



Winter 2012 Vol. 31 No. 1

# PARAMETRIC WORLD

A Periodical of The International Society of Parametric Analysts

## A TRIBUTE TO DR. STEPHEN A. BOOK

(1941 – 2012) — Page 4



Fred Tucker



Steve Sterk

*It is with a heavy heart that we notify you of the passing of Steve Book, a luminary in the field who has served SCEA and ISPA for years as an active member and co-editor of the Journal of Cost Analysis and Parametrics. His accomplishments are certainly too numerous to list here, but to name a few, he has been awarded the SCEA Lifetime Achievement Award and the ISPA Freiman Award, and he has written numerous ISPA/ SCEA Best Papers. Steve's humor, wisdom, and eagerness to volunteer for SCEA and ISPA were inspiring. He was always willing to mentor and tutor young professionals, sharing his knowledge and wisdom in the development of the next generation of analysts, and he will be sorely missed.*

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# PARAMETRIC WORLD

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## LETTER FROM YOUR EDITOR

### IN THIS ISSUE



In this issue we continue to follow two stories:

**The International Conference in Brussels:** We include a listing of candidate papers for the workshops (accepted papers will be listed in the next issue). We also provide a description of the Guest Program; it includes a day trip to Bruges (oh joy).

**The Potential Merger:** I commend your attention to Andy Prince's lucid discussion of what could happen, and when, during a merger process.

But as we were gathering material for this issue, a thunderbolt arrived from the Joint Office on January 11th: *"It is with a heavy heart that we notify you of the passing of Steve Book, a luminary in the field, who has served SCEA and ISPA for years as an active member and co-editor of the Journal of Cost Analysis and Parametrics...."*

This really hit home. Steve was a fellow editor as well as a friend. There is a bond between people who do the editing task. Steve had the harder job with editing the *ISPA Journal* (and later the *Joint ISPA-SCEA Journal*); these publications are refereed, which adds layers of complication. From a family standpoint, too, we felt a loss. My wife Ethel and Ruth Book had formed a friendship at many ISPA and SSCAG venues over the years. Hank Apgar volunteered to write a remembrance of Steve for this issue. It is fitting that he should do so because Steve and Hank both served in cost analysis at The Aerospace Corporation and worked together at MCR.

One other important issue in this issue deserves your attention. This may well be the last chance we get to recognize ISPA members with the treasured Society awards. The awards would not go away completely in a merger but the Burbridge service award would be merged into one that covers the old SCEA. Joe Hamaker's article outlines the steps needed to nominate an individual for any of the three (for now) Society awards. As a reminder the deadline for nominations is April 1st.

*Charles Hopkins*

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## ISPA + SCEA = IACA

BY ANDY PRINCE



**B**efore I talk about our new name, I want to encourage all of you who have not registered for the Brussels conference and made your travel arrangements to do it now! Time is short and I don't want any of you to miss this great opportunity to network

with, and learn from, the best cost professionals in the world. I know that travel dollars are tight for many of us here in the US, so please do what I have done: make this your top priority! This is the last ISPA branded overseas conference. It will be a special event and you will be glad you were there.

Now, about our new proposed name: **The International Association for Cost Analysis (IACA)**. This is the proposed name for the new organization created by the merger of ISPA with SCEA. Names are important. Names carry meaning. The name of our new association (get used to saying that word) was discussed and debated by probably 15 or more different people from both societies. Lots of good, creative ideas were put forward. The meanings of words and concepts were explored, not only for what they mean to us but also for what they mean to our customers and stakeholders, (the people we work for and interact with on a daily basis). In this way we will go forward growing our profession. Here is what IACA means to me:

**International:** we are a global profession. Many of the challenges faced by cost analysts here in the US are the same as those faced by our associates in the UK, France, Germany, the Netherlands, South Korea, Australia, and many other places around the globe. As an international society we have seen the benefits of working together to improve the quality of our work. I believe that our new association will take international cooperation to a new level, bringing the benefits of what we do to new industries, government agencies, and academia.

**Association:** a group of like-minded individuals working together to grow as professionals, to grow our profession, and to reach out and work with other professional organizations to accomplish our goals. When we looked deeply at what to call ourselves (society, association, organization, institute, etc.), we quickly found that 'association' is the word that best describes who we

are, especially from an international perspective. We are professionals who associate together to improve ourselves and the quality of the work that we do for our customers.

**Cost Analysis:** a broad term that captures what we do. ISPA is a society of parametric cost analysts. We are proud to be parametric analysts. We believe parametrics offers most effective and accurate way to produce high quality cost estimates and analyses. However, our new association will include many who do not use parametrics as their primary method of estimating, or may not use parametrics at all. These professionals need to feel that the new association is here for them, helping them produce better EVM analyses, better grass-roots estimates, better engineering economic analyses. We will be a big tent organization, learning from each other and expanding our knowledge and capabilities to provide the estimates and analytical products needed by government and industry in the 21st Century.

Your Board of Directors has voted to accept the International Association for Cost Analysis as the name for the new organization. We also voted to approve a plan to integrate the finances of the two societies, and approved the new constitution and bylaws. We await the outcome of a similar vote by the SCEA Board. The next step will be a vote by the general membership of both societies. Please read the various merger articles in this issue of *Parametric World* for a fuller explanation of all merger decisions and activities.

On a much sadder note, we lost one of the true giants of our profession when Dr. Steve Book died in January of heart failure. Hank Apgar has prepared a wonderful article in memory of Steve for this issue, and I want to take a few words at this time to express my thoughts. Steve was one of the most intelligent, thoughtful, and approachable people I have ever known. Every time I went to a conference, workshop, symposium, or other gathering of analysts I looked for Steve, just to spend some time with him and find out what he was working on, what new technique he had developed, what new discovery he had made, or to get his insight into an issue I was wrestling with. Though he was a professional with strong opinions (and had the data and analysis to back them up), he was also open and friendly and always

*Continued on page 18.*

**A TRIBUTE TO DR. STEPHEN A. BOOK (1941 - 2012)** BY HANK APGAR



Dr. Stephen A. Book died at his home in Seal Beach, California on Tuesday, January 10, 2012. Steve touched the lives of most of us on a personal and professional level through his friendship, teaching, mentoring, leadership, and inspiration. He also left an indelible mark on the cost, schedule, and risk analysis

professional community worldwide.

Steve earned his Ph.D. in mathematics, with a concentration in probability and statistics, at the University of Oregon. He joined The Aerospace Corporation in 1980 where he worked on a wide variety of Air Force programs and directed a vigorous program of research analysis into methods of conducting cost and schedule risk analyses and deriving cost estimating relationships (CERs). He went on to serve as Director, Cost and Requirements Analysis from 1989 to 1995 and then held one of the most eminent titles The Aerospace Corporation would bestow, the title of 'Distinguished Engineer' from 1996 to 2000.

According to Vince Canales at Aerospace, *"Members of the technical staff are selected for these prestigious positions when they have demonstrated exceptional achievement within their area of expertise. Prior to this honor, Dr. Book was the Director of a cost department that specialized in cost estimating and cost model development. In 1982 he shared the Aerospace President's Award for work on Navstar GPS constellation size and identified potentially large cost savings."*

Steve joined MCR in January 2001 and served as its Chief Technical Officer from 2001 to 2009.

An early clue to Steve's humorous side was his response (quoted from an Aerospace newsletter) to an interviewer's question, *"Well, you've spent a lot of your time here at Aerospace in management. How did you wind up in a staff position?"* Steve's response was: *"I'm not sure. If you ever find out, be sure to let me know. I suppose it had something to do with the fact that, after ten years in management positions at Levels 2 and 3, I could still remember how to do calculus. Actually, I've found that staff and management positions are quite different. When I was in management, I accepted tasking from our Air Force counterpart (SMC/FM), program offices, and other customers, but I delegated*

*all the actual work out to my staff and never really had to do anything myself. Now, however, I find that I can accept only work that I'm sure I can complete myself, because I have nobody to delegate it to and, anyway, everybody else is too busy with their own work. So now I have to do actual work, like, you know, estimate costs and stuff. Actually, I've written a number of cost analysis courses that The Aerospace Institute is offering. So pretty soon everybody will be able to do their own cost estimates, and I again won't have to do any work at all — an ideal situation!"*

Dave Bearden, also of Aerospace, remembers that *"Steve was my mentor when I first came to the company, on my dissertation committee, and a good friend. He will be greatly missed."*

Dr. Book was the last editor of the International Society of Parametric Analysts' (ISPA) *Journal of Parametrics* prior to its merger with the Society of Cost Estimating and Analysis' (SCEA) *Journal of Cost Analysis and Management*. He was co-editor of the now combined *Journal of Cost Analysis and Parametrics*. In 2005 he was the recipient of ISPA's Freiman Award for Lifetime Achievement and in 2010 he was the recipient of the SCEA Lifetime Achievement Award. He is one of only four individuals to receive both lifetime achievement awards.

At the SCEA Awards ceremony, Dick Coleman of Northrop Grumman delivered a warm and personal accolade when he stressed how *"...the facts do not explain the deep respect and high regard that all in the cost community feel for Steve. Steve is a giant in the field, but unlike many eminent people, Steve is as unaffected and warm a person as you will ever meet. He hasn't a trace of pomp or pretense. He is known for his iconoclastic style and his innovation, but nobody ever minded Steve's view on things, even when it was their ox he was goring, because his approach is so dispassionate and easygoing and is invariably laced with good humor."*

Herve Joumier, representing the European Space Agency, declares that *"We will miss Steve for many reasons: He was amongst the most qualified persons in our profession. He has been constantly and intensively contributing with high level research works, top quality papers and presentations; he was, instrumental in raising the professional standards of our societies. He was extremely generous contributing to the development of our society and was a real inspiration for all of us whatever our level of experience and age."*

Steve was one of the most sought after experts in cost

analysis in the world. Whether supporting the European Space Agency, the National Reconnaissance Office, or NASA, Steve had the deep respect and high regard from all in the cost community. He served on numerous blue ribbon panels and supported such national studies as National Research Council's committee on Space Shuttle upgrades, the 'Chabrow Committee' for the International Space Station and 'Stafford Committee' Space Exploration Initiative. He also testified to Congress on the issues of cost estimating and analysis in the Space industry.

Steve Vandrew of NAVAIR "...cannot think about 'summing most likely costs' or 'WBS allocation' without Steve's seminal work in those two areas...or his 'knee in the curve' concept for correlation. MDA's draft handbook recommends 0.2 for correlation..."

Tim Anderson remembers meeting Steve in 1995, "...when he gave a presentation in the Risk Track at DoDCAS. As an operations research analyst who had just begun a career in cost analysis, I was smitten with his witty thoughts on cost risk analysis and became an immediate fan. We collaborated many times over the years since. He recruited me to join The Aerospace Corporation, and later I followed him to MCR for a two-year tour there. Steve has always been my mentor and a great friend."

Hollis Black of Boeing remembers Steve as "a favorite colleague and friend to hundreds, if not thousands. Steve Book was 'huge' in aerospace cost and risk assessment. I've watched him in action on major procurement SSEB's, day-long risk seminars, and round-table cutting edge discussions for almost 20 years. He was proactive, insightful, affirming, and pushing the state of the art. Steve readily criss-crossed many professional organizations including AIAA, SSCAG, SCEA, ISPA, and others. He will be long missed as one of the industry giants and one of my heroes, always admired and emulated."

Steve made noteworthy contributions to the profession which influenced how we perform cost analysis today. In just over 30 years, Dr. Book has helped the Intelligence Communities, Space Communities, and various departments and ministries of Defense around the world better understand how cost estimating and analysis is a tool that helps programs be more successful. Just a few of his most important contributions are listed at the end of this article.

Steve could always lighten a tense situation with a hilarious joke or put a difficult situation into perspective with his sage advice. One of his many gifts included the ability to explain complex issues in a manner which even a non-technical manager could understand! These talents made him one of the most popular speakers in

our industry. He was one of the most well-known, well-liked and well-respected men in the cost and schedule analysis community. Through his deeds, many of us regard him as a father of modern cost analysis.

Jason Dechoretz of MCR remembers when he was on developing some communications-payload CERs for MCR and he stopped by Steve's office at Aerospace to see if Steve could find the formula for the area of a parabolic antenna, since Steve maintained an exhaustive library of engineering lore. "Rather than simply look up the formula, Jason, let's see if we can just derive it," replied Steve. Minutes later, with the final expression scribbled on Steve's white board, they both referred to a calculus text to verify that the formula was correct. "Now, wasn't that more fun than simply looking it up?" was Steve's final assistance.

Dr. Ricardo Valerdi of the University of Arizona remembers when he was writing a paper on the origin of the field of parametric analysis: "Rather than limiting the study to sources already in print, it became clear that the history of parametrics could be best told by the pioneers of the field. Steve Book was one of the first people I contacted because everyone in the field kept pointing to him as the center of gravity for much of the knowledge about the field. During my time interviewing Steve about his experiences I came away with four important nuggets of wisdom:

- 1) It's not always easy to do a mathematically correct analysis
- 2) Everything is difficult to model, which is why you need risk analysis
- 3) COTS can often cost more money than it saves
- 4) Every software problem is a unique research problem. The latter point reminds me of his inquisitive mind that was always striving to find solutions to the hardest modeling problems. In order for the field or parametrics to make the same intellectual progress it made during Steve's professional life we will need three more Steve Books. I just hope we find them soon otherwise we're in trouble."

Dr. Christian Smart of the Missile Defense Agency, who worked for Steve at MCR, remembers Steve as a pioneering researcher, a prolific writer and editor, and one of the icons of our profession. "Those of us who saw him lecture at a seminar or at a conference remember him as a gifted and witty speaker. Those of us who knew Steve personally remember him fondly for his self-deprecating wit, warmth, and patience as a teacher. Steve may be gone, but his legacy lives continues not only through his published papers, but also in the lives that he touched. I am fortunate to have known Steve and to have worked for him. Steve was my primary mentor in cost analysis, and I miss him."

Continued on page 6.



Rob Currie

**Dr. Book receiving the SCEA Lifetime Achievement Award. (L to R): Bill Haseltine, SCEA President; Debra Lehman, Awards Chair; Dick Coleman, Awards Presenter; Steve Book.**

*Continued from page 5.*

Sherry Stukes of JPL remembers Steve as an inspiration to our local cost community. *"Steve was generous with his time and often gave me valuable feedback on my papers and presentations. He had a gift of explaining complex topics in a clever and easy-to-understand way. He also helped our local Southern California Chapter workshops by not only agreeing to be a presenter, but by taking the last speaking slot of the day. Attendees stayed until the end because they knew that they would always learn something new from 'Dr. Book'. Steve will be greatly missed."*

Dale Shermom of QinetiQ submitted an article to the ISPA Journal last year and recalls that, *"Steve was finally satisfied that the paper was worthy of publication. Part way through the process, I was beginning to think the paper was not worthy of the Journal, but that weekend Steve emailed me more comments with a personal note that encouraged me to continue. He changed my attitude. He will be missed."*

Neil Albert of MCR shared a story last week about the time when Steve requested to return to MCR from part-time to full-time status. When Neil asked why, Steve simply replied, *"Well, Neil, I've had a 'change of heart.'"*

With his many contributions to the professional community he balanced a busy professional life with a busy and happy family life. He is survived by his wife, Ruth, and five children, Robert, Lewis, Elizabeth, Victoria and Jacqueline. He will be greatly missed.

### SELECTED PUBLICATIONS

**The Global Positioning System (GPS) Non-Uniform Constellation (joint with W.F. Brady and P.R. Mazaika):** demonstrated that a GPS constellation consisting of 18 satellites in non-symmetric orbits met the specifications required for the GPS system in 1980 to essentially the same extent as the baseline constellation consisting of 24 satellites in three symmetric orbits. The feasible reduction in number of satellites required over the then-proposed GPS life cycle provided an estimated \$480M in cost savings and possibly prevented cancellation of the program, which was being seriously considered at the time. The three authors received the 1981 Aerospace Corporation President's Award for Analytic Achievement for their work.

**Do Not Sum 'Most Likely' Costs:** is one of his most famous presentations — the briefing demonstrated that summing most likely costs of WBS elements almost surely underestimates program total cost and that a statistical approach based on cost probability distributions is necessary to estimate the 50th percentile, 80th percentile, and other meaningful cost levels. This led Office of the Secretary of Defense Cost Analysis Improvement Group (CAIG), now Cost Assessment Performance Evaluation (CAPE), in its December 1992 **Cost Analysis Guidance and Procedures (DOD 5000.4-M)**. The procedures required that DoD cost estimators deliver analyses in the form of probability distributions.

**A Way Out of the Learning-Rate Morass: Quantity as an Independent Variable (QAIV) (joint paper with E.L. Burgess):** circumvents several difficulties associated with estimating the costs of multiple-unit procurement. The two major difficulties circumvented by QAIV are the facts that learning rates are almost impossible to estimate for past procurements and even more so for future procurements, because the drivers of learning rates are not well understood. QAIV removes both of these difficulties by establishing CERs that contain 'number of units' as a cost driver, along with the physical descriptors of the system being estimated.

**Minimum-Percentage-Error (MPE) Regression Under Zero-Bias Constraints (with N.Y. Lao):** introduces the idea of MPE/ZPB (or ZMPE) general-error regression, which can be used in lieu of classical ordinary least squares (OLS) regression in cases when conditions for applying OLS are not met. MPE/ZPB regression leads to CERs that have the smallest possible percentage error among all CERs that have zero percentage bias. MPE/ZPB regression has largely replaced OLS and iteratively-reweighted least squares (IRLS) regression as the method of choice for CER development.

**Costs of Reusable Launch Vehicles: Should We Pay Up Front to Build in High Reliability or Pay Later to Buy More Vehicles?:** demonstrated that there is no scenario in which the economics of reusable launch vehicles makes them preferable in cost to expendable launch vehicles. (NASA wasted at least eight billion dollars trying to develop reusable launch vehicles and has essentially nothing to show for it.)

**Why Correlation Matters in Cost Estimating:** demonstrated that correlations between cost distributions strongly impact the variance of the total system cost distribution to the extent that the distribution will appear to be much narrower than it actually is if the inter-element correlations are ignored (i.e., set to zero). If the distribution is perceived to be narrower than it should really be, the 70th, 80th, and other percentiles that typically exceed the mean cost will seem to be lower than they actually are. Program budgeted to those low estimates will be at higher risk for overrunning. Both the Defense Department and

NASA have changed their approach to risk analysis based on this research.

**What We Can and Cannot Learn from Earned Value:** demonstrates that the Schedule Variance (SV) and the Schedule Performance Index (SPI) do not provide the analyst

with any information about the project schedule. Both metrics measure instead the relationship between the dollar value of the work schedule for a specific time period and the dollar value of the work actually completed during that time period. They would better be called the 'Accomplishment Variance' and 'Accomplishment Performance Index,' respectively. Leaders in the Earned Value community have agreed with this analysis and many have changed their discussion of EV based on the results of this study.

**Estimating Correlations for Use in Cost-Risk Analysis:** recognizes that inter-element correlations are difficult to estimate and offers a method of deriving them from the 'heritage' percentages (complements of the 'newness percentages) of the WBS elements. Rather than asking analyst or engineer to estimate an inter-element correlation, he or she is asked 'What percentage of the content of each of the elements is new?' This is a question that is easier to answer, because the newness percentages are easier to understand than the correlation. The mathematics in the study turns knowledge of newness percentages into numerical correlations.

**Allocating 'Risk Dollars' Back to Individual Cost Elements:** by 'risk dollars' we mean the difference between the 'point estimate,' however that is defined, and a more acceptable risk level, such as the 70th or 80th percentile estimate. This paper showed how to allocate the risk dollars among the WBS elements of the system being estimate, so the program manager can plan his or her use of the risk dollars in a logical way, rather than being surprised at which element need more dollars. The allocation depends on both the risks inherent in each of the individual elements and the correlations between their cost distributions.

**Cost Risk as a Discriminator in Trade Studies:** offered a technique for taking into account the cost risk of candidate designs or architectures in trade studies, rather than basing the trade-study decision on simply the 'best estimate' cost. This is important, because a design or architecture judged less costly at the best estimate cost or even at the 50th percentile cost may turn out to be more costly at the 80th percentile level, due to the shape of its cost-risk based probability distribution.

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*For this article, I am indebted to his many friends who sent me their remembrances and a story appearing in the MCR employee newsletter, FAQtoid, on January 13, 2012, written by Neil Albert, Jason Dechoretz, and Ray Covert. I am also indebted to Tim Anderson who shared numerous remembrances that he had collected. — HA*



Rob Currie

## Events Planned at Brussels, Belgium

BY JASON DESCHORETZ, CONFERENCE CHAIR



We are putting the final touches on the Cost and Parametric Analysis event of 2012. Recently we have confirmed two Keynote speakers from ESA (Astronaut Frank de Winne) and Airbus (VP Finance & Head of Costing (Dominique Arnal). We are awaiting confirmation of at least one other Keynote speaker.

As we observed in the last issue, we have broadened the support and interest base to include the Dutch Association for Cost Engineering (DACE) and ISPA Deutschland; this in addition to the Society of Cost Analysis and Forecasting (SCAF) and the European Aerospace Working Group on Cost Engineering (EACE). We expect to have the largest and most diverse international representation in the history of our conference.

While the period of abstract collection is closed, you can go to the conference website (<http://www.cvent.com/d/5cqjw2> or via link from the ISPA and SCEA websites) to register for the conference and make hotel reservations. Please keep in mind that a 10% early-bird discount is available for Conference Registration until 29 February (leap day, of course). There is a straightforward cancellation policy so you are encouraged to register in February. In addition, we have secured a fantastic set of hotel rates for the conference hotel. It is well below the US Government Per Diem and includes breakfast. To encourage a more holistic experience we have arranged for deeply discounted hotel rates for the accompanying weekends.

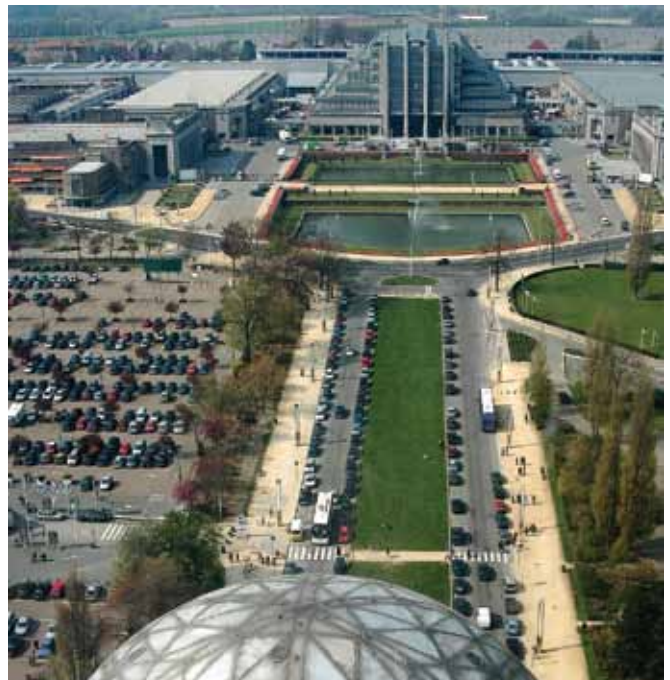
The venue for the awards banquet (which will be a shared event with the traditional SSCAG dinner) has been selected and will provide a memorable experience that is uniquely Belgian. It will be held at the nearby Comic Museum. Belgium has enjoyed a long history of being the home of widely appreciated comics for children and political satire. This museum was designed to house international events: 1) all the material is in multiple languages (including English), 2) there is an open layout to accommodate socializing, seated meals and awards presentation, and 3) it has an on-premise kitchen and catering operation. We are fortunate to

have secured this location since they host hundreds of events every year.

The training curriculum has been set and includes courses drawn from both ISPA and SCEA certification material. They have been focused into two parallel tracks that will enable attendees to maximize their exposure to this proven system of professional development. If you are interested in being a trainer, I encourage you to reach out to Roy Smoker or Peter Braxton.

Based on abstracts submitted from ISPA and the affiliated associations (SCAF, DACE, etc.), Ms. Sherry Stukes has set the technical tracks on the following: Models & Methods, Management & Decision Making, Risk Analysis, and Software Estimating. In addition, we are planning a panel of international experts and decision makers who will outline their vision and answer your questions with respect to the future for cost analysis.

Your conference planning committee of Sherry Stukes, Rene Berghuijs, Natalie Faucher, Henry Apgar and Hervé Joumier are working hard to bring you a fantastic conference. If you have any ideas or wish to volunteer please drop us an e-mail!



Brussels



**Early Announcement**  
**2012 ISPA/SCEA Joint International**  
**Conference & Training Workshop**  
**Assuring Cost Efficiency: Global Solution**  
**14-17 May 2012**



**Brussels, Belgium**



Every four years, ISPA and SCEA present an annual conference in a non-US venue to accommodate our international membership and to provide a unique experience to meet with professionals and friends around the world. For 2012, we are pleased to announce our annual conference in **Brussels, Belgium**.

**Consider the advantages to you:**

- International networking opportunity with NATO mission and European Commission (EC) members
- Government and industry key-note speakers
- Subject matter experts on panels
- Nearly 100 workshop speakers—in several languages—offer hands-on opportunities in Parametrics, Risk Analysis, Earned Value Management, Whole Life Cost Analysis, and more
- Full training program to prepare for ISPA or SCEA certification
- Central European location; easy access via air and rail
- Traditional ISPA Receptions, Awards Banquet, and Guest Tour Program following the legacy of Brighton, Cannes, Munich, Frascati (as seen on right), and Noordwijk



**At an affordable, all inclusive, cost:**

- €130 room rate (breakfast included)
- Cheaper room rates (€80) before and after conference
- Airline shoulder season assures lower air cost
- Discounted registration rate for sponsor members
- Adjoining SSCAG/EACE meeting (17-18 May 2012)

Come to Brussels—heart of the Europe Union and home of NATO Headquarters. Enjoy the amenities of our international venue—the Sheraton Brussels. Enjoy the best international networking experience available — once every four years!

**Additional Sponsors Include:**



[www.ispa-cost.org](http://www.ispa-cost.org)

## Conference 2012 Workshop Program

BY SHERRY STUKES, WORKSHOP PROGRAM CHAIR

The Conference 2012 Workshop plans are coming along well. The Call for Papers has yielded 54 high quality abstracts. A wide range of cost-related topics is covered in the submitted abstracts.

The Workshop Abstract Selection Committee is in the process of reviewing and selecting abstracts for the 42 presentation slots at the 2012 Conference. Selected authors will be receiving acceptance letters soon.

The following tracks have tentatively been established and track chairs are being recruited.

- Management and Decision Making
- Models and Methods
- Risk Analysis
- Software Estimating

The abstracts, submitted from all over the world, represent a diversified range of cost-related topics. Titles and primary authors for the submitted abstracts are listed below.

Abstract Title	Primary Author	Company
Emerging Trends in Software Technology	Arlene Minkiewicz	PRICE Systems, LLC
Software Sustainment Costs: Pay Now or Pay Later?	Arlene Minkiewicz	PRICE Systems, LLC
Are Parametric Techniques Relevant for Agile Software Development	Arlene Minkiewicz	PRICE Systems, LLC
The Evolution of Parametrics in Parallel with the Maturing of ISPA	Henry Apgar	MCR Technologies
Estimate Software Projects Cheaper, Faster and Better! Can Parametric Estimating Beat the Experts?	Harold van Heeringen	Sogeti Nederland B.V.
Inflation: What Do We Really Know And How Should We Project It In Cost Estimates?	Kurt Brunner	Tecolote Research, Inc.
Planning SW Build Development Execution Using a SW Parametric Model	Paul Morris	TMGI
Influential Data Points in Regression Analyses	Donald MacKenzie	MacKenzie Consulting, Inc.
Asteroid Sample Return Design-to-Cost in the ESA Concurrent Design Facility	Michel van Pelt	European Space Agency
Evaluation of the Performance of Prediction Models for the Construction Material Quantities of Cylindrical Storage Structures Using Different	Borja Garcia de Soto Lastra	ETH Zurich
Preparing for Retirement	Andy Nicholls	PRICE Systems, LLC
Development and Deployment of Cost Estimating Relationships (CERs) at Raytheon Missile Systems	Tim Christopherson	Raytheon
Conceptual Design Tool for Earth Orbiting Spacecraft	Mohamed Elghefari	Tecolote Research, Inc.
Estimating the Cost of Hybrid Airships for Joint Future Theater Lift	Robert Georgi	Booz Allen Hamilton
Earning More with Lower Risk	Ton Dekkers	Galorath International Ltd
A Performance Assessment and Root Cause Analysis (PARCA) on EVM: The State of EVM	H Lindsey Arison III	U.S. Air Force Space and Missile Systems Center

<b>Abstract Title</b>	<b>Primary Author</b>	<b>Company</b>
Developing a Missile System Cost Estimating Model for the Korean R&D Environment	Sung Jin Kang	Korea National Defense University
Affordability	Edwin Dean	Dean Consulting
Estimation & Planning Processes Decide Project Success	Dan Galorath	Galorath International Ltd
Designing a Conceptual Framework for Assessing Total Ownership Cost	Gurney Thompson	PRICE Systems, LLC
UK MOD Up Skilling in Parametrics	Dale Shermon	QinetiQ Ltd
Applying Parametric Discipline to Performance Based Contracting (PBC) in Through Life Projects	Dale Shermon	QinetiQ Ltd
Probabilistic Risk Analysis: More Insight into Contingencies	Joep F van der Meer	Arcadis
Agile Measurement: The Success Formula behind High-performance Organizations; Small, Self-steering Development Teams Work Faster, Cheaper and Better!	Hennie Huijgens	Goverdson
Workshop: 'Dealing with Risks and Uncertainties Related to Project Management and Cost Estimates'	Esther Faber	DACE
Normalization of costs for multiple currencies and multiple base years	Marcel Smit	TNO
The Winning Presentation of the ISPA-DACE Parametric Estimating Challenge	Jacek Pachocki	DHV Engineering Company
Faster, More Credible Estimates with TruePlanning 2012	Anthony DeMarco	PRICE Systems, LLC
Human Spaceflight Value Study	Frank (Andy) Prince	NASA/Marshall Space Flight Center
Capabilities Based Portfolio Assessment (CBPA): A Methodology for Balancing Capability and Managing Costs of Defense Programs	Paul Gvoth	Cask, LLC
Analytical Program Management: An Approach for Enhanced Cost and Schedule Risk Analysis	Graham Gilmer	Booz Allen Hamilton
NASA Science Mission Phase E Cost Growth and Historical Cost Comparison	Robert Bitten	The Aerospace Corporation
DACE Price Booklet and DACE Labour Norms being used for Parametric Estimating	Esther Faber	DACE
Introduction to Value Management	Esther Faber	DACE
An Overview of the 2012 NASA Cost Estimating Handbook (CEH)	Leigh Rosenberg	The Jet Propulsion Laboratory
Integrated Cost and Schedule Optimization with Monte Carlo Simulations	Colin Smith	Booz Allen Hamilton
From Bid Package to Detailed EVM Baseline in One Easy Step. Can it be Done?	Karen Stiff	Naval Air Warfare Center
Taking Control over Mission-Critical Software. Software is a Mission-critical Element of Most Complex Systems.	Joost Visser	Software Improvement Group
Expanding the Frontier: A new Parametric Look into the Economics of Post-Shuttle Space Transportation	Fabian Eilingsfeld	PRICE Systems Ltd.
The Perceived Problem between Bottom up and Parametric Estimating	Herbert Spix	4cost GmbH
Easy to use Lifecycle Costing Based on Early Parametric Data	Herbert Spix	4cost GmbH
Learning and Rate Cost Models	Tim Christopherson	Raytheon
What about DAIV (Demand as an Independent Variable)?	Doug Howarth	MEE LLC

*Continued on page 12.*

## Guest Program

By **KURT BRUNNER** AND **DANIEL DeMEYERE**

**W**e are coordinating an exciting program for guests of conference participants. Monday, 14 May 2012, and Wednesday, 16 May 2012 will be days when the guests can arrange tours with the hotel concierge or explore vibrant Brussels, the center of the European Union, on their own.

Brussels makes no secret of its zest for the good life, and you can explore the historic Grand-Place, numerous museums, and devour melt-in-the-mouth chocolates and pomme frites (French fries) while huddling over a tasty beer in a gloriously old-world pub.

On Tuesday, 15 May 2012, we are planning to have a bus tour to the medieval city of Bruges. Atmospheric and enchanting, Bruges consists of ancient streets, criss crossing canals and Gothic architecture. The 13th-century center explodes with history, culture, markets and praline shops, and the 272-foot Belfry in the market square, the Basilica of the Holy Blood, and the many quaint stores are prime attractions.

More information will be distributed to attendees and their guests soon.



*Bruges*

*Continued from page 11.*

Joining Effort and Duration in a Probabilistic Method for Predicting Software Cost and Schedule	Michael Ross	r2Estimating, LLC
Fitting Absolute Distributions to Limited Data	Blake Boswell	Booz Allen Hamilton
Enterprise Resource Planning Cost, Size, and Schedule Estimating Relationships	Wilson Rosa	Air Force Cost Analysis Agency -Information Technology Division
Use of EVM Trends to Find WBS Level 3 Completion Dates	Roy Smoker	MCR LLC
Calculating the Fully Burdened Cost of Energy	Daniel Nussbaum	Naval Postgraduate School, Department of Operations Research
NPS and AFIT Masters Degree in Cost Estimating and Analysis	Daniel Nussbaum	Naval Postgraduate School, Department of Operations Research

If you have any questions regarding the workshop program, please feel free to contact me. I look forward to seeing you in Brussels!

*Sherry Stukes*  
 Conference 2012, Workshop Program Chair  
 sherry.a.stukes@jpl.nasa.gov  
 (818) 393-7517

# Merger Events

By ANDY PRINCE, ISPA CHAIR

## BALLOTS COMING TO YOUR MAILBOX

In the coming months you, as a member of ISPA, will have two opportunities to express your will for the Society through the ballot process. The first opportunity will be to vote for candidates to elect as members of your ISPA Board of Directors. While you may think it is strange that we are electing board members at the same time that we are working towards a merger with SCEA, your Board is making sure we are acting in accordance with our Bylaws and Constitution. Our Bylaws explicitly state that a Board member's term of office will be limited to two years (up to three consecutive terms), that the Board member's terms will be staggered so that one-half of the board member positions are up for re-election every year, and that the elections will be timed to coincide with the annual conference. Because we know that the merger will not take place until the latter half of 2012, we are compelled by the Bylaws to hold Board member elections.

If the merger takes place, these newly elected Board members will have a very short term in office. However, if the merger does not take place for whatever reason, we will have a fully populated ISPA Board to operate the society and who would continue to provide the services you have come to expect. Thus ISPA is prepared for either outcome.

The second ballot will be to approve the merger. Because the timing of the merger vote is dependent upon votes by the SCEA board and the process as outlined by the State of Virginia, I cannot say for certain when this vote will occur. Per our Constitution, a two-thirds majority of all voting members is required for approval. Obviously, this vote may be one of the most important in the history of ISPA and our profession. Please take the time to read all of the available information about the merger, both in this PW and available on-line. While your Board has voted to approve the merger, you, the members, get the final say. Please make every effort to be informed and give serious consideration to your vote.

## BOARD APPROVES CONSTITUTION AND BYLAWS FOR NEW SOCIETY

Last summer ISPA and SCEA jointly formed several solution teams guided by a joint integration team to

address specific merger issues and provide the way forward. The work done by these teams (Governance, Naming, Financial, Training and Certification, Publications, and Awards) has resulted in a new constitution and bylaws, a new name, and integration plans for all of the other business areas. Your ISPA Board of Directors has approved the new constitution and bylaws, the new name, and the integration plans without dissent. We are poised to move into the next phase of the merger process: an expression of intent to merge and the membership vote.

The new constitution and bylaws will be posted on our website as soon as possible. We will also send electronic copies to all members once the lawyer has completed his review. If you do not have the ability to access an electronic version, please contact the Joint Business Office and request that a hardcopy be mailed to you. These two documents are the foundation of our new association and I strongly encourage every member to read them.

## THE WAY FORWARD

Here is what will happen over the next few months as we move towards consummating our merger with SCEA. Assuming that SCEA has agreed to the merger details already approved by our Board (their board meeting is in mid-February, two weeks after I wrote this), I will execute a letter of intent written by our lawyer that conforms to the merger terms agreed to by both Boards. The lawyer will then draft a Plan of Merger, which will detail the specific steps necessary to complete the process. After that, the Boards of each Society approve the plan and recommend that the merger be approved by the members. It is then that a ballot will be prepared and you, the member, will get to vote.

Approval of the merger by ISPA will require a two-thirds affirmative vote of the members. Once membership approval is obtained the lawyer can proceed with filing the final paperwork with the District of Columbia and the Commonwealth of Virginia. At this time I cannot give you a definitive date for the merger. However, I can say with a high degree of certainty that it will not occur until the latter half of 2012. We will pass along more details to you as we get them.

*Continued on page 14.*

Continued from page 13.

## TRANSITION FROM ISPA TO IACA

We are on track to merge with SCEA and become the International Association for Cost Analysis (IACA) before the end of 2012, if that is the will of the members. When that happens, we could start a transition process that will last until July 1st, 2013, when the newly elected members of the first full-term IACA Board of Directors take office. Between the time the merger becomes official and prior to July 1st, 2013 IACA will be run by a *pro tem* board consisting of seven representatives from both ISPA and SCEA; and jointly chaired by Andy Prince of ISPA and Paul Marston of SCEA.

The *pro tem* board will be charged with three major tasks: 1) ensuring that the routine functions continue to get done (bills get paid, conferences get planned, etc.); 2) executing the integration plans as outlined by the solution teams; and 3) nominating a slate of candidates to stand for election to the first full-term, fully populated IACA Board. The *pro tem* board will operate under a couple of limitations. First, this Board cannot make any changes to the Constitution or Bylaws. Second, none of the officers can run for the same position on the full-term board.

Some of the integration highlights that have been put forth by the Solution Teams and approved by the Boards include:

- A single membership list and integration of all financial accounts under IACA
- A single publication that will replace *Parametric World* and the *National Estimator*
- Integrated awards, with a continuation of the Parametrician of the Year and the Freiman Awards
- Integration of material from the *Parametric Estimating Handbook* into the *Cost Estimating Body of Knowledge (CEBoK®)*
- An integrated certification process that continues to recognize existing Certified Parametric Practitioners along with a provision to create a **Certified Cost Estimator Analyst — Parametrician specialist** designation

These details and many more will be communicated to you in the near future. Your ISPA Board of Directors is committed to ensuring that all information concerning the merger is available in sufficient time for an adequate review prior to this all-important vote.

## CALENDAR OF EVENTS

### March 3 – 10, 2012

2012 Aerospace Conference  
IEEE, AIAA, Big Sky MT  
Contact: [www.aeroconf.org](http://www.aeroconf.org)  
David Woerner Conference Chair

### March 21, 2012

Southern California Chapters ISPA and SCEA  
Workshop  
Raytheon Space and Airborne Systems (SAS)  
El Segundo CA  
Contact: Ms. Casey Fujimoto at:  
[ctfujimoto@raytheon.com](mailto:ctfujimoto@raytheon.com) or (310) 334-6554

### April 24, 2012

SCAF Annual Cost Estimating Challenge  
Workshop  
BAWA Centre, Bristol  
Contact: Arthur Griffiths, [chair@scaf.org.uk](mailto:chair@scaf.org.uk)

### May 14 – 17, 2012

2012 ISPA/SCEA Joint International Conference &  
Training Workshop  
Sheraton Brussels Hotel, Brussels, Belgium  
Contact: Jason Dechoretz, [jdechore@mcri.com](mailto:jdechore@mcri.com)

### May 17 – 18, 2012

SSCAG (With European Aerospace Cost  
Engineering Working Group)  
Sheraton Brussels Hotel  
Brussels, Belgium  
David Pine: [dpine2@cox.net](mailto:dpine2@cox.net)

### June 11 – 14, 2012

Military Operations Research Society (MORS)  
80th Symposium  
US Air Force Academy  
Colorado Springs CO  
[www.MORS.org](http://www.MORS.org)

### June 26 – 29, 2012

2012 SCEA/ISPA Joint Annual Conference &  
Training Workshop  
Hilton Orlando Hotel, Orlando, FL

### September 18, 2012

SCAF Annual Conference  
BAWA Centre, Bristol  
Contact: Arthur Griffiths  
[chair@scaf.org.uk](mailto:chair@scaf.org.uk)

**DEADLINE: April 1**

**W**e need your nominations for the 2012 ISPA Professional Awards! 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 1, 2012**.

- 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 parametric methods over a significant amount of time. A Freiman candidate is expected to have left a legacy to the profession for at least five years. 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 recipient may qualify for this award only once in a lifetime.
- 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 recipient may qualify for this award only once in a lifetime.
- 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. The recipient(s) must be ISPA members. Repeat awards are allowed.

**Instructions:**

Provide the following information by **April 1**:

- 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.
- Describe specifically how the candidate meets the requirements of the award.
- Full name of the nominator plus postal address, email address, and telephone number.
- Submit nomination (and endorsements, if any) by email to:

**Joseph Hamaker**  
 2012 ISPA Society  
 Awards Chair  
 joehamaker@yahoo.com  
 321.200.3809

**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	Hérve Joumier	George Stratton	
2009	Christian Smart	Hank Apgar, Madeline Ellis	Dale Shermom
2010	Tom Coonce	Kurt Brunner, Sherry Stukes	Neil Albert
2011	Roy Smoker	Doug Druley	Sherry Stukes

## Call for Nominations— *With A Twist*

BY BRIAN GLAUSER, ELECTIONS CHAIR

**T**he ISPA Bylaws state that the Board of Directors shall be composed of eleven members: the Treasurer and ten Directors-At-Large. The bylaws go on to state that "...the terms of Directors-At-Large shall commence following the announcement of the election results and shall *run for two years* or until the announcement of election results for that office if later. ...Elections will be timed to correspond with the annual conference and every attempt will be made to present the results of the election to the society during the conference. These terms shall be arranged so that one-half expire each year. Directors-At-Large shall be eligible for re-election, subject to the limitation that the maximum number of consecutive full terms of office shall be three." There are five Board of Director positions up for election. Four of the five incumbent members are eligible for reelection.

Here is the twist to this year's election. As you are aware, activity is well underway to join ISPA and SCEA to form a new, single, professional association. It is anticipated that the merger, if approved, will occur sometime towards that latter portion of 2012. At that time a *Pro Tem* board comprised of an equal number of board members from each existing society will be put in place until general elections for a permanent board are conducted. Therefore individuals who are selected to serve as a result of this election will do so until such time that the new organization is formed, which may be a matter of only some number of months. The *Pro Tem* board of the new society has been selected by the Executive and Jointness Committees of ISPA and SCEA. Earlier if this issue Andy Prince addressed the reasoning behind creating a contingency structure for ISPA, depending on whether the merger is approved.

While a term on the board as a result of this upcoming election may be short in duration, this is an exciting time to be involved in the board's activities pertaining to the ISPA/SCEA merger as well as all of our ongoing activities. There are many of you who would be of tremendous service and we thank you in advance for your willingness to step forward at this time to offer your service to the society. Please don't be shy and don't delay in nominating yourself or a colleague.

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 Board of Directors meetings each year; two meetings will be held at the Annual ISPA Conference and two other meetings will be held at various locations across the country. (We understand that sometimes you will have to attend virtually via web conferencing).

Qualified candidates must submit a completed nomination form, which is attached below, and return it to the Elections Committee Chair by 9 March 2012. The Elections Committee has established the following schedule for conducting the 2012 elections.

<b>Initial Nomination Period</b>	<b>Opens: 3 October 2011, Closed: 13 January 2012</b>
<b>Receive and Post Nominee Biographies and Photographs</b>	<b>Due: 1 February 2012</b>
<b>Additional Nominations</b>	<b>Ends: 9 March 2012</b>
<b>Ballot Distribution</b>	<b>Starts: 20 March 2012</b>
<b>Voting Period Closed (By Mail)</b>	<b>27 April 2012</b>
<b>Voting Period Closed (At Conference)</b>	<b>15 May 2012 (at 12:00 noon)</b>
<b>Newly Elected Board Members Announced</b>	<b>16 May 2012 (at the Conference in Brussels)</b>

The slate of candidates and their biographies will be posted on the ISPA web site at: [www.ispa-cost.org/elections.htm](http://www.ispa-cost.org/elections.htm) initially on 21 February 2012; additional candidates and their biographies will be posted on 12 March 2012.

If you are interested in running for the ISPA Board of Directors, please do not hesitate to contact me.

**Brian Glauser, Elections Committee Chair**

Office: +1 310-414-3222 ext 231 | Mobile: +1 602.369.6031 | Fax: +1 602.993.7137 | [bglauser@galorath.com](mailto:bglauser@galorath.com)





# Certified Parametric Practitioner News

BY ROY SMOKER, CHIEF PARAMETRIC PRACTITIONER

In January 2012, Hank Apgar of MCR and Dale Shermon of QinetiQ taught the International Society of **Parametric Analysis Parametric Estimating Handbook, 4th Ed.** to a class of people from the United Kingdom Ministry of Defense. Class members were enrolled in ISPA as new members and took the Certified Parametric Practitioner (CPP) exam. The following 14 members passed the CPP:

- Andrew Covington
- Patrick Cross
- Michael Difford
- Andrew Eyers
- Chloe Frost
- Angus Gordon
- Mark Johnson
- Matthew Leigh
- Pete Long
- Jamie Morrell
- Sanathanan Rajagopal
- George Stirling
- Kelly Turner
- Stephen Whitehead

ISPA is pleased to congratulate these new members on passing the CPP exam and welcome them into membership of professional parametric estimators.

We also want to remind our current members who may have taken the CPP exam in 2007 that, 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
a. Employment	5-10
b. Attending ISPA National Conferences and Workshops	7 per conference
c. Attending other conferences	7 per conference
d. Publishing or presenting papers	10
e. Attendance at classes or seminars	7 per seminar
f. Membership in related professional organizations	2 per org (4 max)
g. Election to a local chapter position or ISPA Board of Directors	5 per term
h. Appointments to ISPA positions	5 per term
i. Being a Workshop or Conference Track Chair	5 per workshop
j. 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.

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*Continued from page 3.*

willing to take the time to help a fellow cost analyst. His impact on what we do and how we do it will be felt for years to come.

Finally, I want like to give a big welcome and congratulations to our new members in the United Kingdom. In January MCR, under contract to the UK Ministry of Defense, trained 16 cost professionals in parametric estimating and administered the Certified Parametric Practitioner exam. As a result, we now have 16 new members and 17 new CPP's. It is encouraging to see the interest in and support for parametrics by the UK MoD.

*Andy Prince*

ISPA CHAIRMAN OF THE BOARD

256-682-6456

[andy.prince@nasa.gov](mailto:andy.prince@nasa.gov)

**NOTES FROM RENE BERGHUIJS, BRUSSELS, BELGIUM**

On December first 2011 the Parametric Estimating Challenge (PEC) took place in Soest, the Netherlands. The PEC was the subject of common interest for both ISPA and DACE in 2011. Teams had to present parametric cost estimates for a shore-to-shore connection (bridge or tunnel) and make recommendations for the path forward of this project, based on their analysis. Teams had to collect their own data as part of the challenge. The PEC is meant for younger cost professionals, to give them an opportunity to improve their skills in cost estimating/analysis and presenting. The challenge was issued two months before the date of the presentations and teams were limited to 40 hours of team effort. An international jury, featuring ISPA's Hervé Joumier and Jason Dechoretz, evaluated the presentations and nominated the winning team.

Three teams presented their analysis to an audience of about 60 people. Two teams actually managed to find data to come up with parametric cost estimates. One team did some interesting schedule analysis using parametrics. Feedback indicated that the event was appreciated as being fun and instructive. In the future other challenges will be organized. The winning team has been invited to come to the conference in Brussels and share their experiences.

All the best from Brussels!

**René Berghuijs**, NATO Air Command and Control System (ACCS) Management Agency

**NOTES FROM ARTHUR GRIFFITHS, THE UK**

*Editor's Note:* Arthur, as Chairman of the Society for Cost Forecasting and Analysis (SCAF), has provided a Call for Teams for the Parametric Estimating Challenge. This event will happen on April 24th 2012 at the BAWA Centre, Filton, Bristol.

**Next SCAF Workshop**  
**Tuesday 24th April 2012, The BAWA Centre, Filton, Bristol**

**CALL FOR TEAMS**  
***SCAF Annual Cost Estimating Challenge***

At the April 2012 Workshop the SCAF committee propose to set a challenge for the costing community. We will run a participative training session in cost estimating based upon the International Society of Parametric Analysts (ISPA) conference Renew Your Training (RYT) format. The challenge should be conducted by professional teams from Academia, Industry, Government, Tool Vendors and Consulting Organisations. The workshop will have the added benefit of top-level critique from senior government and industry executives. The programme will be instructive, entertaining and suitable for a wide interest audience (estimators as well as managers). The workshop ethos will be:

- Presentations will be conducted in a non-hostile atmosphere.
- All observations will be focused on the methodology and approach, rather than the absolute cost accuracy.
- This is a learning exercise for the Teams and the audience.
- Teams should always seek ways to demonstrate its innovation, experience and presentation skills.
- It is SCAF's preference that younger members of staff are used for the exercise, rather than 'veterans' of cost estimating, to provide a valuable opportunity for the next generation, to gain experience.

**The Challenge**

You are the Chief Cost Estimator at an automobile company and have been gathering technical and price information on cars for a number of years. You have been approached by the head of sales and marketing with a request to produce price information quicker. The company has a strategy to produce more tailored vehicles for the consumer, and, as a result, would like to equip forecourt sale staff with a quick pricing tool rather than the price list that is presently used. The case study brief contains technical and price data for the challenge and the objective is to prepare a parametric model for the estimation of commercial vehicles.

Interested team leaders should contact Dale Shermon at QinetiQ (DShermon@QinetiQ.com) and Arthur Griffiths (chair@scaf.org.uk) by Friday 9th March 2012 if you plan to enter a team.

# ISPA Southern California Chapter News

BY KURT BRUNNER, PRESIDENT; QUENTIN REDMAN, VICE-PRESIDENT; SHERRY STUKES, SECRETARY/TREASURER

Our Southern California Chapter's workshops have continued to attract cross-country and international attendees while successfully encouraging lively discussion and great interest in parametrics, cost analysis and estimating. The **Winter Joint ISPA/SCEA Workshop** was hosted by **PRICE Systems** and the **Los Angeles Air Force Base Space and Missile Systems Center (LAAFB/SMC)**. It was held at scenic **Fort MacArthur in San Pedro CA, on 14 December 2011**. The speakers and topics at this workshop included:

**Brigadier General Kenneth Moran, Director, Program Management and Integration, Space and Missile Systems Center** (Keynote Address): 'SMC Should-Cost Estimating Initiatives'

**Tony DeMarco, President, PRICE Systems** (Welcome Address): 'Targeting Affordability and Controlling Cost Growth through Should-Cost Analysis'

**Daniel Schwartz, SMC PMAG:** 'Using Performance Assessment and Root Cause Analysis to Build a Reliable Performance Measure Baseline (PMB)'

**Mohamed Eighefari, Tecolote Research, Inc.:** 'Tecolote Instrument Weight-Growth Model'

**Mike Butterworth, TASC:** 'Cost and Schedule Risk' (Training Topic)

**Tom Harwick, Northrop Grumman:** 'Multi-Discipline Design Analysis & Optimization (MDAO) Cost Modeling with True Planning'

**Doug Howarth, MEE LLC (formerly of Lockheed Martin Aeronautics Company):** 'Trade Space, Product Optimization and Parametric Analysis' (2011 Conference Models & Methods Track Best Paper)

If you would like a copy of these or previous workshop briefings please go to the ISPA web site located at: [www.ispa-cost.org](http://www.ispa-cost.org) under the Southern California Chapter Past Presentations. All available presentations are loaded on the web site immediately following the meeting. If you have any questions about the presentations please feel free to contact the workshop program coordinator, **Henry Apgar**, at [hapgar@mcri.com](mailto:hapgar@mcri.com).

Our Spring Joint ISPA/SCEA workshop planning is well underway. It will be hosted by Raytheon Space and Airborne Systems (SAS) in El Segundo, California and is to be held on 21 March 2012. Another 'Best Paper' winner from the Joint 2011 Conference held in Albuquerque is already scheduled to speak, and a training subject will also be presented. An Executive Speaker from Raytheon



Henry Apgar

Workshop Attendees, 14 December 2011 — Fort MacArthur, San Pedro

will also address the group and a tour of the facilities will be held. Presenters include:

**Lee-Ann Seeling**, Raytheon SAS, Cost Engineering Lead

**Mike Ross, Tecolote Research, Inc.**: 'An Improved Method For Predicting Software Code Growth' (2011 Conference Risk Track Best Paper)

**Dave Graham**: 'Earned Value Management (EVM)' (Training Topic)

**Pierre Foussier, 3F** (Paris, France)

**Jeff Platten (retired Northrop Grumman)**

**Danny Wong, Raytheon SAS, Principal System Engineer**, 'Choosing the Right PET (Production Engineering Tool)'

**Mike Thompson, MCR Federal**: 'From Berry to Bottle, How Much Should That Wine Cost?'

The agenda has been e-mailed to ISPA and SCEA members and previous workshop attendees, and it contains a location map and driving instructions. The agenda is also posted on the ISPA web site [www.ispa-cost.org](http://www.ispa-cost.org)). You may contact the Raytheon registration point of contact, Ms. Casey Fujimoto at: [ctfujimoto@raytheon.com](mailto:ctfujimoto@raytheon.com) or (310) 334-6554 to register. As always, our workshops are free.

At the conclusion of the workshop, as an incentive to stay until the last presentation is complete, a membership drawing will be held. Our ISPA Membership Chair, Steve Sterk, will be on hand with a selection of great gifts for

the drawing – 'winner must be present'. If you have questions about your membership status or would like information about membership in general, contact Steve Sterk at [steve.a.sterk@nasa.gov](mailto:steve.a.sterk@nasa.gov) or (661) 276-2377. A SCEA membership drawing will also be held.

Please consider hosting a workshop or presenting at a workshop! It will be a rewarding experience. If you are interested in hosting a workshop, please contact me, Quentin or Sherry. Also, if you are interested in making a presentation at a workshop, please contact our Program Coordinator, Henry Apgar.



*Kurt Brunner*

President,  
ISPA Southern California Chapter  
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## Secretary's Report

By LISA YEDO



The ISPA Board of Directors met January 27th and 28th in Washington, D.C. Among the topics of discussion were the upcoming conference in Brussels, Belgium, the 2012 Board elections and the proposed merger with SCEA.

The 2012 ISPA/SCEA Joint International Conference and Training Workshop is scheduled to be held in Brussels May 14th through 17th. This year's conference theme is '**Assuring Cost Efficiency:**

**Global Solution.**' Brussels is known as the heart of the European Union and is home to NATO headquarters. Thanks to the planning committee for choosing a great venue, the Sheraton Brussels, which is in the center of the city and within walking distance of many historical sites. More details related to conference information and registration can be found on the ISPA website.

Brian Glauser gave a status of the 2012 Board Elections. There are five seats up for election. One Board member, George Stratton, has termed out and many thanks were expressed for his dedicated service. This election is unique in our history because it is for interim positions as merger activities are finalized. Nomination forms can be found in the last issue of *Parametric World*, as well as the current issue.

# Membership Report

By **STEVE STERK**

Our professional society continues to remain solvent and I feel proud to have served the Society as the Member Chair for another year. Since Fall 2011 we have added 17 new members.

Membership Drive. I am very excited that the Board of Directors voted to initiate a Membership Drive. This drive is specially targeted for NEW Members. The new member price is \$35.00 for the first year. Qualification for this ridiculously low price is that you must never have been a member of ISPA.

To join, please do not hesitate to get hold of Erica Wilkening at the Joint Business Office (703)938-5090, erica@sceaonline.org or send an email to steve.a.sterk@nasa.gov. We can normally turn your request around within 24 hours. Members who would like to renew can now pay on-line through our secured web site [www.ispa-cost.org](http://www.ispa-cost.org)

Here is a list of members who recently joined our professional cost estimation and analysis society.

See you in Orlando.



**Steve Sterk (CPP)**  
*ISPA Membership Chair*  
 steve.a.sterk@nasa.gov  
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## New Members

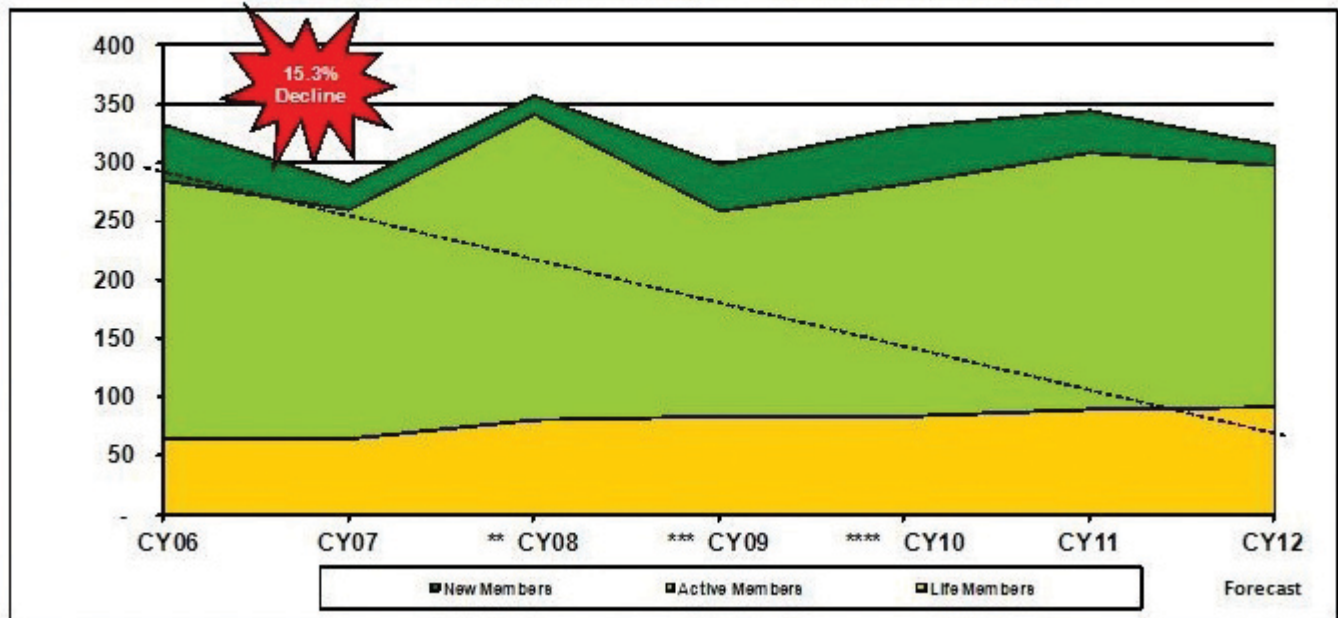
*From UK MoD Cost Assurance & Analysis Service*

- Andrew Covington
- Pat Cross
- Mike Difford
- Andrew Eyers
- Chloe Frost
- Angus Gordon
- Yasser Jeewoath
- Mark Johnson
- Matthew Leigh
- Pete Long
- Sanathanan Rajagopal
- George Stirling
- Kelly Turner
- Kevin Wade
- Lisa Wakeling
- Stephen Whitehead

*From Price Systems*

- Fabian Eilingsfeld

## ISPA 2011 Membership - 6 Year Review



## Ask a Parametrician

EDITED BY: JOSEPH W. HAMAKER, PHD, PCEA®, CCEA®

Do 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. 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.

This issue's question comes from **Lisa Yedo at Ball Aerospace**. Lisa writes:

*Mechanically there are many simplified learning curve calculators out there but do you know of one that allows the user to do more complex 'what-if' analyses in one tool, allowing flexibility for variables such as:*

- *One or more production breaks*
- *Different learning curves for different program phases*
- *Application of different rates at lower levels rather than just one rate at a top level*
- *Summary comparisons of one scenario to another*

*Also, historically the slopes for learning curves are most often listed by industry (e.g., in the NASA Cost Estimating Handbook section 1.4, the rule of thumb for the aerospace industry is 85%) but don't we have more detail on rates at lower "WBS" levels since we've done so many programs for so many years?*

I turned to **Tim Anderson of the Aerospace Corporation** for a reply. Tim writes:

*Regarding learning curve calculators, I do not know of one in particular that does everything you mention, though I would bet that a comprehensive cost estimating package like ACEIT would be able to answer most of your needs. Also, a cursory Google search turned up a long list of spreadsheet-based learning curve calculators. Some of these might be good, but I've never used any of them. I think that the best solution would be to develop your own spreadsheet models that answer these questions. You can design these either directly, or as functions, as*

*I have done in the past. As an example, you could write a unit-theory total cost calculator using the following simple snippet of VBA for Excel code:*

**Function LCUnitTotalCost (T1, Qty, slope)**

**'This function returns the total cost using a unit theory learning curve with specified T1, slope, and quantity' dim n as long, Total as long, Tn as long b = ln(slope)/ln(2) n = 1**

**Total = 0 Do While n <= Qty**

**Tn = T1 \* n ^ b**

**n=n+1**

**Total = Total + Tn**

**Loop LCUnitTotalCost = Total**

**End Function**

*So, you see, it is quite simple to generate your own functions that meet your precise needs, and I encourage you to do so, and build up your own library of functions.*

*On the question about slopes for lower level WBS elements, these probably exist in pockets of the various industries, but I have never seen them comprehensively listed anywhere. I think the prime contractors would be the best source of this type of information. I can tell you that in one space-related government agency the spacecraft learning curves have been broken out by bus and payload, and further broken out by mechanical and electrical components. But, it would indeed be nice to have a table of typical learning slopes by commodity and by WBS element. Somebody ought to do the research and write a paper on that! Unfortunately, the learning rates probably change from one contractor to the next, and one build to the next, so having a standard table would not be that helpful (except to provide averages). The best breakout would be by WBS element, by contractor, and by commodity. I think the person who does this would be hailed as a hero in our business!*

Joseph Hamaker  
joehamaker@yahoo.com  
321.200.3809

## MEMBERSHIP APPLICATION

Date: \_\_\_\_\_  Renewal  New Member  Change of Address

Name: \_\_\_\_\_ Title: \_\_\_\_\_

Business Affiliation: \_\_\_\_\_ Voice: \_\_\_\_\_

Mailing Address: \_\_\_\_\_ Fax: \_\_\_\_\_

City, State, Zip, Country: \_\_\_\_\_ Email: \_\_\_\_\_

Alternate Address: \_\_\_\_\_ Home: \_\_\_\_\_

City, State, Zip: \_\_\_\_\_ Country: \_\_\_\_\_

Dues Amount (US\$):  \$55.00 Annual Member  \$100.00 Two-Year Member

\$30.00 Student Member  \$550.00 Life Member

Credit Card:  Visa  Mastercard  American Express

Card Number: \_\_\_\_\_ Expiration Date: \_\_\_\_\_

Signature: \_\_\_\_\_

Amount Enclosed: \$ \_\_\_\_\_

Amount Charged: \$ \_\_\_\_\_

Make all checks payable to "ISPA". Send checks and correspondence to:

ISPA/SCEA Joint International Office

527 Maple Avenue East–Suite 301, Vienna VA 22180

Fax: (703) 938-5091



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