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# PARAMETRIC WORLD

A Periodical of The International Society of Parametric Analysts

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# PARAMETRIC WORLD

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## LETTER FROM YOUR EDITOR

By NINA TAHIR



The second workshop of 2010 jointly presented by ISPA and SCEA Southern California Chapters was hosted by MCR at the Doubletree Hotel in El Segundo. Our attendance was excellent which we owe to our

host, location, and speakers line-up. A good time was had by all. Read about the event in the Southern California Chapter News Section.

Our 2011 Conference in Albuquerque should be an event to remember. Aside from the usual excellent speakers' program and training, the location should be an outstanding draw for attendance. You can read about the city's history in this issue. Albuquerque is rich in natural beauty, culture, history, and arts and crafts. If you like southwestern cuisine, sample the "red and the green" (chili) dishes and decide for yourself which color is hotter. And if turquoise jewelry appeals to you, this is the place to shop. We are very excited about the location and know that our conference attendees will enjoy what the city has to offer when it's time to relax and explore.

A Call for Abstracts and information about the conference hotel, etc., is featured in this issue for planning purposes.

In the last issue's *Ask a Parametrician* — Q&A, Joe Hamaker, the column editor, received 2 outstanding responses to the question: "How to one day attain 0.9990 reliability for launch vehicle parts." The second response provided by **Dev K. Sen**, a Program Manager with SAIC, appears in this issue.

Be sure to read Mark Schankman's paper about P-BEAT, a Process-Based Economic Analysis Tool. The development of this tool was a collaborative effort by Systems Engineers at NASA-Glenn Research Center and Boeing; the tool can assist engineers in early trade studies of aerospace technologies and systems. Starting in 2000, NASA-GRC began developing *process-based* cost estimation methods and tools for that purpose. P-BEAT is the result of that effort. Mark was a co-recipient of the best paper award for model's track presented at the 2010 conference.

Hank Apgar's Historian's report is definitely very nostalgic. He talks about how our ISPA publications have evolved over the years and are now part of NASA's REDSTAR Library maintained for us by Mary Ellen Harris, the REDSTAR Librarian.

Madeline Ellis and I would like to thank our authors for contributing to the success of this issue.

*Nina Tahir*  
Editor



By JASON DECHORETZ

Fellow ISPA Members,



Your Board of Directors completed some necessary business at our Fall meeting which was hosted by MCR, LLC in Washington, D.C., on 15 & 16 October. Here is a summary of some of the many topics addressed at our meeting:

- **2010 Joint ISPA/SCEA Conference Report:** Doug Druley provided the final debrief for the 2010 Joint Conference held in San Diego, CA. This was our highest attended conference ever with over 600 registered participants. This type of interest and support from employers is especially gratifying given current economic conditions around the globe. If you were not able to attend the conference I encourage you to order a copy of the proceedings from the Joint Business Office. They have CDs which can be shipped out for your immediate use as training and technical reference. When you see Doug and the other conference committee members please offer them your congratulations and appreciation for organizing such a great training and networking event!
- **2011 Joint ISPA/SCEA Conference Report:** We reviewed the initial plan for our conference which will be held 7 - 10 June 2011 in Albuquerque, New Mexico. This is a new location for both ISPA and SCEA. Many of you know of Albuquerque and its importance to both DoD and DOE. We have a fantastic venue selected and the program plan is shaping up to be educational and enjoyable! There are plenty of opportunities to participate in the planning and execution so please contact Rich Harwin (ISPA Co-Chair) to inquire about committee positions.
- **Membership Services:** The new website is out and a tremendous improvement on the previous product. However the Board believes it can be an even greater resource to the Membership so we laid out a comprehensive set of business rules and design improvements which will be put out for bid. Our plan is to complete the update and have it rolled out to the members in the Spring of 2011. In addition, to the improved Website, Steve Sterk impressed us with a trend of growing membership. Please refer friends and colleagues to ISPA for membership so we can continue to grow the Society and more importantly share new ideas on how to make parametrics a more effective analysis mechanism.
- **Elections and Society Awards:** The onset of Fall and progression towards Winter always indicates a need for the Society Members to make their voices known.

*In this edition you will find articles from various Board Members, Committee Chairs and members at large. They all play a critical role in leading the Society, providing critical services to the membership and impacting the broader community. I ask you to consider an opportunity to run for the 2011-2012 Board of Directors. I can tell from my own experience over the past 5 years it is fantastic. You will meet accomplished and fun loving people, be exposed to the leading trends in our industry and have an opportunity to shape the future of ISPA! So please organize a nomination campaign and let's get some great candidates on the next election slate for the ISPA BoD. In parallel we are starting the process of collecting nominations for our society awards. Please see the article in this edition which outlines how each award recognizes a different facet of services and accomplishments.*

I know that the June 2011 Joint Conference seems like a long way off, but please start working on your abstracts and permission (if necessary) to prepare and present a paper (showcase your professional achievements!) and consider running for a position on the Board of Directors; or chair or support the efforts of one of our committees.

*Jason Dechoretz*

ISPA CHAIRMAN OF THE BOARD

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Chapter Development	TBD
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Jointness	Henry Apgar
Membership	Steve Sterk
Parametric World	Madeline Ellis
PCEI/PEH	TBD
Planning & Governance	George Stratton
Professional Development	Doug Druley
Public Relations	Nina Tahir
Website	Andy Prince



## DEADLINE FOR AWARD NOMINATIONS APRIL 15

The Awards Committee is now soliciting nominations for ISPA's society awards described below. You must be an ISPA member to nominate a candidate. Nominations will be verified and reviewed by the Awards Committee and final approval will come from the ISPA Board of Directors. Nominations must be submitted not later than **April 15, 2011**.

- The **Frank Freiman Award** is our highest honor and is presented to an individual who has made outstanding contributions to the theoretical or applied aspects of parametric modeling or cost estimating, promotion of parametrics, or applications of parametrics over a significant amount of time. A Freiman candidate is expected to have left a legacy to the profession for at least five years and can receive the award only once in a lifetime. This award was named to honor Frank Freiman for his pioneering work in the development of parametric models and for his role in the founding of the Society. The recipient need not be an ISPA member.
- The **Clyde Perry Parametrician of the Year Award** is presented to an individual or group who has made outstanding contributions to the profession of parametric cost analysis during prior years, but for a minimum of two years. This award typifies a leader

in the activities of practicing or promoting the use of parametrics. This award was renamed in 2004 to honor Clyde Perry, an ISPA Founder. The recipient need not be an ISPA member.

- The **Keith Burbridge Service Award** is presented to a Society Member or participating group who has provided substantial volunteer service to ISPA in a manner supporting the principles and goals of the Society. This award was renamed in 1996 to honor Keith Burbridge, an ISPA Founder.

### Instructions:

Provide the following information **by April 15**:

- Full name of the nominee plus professional affiliation, postal address, and telephone number.
- Full justification for the award with factual and concise substantiating information. Identify previous awards, society affiliations, publications, and professional achievements.
- Full name of the nominator plus postal address, email address, and telephone number.
- Submit nomination (and endorsements, if any) by postal mail or email to:

### Previous ISPA Award Winners

Year Presented	Clyde Perry Parametrician of the Year Award	Keith Burbridge Service Award	Frank Freiman Award
1981	Robert Gafney		
1982	Keith Burbridge		
1983	Jim Wilder		Larry Putnam
1984	Darryl Webb		Randy Jensen
1985	Sylvan Pinsky		Bill Cheadle
1986	Henry Apgar		
1987	Clyde Perry		
1988	Alan Mayer	Jack Griffin, Seb Botta	Barry Boehm
1989		Henry Apgar	
1990	Dan Ferens	Cindy Castellana	Gerald McNichols
1991	Marilee Wheaton	Clyde Perry	Don Reifer
1992	Peter Korda	Charles Mauro	Keith Burbridge
1993		Nina Tahir	Peter Korda
1994	Gary Constantine	Madeline Ellis	
1995	Bruce Fad	Seb Botta	
1996	Meinolf Wenzel	Marilee Wheaton	
1997	Sherry Stukes	Ron Larson	Tony DeMarco
1998	Pierre Foussier		Henry Apgar
1999	William Rutledge	Paul Lubell	Dan Ferens
2000	Georg Reinbolt	Sherry Stukes, Karen Davies	Don MacKenzie
2001		Tom Brents	Dan Galorath
2002	Arlene Minkiewicz, Karen McRitchie	Gary Constantine	Charles Hopkins
2003	David Eck	Clyde Perry	Darryl Webb
2004	Jairus Hihn	Giancarlo Filippazzo	Joe Hamaker
2005		Georges Teologlou	Steve Book
2006	Richard Stutzke	Quentin Redman	
2007	William Brundick	Diana Patane	Humbolt Mandel
2008	Herve Jourmier	George Stratton	
2009	Christian Smart	Hank Apgar, Madeline Ellis	Dale Sherron
2010	Tom Coonce	Kurt Brunner, Sherry Stukes	Neil Albert



EDITED BY JOSEPH W. HAMAKER, PhD, CPP (JOSEPH.W.HAMAKER@SAIC.COM)



**D**o you have a knotty cost analysis problem? Something that you have been wrestling with but don't feel you know the best practice answer to? Well our **Ask a Parametrician Q&A** column is an opportunity for you to get considered answers from senior cost analysts. It is an especially good opportunity for more junior level analysts to get their difficult questions addressed by the top experts in our field. So send me your best conundrum to the email address below. I will select a question, get it answered by an expert and feature it with the answer in the next issue of PW. Come on! Let's see if you can stump our experts or if they can prove their mettle by answering your challenging questions.

Alert readers may recall that last issue's question was from Edgar Zapata of NASA's Kennedy Space Center and was: **"How can launch vehicles attain 0.9999 reliability one day?"** and that in the last issue a very informative answer was provided by an expert. You may also recall that I mentioned receiving two great answers and I promised to provide the second answer in the next issue. Well here it is, provided by **Dev K. Sen**, a Program Manager with SAIC. Dev writes:

*"For the past 50 plus years, since the launch of Sputnik, thousands of satellites and spacecraft have been sent into orbit and throughout the solar system. Yet despite our remarkable achievements in the fields of space exploration, we still have to face the embarrassing fact that no space launch system has yet been built that could be considered reasonably reliable, say with a failure rate of only 1 in 500 launches. In fact, even with more than a half-century of experience, and the dedication of some of the world's best engineers and scientists, we have not been able to make launch systems that have demonstrated a better than 99% success rate."*

*Why is this? Most launch vehicle subsystems have individual reliabilities in the 3, 4 or 5 "9s," corresponding to failure probabilities of 1 in 1,000, 1 in 10,000, or 1 in 100,000, respectively. With subsystems this reliable, why are we not able to achieve higher vehicle reliabilities?*

## The mathematics of failure

*One of the primary reasons we are not able to build highly reliable launch vehicles is that the mathematics of failure is dominated by the lowest reliability system, and since failure probabilities are additive, even though individual subsystems may have high reliabilities, a vehicle composed of multiple systems can have a low reliability. Consider for example a three-stage launch vehicle with fairly reliable engines on each stage that have mean failure likelihoods of 1 in 2000. Assuming, for the sake of illustration, 4 engines on the first stage, 2 on the second and 1 on the third (all with equal reliability), we can determine how the engines contribute to the likelihood of failure of the launch vehicle by multiplying the failure likelihoods per engine per stage and then adding the stage failure probabilities:*

$$\begin{aligned} P(\text{Engine}) &= [4 \times (0.0005)] + [2 \times (0.0005)] + [1 \times (0.0005)] - (0.002) + (0.001) + (0.0005) \\ &= 0.0035 \\ &= 1 \text{ in } 286 \end{aligned}$$

*This very simple example shows how the cumulative effect of subsystem failure probabilities can quickly add up to reduce the reliability of a launch vehicle. (In a detailed failure analysis compounding effects such as common cause failures, as well as the failure likelihoods of other subsystems, further reduce the maximum reliability of a vehicle).*

*Because the reliability of a system is driven by its least reliable component or subsystem, it is clear that even though launch vehicles are composed of subsystems with reliabilities in the 3 to 6 "9s," the additive effect of failure probabilities reduces the reliability of the launch vehicle.*

*Continued on page 15.*

This is not strictly true. Certain launch vehicles (for example, the Soyuz-FG) have not had any failures, but the number of launches for all vehicles that are failure free is low, <30, indicating that a more realistic way to assign reliabilities to these types of vehicles is via Bayesian methods, and Bayesian predictions give reliabilities less than 99%, even for the most successful vehicles (see, for example, <http://www.spacelaunchreport.com/reliability2010.txt>).



# Advancing the Art of Technology Cost Estimating — A Collaboration between NASA and Industry

BY MARK SCHANKMAN (BOOZ ALLEN HAMILTON)

*Author's Note: This article was presented in PowerPoint form at the June 2010 ISPA/SCEA Conference in San Diego.*

## Introduction

**B**oth government and industry have an increasing need to advance the art of estimating the cost of new technologies. This paper describes a collaborative effort by Systems Engineers at NASA-Glenn Research Center and Boeing to provide improved cost estimating methods and tools that can assist engineers perform early trade studies of aerospace technologies and systems. Starting in 2000, NASA-GRC began developing *process-based* cost estimation methods and tools for that purpose. The Process-based Economic Analysis Tool (P-BEAT) is the result of that effort.

NASA's goal in developing improved technology cost estimating methods and tools was to address the inadequacies of commercially-available cost estimating tools in meeting the needs of engineers to understand technology development costs at an earlier point in the life cycle. To this end, several unique capabilities were designed into P-BEAT to meet NASA's goals. They are:

1. A Process-based cost modeling technique used to estimate technology development cost, utilizing both development and hardware manufacturing processes (P-BEAT includes over 50 development processes and 700 manufacturing processes).
2. A method that combines analogy and parametric cost estimating techniques so that estimating costs are based on known engineering characteristics and cost. A change to any engineering characteristic of a particular item (e.g., materials, complexity) would show the cost impact for the new item being estimated.
3. The ability to expand cost estimating capability as a technology or system is developed throughout the life cycle.
4. The use of a probabilistic analysis capability to correlate system performance with cost, which helps identify system performance cost drivers and their impact on cost at an early point in the life cycle.

## Cost Estimating Tool Capabilities

Other capabilities built into the tool include:

### Analysis of new technology costs

Assessing the relative complexity of a new technology product is fairly straightforward. P-BEAT employs standard

programmatic, configuration, and financial inputs commonly used in other cost tools, but adds the ability to characterize function (mechanical, aero, structural, optic, electrical, or software), which in turn automatically determines an appropriate set of process-based CERs for estimating the new technology hardware.

With the complexity metric and characterization of design maturity and technical readiness level (TRL), P-BEAT can be used to estimate the number of design iterations and number of development hardware items required. This capability provides a consistent basis for estimating effort and cost to design and build hardware outside the bounds of existing product/performance domains.

### Use as an engineering tool

The process-based CERs that P-BEAT employs are complexity-driven as opposed to performance driven. A performance driven CER, for example, might require that thrust be an input to derive production cost for a jet engine. The complexity driven CERs used in P-BEAT utilize size, mass, material, complexity of form, etc. as inputs. Cost models are then built using inputs of characteristics that design engineers control or select in order to meet the performance objectives — such as thrust for the jet engine.

## Analogy Method

P-BEAT is constructed to allow both direct estimation using process-based CERs as well as estimation by analogy, sometimes referred to as calibration. The P-BEAT tool differs from other calibration-by-analogy tools in that the analogy is never hidden. Each input can then be made as a relative change from the historic data input. This simple change lends visibility into how the tool works thereby making it more acceptable as an engineering tool compared to a cost estimating tool perceived as a "black box" without this visibility. More importantly, all algorithms are accessible to the user as the tool is a Microsoft Office application.

Using the analogy method we can make relative comparisons of the effort and cost required to advance the state-of-the-art design. Figure 1 illustrates the technology development cost impact of design maturity, starting TRL, and relative complexity. The family of curves is calibrated to an analogous (baseline) technology development

*Continued on next page.*



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effort. As shown in the figure, a technology development effort starting at TRL 3 has greater development cost, for a given level of complexity, compared to a technology starting development at TRL 5.

Using this type of technology maturity vs. cost relationship allows engineers to normalize alternative technologies based on their relative technology maturity and complexity levels. This, in turn, allows for an “apples-to-apples” comparison of the relative cost to develop alternative technologies.

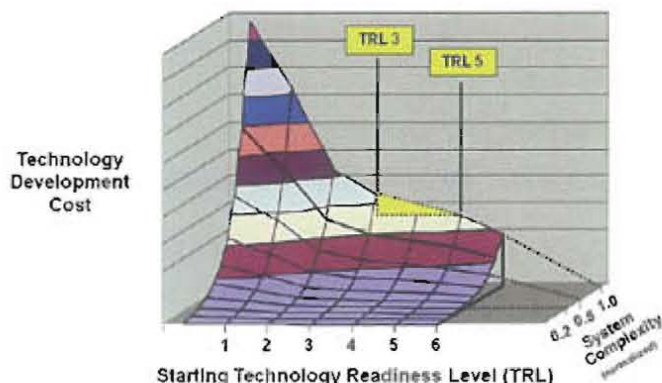


Figure 1

### P-BEAT Applications

Examples of P-BEAT applications performed by NASA-GRC and Boeing are shown in Table 1. By using the appropriate hierarchy level of cost estimating relationships, and corresponding tool inputs, cost analyses can be performed with P-BEAT for conceptual design or detailed manufacturing studies.

Application Category	P-BEAT Applications
Technology Development Cost Estimating	<ul style="list-style-type: none"> <li>Boeing Air Traffic Management study</li> <li>NASA — Boeing Supersonic Aircraft study</li> <li>NASA-GRC Advanced engine studies</li> </ul>
Design Trade Studies	<ul style="list-style-type: none"> <li>Boeing Unmanned Aircraft design</li> <li>F/A-18/ F-15/ C-17 production part costs</li> <li>NASA Crew Exploratory Vehicle</li> </ul>

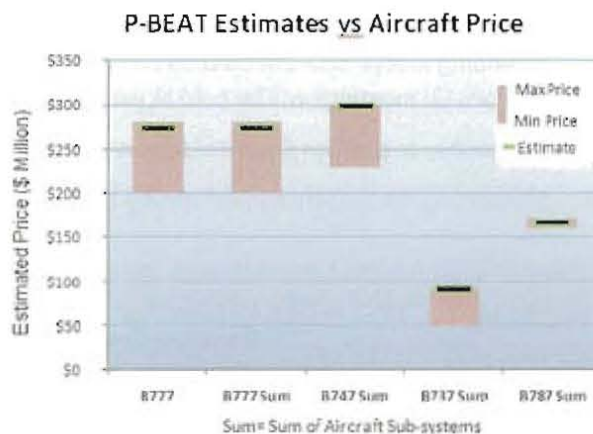
Table 1

### Example NASA-GRC application

A NASA study was performed to evaluate a design trade space for commercial jet engines. A trade space of engine design alternatives was developed and evaluated for impact on cost, emissions, noise and mission time. In order to analyze the cost impact it was necessary to not only estimate the cost of the engine design alternatives but

also the entire aircraft since the engine design changes impact the overall aircraft configuration.

The project required validation of the tool and method. For this, a set of estimates for existing aircraft were developed. It began with building an aircraft estimate (at subsystem levels) — benchmarking the estimate and using it as an analogy to estimate other aircraft. A summary of the results is shown in Figure 2.



The project evaluated aircraft most similar to the Boeing 737 size and mission so the set of subsystem estimates for that aircraft were used as a benchmark for the study of cost within the trade space. Only publicly available data for Boeing commercial aircraft was used. Initially, 48 aircraft configurations were evaluated. During a second round of study another set of 16 configurations were added. Each configuration required the estimation of 17 subsystems which were summed to provide total aircraft cost. These estimates included development, manufacturing, and operation & support costs. A cost per flight hour was calculated to provide input to the design trade evaluation process. As shown in Figure 2, summing aircraft sub-system costs resulted in total aircraft cost estimates within the range of published aircraft prices. These detail cost models were then used to correlate advanced engine performance attributes (emissions, fuel consumption) with the cost impact at the aircraft sub-system level.

### Summary

This article has described several cost estimating methods and techniques that have been successfully used by NASA-GRC and Boeing. The NASA-GRC P-BEAT cost tool has been used to deploy these methods and provide process-based cost insights for new technology development efforts both at NASA and Boeing. When engineers use these methods during the selection and development of technologies for new systems, they can make earlier design decisions resulting in lower life cycle cost. P-BEAT is supported and provided to industry by NASA-GRC (John W. Reynolds).



# 2011 ISPA International Board Elections

It's time, again, to start thinking about who you would like to run our Society. The Elections Committee is responsible for soliciting a slate of qualified candidates for a membership vote. The election for 2011 will be for five (5) members of the Board of Directors who will serve a two-year term of office.

The requirements for being a Board of Directors member include:

- Being a member in good standing (meaning your membership dues must be current at all times)
- Attending four (4) Board of Directors meetings each year - two (2) meetings will be held at the Annual ISPA Conference and two (2) meetings will be held at various locations across the country

***Remember to confirm financial support to attend these meetings from your employer!***

- Supporting the Society by performing special activities and duties as directed by the Society Chairperson

In addition to meeting these requirements, qualified candidates must submit a completed nominations form to:

**Elections Committee  
c/o Kurt Brunner  
2158 West Crestwood Lane  
Anaheim, CA 92804-6439**

The nomination form is in this edition of *Parametric World* and will be available on the ISPA web site or by contacting the Elections Chair beginning **1 November 2010**.

The Elections Committee has established the following schedule for conducting the 2011 elections:

<b>Initial Nomination Period</b>	<b>Opens: 1 November 2010, Closes: 31 January 2011</b>
<b>Receive and Post Nominee Biographies and Photographs</b>	<b>Due: 15 February 2011</b>
<b>Additional Nominations</b>	<b>Ends: 17 March 2011</b>
<b>Ballot Distribution</b>	<b>Starts: 20 April 2011</b>
<b>Voting Period Closed (By Mail)</b>	<b>24 May 2011</b>
<b>Voting Period Closed (At Conference)</b>	<b>8 June 2011 (at 12:00 noon)</b>
<b>Newly Elected Board Members Announced</b>	<b>9 June 2011 (at the ISPA/SCEA Awards Banquet)</b>

The slate of candidates and their biographies will be posted on the ISPA web site at: <http://www.ispa-cost.org/elections.htm> initially on 15 February 2011 and additional candidates and their biographies will be posted on 17 March 2011.

If you are interested in serving on the Elections Committee or running for the ISPA Board of Directors, please contact me. I am also available to answer any questions regarding the elections process.

**Kurt Brunner**  
Chair, 2011 ISPA Elections Committee  
[kbrunner@tecolote.com](mailto:kbrunner@tecolote.com)  
(310) 536-0011 x144



**Elections Committee  
Kurt Brunner  
2158 West Crestwood Lane  
Anaheim, CA 92804-6439  
Fax: (310) 536-9922 [Attn: Kurt B.]**

Dear Election Committee:

I would like to nominate \_\_\_\_\_ to serve as **Director** of the International Society of Parametric Analysts (ISPA). A copy of his/her qualifications and photograph is attached. The Nominee is a member in good standing and is willing and able to contribute his/her time and talents to ISPA.

In accordance with ISPA bylaws, a total of (5) ISPA members must sign this petition, affirming the nomination.

1. \_\_\_\_\_, Member in Good Standing  
Signature                      Printed Name
2. \_\_\_\_\_, Member in Good Standing  
Signature                      Printed Name
3. \_\_\_\_\_, Member in Good Standing  
Signature                      Printed Name
4. \_\_\_\_\_, Member in Good Standing  
Signature                      Printed Name
5. \_\_\_\_\_, Member in Good Standing  
Signature                      Printed Name

**Kurt Brunner**  
**Chair, 2011 ISPA Elections Committee**  
**[kbrunner@tecolote.com](mailto:kbrunner@tecolote.com)**  
**(310) 536-0011 x144**



## MEMBERSHIP REPORT

By STEVE STERK

**Question:** What are the benefits of project management swim lanes established for our membership committee, good communication, and a better Web Site with PayPal?

**Answer:** A strong third quarter for Membership activity. Yes, the Membership Team renewed 35 folks and picked up 14 new members in August and September for a total of 49. Kudos go out to all the people who made the United Kingdom "Certification" event happen! I believe the decision makers for the Ministry of Defense are on it. Given the baby boomer syndrome that is now upon us, coupled with good cost estimation practices and guides—I strongly believe that it won't be long before decision makers in the United States will follow UK's lead. It makes good sense to save a company or agency time and money when a cost estimate comes from a "Certified Parametric Practitioner (CPP)." I know that when I receive a cost estimate or a cost risk analysis from a "CPP" in my shop, I feel confident that ALL the cross-checks have been made before I sign the bottom the line and I know "how much will this program really cost."

**Ms. Karen Ritchey** (GAO) invited me to participate in the semi-annual cost expert meeting held in Washington, D.C. on September 16, 2010. The focus of the cost expert meeting was to facilitate the update of the GAO Cost Estimating and Assessment Guide with a better Appendix. The goal is to have a new release by spring 2011. There were many professionals from ISPA, SCEA and AACE in the

room gathered around the "big table" who gave expert opinions and advice under consideration for the new guidelines: <http://www.gao.gov/new.items/d093sp.pdf>

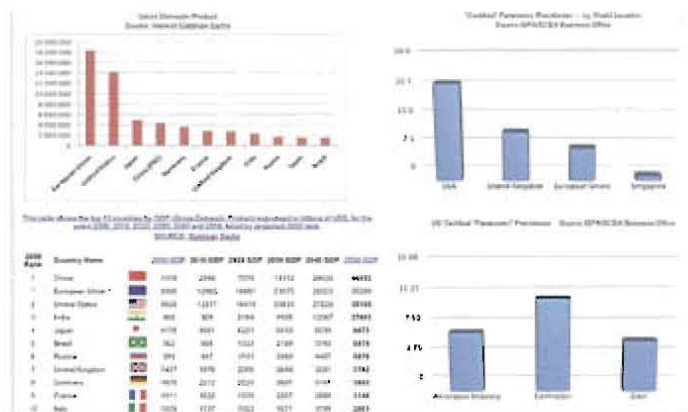
I am taking a hard look using some six lean sigma techniques and developing cause and effects relationship, working "down and in" to the society. My Membership team took the initiative to send out over a hundred personal emails with follow-up phone calls. Most were thankful for the reminder and others appreciated the new and improved web site with PayPal which allows members to renew without taking their fingers off their lap-top; and a few sent me some action items.

If you haven't already tapped into this valuable resource, our signature product the "*Parametric Estimating Handbook*" (PEH) Fourth Edition, go to <http://ispa-cost.org/content/articles.php> or [http://ispa.phpwebhosting.com/content/files/ISPA\\_PE\\_Hdbk\\_4thED.pdf](http://ispa.phpwebhosting.com/content/files/ISPA_PE_Hdbk_4thED.pdf) to download a copy.

I, also, would like to talk about correlation. Here's a thought . . . Maybe some day our Gross National Product (GNP) will in some way be attributed to the number of Certified Parametric Practitioners (CPP) by Country. Data indicates that a combined European Union including folks from the UK has a higher GNP compared to the number of CPP than in the United States — see charts. Too soon to tell but possible...

### New Members

- Andrew Banks — United Kingdom
- Anthony Burrows — United Kingdom
- Brett Ceazar — United Kingdom
- Jason Davis — United Kingdom
- Julie Ducie — United Kingdom
- Sarah Hawes — United Kingdom
- Malcom Hatherley — United Kingdom
- Richard Pearce — United Kingdom
- Andy Pritchard — United Kingdom
- Mike Simmonds — United Kingdom
- John Williams — United Kingdom
- Robert Williams — United Kingdom
- Kenneth McGowan — DCMA, USA
- Robert Garcia — DCMA, USA



A "hoot" goes out to Sarah Hawes and Tracey Clavell (Australia) for their renewals from the land down under and on behalf of the Board of Directors — "Thank You." I would also like to recognize Mr. Jaehoon Yu of Samsung for being our first person certified in Asia.

Continued on page 15.



## Our Legacy of Publications

BY HANK APGAR, HISTORIAN

The Summer issue of *Parametric World* (Volume 28, Number 3) reported on the ISPA Library, which is maintained by Mary Ellen Harris in Huntsville, Alabama. Our library is managed as a Special Collection in the NASA Resource Data Storage and Retrieval (REDSTAR) Library, through the courtesy of NASA/MSFC. Can you imagine how much useful reference and tutorial material has been produced during our 32 year history and what informative references are now available to you? Would you believe more than 941 documents?

I recently toured the NASA library and I have occasionally helped Mary Ellen locate some missing ISPA pieces, so I can directly appreciate the vast collection of parametrics-related material that resides there; and, all of it is available to you at no cost.



Our very first publication, initiated in 1978, was the **PRICE Users Bulletin (The Pub)**, serving our predecessor organization which provided independent professional support to PRICE Model users. The second issue of the Pub announced our first national conference to be held in Washington D.C. which was planned to inaugurate the new

organization — the International Society of Parametric Analysts (ISPA).

After three issues, the Pub was replaced by four issues of the **ISPA News** which served as a combination newsletter and journal for one year. In 1981, we replaced the *ISPA News* with a pair of distinct publications: an informative newsletter called the **ISPA Whisper** and a refereed journal titled the **ISPA Journal of Parametrics**. The *ISPA Whisper* was subsequently replaced, after 31 issues, with the current (and very professional) **Parametric World**.

While the *ISPA Whisper* was relatively short-lived but prolific, being published every month for four years before being replaced with the current *Parametric World*, the *Journal* lasted 23 years and saw 52 issues before being ultimately replaced with the joint-society (ISPA and SCEA) **Journal of Cost Analysis and Parametrics (JCAP)** in 2008. We had provided up to four parametrics journals per year to our members!

The library also contains every paper from all 32 conferences, starting with our first conference in 1979.

For the early conferences, there are individual papers, cataloged by author. But, starting in 1982, the papers were bound into conference proceedings — first in hard copy and later (starting in 1998) on CDs.

Other library documents include our **Parametrics Cost Estimating Handbook**, currently in its fourth edition, and our annual **Membership Directory**, published continuously since 1985.

This collection of conference material, including papers, workshops, and tutorials, comprise our vast literary parametrics body of knowledge. If you would like to inquire about documents, please contact **Mary Ellen Harris** at [Mary.E.Harris@saic.com](mailto:Mary.E.Harris@saic.com).

The benefits of ISPA membership include this perhaps under-appreciated feature — the ISPA Library!

Hank Apgar, ISPA Historian

## Call for Papers

Now is the time to submit your abstract for the 2011 Joint ISPA SCEA Conference being held 7-10 June in Albuquerque New Mexico. A list of suggested topics is provided in the Call of Papers announcement found on page 13, but don't feel constrained by this list. An abstract on any cost-related topic will be considered!

As a reminder, make sure to coordinate permission for your conference attendance with your management and funding source. Many organizations require a long lead time for funding requests. You won't want to miss out on an opportunity to present your paper due to poor planning.

**The deadline for electronic submission to the Conference website is 10 January 2011!**

Feel free to contact me ([sherry.a.stukes@jpl.nasa.gov](mailto:sherry.a.stukes@jpl.nasa.gov)) or my co-chair, Paul Marston ([pmarston@mcrci.com](mailto:pmarston@mcrci.com)), if you have any questions about the workshop program or logistics. Our contact information is provided in the Call for Papers announcement.

I'll look forward to seeing you in Albuquerque!

**Sherry Stukes**

2011 Joint Conference Workshop Co-Chair



## Albuquerque — Centuries of History

**T**he one-of-a-kind character of Albuquerque is the result of many different forces, perhaps none as important as the centuries of history that have shaped the city of Albuquerque, New Mexico. Starting with the Native Americans who have lived there for thousands of years and continuing through Albuquerque's official founding in 1706, the city has grown into a multi-cultural metropolis of nearly 800,000 people. While the modern city of Albuquerque is a center of high-tech industry and research, it retains vital connections to the past, such as the ancient rock carvings at Petroglyph National Monument, the historic Old Town Plaza and the trail of vintage neon signs along Route 66 spanning the city.

Albuquerque proudly celebrated its Tri-centennial in 2006—but the roots go back much farther. It is important to understand all of the people who have influenced the area to fully appreciate the complexity of the history of Albuquerque. The Rio Grande Valley has been populated and cultivated since as far back as 2,000 B.C. The Pueblo people who lived in the area when Europeans arrived had a sophisticated culture and advanced skills in stone masonry, ceramics and a wide range of arts and crafts.

Many of these traditional techniques are practiced to this day, handed down through the generations.

The first Spanish explorers arrived in Albuquerque in approximately 1540 under General Francisco de Coronado, and later expeditions brought settlers deep into New Mexico's river valleys. In 1706, a group of colonists were granted permission by King Philip of Spain to establish a new villa (city) on the banks of the Rio Grande (which means big or great river). The colonists chose a spot at the foot of the mountains where the river made a wide curve, providing good irrigation for crops and a source of wood from the bosque (cottonwoods, willows and olive trees). The site also provided protection from, and trade with, the Indians in the area. The colony's Governor, Francisco Cuervo y Valdez, penned a letter to the Duke of Alburquerque back in Spain to report their newly founded villa, named La Villa de Alburquerque in honor of the Duke. Over the centuries the first "r" was dropped, leaving Albuquerque spelled as it is today.

The early Spanish settlers were religious people, and

the first building erected was a small adobe chapel where today's San Felipe de Neri Church still stands in Albuquerque's Old Town. Its plaza was surrounded by adobe homes, clustered close together for mutual protection. The chapel collapsed after the particularly rainy summer of 1792, but was rebuilt a year later. While the San Felipe de Neri Church has been enlarged and remodeled several times since the 1700s, its original thick adobe walls remain intact. The church is the anchor of Old Town, the historic and sentimental heart of Albuquerque, and the Plaza is host to many cultural events and local celebrations.

Today, Albuquerque is a major Southwestern city with a diverse population and some of the nation's leading high-tech research facilities including Sandia National Laboratory, Intel and University of New Mexico. At the same time, its cultural traditions continue to be an essential part of everyday life in the city. With one foot in the past, one foot in the present and both eyes on the future, Albuquerque is a fascinating place to visit.

### Albuquerque Points of Interest

- Old Town
- New Mexico Museum of Natural History
- Albuquerque Museum
- Indian Pueblo Cultural Center
- National Atomic Museum
- Rio Grande Zoo
- Albuquerque Aquarium
- Rio Grande Botanic Gardens
- Sandia Peak Tram
- Historic Route 66





## 2011 ISPA/SCEA Joint Annual Conference & Training Workshop

7-10 June 2011  
Albuquerque, New Mexico

### Call for Papers

Submit your abstract by 10 January 2011

The Joint Conference Committee is seeking technical papers covering a wide variety of cost estimating and cost analysis topics, including:

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

This is a great opportunity to demonstrate your expertise and contribute to the advancement of the profession. The schedule for this year's conference is as follows:

Abstract Submission	10 January 2011	To upload materials, select the "Call for Papers" link in the Calendar menu on the SCEA website ( <a href="http://www.sceaonline.org">www.sceaonline.org</a> ).
Author Notification	7 February 2011	
Final Submission	28 March 2011	

If you have questions or need additional information about the Conference Program, please contact the Program Chairs:

Sherry Stukes  
[sherry.a.stukes@jpl.nasa.gov](mailto:sherry.a.stukes@jpl.nasa.gov)  
(818) 393-7517

Paul Marston  
[pmarston@mcri.com](mailto:pmarston@mcri.com)  
(978) 528-4394

# ALBUQUERQUE



## SECRETARY'S REPORT

BY GREG KIVIAT



**O**n September 14, 2010, Dr. Ashton Carter, Under Secretary of Defense for Acquisition, Technology, and Logistics (AT&L), released a "Better Buying Power: Guidance for Obtaining Greater Efficiency and Productivity in Defense Spending" memorandum calling for increasing productivity in "procuring the critical goods and services our forces need in the years ahead."

A key element of the memo is new guidance for government Program Managers (and in turn industry PMs) to treat *affordability as a program requirement* before being granted authority to proceed (Milestone A). Affordability will now be considered a Key Program Parameter (KPP) similar to speed, payload, and weight, etc., and cannot be sacrificed without Secretary level approval. At Milestone B (approval for Engineering & Manufacturing Development—EMD) program managers will be required to present a Systems Engineering tradeoff analysis showing how cost varies as the major parameters and time to complete are varied.

The memo also directs that the affordability requirement will apply to both acquisition and operating and support costs that represent approximately 30% and 70% of program cost respectively. During early program phases, program managers (both government and industry) must now consider potential cost impact that would not be incurred for many years in production and support from initial concept. This life cycle "systems engineering" approach will change past practices of managing primarily to near term development cost and technical KPPs that may result in potential cost increases to later production and operating and support phases.

The Ohio class SSBN (X) submarine replacement, the new Marine One Presidential Helicopter, the Army's Ground Combat Vehicle and the Joint Family of systems for long range strike will likely be the first programs required to meet the new requirement.

Dr. Carter plans to drive productivity growth through Will Cost/Should Cost management. "Will Cost" analysis bases estimates on extrapolations from past programs including historical increases and inefficiencies. "Should Cost" analysis determines what a program should cost by scrutinizing every cost element from learning curves to overhead to profit incentives. Government program managers will be required to conduct a should cost analysis to justify each element and show how it is improving year by year or meeting other relevant benchmarks.

The memo also provides guidance to government program managers to incentivize productivity and innovation in industry, promote competition, improve services productivity, and reduce non productive processes and bureaucracy (reducing overhead costs).

Dr. Carter notes early in the memo that to achieve these efficiencies a "capable, qualified and appropriately sized acquisition workforce" is essential. ISPA members can play an important role in this effort for both government and industry by applying parametric tools and methods that may be the best approach to support the required higher order analysis that is inherent in the parametric process.

There is great opportunity for the estimating community to support these objectives and help improve outcomes of acquisition programs. ISPA members, and those interested in providing accurate, timely and low cost affordability analysis, should be prepared to engage in this challenge by leveraging the training, resources and networks available through the society and at annual conferences.

**Greg Kiviat**, ISPA Secretary

### **Maximilian F. (Max) Steinbuchel — July 1, 1942 – September 4, 2010**



Max Steinbuchel received a bachelor's degree in Accounting and Business Administration from Wichita State University and his master's degree in Technology Management from the University of Phoenix.

He was an Estimating Systems Manager at Boeing in Wichita until 1989—a position he held for 15 years. Max then worked as a Project Manager for Motorola in the Phoenix area from 1989 to 2003. For the past few years Max worked as a Project Management Consultant. In 2007, he co-authored a book entitled "*Cost Estimating and Cost Analysis*".

Max contributed to the SSCAG Software Database for SMC and was an ISPA life-time member. He was a very colorful character with a great sense of humor. Max will be remembered for his sense of fun and the many contributions he made to the cost estimating and program management professions.



Q&A: Continued from page 5.

### **Are highly reliable launch vehicles possible?**

From the above example, it is clear that the only way to achieve highly reliable launch vehicles is through increasing the reliability of their component subsystems. In principle this is possible, but in practice there are a number of reasons why this continues to be extremely difficult.

One reason is the physics of launching vehicles into space. Fundamentally, conventional rockets are extreme machines—they have to withstand temperatures, mechanical loads, and aerodynamic forces that are at the very edge of human technological capacity to deal with, while at the same time balancing the constraints of vehicle mass, performance, form factors, and cost. With current materials and manufacturing technologies, it may just not be possible to create critical subsystems for launch vehicles that at the same time satisfy the various performance constraints and are cost effective.

Other factors that contribute to the unreliability of launch systems arise from the complexity of launch vehicle subsystem integration and interaction; manufacturing, assembly and operational issues; and the relatively low number of flights. To address the last topic briefly, even the Soyuz-U, the workhorse of the Soviet and Russian space program has only flown 751 times, to-date, and has only had 48 consecutive successes since its last failure. Looking at this from a product-manufacturing standpoint, the number of “tests” of the system is very low. Standard products, such as automobiles and computers have effectively millions of tests from which to determine reliability; diagnose design, manufacturing and operational flaws; and implement fixes. The nature of the use and cost of launch vehicles means that high numbers of fully operational tests of specific launch vehicle designs is impossible, thus limiting the failure-fixes that can be made during the lifetime of a launch vehicle family, and hence the limiting reliability of a particular design.

To attain truly high reliabilities, such as demonstrated reliabilities in the 3 to 4 “9s”, it is likely that we will have to move away from conventional rockets. Innovative designs, for example air-launched or air-breathing craft, have the potential for significantly improving launch vehicle reliability. Air-launched spacecraft, such as SpaceShipTwo, have substantial advantages over ground launched rockets by doing away with the most unreliable parts of launch vehicles (liquid rocket engines) as well as reducing the propulsion system load (by launching from altitude, the spacecraft proper has to expend less energy to enter orbit, the vehicle is less massive since it needs to carry less fuel, and the propulsion system operates for less duration). Even greater reliabilities may be possible from hypersonic spacecraft, though the extreme heat loads these types of vehicles have to endure may delay their practical usage for many decades.

It is unlikely that in the next decade we will see substantial improvements in launch vehicle reliability due to the factors described. Once new designs are operational we will see if they offer improvements over conventional launch vehicle designs, until then, it is important to understand the limitations of current launch vehicle reliability both in principle and practice.” — **Dev K. Sen**

### **Membership Report: Continued from page 10.**



Congratulations to all the ISPA and SCEA Society Members who won prizes at the Southern California Chapters Joint Workshop on September 23, 2010. I would like to thank Ms. Siobhan Kernan (PRICE Systems) my loyal Membership Deputy, who flew all the way from New York to assist me with the opportunity raffle.



**Steve Sterk (CPP)**  
ISPA Membership Chair  
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## EUROPEAN PERSPECTIVES

### Notes from René Berghuijs — Brussels, Belgium



**A**gency reform at NATO is still ongoing; the contours of the new agency structure start to become more visible now. One of the proposals is to merge the NC3A, NACMA and NCSA agencies into a combined C4SI Agency.

While going through this reform exercise NATO actually found a 15th agency previously unaccounted for: the NATO Underwater Research Centre — they were probably underwater when the original count was done!

Late September the European Aerospace & Defence working group on Cost Engineering (EACE) had a workshop in Bath, UK. Visions were presented on how to integrate cost processes such as Design-to-Cost further into business processes. Other presentations focused on the introduction and implementation of parametric cost estimating in the company. Unfortunately I could only attend one of the two days, but it was certainly worth the trip.

The next BeNeLux chapter meeting will be at the end of October, when we will do a case study. At the kick-off meeting in April the board of DACE asked if the costs for a hospital could be estimated using parametric estimating, with the number of beds as a cost driver. The case study should come up with the answer. In the meantime two new members have joined the chapter and the expectation is that more will follow.

Greetings from a wet and windy Brussels to all of you!

**Réne Berghuijs**

NATO Air Command and Control System (ACCS)  
Management Agency

### Notes from Arthur Griffiths — The UK



**I**t is mid-September, the temperature has dropped a few degrees and the air certainly feels fresher. No doubt about it, autumn is beginning — and an email from Nina reminds me that the next ISPA article is due.

On the surface of things it has been relatively quiet here in the UK since the Government announced plans for a Comprehensive Spending Review with the objective of saving between 15%-20% on all public sector departmental spending. Below the surface, things have been very different. I am sure that hundreds of people will have been busily working away on re-examining budgets, evaluating savings

options and departmental resource requirements before publication of the review in October. We all know that this will hurt, with cuts in public services and cancellations of acquisition programmes.

As you can imagine, the press is full of rumour and gossip is rife. This, together with so called 'leaks' cause even more angst. Articles in the press from senior retired military officers have rained down on us for many months and recent book publications have exasperated the tension. The latest seems to be a leaked memo that claims that there are plans to make service personnel on the front line redundant — by being issued with notices on their return to the UK. There are inevitably rumours about cancellation of major procurement programmes with the obvious targets being Aircraft Carriers, Frigates, Surveillance Aircraft, Fighter Aircraft (JSF and Typhoon). This will affect the industry in a big way. No doubt there will also be some changes to the MoD's procurement and support arm to maintain a resource balance between the service front line and its support. We await these outcomes with interest.

Meanwhile, the contract to support the transformation of the MoD's Cost Assurance and Analysis Service (CAAS) group has been awarded to KPMG. The first phase is to benchmark their activities in Cost Forecasting, Cost Engineering and Cost Certification. This latter activity is associated with Accounting and Audit rather than professional qualification.

**Jason Dechoretz** (MCR) and **Dale Shermom** (QinetiQ) completed the second in a series of Parametric training courses with the MoD which culminated with a CPP examination. I was glad to see that the first course successfully resulted in an increase in ISPA membership. This shows a commitment by the host organisation and now it comes down to us to ensure that this continues and grows in the future.

As Jason was in the UK I arranged to meet him one evening for dinner (living only a few hours driving away). I left my house in plenty of time to give me an hour or so in Bristol before the meeting. Imagine then my horror when only some 40 miles away from the destination I was confronted with a motorway closure (for several hours) and no way to get off the road. There is something quintessentially British about these situations. Three lanes of traffic with engines switched off, going nowhere and now making conversation and having picnics with complete strangers on a stretch of road with no traffic noise at all. Mind you, after 3 hours, anyone with a caravan or motor home ended up attracting more 'friends' than anyone. I suppose this had nothing to do with the facilities they had aboard their vehicles. Needless

*Continued on next page.*



## Jointness Report:

### *Your Journal May Soon Go Commercial*

**Y**our Jointness Committee is currently negotiating with several academic publishers to augment your *Journal of Cost Analysis and Parametrics (JCAP)* so that we can move onto the next stage—a commercial publication. You may remember, from earlier reports, that a journal produced by a commercial publisher could:

- Enjoy a wider circulation — which would improve the journal's cost efficiencies.
- Encourage a wider range of authors and topics (to include operations research, systems engineering, and economics).
- Satisfy the authors' need for wider peer-recognition through frequent citations.
- Enhance awareness of ISPA and SCEA, and our joint conferences, beyond the current membership.

Responding to our prospectus, essentially a Request for Proposal sent to ten commercial publishers with an October 2010 due date, we expect bidders to assure SCEA and ISPA members the following terms and conditions:

- SCEA and ISPA would retain ownership of our journal and would continue to exercise editorial control—including appointment of our editors.
- The commercial publisher would be responsible for all aspects of production, distribution, marketing, and sales — paid from institutional subscription fees.
- The JCAP would also be available in an on-line version, offering full-text searching.

Our continuing goals are to sustain JCAP's status as a world-class professional journal and to assure the combined memberships their continued access to the best cost analysis journalism available anywhere.



**Hank Apgar**

Member — ISPA/SCEA Jointness Committee  
hapgar@mcri.com

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*Continued from previous page.*

to say I missed dinner—but I did manage to catch up with Jason a few days later in London. That weekend we saw one of the most unique and some say eccentric British events 'The Last Night of the Proms' (absolutely nothing to do with college proms). This is the final night of a summer series of classical music concerts. Performed live at the Royal Albert Hall it's now screened to parks all over the country and watched by millions throughout the world. Goodness knows what they think when they see all the people dressed in tuxedos, frilly dresses and other attire all wearing funny hats waving flags and singing 'Rule Britannia', 'Land of Hope and Glory' and other patriotic songs with much gusto and endeavour. It has to be seen to be believed. Check out the iPlayer at [www.bbc.co.uk](http://www.bbc.co.uk). Still, we all need a bit of the fantasy feeling before reality kicks in later this year and the weather keeps us indoors.

**Arthur Griffiths**

Decision Analysis Services Ltd.

## Certified Parametric Practitioner (CPP) News and More

It's been a busy summer. Last week the Southern California Chapters of ISPA and SCEA co-sponsored a workshop hosted by MCR at the Doubletree Hotel in El Segundo, California. Neil Albert was the welcoming speaker and Col. Roman Kent, Comptroller, Air Force Space and Missile Systems Center, was the keynote speaker. Neil addressed the GAO Cost Estimating and Assessment Guide and graded DoD, NASA, and the Civilian agencies on how well they were meeting the intent of the GAO. The workshop was well attended with over 120 being present.

Hank Apgar also presented the Frank Freiman Award plaque to Neil for his life-time contributions and promotion of parametrics within the cost analysis and estimating community.

Col. Kent spoke about the changes that were taking place within the Cost Estimating and Earned Value Management communities due to the stand up of the Cost Analysis and Program Evaluation (CAPE) office resulting from the passage of the Weapon Systems Acquisition Reform Act. WASRA disestablished the OSD office of Program Analysis and Evaluation (PA&E) as well as the Cost Analysis Improvement Group (CAIG) and replaced these historically significant organizations with the new CAPE.

Elsewhere in ISPA, our membership continues to grow. In September, another class for the United Kingdom Ministry of Defence Cost Assurance and Analysis Service was conducted by **Jason Dechoretz** and **Dale Shermon**. Dale and Jason administered the CPP exam following a four-day training session. Please help us congratulate our newest Certified Parametric Practitioners from the UK: **Andrew Banks, Brett Ceazar, Jason Davies, Malcolm Hatherley, Richard Pearce, Andrew Pritchard, Michael Simmons, Bob Snowden, John Williams, and Robert Williams**.

We also want to remind our current members who may have taken the CPP exam in 2006, that in order to retain your certification as a CPP, you need to submit the following information to [rsmoker@mcri.com](mailto:rsmoker@mcri.com) for confirmation that you have accumulated over 75 points from these types of activities.

The recertification process is easy as each activity carries a specified number of points and any combination of points that totals to 75 will get your Parametric Practitioner Certification updated.

Activity	Point Range
Employment	5 to 10
Attending ISPA National Conferences and Workshops	7 per conference
Attending other conferences	5 per conference
Publishing or presenting papers	10
Attendance at classes or seminars	7 per seminar
Membership in related professional organizations	2 per org. — 4 max
Election to a local chapter position or ISPA Board of Directors	5 per term
Appointments to ISPA positions	5 per term
Being a Workshop or Conference Track Chair	5 per workshop
Receiving awards, honors, or degree in related field	15 per item

*List only programs and activities that have occurred during the five year period from your date of certification.*



**Dr. Roy Smoker, (CPP)**  
Chief Parametric Practitioner  
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## ISPA Southern California Chapter News

BY KURT BRUNNER, CHAPTER PRESIDENT AND SHERRY STUKES, CHAPTER VICE PRESIDENT

**B**eautiful weather, the setting full moon, and the autumn equinox greeted attendees at the most recent joint ISPA & SCEA workshop hosted by MCR on **September 23, 2010** and held at the Doubletree Hotel in El Segundo, California. All those in attendance experienced a day of thought provoking presentations, relaxing surroundings, and delicious refreshments. MCR also provided door gifts and various souvenirs. All 143 participants (including 31 virtual attendees) who took part concurred that this workshop was among the finest ever. Our workshop attendance is soaring!



*ISPA/SCEA Workshop hosted by MCR — 9/23/10*

The success of the Southern California Chapter workshops continues to exceed all expectations. The outstanding and inspiring topics which were explored at our September 23 workshop by invigorating and entertaining speakers are listed below.

**Neil Albert**, CEO, **MCR LLC** (McLean, Virginia) *"Report on a Survey as to How Government Agencies Develop Cost Estimates"*

**Colonel Roman Kent**, Comptroller, **Air Force Space and Missile Systems Center** (El Segundo, California) *"Current Air Force Cost Initiatives"*

**Pierre Foussier**, President, **3F** (France), *"Improving CER Building: Getting Rid of the R2 Tyranny — Building a CER with the Median"*

**Dan Galorath**, CEO, **Galorath Incorporated** (El Segundo), *"Training Topic: Data Collection and Analysis"*

**Alf Smith**, General Manager Software Products/Services Group, **Tecolote** (Santa Barbara), *"AFCAA Cost Risk and Uncertainty Analysis Metrics Manual (CRUAMM)"*

**Pat Malone**, Senior Associate, and **Roy Smoker**, Senior Technical Director, **MCR Technologies** (El Segundo),

*"The Application of TRL Metrics to Existing Cost Prediction Models"*

As the keynote speaker, **Colonel Kent** took time from his very busy schedule to deliver an informative and informational talk about the dynamic world of cost estimating and earned value in today's Air Force, and particularly at the Los Angeles Air Force Base. He discussed the many requirements that exist in responding to the dynamic challenges and fast paced environment that we currently face. The Colonel was well versed in current high level proposals impacting the community and he brought us up to date in how these challenges are being met locally and nationally. It was an honor and true pleasure to hear from such a senior and conversant officer.

Many, such as **Neil Albert** and **Pierre Foussier**, traveled long distances to address the group. Neil Albert of Virginia explored how many non-Department of Defense agencies do cost estimating and how they are viewed by the Government Accountability Office. His discussion was most educational and revealing. **Pierre Foussier** of Paris, France, talked about the benefits of employing alternative methods in CER development as compared to those typically used. Afterwards, he spent time in discourse with the workshop attendees and participated in the day-long briefings.

Society award presentations were conducted by **Henry Apgar** at the workshop. **Neil Albert** was presented with a plaque for the **Frank Freiman Award**, and **Sherry Stukes** and **Kurt Brunner** also received plaques for their **Keith Burbridge Service Awards**. These awards were announced at the Joint 2010 ISPA/SCEA conference in June at San Diego, but the actual engraved plaques were presented at the workshop.







*Sherry Stukes & Kurt Brunner*

In conjunction with the our ISPA membership drive, **Steve Sterk** from the ISPA International Board of Directors and the ISPA Membership Chair conducted drawings for prizes that included NASA coffee mugs and assorted ISPA memorabilia. Among the winning ISPA members: **Miles Nesman, David Garcia, Bruce Thompson, and Michael Butterworth. David Graham**, Southern California SCEA Chapter President, also conducted a similar drawing for SCEA members. The lucky winners of the drawings are pictured below.



*Drawing Winners*

Only ISPA and SCEA members were eligible for the respective drawings, so if you are not currently a member or if your membership has expired, please join or renew to have a chance to win at future drawings. The \$55 ISPA annual membership is an exceptional value for a great investment in your career! For information about ISPA membership, contact **Steve Sterk**, ISPA Membership Chair, at [steve.a.sterk@nasa.gov](mailto:steve.a.sterk@nasa.gov) or at (661) 276-2377.

**Rick Garcia** of **MCR** deserves particular thanks for coordinating and arranging the facilities at this stellar workshop event.

If you would like a copy of the workshop briefings, please contact the workshop program coordinator, **Henry Apgar**, at [hapgar@mcri.com](mailto:hapgar@mcri.com).

Please don't miss our next stimulating joint **ISPA/SCEA Winter 2010** workshop which will be hosted by **Boeing** in **Huntington Beach, California**, in the **Building 28 Theater** on **Tuesday, 7 December 2010**. We have a tremendous program lined up, full of exciting presentations by dynamite speakers. The speaker line-up for the winter workshop currently includes:

**Keynote Address** by **Steve Miller**, **OSD Cost Assessment and Program Evaluation (CAPE)**

**Dr. Stephen Book**, **MCR LLC**, *"Statistical Foundations of Adaptive Cost-Estimating Relationships"*

**Dr. Shu-Ping Hu**, **Tecolote Research Inc.**, *"Simple Mean, Weighted Mean, or Geometric Mean?"* (Best Methods Track Paper, 2010 San Diego Joint Conference)

**Dr. Christian Smart**, **Missile Defense Agency** (Huntsville, AL) *"Here There Be Dragons: Considering the Right Tail in Risk Management"* (Best Overall Conference Paper, 2010 San Diego Joint Conference)

In addition, a Boeing Executive will address the workshop.

Additional details about the upcoming workshops will be posted to the ISPA Web site under the Southern California Chapter section. Also, if you attended a previous workshop and your e-mail address is up-to-date, you will receive an e-mail notification and reminder to save the date.

Please consider hosting a workshop or presenting at a workshop! It will be a fulfilling and absorbing activity. If you're interested in hosting please contact Mr. Kurt Brunner at [kbrunner@tecolote.com](mailto:kbrunner@tecolote.com) or Ms. Sherry Strukes at [sherry.a.stukes@jpl.nasa.gov](mailto:sherry.a.stukes@jpl.nasa.gov). If you're interested in presenting at a workshop please contact Mr. Henry Apgar, at [hapgar@mcri.com](mailto:hapgar@mcri.com).

Elections for the ISPA Southern California Chapter Officers and Directors will be held soon. If you're interested in running for office please contact Ms. Madeline Ellis at [madelineellis@socal.rr.com](mailto:madelineellis@socal.rr.com). We can promise you a lot of excitement and satisfaction!

The current Southern California Board of Directors consists of:

*President — Kurt Brunner*

*Vice-President — Sherry Stukes*

*Secretary/Treasurer — Charles Wheeler, III*

*Directors — Hank Apgar; Doug Howarth; Paul Killingsworth; Nina Tahir; and Scott Tobin*

We look forward to seeing you at the next workshop!



*Kurt Brunner*

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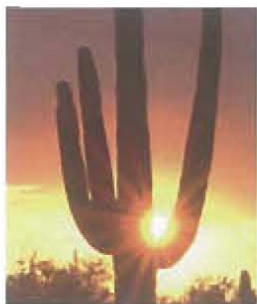
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## ISPA Southwest Chapter News

By COREY HUTCHINSON, CHAPTER PRESIDENT



**I**t has been over two years since I was asked to step in and assume the role of the Southwest Chapter President. I must admit that following in the footsteps of my predecessor, Diana Patane, was intimidating as I knew she had invested great energy and passion into the organization of the Chapter. She spent a great deal

of time with both Brian Glauser, Southwest Chapter Vice President and Doug Tisdale, Southwest Chapter Secretary, in order to seamlessly facilitate the transition of the Chapter's leadership. In many respects, Diana was a "tough act to follow."

Over the course of the last couple years, I've enjoyed making new friends, networking with other professionals in our discipline and having the opportunity to learn from the many experts in our Society. Participation in the conferences and the opportunity for me and all our members to hear about the latest developments in our field is invaluable. I have focused my efforts on communicating the benefits of ISPA membership in the Phoenix metropolitan area and have had some success in increasing awareness and membership.

The weather begins to cool in the desert and as our season changes, so must the leadership of the Chapter. A fresh perspective and enthusiasm are needed to allow the Southwest Chapter the ability to continue to grow. In the 32 years I have worked for Boeing, I have supported many different programs with different responsibilities and with each change came a new challenge and opportunity. My current job and responsibilities do not allow me adequate time to devote to the Chapter's membership and activities. Please contact Jason Dechoretz or me if you're interested in the opportunity to continue to grow the Southwest Chapter and are able to devote the necessary time that the Society and Chapter membership deserve.

Thank you all for your friendship and support.

*Corey Hutchinson*

President, ISPA Southwest Chapter  
corey.s.hutchinson@boeing.com

## CALENDAR OF EVENTS

### December 7, 2010

ISPA & SCEA SoCA Chapters Workshop  
Host: Boeing, Building 28 Theater  
Huntington Beach, California  
Information: Kurt Brunner  
kbrunner@tecolote.com

### January 4-7, 2011

49th AIAA Aerospace Sciences Meeting and  
Aerospace Exposition  
Orlando World Center Marriott  
Orlando, Florida  
Information: Fernanda Tilleria — 703-264-7622

### January 31 – February 2, 2011

5th Annual ACEIT Users Workshop  
Fess Parker's Doubletree Resort  
Santa Barbara, California  
Information: [www.aceit.com](http://www.aceit.com)

### February 8, 2011

SCAF Workshop  
Royal Institution of Naval Architects  
Victoria, London  
Information: Max Murray Brooks  
mmbrooks@dstl.gov.uk or [www.scaf.org.uk](http://www.scaf.org.uk)

### April 12, 2011

SCAF Workshop  
The BAWA Centre, Filton, Bristol  
Information: Max Murray Brooks  
mmbrooks@dstl.gov.uk or [www.scaf.org.uk](http://www.scaf.org.uk)

### June 7 – 10, 2011

ISPA & SCEA Conference & Training Workshop  
Hyatt Regency Albuquerque, New Mexico  
Information: [scea@sceaonline.org](mailto:scea@sceaonline.org)  
or 703-938-5090

### June 20 – 23, 2011

79th MORS Symposium (Classified — U5 Only)  
"Developing the Next Generation  
of National Security Analysts"  
Naval Post Graduate School  
Monterey, California  
Information: [www.mors.org](http://www.mors.org)







# 2011 ISPA/SCEA Joint Annual Conference & Training Workshop

June 7 - 10, 2011  
Albuquerque, New Mexico

Come join the International Society of Parametric Analysts (ISPA) and the Society of Cost Estimating and Analysis (SCEA) for the 2011 ISPA/SCEA Conference in Albuquerque, NM. This event will feature training and networking opportunities you won't want to miss!

## Professional Development:

- Training sessions based on content from SCEA's Cost Estimating Body of Knowledge (CEBoK™) and the 4th Edition of ISPA's *Parametric Estimating Handbook*, and designed for all experience levels, will help attendees enhance their skill set or prepare for the CCEA or CPP exams (held June 11).
- CCEA study sessions allow test-takers to work through sample problems together to prepare for the certification exam.
- Professional Papers will give attendees the chance to hear about best practices, lessons learned, and the latest developments in the field.
- Keynote speeches and panel discussions featuring industry experts will inspire discussion.
- Look for the Call for Papers in early Fall 2010.

## Networking:

- Exhibitor Sessions and exhibit booths give attendees the chance to network and learn about new tools and software.
- Mingle with colleagues and speakers at the Tuesday evening Attendee Reception and the Thursday evening Reception and Awards Banquet.

## Relax and Enjoy...

The 2011 ISPA/SCEA Conference will be at the Hyatt Regency Albuquerque. Enjoy the hotel's luxury amenities or take advantage of nearby attractions and activities like:

- 14 golf courses, 19 museums, and the Albuquerque Biological Park;
- Horseback riding along the Rio Grande River, mountain biking in the Sandia Mountains, and hot air balloon rides; and
- After-hours fun like casinos, winery tours, and Summerfest music festival.



For information about registration, exhibits/sponsorships, or presenting a paper, contact the SCEA & ISPA Joint Office at 703-938-5090, [scea@sceaonline.org](mailto:scea@sceaonline.org).







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527 Maple Avenue East-Suite 301, Vienna VA 22180

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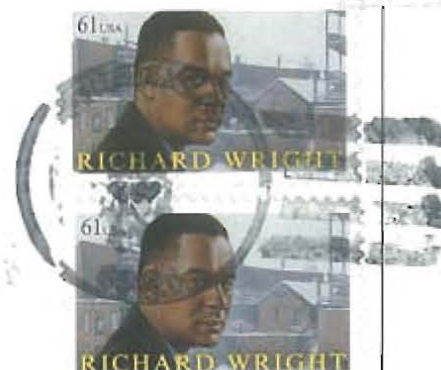
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