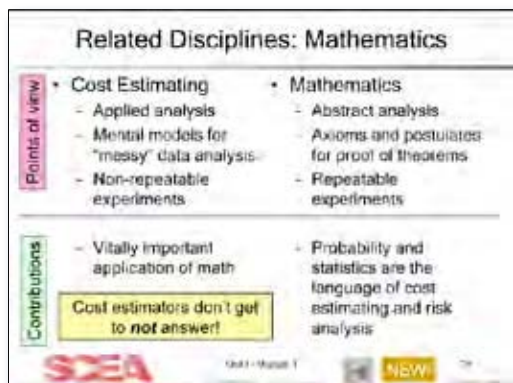
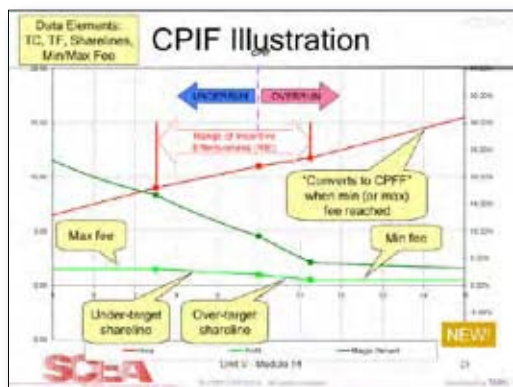
## Joint Conference Training

SCEA conference training continues to grow and thrive. In 2006 in Tysons Corner (Washington, DC), we introduced the three-track training program with a Fundamentals Track based entirely on the Cost Programmed Review of Fundamentals (CostPROF) curriculum. In 2007 in New Orleans, we incorporated Parametric Estimating Handbook (PEH) material into that track structure, resulting in the first-ever integrated joint training program with the International Society of Parametric Analysts (ISPA). This year, that integrated joint training was featured at not one but two international conferences! At the ISPA-led joint conference in Noordwijk, Netherlands, 12–15 May, **Bethia Cullis** and I taught four of the CostPROF modules at sessions attended by analysts from the nearby European Space Agency (ESA) and other conference participants. Together with last year's training for the United Kingdom (UK) Ministry of Defence (MOD), which will continue again this fall, this engagement extended SCEA's preeminence in development and delivery of cost estimating and analysis training from the United States to Europe. Thanks to ISPA's Director of Training **Doug Druley** for the invitation to participate. Then in Industry Hills (Los Angeles), 24–27 June, we presented the full integrated curriculum, including "beta-testing" a good deal of the new CEBoK material as part of the Fundamentals Track. My deepest appreciation to track chairs **Chrissy Kanick**, **Hilary Eckberg**, **Alyssa Tomky**, and **Shaun Irvin**, and to the top-notch corps of instructors: in the Fundamentals Track, Lifetime Achievement Award-winner **Dick Coleman**, **Bethia Cullis**, **Eric Druker**, **Crystal Hauser**, **Chris Leonetti**, **Sam Toas**, and **Brian Welsh**; in the Practitioner Track, **Jason Dechoretz**, **Neil Albert**, **Steve Book**, **Dan Galorath**, **Sherry Stukes**, **Hank Apgar**, **Paul Churchwell**, **Joe Dean**, and **Paul Bollinger**; and in the Integration Track, **Jerry McAfee**, **Kurt Brunner**, **Bob Currie**, **Dave Lyons**, **Rick Collins**, **Sue Robinson**, **Walt Majerowicz**, **Steve Book**, **Eric Druker**, **Chris Rush**, **Jacque Keats**, **Joe Dean**, **John Driessnack**, and **Tami Capperault**. Look for more on the conference recap elsewhere in this issue.

## CEBoK is Coming!

Building on the solid foundation of CostPROF, SCEA has been developing the next-generation professional development and performance support resource, the Cost Estimating Body of Knowledge or CEBoK, which will be available to member organizations and individuals this fall!

CEBoK features new and expanded content across the 16 topic areas currently included in CostPROF, with each subject divided into a Core Knowledge section and a Related and Advanced Topics section. It also incorporates new integrated features, in particular a glossary and bibliography, which will make it a better tool for both learning and reference. With new topics like operations and support (O&S)



Above are additional examples of new CEBoK content: one of a series of slides clearly illustrating the various contract types, their data elements, and how Fee is computed as a function of Cost; one of a series of slides discussing cost estimating and analysis in the context of related disciplines, from Mathematics to Accounting to Engineering; and one slide in a new thread on Uncertainty and Risk as essential components of cost.

cost estimating and Monte Carlo simulation; greatly enhanced topics like manufacturing cost estimating and contract pricing; and improved “threads” like uncertainty and risk, and functional forms used in estimating, CEBok is a must-have for every estimator’s desktop.

The development of CEBok is under contract from SCEA to Northrop Grumman – TASC, the original developers of CostPROF, and would not be possible without the tireless work of lead authors **Bethia Cullis, Eric Druker, Crystal Hauser, Chris Leonetti, Alex Wekluk,**

**Laura Friese, Gabe Rutledge, Allison Converse, Cynthia Uyhelyi, and Jen Rose,** and senior reviewer **Dick Coleman. Rick Collins** and his team from Technomics have painstakingly reviewed each module, and other key participants in the review committee include **Robyn Kane** and **Chris Dalton** from MITRE, **Jay Jordan** from Air Force Cost Analysis Agency (AFCAA), and SCEA Director of Certification **Peter Andrejev. Jason Dechoretz** serves as the ISPA representative.

Look for more information soon via email and on the SCEA website on ordering CEBok!

# REGISTER NOW FOR ...

# IPM 2008

20<sup>th</sup> Annual International  
Integrated Program Management Conference  
November 17–19, 2008  
Hilton Alexandria Mark Center, Alexandria, VA  
Call 703.845.1010 and ask for “IPM Conference rate”

*The premier conference on Earned Value Management*

## *Delivering A New “Steady-State”: Portfolios, Programs and Projects*

- Learn from...**
- Professional Education Training Seminars
  - Special Guest Speakers
  - Tools Tracks
  - Topical Workshops
  - Practice Symposia

- Socialize and network at...**
- Newcomers Orientation
  - Speakers-only Reception
  - All-attendee Reception

**For program information...**

Gaile Argiro  
ExecAdmin@pmi-cpm.org  
703.370.7885  
fax 703.370.1757  
www.pmi-cpm.org

Co-sponsored by...





## **Cost Risk Management is a current hot topic in the**

**Aerospace industry.** Aerospace program cost overruns and schedule slides have created considerable angst, funding issues, and negative headlines. Accordingly, DoD and NASA increasingly emphasize the importance of cost risk management and “cost realism” (i.e., “data-driven” estimates). In addition, professional cost associations such as SCEA and ISPA emphasize risk management and dedicate full tracks on this critical subject at annual conferences.

Mr. Richard Hartley (deputy assistant secretary to the Air Force, Cost and Economics) emphasized the importance of cost realism, credibility, and control in his plenary address to ISPA, Amsterdam, May, 2008. Congress is more demanding that contract costs be controlled, as seen in the 2007 McCurdy bill which lowered re-certification thresholds to ~20% overruns.

Risk identification, analysis, and control are essential to program health. The object of cost risk analysis is to avoid cost surprises by proactively eliminating problems early in a program’s life. Programs need better historical data, more independence from program bias, and realistic technical baselines. Thus, cost analysts need greater skill in estimating costs and assessing likelihood of overruns.

## **Aerospace Industry Cost Risk Survey**

To assess the current state of cost risk analysis, the author developed and sent a survey (22 questions) to 2400 SCEA and SSCAG members in early 2008. This research project depicts how the U.S. Aerospace Industry (Government and contractor) develops and uses cost risk analysis to aid business decisions.

Survey responses (105) were received from 32 parent organizations, including 5 U.S. Government agencies, 12 major corporations, 13 support contractors, and 2 European agencies (MoD, ESA). See Figure 1 and 2.

## **Survey Quantifies Industry Maturity & Trends**

The survey finds three key concerns among cost risk managers and analysts:

- Cost risk analysis seen as “difficult” to do well
- Lack of historical data
- Weak functional and management support

Tabulated results offer a “maturity metric” of prevailing practices, and depict several positive trends versus the first survey (1998).

- Historical actuals are used twice as often to estimate cost confidence (40% vs. 20% in 1998)
- Finance Estimating is increasingly responsible for cost risk analysis and has a better grasp of data-driven risk methods
- Cost risk analysis is seen as less specialized and therefore more part of standard processes
- Training has been dramatically improved. Professional organizations (SCEA, ISPA, SSCAG) and tool builders (Crystal Ball, @RISK, ACE-IT, SEER, PRICE) offer excellent training in techniques and tools to quantify and manage cost risk

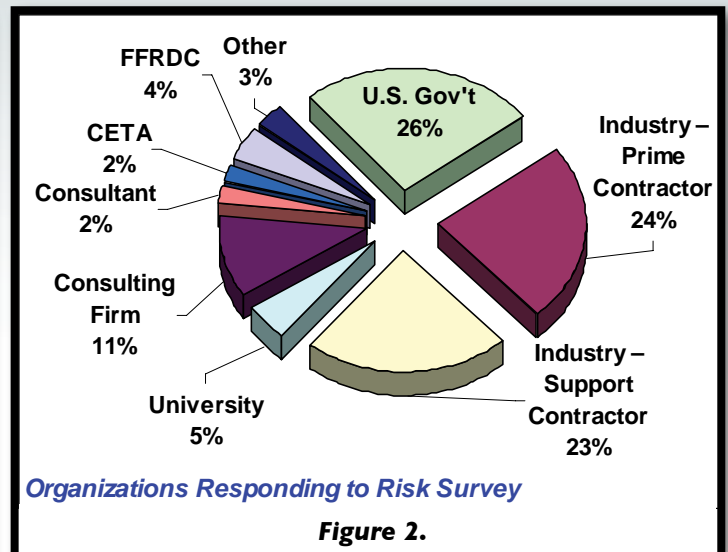
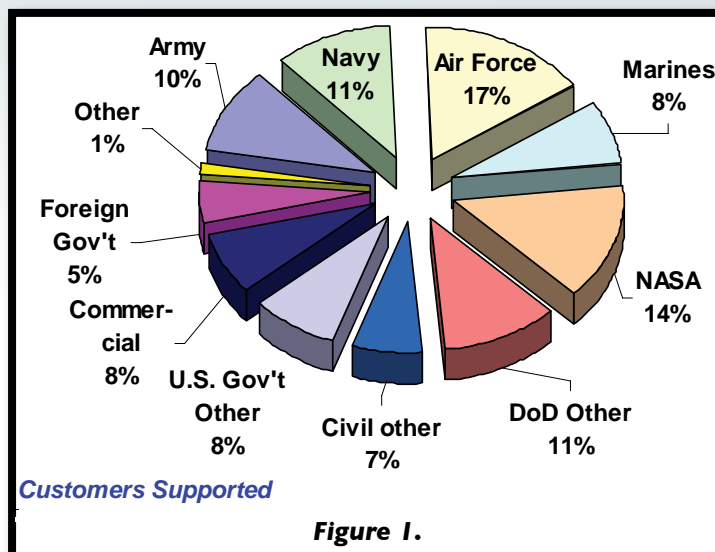
## **Key Findings**

The 2008 survey contains four times as much information as the 1998 survey, with twelve new questions, greater depth, and 60% more responses. Following are major findings from the survey. Percent (%) responses



# United States AEROSPACE INDUSTRY Cost Risk Analysis Survey

By Hollis M. Black  
The Boeing Company



are in parentheses.

Multi-voting often adds to more than 100%. Item numbers, below, differ from the survey question sequence.

1. Key benefits to business decisions: SCEA and SSCAG senior analysts identified 6 key benefits of cost risk assessment. The survey prioritized these ... (a) Probability of achieving performance within cost (81%), (b) Manage, prioritize, and mitigate program risks (68%), (c) Meet customer requirement (50%), (d) Evaluate sufficiency of EAC mgmt reserve (48%), (e) Basis of business decision regarding bid/no-bid, make/buy, relocation, or teaming (47%), (f) design cost trade (40%).
2. When: The top two situations for cost risk analysis: (a) Independent Cost Estimates (51%); and (b) proposals (DDT&E 49%, production 34%, O&S 24%). There is no consensus regarding dollar thresholds, which widely differ (see Figure 3).
3. Why: Top 3 motivations to assess cost risk: Project size (27%), technical/schedule risk (35%), and customer direction (32%)

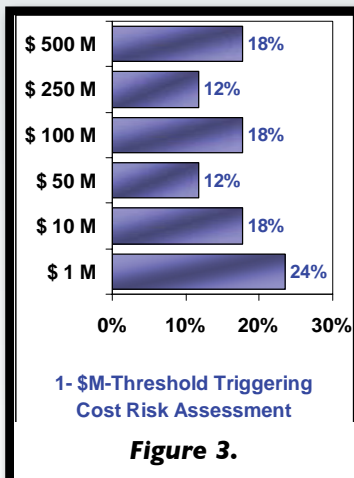


Figure 3.

4. Data-driven basis: Cost uncertainty is based on historical actuals (40% now vs. 20% in 1998), vs. judgmental low-high approaches (60%).
5. Affordability (cost reduction) initiatives are quantified and considered in cost risk assessments (47%)
6. Costs to mitigate risk and costs to absorb

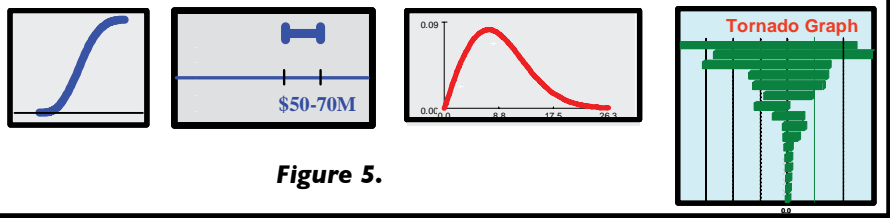


Figure 5.

risk are quantified in risk assessments (46% and 36%, respectively)

7. Acceptable cost confidence: Two thirds of organizations desire >70% cost confidence. Mean average of all responses = 67%. See Figure 4.
8. Customized tools (Crystal Ball, @RISK, Excel) handle 60% of cost risk analyses, versus commercial models (ACE-IT, SEER, PRICE, FRISK) which handle 25%
9. Focal point: Finance Estimating is increasingly the responsible focal point (>53% vs. 35% in the 1998 survey)
10. Graphic display: The cum-S curve continues to be the most popular visual aid to display cost risk (48%), followed by low-high range (21%), mean and standard deviation (11%), probability density function PDF (7%), and tornado graphic (5%). See Figure 5.
11. Data fit: The triangular distribution is the most popular data fit (54%), followed by log-normal (26%), Beta (6%), and Weibull (2%)
12. Risk Management Maturity: Only one fourth of organizations claim to operate at the highest levels (4-5) of risk management maturity, where cost risk analysis is integrated into program risk management, tracked, and evident in proposals & EVMS. Unfortunately, 22% of the organizations only sometimes assess cost risks (level 1), and another 23% occasionally provide low-high risk ranges (level 2).

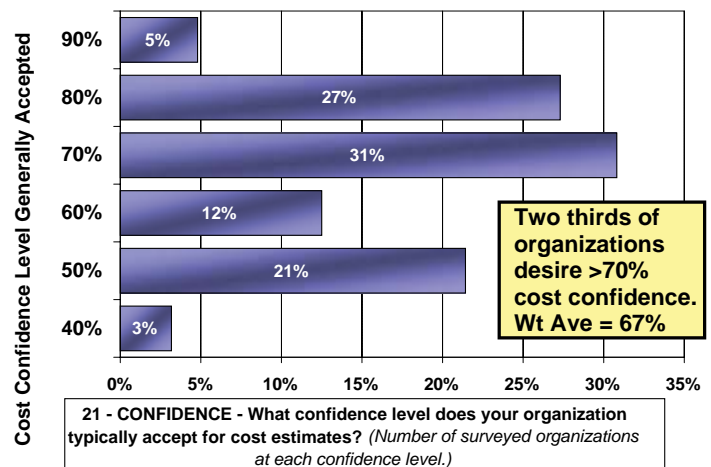
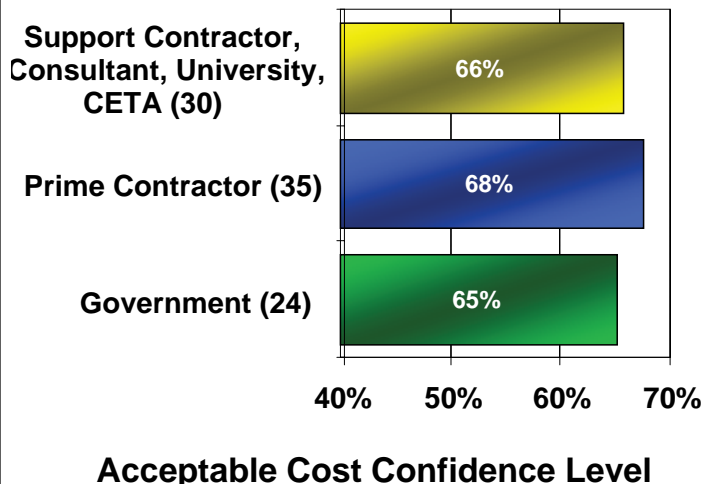


Figure 4.

13. Cost risk Mitigation Strategies addresses one of the most important survey questions. Both proactive and stand-off strategies can be effective, depending on the circumstances. On average, survey respondents indicate that proactive and “stand-off” solutions are pursued 75% and 25% of the time, respectively. See Figure 6.

14. Complaints: The most common complaints about cost risk analysis: “Difficult to do well ... easy to do poorly;” “Difficult without training and experience;” and “Not technically difficult, but hard to explain.”

15. Major obstacles: Sparse historical data (75%), weak functional support (61%), overly optimistic targets (53%), management skepticism (48%), lack of experience (50%), presentations lack power to convince (32%)

16. Specialized? Cost risk analysis is seen as somewhat or highly specialized (86%), only slightly better than ten years ago in 1998

17. Training is more available now (87%) than in 1998 (62%). Key sources include Crystal Ball, @RISK, ACEIT, SCEA, and ISPA. Key references included the Air Force and NASA Cost Risk Handbook, textbooks, and Dr. Stephen Book’s papers.

## In Summary

On the whole, steady progress has been made since 1998, due to initiatives by government agencies, contractors, and tool providers. Training has been dramatically improved. Professional organizations (SCEA, ISPA, SSCAG) and tool builders (Crystal Ball, @RISK, ACE-IT, SEER, PRICE) offer excellent training in techniques and tools to quantify and manage cost risk. Data-driven estimating is more frequently applied. In summary, cost risk analysis is more broadly applied by both government and industry management.

## More Information

The full research paper (25 pages) and PowerPoint presentation (45 charts) are available on SCEA’s web-site [www.sceaonline.org/documentation/doc.cfm](http://www.sceaonline.org/documentation/doc.cfm) or directly from Hollis Black at [hollis.m.black@boeing.com](mailto:hollis.m.black@boeing.com).

## Next steps for the Aerospace Industry

After this author’s paper presentation in Amsterdam, Mr. Richard Hartley (deputy assistant secretary to the Air Force, Cost and Economics) asked “What is most broken in the current system, and how would you fix it?” The author’s response: “First, I recommend the

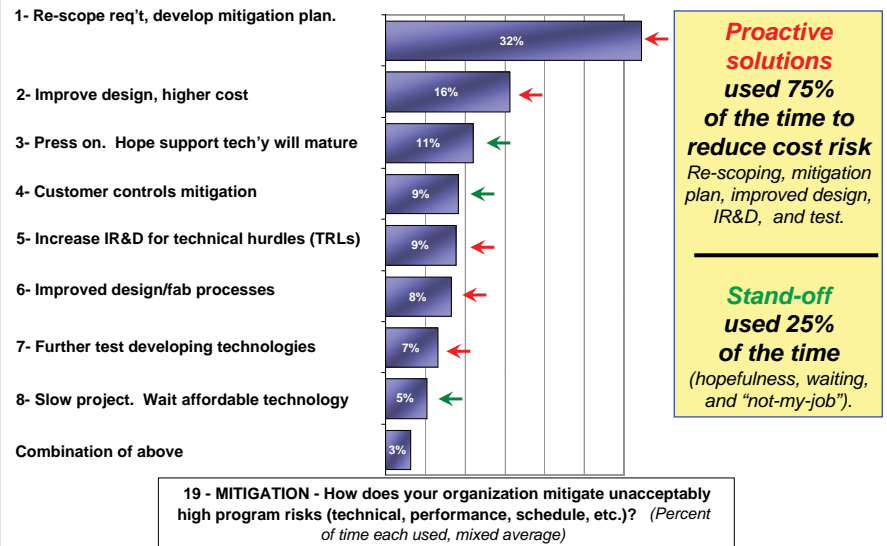


Figure 6.

Government be more proactive in requesting cost risk analysis in the RFP. Second, older, more experienced risk analysts need to mentor the younger estimators in specific project applications. Third, tools and training need to be expanded and made more practical through such associations as ISPA and SCEA.”

## About the Author

**Hollis M. Black** has been with the Boeing Company for 27 years, with experience in business operations, finance management, division planning, and cost estimating. In recent years, he has led estimating teams and has been responsible for large competitive cost proposals. He has developed estimating tools, prepared parametric estimates, assessed cost risk, and estimated cost trends for new technologies and processes. He has had the opportunity to cost estimate a wide variety of programs: manned space, launch vehicles, missiles, defensive systems, and satellites.

Hollis was recently selected to receive Boeing’s “Estimating Best Practice Champion” award, recognizing career efforts in advancing the estimating profession. He recently implemented a data-driven cross-training series across Boeing, with 300 participants, using an on-line virtual classroom.

He provides subject-matter-expert (SME) advice to colleagues across Boeing Defense Systems, with emphasis on risk management, software estimating, and cost-trends. Outside Boeing, he has presented papers on these subjects since 1990 (e.g., ISPA–SCEA Amsterdam 2008, SCEA New Orleans 2007 and Denver 2005, ISPA–SCEA Italy 2004, SSCAG, and AIAA). He currently serves on an industry forum (Aerospace Industries Association) to request cost risk analysis within contractor proposals.

He earned an MBA from the University of Texas in 1967 with an emphasis in management science. He holds CMA (NAA/IMA) and CCEA (SCEA) certifications, and is a former President of the Huntsville SCEA Chapter.



Escaping the

Risk, Uncertainty and Trouble:

# RUT

of Program Instability



*Brian Shimel,  
Col, USAF,  
CDFM  
Director,  
Financial  
Management,  
ESC*

## When

we say we are stuck in a rut, we imply our often repeated actions are forced on

us by things outside our control. As if to say, we are not really as crazy as we look. But if we build our own rut and then act as if we have no choice, what is that?

When we talk about things that will happen in the future we must remember these things have not yet happened. Because they have not happened, we must allow for the possibility they may happen differently than we expect, at different times than we expect, or not at all.

We cannot relieve ourselves of the need to plan for the future just because the future is uncertain. For our plans to be reasonably accurate and reliable, it is prudent we base them on rational analysis, and not on wishful thinking. Unfortunately, we do not always think clearly about the future. Often our assumptions are clouded by lapses of judgment, eternal optimism or dark pessimism, and trepidation about admitting risk and uncertainty to those around us. In many instances

we shy away from accepting the full impact of risk and uncertainty on future conditions because we become overly concerned our ideas will be rejected unless we can guarantee successful results.

When we talk about the future, risk is the term used to discuss a possible negative outcome of an unfavorable event or action, while uncertainty refers to the unknown variation around a prediction of a future state. Potential risk causes us to set aside resource reserves to help overcome possible setbacks. Uncertainty causes us to make assumptions about what may happen, and estimate how valid our assumptions will prove to be. Risk and uncertainty are not what gets us into trouble. We get into trouble when we ignore, or unwisely discount, risk and uncertainty! I call this Risk, Uncertainty and Trouble; and it is a RUT of our own making.

### Making Assumptions

The AF is recapitalizing its fleet. To fund this investment, it is looking for efficiency and taking reductions across all areas of operations. It is vitally important we understand how our modernization money is being spent so we

*“However beautiful the strategy, you should occasionally look at the results.”*  
— Winston Churchill

can get the best possible results from our investment and minimize the impact to the rest of the AF.

Financial instability is a problem. Budgets are tight, the pace of operations is high, and short notice changes pop up against a list of requirements. Leaders in acquisition are trying to insulate programs from financial instability. To avoid overruns, they have asked for the extra funding to reach a higher confidence level that major acquisition programs will come in on cost and schedule. Many have moved from funding at the traditional 50% confidence level estimate to an 80% confidence level, to provide better budget stability and avoid costly program failures.

The biggest problem we have in establishing a baseline and predicting the cost of a weapon system to develop and deliver it to the war fighter, is that we know too little about it and the difficulties we are going to face getting it into the field. While it may be human nature to excessively worry about things we do not well understand, another common reaction is to discount the impact of uncertain challenges.

Even with the well documented loss of organic cost analysts, we still often perform reasonable, initial analyses of risk and uncertainty. The RUT of program instability is caused more by our resistance to fully communicate risk and uncertainty to decision makers than it is from our lack of ability to capture it. As information is entered into our approval and decision-making system and rises through the corporate process, the underlying risk and uncertainty is often watered down in a series of negotiations forced by severe budget, time and resource competition. We fear risk or uncertainty will weaken our chance to gain funding or approval for our proposed course of action, and we back away from clearly expressing measures of risk and uncertainty that are subjective by their very nature.

Like it or not, the system drives us towards a point estimate, and when a budget is laid in against it, all future programmatic success or failure is measured against what is only a reasoned compromise. Time and time again, that is what gets us into trouble.

One reason we shy away from fully explaining risk and uncertainty is that it is perceived as bad news. We often discount that it even exists, or what its impact might be. Failing to embrace the true condition of any situation leads to a cycle of mistaken assumptions and improper priorities that can sabotage a manager's chance of addressing the real issues, and the chain of command's chance to provide meaningful support early enough to make a difference.

Assumptions must be correlated with evidence in order to build a realistic baseline. If we are to avoid the RUT of program instability, we must accurately describe the uncertainty and risk a program faces and address it. That is how we will gain the smooth traction

of high confidence acquisition programs.

For example, if we develop a plan to solve a technical problem and give ourselves a reasonable time to accomplish the task, we tend to discount the risk involved in actually solving the problem. As schedule risk and technical risk are highly correlated, this tendency leads us to assume away a significant portion of the risk by planning a development timetable that appears reasonable to us, but in many cases is not when seen in the context of what must be accomplished and the environment. So, we end up underestimating that portion of the risk. Next, we estimate the 80% confidence interval of a fraction of the risk—the risks associated only with the estimating equations — and declare we have 80% confidence in the development estimate. When we minimize the risk and uncertainty of our program to the approving officials in our chain of command, they make biased decisions based on “optimistic assumptions,” our current euphemism for poor judgment.

## Getting in Trouble

Because of the amount of risk and uncertainty inherent in a weapons system development program, the amount of extra money needed to go from a 50% confidence that the program will not exceed a certain cost to a higher confidence level is often unaffordable. Figure 1 is a graph of an AF space program illustrating three different estimates made of its total cost.

The scale of Figure 1 is millions of FY02 base year (un-inflated) dollars. The contractor bid to deliver this program at a stated 50% confidence that the cost would be \$6B or less. Given the narrow range of uncertainty assumed by the contractor (left), it would only take another 3% of funding to gain 80% confidence that the program would finish at or under \$6.2B. The Program office did its own estimate and predicted that the cost of delivery would be approximately \$6.4B at 50% confidence (middle). Given the program office's assumed uncertainty, it would only take an extra 6% of funding (\$400M) to reach 80% confidence. The program then went through an independent review. The independent cost estimate predicted a cost of \$7.7B with another 10%, or \$8.5B, to reach 80% confidence (right).

Many would look at the range of costs developed for the independent review as being surprising, when compared to the earlier estimates. It is easy to imagine the program office and contractor complaining bitterly that the independent estimators did not fully understand their cost-saving initiatives and managerial skill. And it turns out the independent estimators were wrong; even their distribution was far too narrow.

In fact, when predicting the price of a commodity as simple as a carton of eggs five years into the future, there is a standard error of 15%. Since one standard error represents roughly the difference between 50 and

80% confidence, this means that in order to be 80% confident you will have enough money to pay for a dozen eggs five years from now, you will need to hold 15% more than the expected price. Now imagine how much larger the standard error is for our sophisticated, state-of-the-art weapon systems that will take more than a decade to develop and procure.

Because the example in our graph is based on real numbers, you might be curious to know that the latest cost estimate for the program exceeded \$13B before it was de-scoped. But it's not all about the cost estimate!

The cost growth in this program was the result of optimistic assumptions associated with technology levels, integration complexity, and cost. Risk and uncertainty were underestimated and the program was funded at something less than even the 50% confidence level.

So it does not mean the cost estimators should have estimated an 82% increase in costs to go from 50% confidence to 80%. Successfully bounding the upper limits of a program estimate requires programmatic control, not throwing good money after bad.

The summary purpose of this example is to illustrate nobody fully understood or communicated the cost and technical risk associated with this program. Decision makers were hamstrung by poor information and a culture of optimistic assumptions. We got into this trouble by minimizing the risk and uncertainty of new technology that was being developed for this system.

## Keeping an Eye on the Customer

Sometimes, we have good reasons for rushing things to the field. An extremely important part of this discussion must be that new programs are often built from urgent war fighter needs. There is no way anyone in the business of DOD weapon systems development wants to let our troops in theatre down! Both in the heat of the battle and in the heat of getting better capability to those in the battle, cost and schedule risks are all too often understated, under the pressure of mission accomplishment. It is a disservice to our leadership to think they won't accept the

risks if we com-

municate them and let them debate that the potential benefits are worth it—or not.

## Accept and Control, Not Escape

Risk and uncertainty are perceived as bad news. We fight risk and uncertainty, tooth and nail. It would be wiser to consider risk and uncertainty as a giant rubber band; the more you turn away from them, the harder they pull back on you. Failing to admit things may not proceed exactly according to plan is a recipe for trouble. Many things in our business are unknown and will stay unknown until we attempt to execute a program. Don't we try to put state of the art technology into new weapon systems?

We are developing risky technology on aggressive schedules and claiming stable management environments. It just doesn't make sense. Adding money to the top line of an effort that is not fully understood is prohibitively expensive. Optimistic assumptions must be correlated with evidence in order to build a realistic baseline.

It is a disservice to present a decision-maker with an estimate for a new ground-breaking weapon system that claims the confidence that the system can be developed for a certain price can go from 50% to 80% confidence with only a 3% or a 6% increase in funding. And it is foolhardy for a decision-maker to accept that estimate.

The decisions that make a system affordable must be based on more than wishful thinking. We should be straightforward about the risk we are proposing to take on. Strongly and clearly communicating risk and uncertainty up the chain of command will help leadership make better strategic decisions. This will result in improved use of resources and greater combat effectiveness. If we are to get out of our RUT, the first step will be to recognize we are in one. We should be motivated to take the risk of communicating better, more balanced information to decision-makers. Not every idea is worth a full-scale development effort, and there is nothing wrong with admitting that.

We must think clearly about uncertainty and risk, and fight the temptation to discount these factors when communicating the real conditions of our management situation. We don't get in trouble because of risk and uncertainty; we get in trouble for not admitting to ourselves and those who rely on us, all of the risk and uncertainty that inherently exist in everything we plan to do.

- I am especially indebted to assistance from Mr. Jay Jordan, Technical Director of the AF Cost Analysis Agency. The graph is from Mr. Jordan's excellent briefing, "Cost Estimate Quality and Confidence". We are both available for questions.
- As an update, eggs have increased in price by more than 30% since December 2007 (as of August 2008).

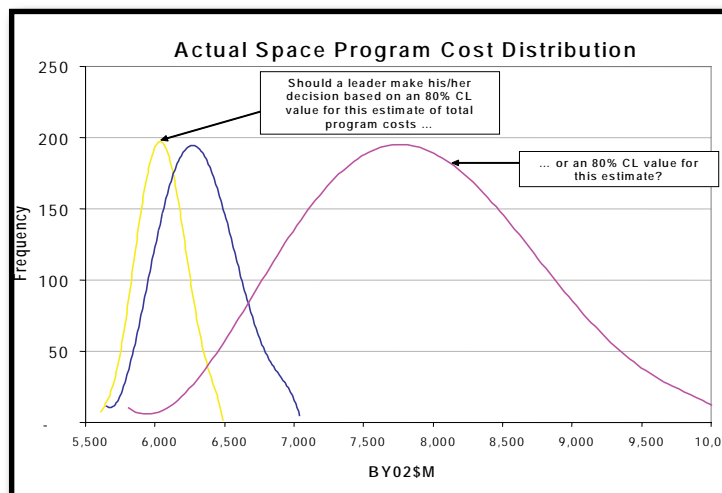


Figure 1.





# High-visibility tools for estimating cost, schedule and risk.

From aerospace and defense to government agencies and commercial enterprises, TruePlanning® by PRICE Systems provides a complete suite of industry-specific cost models and benchmarks that address the needs of all stakeholders in the cost/performance value chain. Reduce estimating time and uncertainty. Understand risks. Improve accuracy and credibility. [WWW.PRICESYSTEMS.COM](http://WWW.PRICESYSTEMS.COM)





## 2008 SCEA-ISPA Joint Conference

This year's ISPA-SCEA Joint Annual Conference and Training Workshop in Southern California was a great success. Featuring motivating keynote speakers, thought-provoking papers and presentations, and beautiful Southern California weather, this Conference was a truly memorable experience. Congratulations to everyone who worked so hard in developing and managing the program, the logistics, and all the other little details that go into a successful event. Most especially, thanks should be given to **Stephen Bagby**, Conference Chair, **Mike Thompson**, Program Chair, and **Peter Braxton**, Training Chair. With their hard work, as well as the efforts of the Joint Office Conference Support Team, this Conference had a seamlessly integrated Technical Program.

We had quite a turnout this year, with over 360 attendees and 29 guests. Attendees represented not only the United States but also Australia, Canada, Germany, and the United Kingdom. On the hotel's expansive exhibit floor, attendees were able to visit the booths of vendors like **MCR**, **SEER by Galorath**, **Ops Consulting**, **Wyle**, **PRICE**, **Tecolote Research, Inc.**, **Serco**, **Booz Allen Hamilton**, and **Northrop Grumman**. SCEA would also like to extend a special thanks to our sponsors for their generous donations.

### *The Program — Setting the Standard in Cost Estimating Conferences*

The Training Tracks, coordinated by Peter Braxton, began on Tuesday, June 24th. Attendees were able to attend workshops for all skill levels, with tracks at the Fundamentals, Practitioner, and Integration levels. We had 36 Training Sessions this year, geared toward helping seasoned professionals brush up on their skills, and for preparing examinees for the CCE/A exam on Saturday, June 28th. With the help of **Doug Druley** from ISPA, the Training Tracks were an integration of SCEA material and some invaluable information from the ISPA Parametric Estimating Handbook.

Wednesday morning began with Keynote Speaker **Howard Pace, Jr.**, Deputy Joint Program Executive Officer, Joint Tactical Radio System. Following this speech and the SCEA Annual Awards presentation by **David Graham**, the professional papers began. We had over 60 presentations, within the following tracks: EVM / Schedule, Risk, Analysis, Software / Hardware / Tools, Methods & Models, and Lessons Learned.

Mike Thompson led the team that organized the presentations, which were then evaluated by the Best Paper Awards committee, headed by **Mel Etheridge**, to choose winners within each track and the overall Best Conference paper winner. Two Speed Networking sessions were also offered on Wednesday, a new endeavor for SCEA that garnered a lot of favorable responses.

Thursday morning's speaker was Mr. **Peter E. Kunkel**, Principal Deputy Assistant Secretary of the Army (Financial Management & Comptroller). Mr. Kunkel's presentation was followed by our SCEA annual meeting, where members are given an opportunity to voice their opinions directly to leaders of the SCEA Board. On Thursday afternoon, we were treated to an exciting and informative presentation from our very first "Mathemagician," **Dr. Arthur Benjamin**. Dr. Benjamin's presentation was a welcomed respite from the rigors of the day, with his fun demonstration of rapid mental calculations.

### *Networking Opportunities Abound*

In addition to the daytime program, the evenings were filled with a wide variety of activities. On Tuesday night, guests and attendees mingled at the Welcome Reception held on the exhibit floor. On Wednesday night, attendees climbed aboard shuttle busses for a trip to Dodgers Stadium to see the Chicago White Sox face the LA Dodgers. An outdoor cookout was offered on Thursday night, where attendees were able to practice their country line dancing, try their hand at golf in a putting contest, and show off their skills in a paper airplane competition. Even with all of these planned activities, many attendees found time for a round of golf on the hotel's two 4-star golf courses!

From all perspectives, the 2008 ISPA-SCEA Joint Annual Conference and Training Workshop was an unforgettable and rewarding experience, with a winning combination of informative discussions, entertaining events, sunny weather, great food, and a relaxing atmosphere. Thank you to all the attendees, exhibitors, sponsors, and volunteers whose participation was the key factor in the success of this conference.





## Best Paper Awards

**Best Paper Awards.** Each year, the number and caliber of papers and presentations submitted for our conference increases. With so many insightful papers from which to choose, it is no simple task to select just one Best Paper for each of the presentation tracks. This year, there were over 75 papers and presentations submitted and over 60 were presented. The papers were categorized into the five tracks: Software / Hardware / Tools, EVM /

Schedule, Lessons Learned, Risk, Methods & Models, and Analysis. Within each track papers were judged independently to determine the winner within that track, and then the winning papers from each track were scored separately to determine the Best Conference Paper winner. This year's Best Paper Awards Committee was headed by **Mel Etheridge**. The committee members were **Robyn Kane, Rick Collins, Peter Meisl, Mary Harmon, Lew Fichter, Paula Spinner, Joe Dean, Greg Hogan, Tim Anderson, Vicki Kitchens, and David Stamm**.

**Best Paper in the Software / Hardware / Tools Track — Daniel Galorath** for "Software Total Ownership Cost: Development is Only Part of the Equation". Daniel Galorath is CEO of Galorath Inc. He has over three decades of experience and numerous teaching credits to his name and received the ISPA Freiman Award in 2001. His paper exhibits his knowledge gained from experience focusing on software maintenance productivity issues and methods of making the most appropriate tradeoffs during development while keeping total ownership costs in mind.

**Best Paper in the EVM / Schedule Track — Dorothy Tiffany and Walter Majerowicz** for "Recognizing Earned Value Management Gaming". Walter is the Deputy Program Manager for the Computer Sciences Corporation Program Analysis and Control II sub-contract at the NASA Goddard Space Flight Center. Dorothy Tiffany is EVM Program Executive at NASA and the PM Challenge Conference Project Manager in NASA's Office of the Chief Engineer. Their presentation confronts the serious problems of gaming, abuse, and data manipulation techniques that all project teams using earned value management should recognize.

**Best Paper in the Lessons Learned Track — Jennifer Leotta** for "Cost Overruns and Defense Contracting". This paper compared various programs to show that incentive fee contracts in the Department of Defense (DOD) for the development phase do not effectively eliminate the DOD's cost overrun problem. Jennifer is pursuing her Master's Degree in Economics from George Mason University while she works as an Operations Research Analyst for the Navy Engineering and Logistics Office.

**Best Paper in the Risk Track — David Graham, Alfred Smith and Melissa Cyruklik** for "How to Capture Discrete Cost Risks in Your Project Cost Model". Dave Graham previously worked at NASA headquarters before returning to the Air Force Cost Analysis Agency. Al Smith is the General Manager for Tecolote's Software Products/Services Group, where Melissa Cyruklik also works as a Senior Analyst. Their paper compares three alternative methods that can be used to integrate multiple discrete cost risk elements into a distribution that can be incorporated into the project cost uncertainty analysis.

**Best Paper in the Analysis Track — Dr. Shu-Ping Hu**, for her paper " $R^2$  vs.  $r^2$ ". Her paper discusses the academic concerns about the relevance of using adjusted  $R^2$  and







## Awards (Continued)



Pearson's  $r^2$  and examines the properties of these statistics, along with the pros and cons of using each for CER development. Dr. Hu is a Chief Statistician at Tecolote Research, Inc., and has worked with them for over 20 years. She has over 12 years of experience in Unmanned Space Vehicle Cost Model CER development, and 20 years of experience in designing and developing statistical software packages for fitting various types of regression equations, learning curves, cost risk analysis, and other PC-based models.

### Best Conference Paper and winner in the Methods & Models Track — Dr. Stephen Book and Melvin Broder for "Adaptive Cost-Estimating Relationships".

Dr. Book is Chief Technical Officer of MCR, LLC and is responsible for ensuring technical excellence of MCR's products, services and processes. Before joining MCR he worked at the Aerospace Corporation for 21 years, holding the title of "Distinguished Engineer" from 1996–2000. Dr. Book was the editor of ISPA's *Journal of Parametrics* and is now co-editor of the SCEA and ISPA joint publication, the *Journal of Cost Analysis and Parametrics*. Melvin Broder is a Senior Project Leader at the Aerospace Corporation, where he develops cost models for the Concept Design Center. Prior to his work with the Aerospace Corporation, he worked in cost estimating at Boeing's Satellite Systems, and as a Project Manager in the System Engineering Laboratory at Raytheon Systems Company. In their paper, Dr. Book and Mr. Broder extend the concept of "analogy estimating" to parametric estimating by deriving "adaptive" CERs - CERs that are based on specific knowledge of individual data points that may not be reflected in the full data set at the time that the original CER was derived. Their paper discusses three general methods of adapting CERs: *A Priori*, Piecewise, and X-Distance, with examples used to show the impact each of these methods has on the CERs that can be derived from a sample data set using weighted least squares as the regression technique.

The high quality of the papers presented at the 2008 SCEA – ISPA Conference made it a daunting task to choose only one winner in each category. In addition to the distinguished Best Paper Award recipients, SCEA congratulates all the speakers whose papers and presentations helped make this an unforgettable Conference. Interested in getting more information about the award winning papers? Each Best Paper can be viewed at the SCEA website, [www.sceaonline.org](http://www.sceaonline.org), by following "Products" > "Awards" > "Best Paper."



## National Awards

By David Graham, National Awards Chairman

As chairman of the 2008 SCEA National Awards, I would like to thank those SCEA members who took time out of their busy schedules to submit nominations for these awards. Your efforts produced a total of 18 nominees, which is one of the largest groups of potential award winners in the history of the awards. I'd also like to recognize the hard work of the Awards Committee members, who carefully deliberated over each nomination to make their selections — **Linda Turner, Joe Dean, Ken Kennedy, Joe Wagner, Dean Kimmel, and Dave Stamm**. We had a very talented and deserving group of award winners this year, and it was no simple task choosing from all the worthy nominees.

### Cost Estimator of the Year Award for Technical Achievement — Gregory C. Bell.

The criteria for this award include promoting a common body of knowledge, developing and maintaining standards of proficiency and performance, establishing standards in the terminology and application of cost estimating and analysis,





## National Awards (Continued)

and developing CERs, cost models, and databases. Greg is senior cost analyst with MCR, LLC in Arlington, VA currently assigned with the MDA. He has developed cost models and performed life cycle cost estimates for almost every MDA weapon and sensor program. He has developed Radar Cost Models for Large Modular Radars, Dish and Corporate Feed Array Radars, and Fighter Radars. He was Contractor Cost Analyst of the Year for MDA in 2007 due to his development of detailed cost estimates and cost models that MDA has used for budgeting and programming requests. He has contributed papers to SCEA and other conferences on affordability, acquisition costs, total ownership costs, CAIV, life cycle cost analysis, and parametric cost analysis. Greg's numerous accomplishments make him the clear choice for SCEA's Cost Estimator of the Year Award for Technical Achievement.

**Contributions in the Field of Education — Dr. H. Samuel Cooke.** The SCEA Cost Estimator of the Year Award for Education is given to an individual who develops and maintains personal standards of proficiency and performance in the cost estimating discipline (and related disciplines), mentors new cost estimators, builds the proficiency and performance in cost estimating capabilities of SCEA members, provides training in cost estimating from a systems engineering perspective, and promotes and provides training in SCEA Cost Estimator Certification. Dr. Cooke is dedicated to serving SCEA through the promotion of education, both in his work and in his teaching. He established a reference library including his personal source materials and coordinated an annual educational program (and taught classes at the same program) where he rigorously works to increase the number of certified members. While establishing and maintaining these numerous educational forums, Dr. Cooke has also held various Greater Alabama Chapter Board positions. Dr. Cooke's desire to educate has extended beyond his work with SCEA, as he has taught cost estimating and analysis internationally through the Project Management Institute. Dr. Cooke has worked for years in his personal mission to ensure that the next generation of cost estimators and analysts are well-educated and prepared to tackle their future challenges. SCEA would like to congratulate Dr. Cooke, the recipient of this year's award for contribution in the field of Education.

**Cost Estimator of the Year Award for Service to the Society — Robyn Kane.** Robyn is the Lead Economics/Business Analyst for the MITRE Corporation. Each year, this award is given to an individual who assists with SCEA conferences and events, cooperates with other organizations and individuals with common purposes, participates as member of the SCEA Board, Chapter President or other SCEA offices, promotes the development and continuation of a SCEA Chapter, and promotes the improvement of members of SCEA. Robyn has contributed an amazing amount of time and effort to SCEA. She founded the greater Colorado Springs area SCEA chapter in 2002, and is continually active in the Pikes Peak Chapter events, publications, and as a member of the Chapter Board. Her commitment to the society extends beyond her work with the Pikes Peak Chapter, as she has served on the SCEA National Board from 2005 to the present, currently in the capacity of National Secretary. For three years she has taken on the role of Risk Track chair at SCEA/ISPA Annual Conferences, and has served on the Best Paper Award committee for two years. Robyn is highly dedicated to promoting the growth of SCEA, and for that dedication, SCEA is pleased to recognize her with the award for Service to the Society.







## National Awards (Continued)

**Contributions in the Field of Management — Ms. Debra Walter.** The criteria for the Cost Estimator of the Year Award for Management include fostering the growth of SCEA members, integrating estimating and other cost disciplines, promoting cost estimating discussion forums, promoting standards of proficiency and performance, interacting with other related organizations, providing mentorship and training opportunities, and managing a cost estimating organization. Debra is very deserving of this honor. In her work as the Cost Estimating Branch Chief over three senior and two junior cost analysts for the F-22 Raptor—the Air Force's (AF) premier 5th generation fighter, she expertly plans work and prioritizes tasks to fit within schedule and resource constraints. She works across functional boundaries and cultivates working relationships with other team leaders to seek integration and synergy of efforts, and to raise the bar of cost analysis proficiency and performance of her team and others. In addition to sharing her knowledge with others, Deb fosters team building and skills development by providing periodic forums to solicit and share ideas, concerns, and transformation initiatives. With her help her team has become one known primarily for their ability to consistently deliver timely, accurate, and comprehensive cost analysis. A manager with skills such as these is truly deserving of the SCEA Annual Award for contributions in the field of Management.



**SCEA's Lifetime Achievement Award — Richard L. "Dick" Coleman.** The most prestigious award is SCEA's Lifetime Achievement Award, recognizing an individual who has not only shown great management skills, technical achievement, contribution to education, and service to the Society, but who has also shown distinct and outstanding quantity and quality of work in support of the cost analysis profession. It is an award that is not given every year, and is considered only for an individual who has not only shown recent excellence in cost estimation but has demonstrated cost estimation excellence over an entire career. This year's winner, Dick Coleman, is well-known in the cost community for his significant accomplishments and immense contributions to SCEA's mission of improving cost estimating and analysis in government and industry. His illustrious career spans government, consultancy, and corporate. He began as a 1968 graduate of the US Naval Academy, and then went on to receive his

M.S. with Distinction in Operations Research from the Naval Postgraduate School in 1974. After retiring from the Navy as a captain, Dick joined TASC (now Northrop Grumman). He is currently the Director of the Cost/Price Analysis Center of Excellence at Northrop Grumman's IT sector, where he has demonstrated a steadfast commitment to analytical rigor and integrity. He is the author of over 65 professional papers, including five SCEA/ISPA Best Paper Award winners. Dick is also dedicated to recruiting and mentoring young analysts in a tireless effort to create a new and talented generation of cost professionals. It is with this goal in mind that Dick has continually challenged the decision to increase the CCE/A exam experience requirements, a mission that was recently rewarded with the ratifying of a two-tier Certification program. His service to the society includes roles as Vice President, Director of Research, and Regional Vice President. SCEA is proud to recognize Dick Coleman for his outstanding contributions to the profession of cost estimating and analysis.

As a society, SCEA depends on its members to contribute their time, energy, and efforts to help reach our overarching goal of furthering "the effectiveness and efficiency of cost estimating and analysis and related disciplines in the public and private sectors." It is with this in mind that SCEA recognizes the award winners for the role they played in the achievement of this goal. Congratulations to the 2008 SCEA National award winners!





## Thanks to Exhibitors & Sponsors!

*Thank you to the sponsors*

*of the 2008 SCEA – ISPA Joint Annual Conference & Training Workshop*

*Booz Allen Hamilton ..... Sponsors of the Badge Holders*

*MCR, LLC ..... Sponsors of the Attendee  
Reception*

*PRICE ..... Sponsors of the  
Conference Bags and  
the Proceedings CD*

*SEER by Galorath ..... Sponsors of the Program Book  
printing and the Padfolios*





# Meet us in St. Louis for the *2009 ISPA/SCEA Joint Annual Conference and Training Workshop* 2-5 June 2009



## The Place



## *St. Louis, Missouri - "Gateway to the West"*

No matter what your interests may be, you'll be able to find just what you're looking for in St. Louis. Head to Laclede's Landing on the riverfront for live music and delicious food, or enjoy the French cuisine and jazz clubs of historic Soulard. Wander through the eclectic shops while admiring the stunning architecture of Union Station. Or how about a visit to the new Busch Stadium complex, or a tour of the Anheuser-Busch Brewery? From Victorian gardens to riverboat gaming, St. Louis has it all. Everything is just moments away from our hotel, the luxurious Renaissance Grand Hotel St. Louis, situated within walking distance of the Gateway Arch.



## The Program

The Joint Annual Conference and Training Workshop is designed to appeal to all levels of experience. Cost community experts come together from government, industry, and academia to network and share ideas, present papers, attend panel discussions, and listen to the stimulating keynote addresses of leaders in the field. Training Workshops are offered in the Fundamentals, Practitioner, and Integration tracks, so whether you're attending to keep abreast of the latest techniques, or you're preparing for the CCE/A or CPP exam held Saturday, June 6, there will be plenty of opportunities!

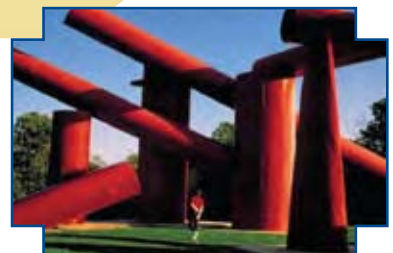


## For more information. . .

The 2009 ISPA/SCEA Joint Annual Conference and Training Workshop will be an event you won't want to miss! Look for future information about registration, exhibiting, and presenting at [www.sceaonline.org](http://www.sceaonline.org) (SCEA's website) or [www.ispa-cost.org](http://www.ispa-cost.org) (ISPA's website), or call Erin at the SCEA & ISPA Joint Office at (703) 938-5090.

## *We look forward to seeing you there!*

*This event is sponsored by the Society of Cost Estimating and Analysis and the International Society of Parametric Analysts*



# 2009 ISPA / SCEA Joint Annual Conference & Training Workshop

2-5 June 2009 • St. Louis, MO

## Call for Papers

Submit Your Conference 2009 Abstract!

Now is the time to beat the Holiday rush and submit your abstract for the Joint ISPA/SCEA Conference being held on June 2 – 5 in St. Louis, Missouri. The Conference Committee will be accepting abstracts until 2 January 2009. Abstracts are limited to 500 words and biographies are limited to 300 words for each author. Be sure to include the biographies of all authors listed.

The 2009 Joint Conference Committee would like to present a wide variety of cost estimating and cost analysis topics such as:

- Hardware Estimating
- Software Estimating
- Life Cycle Cost Analysis
- System of Systems Estimating
- Risk Analysis
- Earned Value Management
- Cost Estimating Models
- International Cooperation Among Estimators
- Cost Methodologies/Applications
- Parametric Cost Estimating
- Total Ownership Cost Reduction
- Cost as an Independent Variable

This is the premier conference for cost estimating and analysis professionals and we are anticipating a high volume of abstracts so you are advised to submit your abstract as soon as possible to receive early consideration. The 2009 Joint Conference is a great opportunity to demonstrate your expertise and contribute to the advancement of the profession. To upload your abstract, select the "Call for Papers" link under the Calendar menu on the SCEA web site ([www.sceaonline.org](http://www.sceaonline.org)). You must upload your manuscript along with the release to the web site in accordance with the following schedule:

- Abstract submission deadline – 2 January 2009
- Author Notification – 31 January 2009
- Draft paper/presentation submission – 28 February 2009
- Final paper/presentation submission – 31 March 2009

If you have questions or need additional information about the Workshops, please contact:

Andy Prince  
[andy.prince@nasa.gov](mailto:andy.prince@nasa.gov)  
(256) 544-8360

Michael Thompson  
[mthompson@mcri.com](mailto:mthompson@mcri.com)  
(301) 904-1103

**We look forward to seeing you in St. Louis!**





## Gateway – St. Louis Chapter News

The Gateway – St. Louis Chapter held its annual fall seminar on Tuesday, October 7, at the St. Louis Zoo. In addition to a new venue for the event, the chapter presented several speakers on topics, including the U.S. government fiscal funding process and the planning of the Missouri Department of Transportation Bridge Improvement Project. Chapter elections were also held at this annual event.

The Gateway chapter, in partnership with The Boeing Company, is again offering evening instruction of the current certification exam preparatory course (CostProf). Classes were held at the Boeing-St. Louis facility beginning in late September.

### Minutes from Board Meeting on 5 February

**Attendees:** Mike Brozyna, Director; Jim Carlson, Director; Brett Cayer, President; Jill Conlon, Vice President; Tom Dunlavy, Director; Bill Lueker, Treasurer

#### Topics Discussed:

- Cost Estimating & Analysis skills in demand – Get the message out
  - How to engage the younger members
- Planning our annual events (see news above)
  - Brett to inquire about Building 100 use
  - Bill to inquire if Eric Drucker (NGC) is willing to present
  - Michael to outline DoD appropriation process
  - Other potential networking opportunities
- The purpose of SCEA and our chapter
  - Influence career paths
  - Communicate the state of the profession
  - Using CostProf in the most beneficial manner
- Newsletter input
  - CCE/A exam takers
  - Steve Blusiewicz & Mark Malone new CCE/As
- SCEA/ISPA merger
  - Certification changes and its meaning
  - Potential changes to the exam

## Houston / Clear Lake Chapter News

*Ella Hrabar, President*

The Houston/Clear Lake Chapter is pleased to say we have members from many different companies and we continue to slowly increase membership.

Our study group was doing great until our teacher RK Jain/Boeing was offered an opportunity to move to Huntsville, Alabama. RK is very skilled in the mathematics area (among his many talents) and we miss his expertise. We sincerely thank him for the time spent sharing his knowledge. We hope to find another instructor and to offer training again.

The Saturday, June 28, 2008, certification exam was held here in the local area and we had one person who

took and passed both parts of the test - congratulations to Mike De La Guardia from the Grand Prairie, Texas area on becoming certified. We have others who are thinking of testing in November and we plan to offer local testing again.

We encourage members to get actively involved in some activity that will help support and grow SCEA and your local chapter. Organizations are successful because its members make it so. Scheduling time for SCEA projects and meetings are important to the growth and well being of all. So do your very best in the coming months to make a positive impact.



**TECOLOTE  
RESEARCH, INC.**  
*Bridging Engineering and Economics  
Since 1973*

# Excellent Career Opportunities

- ▣ **Exceptional Company-Paid Benefits**
- ▣ **Competitive Compensation Package**
- ▣ **Team-Oriented Environment**
- ▣ **Employee-Owned**

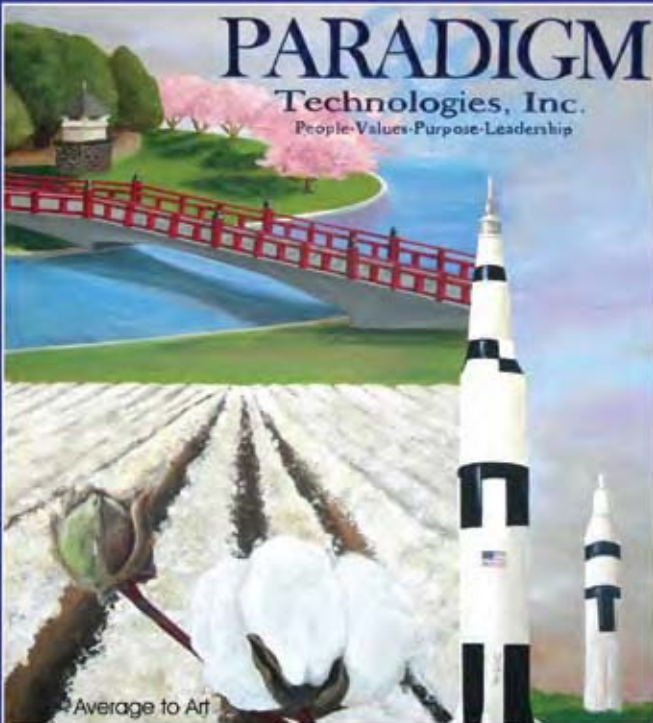


- Cost and Economic Analysis
- Earned Value Management
- Financial Management
- Schedule Analysis & Management
- System Acquisition & Sustainment Support
- Business Consulting & IT Development
- Software Tool Development

**[www.tecolote.com](http://www.tecolote.com)**

*An Affirmative Action/Equal Opportunity Employer*





# PARADIGM Technologies, Inc.

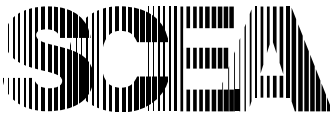
People - Values - Purpose - Leadership

- ▶ Financial Management
- ▶ Cost Estimating and Analysis
- ▶ Program Management
- ▶ Strategic Planning
- ▶ Executive Support

689 Discovery Drive, Suite 302  
Huntsville, Alabama 35805  
(256) 382-0470  
[www.paradigm.net](http://www.paradigm.net)



Paradigm is an Equal Opportunity Employer



*The Society of Cost Estimating and Analysis*

**SCEA / ISPA Joint Office**  
527 Maple Avenue East, Suite 301  
Vienna, VA 22180  
703.938.5090  
Fax 703.938.5091  
[scea@sceaonline.net](mailto:scea@sceaonline.net)  
[www.sceaonline.org](http://www.sceaonline.org)

