



# PARAMETRIC WORLD

Summer 2010 Vol. 29 No. 3

A Periodical of The International Society of Parametric Analysts

## 2010 ISPA Society Awards



**Mr. Neil Albert**  
Frank Freiman Award



**Mr. Tom Coonce**  
Parametrician of the Year



**Mr. Kurt Brunner**  
K. Burbridge Service Award



**Ms. Sherry Stukes**  
K. Burbridge Service Award

### INSIDE THIS ISSUE

Chairman's Address .....	3
Professional Society Awards.....	4
ISPA Board of Directors Election Results .....	6
ISPA/SCEA Joint Office Report .....	6
Ask a Parametrician – Q&A .....	7
Membership Report .....	9
European Perspectives .....	10
Jointness Report: Member Survey .....	12
Do More Details Imply Better Accuracy in Cost Estimates? .....	13
2010 ISPA/SCEA Conference Wrap Up .....	18
Accolades and Awards.....	23
Secretary's Report .....	23
Chapter News .....	24
Calendar of Events .....	25

### Best Paper Awards

#### Best Over All Conference Paper

Dr. Christian Smart

<b>Estimating</b>	Mr. Bob Hunt
<b>EVM/Scheduling</b>	Ms. Nhung Tran Mr. Eddie Hall Dr. Mun Kwon
<b>Life-Cycle Cost</b>	Mr. Sidharta Sahirman
<b>Management</b>	Dr. Michael N. Beltramo Ms. Emily Beltramo Mr. Rick Collins Mr. Brain E. Torgersen
<b>Methods</b>	Dr. Shu-Ping Hu
<b>Models</b>	Mr. Mark S. Schankman Mr. John W. Reynolds
<b>Risk</b>	Dr. Christian Smart
<b>Software/IT</b>	Ms. Jennifer Leotta

# PARAMETRIC WORLD

ISSN 1072-3803

## Editor

Nina Tahir  
Email: NinaTahir@aol.com  
310-820-7756

## Chair, Board of Directors

Jason Dechoretz ..... 703-506-4600  
jdechore@mcricri.com

## Deputy Chair

Andy Prince ..... 256-682-6456  
andy.prince@nasa.gov

## Secretary

Greg Kiviat ..... 203-386-7274  
gkiviat@sikorsky.com

## Treasurer

Bruce Minett ..... 714-896-5080  
bruce.h.minett@boeing.com

## Executive Manager

Tom Coonce ..... 202-358-4905  
tom.coonce-1@nasa.gov

## Directors

Kurt Brunner ..... 310-536-0011 x144  
kbrunner@tecolote.com

Madeline Ellis ..... 818-888-8216  
madelineellis@socal.rr.com

Rich Harwin ..... 562-797-3869  
richard.a.harwin@boeing.com

Andy Nicholls ..... 44 (0) 1256 760012  
Andy.Nicholls@Pricesystems.com

Steve Sterk ..... 661-276-2377  
steve.a.sterk@nasa.gov

George Stratton ..... 520-545-6031  
gstratton@raytheon.com

## Parametric World Chair

Madeline Ellis ..... 818-888-8216  
madelineellis@socal.rr.com

## ISPA/SCEA Joint International Office

527 Maple Avenue East, Suite 301  
Vienna, VA 22180  
Phone: (703) 938-5090  
Fax: (703) 938-5091  
Web: www.ispa-cost.org

PARAMETRIC WORLD, published by ISPA, is copyrighted in its entirety. Send editorial material to Nina Tahir, Editor. Email: NinaTahir@aol.com

## ADVERTISING RATES

Ad Size	Rate per Issue*
Full page	\$450
1/2 page	\$275
1/4 page	\$175

\*Members in good standing receive a 15% discount. Contact Nina Tahir for details.

## LETTER FROM YOUR EDITOR

BY NINA TAHIR



With the 2010 conference still fresh in my mind, I would like to say what an enjoyable week I had. Steve Sterk and I had a good time at the ISPA booth and picked up some new members and renewals. Doug Druley and Mike

Thompson (the conference co-chairs), Erin Whittaker, and the many people who worked behind the scenes did a bang up job. It was a class affair. I bow to them.

What a great idea to hold the awards banquet at the San Diego Air and Space Museum. The food was wonderful and the atmosphere was comparable to a romantic nightclub "with benefits"—the exhibits. Being at the banquet to see Kurt Brunner and Sherry Stukes jointly win the ISPA Service Award meant a lot to me because they have really breathed life into the Southern California Chapter and also worked behind the scenes to promote parametrics through presentations, education and training,

The post-conference issue is always a pleasure to put together because of the pictures, awards, and conference highlights. Madeline Ellis, *PW* Chair, and I went through the pictures together, and hope you enjoy our selection.

If *launch vehicle reliability* is of interest to you, check out the *Ask a Parametrician Q & A* on the subject in Joe Hamaker's column. Gaspare Maggio of ISL provided the "A." Our European Perspectives column features the goings on at NATO courtesy of René Berghuijs and the outlook for the UK as reported by Arthur Griffiths who always manages to make me smile because his sense of humor comes through in his column. I enjoyed meeting René at the San Diego conference and learned that he has family in the South Bay area here in California. Small world. I also finally learned how to pronounce his name: phonetically it's BEARG HOUSE.

If you missed Joe Hamaker's SSCAG presentation titled *Do More Details Imply Better Accuracy in Cost Estimates?* not to worry. Madeline Ellis talked him into writing an article on the subject which you can read in this issue of *PW*.

In case you didn't notice on the cover of this issue, *PW* has dropped "newsletter" from its title. From here on out we will be called *Parametric World*—a *Periodical of the International Society of Parametric Analysts*. Since *PW* offers more content than a typical newsletter, we asked the Board to consider the slight name change and it was approved at the June Board meeting.

Until next time.

*Nina Tahir*  
Editor

By JASON DECHORETZ

Fellow ISPA Members,



As most of you already know, we just wrapped up an extremely successful Joint ISPA/SCEA Conference. It was held 8–11 June in San Diego at the picturesque Sheraton San Diego Hotel and Marina resort. I want to thank Doug Druley and Mike Thompson (Co-Chairs) for their outstanding efforts in organizing and running the conference. We expected a well attended event but this year was exceptional and all the planned activities ran like clock work! Doug's report outlines the outstanding support they received from the various conference committee chairs. This four-day meeting of professional analysts represented ISPA's 32nd annual International Conference.

A few facts which help identify the degree of success (please read the conference article for more details):

- This was one of our highest attended conferences with over 600 registered participants. This type of interest and support from employers is especially gratifying given current economic conditions around the globe.
- We held three training tracks which support both professional certifications and were integrated to improve the overall utility.
- A second presentation for the conference and track best papers was scheduled on the Friday after the Thursday awards banquet to allow additional participants to benefit from their material.

I'm happy to announce a mix of new and returning Board members. Half of our Board of Directors were elected for a two-year term and Bruce was re-elected as Treasurer for three years. I think you will find this year's Board to be as dynamic and productive as the ones in the past. Part of our election process includes electing Officers to the Board. An updated list of our board members is listed on our website: [www.ispa-cost.org](http://www.ispa-cost.org).

The real service to the members comes from the Board's committees which are chaired by active ISPA members. This year the slate of committee chairs includes the following people listed in the box (opposite).

As you can see there are a few openings and some folks are taking on two or more roles. Are you interested in volunteering for a leadership role? If not, at the very least I encourage you to contact the folks listed in the box to see how you can participate on these committees.

Board meetings were held before and after the conference. Some highlights include:

- A review of our new ISPA website was presented. Development was completed and we are now in the process of finalizing a set of business rules which will guide the use and maintenance of this important resource. Please send your comments to our website chair Andy Prince at [andy.prince@nasa.gov](mailto:andy.prince@nasa.gov).
- There has been growing interest in the benefits of the Certified Parametric Practitioner (CPP) program, the ISPA training curriculum and the underlying *Parametric Estimating Handbook (PEH)*. As such, we have made progress towards protecting ISPA's intellectual property and establishing mechanisms to make these resources more broadly available.
- We are expanding jointness beyond the relationship we have built with SCEA to include other, related, societies (i.e., INCOSE, AIAA, AACE, DACE, etc.). If you have suggestions with respect to organizations or activities please send them to Hank Apgar ([hapgar@mcri.com](mailto:hapgar@mcri.com)), our Jointness Chair or myself!

I look forward to serving you again this year as Chairman. Please send me an e-mail with your ideas on how to make ISPA a stronger and more meaningful Society.

*Jason Dechoretz*

ISPA CHAIRMAN OF THE BOARD  
jdechore@mcri.com  
703-506-4600 x0322

Committee	Chair
<b>2011 Conference</b>	<b>Rich Harwin</b>
<b>Awards</b>	<b>TBD</b>
<b>Audit</b>	<b>Ron Larson</b>
<b>Chapter Development</b>	<b>TBD</b>
<b>Elections</b>	<b>Kurt Brunner</b>
<b>European Liaison</b>	<b>Rene Berghuijs</b>
<b>Historian</b>	<b>Henry Apgar</b>
<b>Jointness</b>	<b>Henry Apgar</b>
<b>Membership</b>	<b>Steve Sterk</b>
<b>Parametric World</b>	<b>Madeline Ellis</b>
<b>PCEI/PEH</b>	<b>TBD</b>
<b>Planning &amp; Governance</b>	<b>George Stratton</b>
<b>Professional Development</b>	<b>Doug Druley</b>
<b>Public Relations</b>	<b>Nina Tahir</b>
<b>Website</b>	<b>Andy Prince</b>

# Professional Society Awards

A highlight of the Conference Awards Banquet was the announcement of ISPA's three professional society awards. A committee of nine reviewers carefully considered the twelve nominations to determine the award winners in the following three categories.

## Freiman Award

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 period of time. A Freiman candidate is expected to have left a legacy to the profession. 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 Freiman award has been presented 20 times since 1983.

The 2010 Freiman Award recipient is **Neil Albert**, President of MCR LLC and lifetime ISPA member. Neil received several nominations which highlighted his lifetime of promotion of parametrics within the cost analysis and estimating community. Since 1979, Neil has been a leader in the application of parametric models on behalf of his government and commercial clients. That same year, he was elected New England chapter President of the National Estimating Society and by 1985, its national President. In 1995, he was elected President of the Society of Cost Estimating and Analysis (SCEA) — the culmination of the NES and ICA merger. He then created the Joint Cost Management Societies Association (JCMSA) to encourage SCEA, ISPA, AACE, and SAVE to work together. In 1993, Neil wrote MIL-HDBK-881, the international standard for developing Work Breakdown Structures.

In the late 1990s, during the Parametric Cost Estimating Initiative, Neil worked with DCAA, DCMA, and ISPA to personally help develop the Parametric Cost Estimating Handbook; he also provided MCR resources to edit the second edition. In 2001, Neil was appointed by the Secretary of Defense to the Defense Business Board whose purpose is to improve the way the



Neil Albert (Right) with Jason Dechoretz, ISPA Chairman of the Board of Directors

Pentagon manages its business. For the board, Neil was substantially responsible for promoting independent cost analyses of weapon system programs, establishing balanced scorecard metrics for managing risk, and promoting earned value management of firm fixed price contracts. He recently served as President of the PMI College of Performance Management.

Neil has chaired the joint ISPA/SCEA Jointness Committee for the past five years. The committee has promoted joint conferences, a joint business office, shared training and certification programs, and a joint professional journal.

Upon receiving his award, Neil told *PW*: *"I am grateful to have received the Frank Freiman Award, ISPA's highest honor. Those who have been bestowed this award before me are a 'who's who' in the cost and parametric analysis field with people like Barry Boehm, Randy Jensen, Larry Putnam, Peter Korda, Hank Apgar, Don MacKenzie, Dan Galorath, Charlie Hopkins, Steve Book, and Tony DeMarco to name a few. As such I am aware that this award is given to those who have made outstanding contributions to the field, but also to those who are expected to leave a legacy to the profession. In my almost 35 years as a cost analyst, I have strived to make the cost and parametric analysis field one which stands above all others. Whether through the promotion of the practical use of parametrics in industry and government, increasing the availability of training and educational opportunities, establishing and maintaining certification requirements, bringing multiple cost communities together through joint and cooperative activities and events, or being one of the founders of the Society of Cost Estimating and Analysis, I have made it my mission to ensure that cost estimating and analysis and its related disciplines is considered a profession recognized for its important contributions, but also critical to program, project, and product success. I am honored to receive this award and thank all those who have helped and supported me throughout my career."*

## Parametrician of the Year Award

The Clyde Perry Parametrician of the Year Award is presented to an individual who has made outstanding contributions to the profession of parametric cost analysis. The 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, and has been presented 26 times since 1981.

The 2010 recipient is **Tom Coonce**, Director of the NASA Cost Analysis Division. Tom was nominated to recognize his contributions as NASA lead cost analyst



for the past four years, a time of uncommon changes in the agency. Tom has robustly promoted parametric methods for the primary cost estimating tools within NASA. Under his watch, he has matured the CADRe (Cost Analysis Data Requirements) product to the point where it is institutionalized at NASA and serves



**Eric Plummer hand carried the award back to Tom Coonce (Right).**

as the principal source of data for parametric estimating models and for parametric estimates. Tom also has nurtured continued development of NAFCOM, NICM, QuickCost, and other parametric models.

Tom played a major hands-on role in the NASA Joint Confidence Initiative — he has visited every NASA Center and spoken to

every active project to guide the implementation of JCL. As his nominator argued, “Tom not only talks the talk but is quite capable of walking the walk with his in-depth knowledge and appreciation of how parametric cost analysis can be effectively utilized.”

Tom also finds the time to play a leadership role in ISPA (Executive Manager), SSCAG (co-chair), and CASG (Chair) as well as the annual NASA Cost Analysis Symposium.

Upon receiving his award post conference due to work responsibilities which kept him from being present, Tom told PW: *“I am pleased to be recognized by ISPA as the 2010 Parametrician of the Year. This is a huge honor, but I feel I merely serve as the “band leader” that orchestrates the work and efforts of numerous individuals from our cost community. Many of the accomplishments and successes related to parametric applications and cost estimation at NASA Headquarters were initiated and put into place by my predecessor, Dr Joe Hamaker. I am fortunate to have an outstanding and supportive team at the NASA Headquarters Cost Analysis Division and have an exceptional group of support contractors that are always ready to meet any cost challenge, such as the Joint Confidence Level implementation, requiring innovative solutions. I also have the support of cost personnel at each of the NASA Centers that enables us to surface and discuss cost issues as a community. I could not do this job alone. It is a joint effort and I appreciate the contributions of my fellow parametricians and cost estimators. With this said, I look forward to working with our cost community to face the challenges that lie ahead in these cost-constrained times.”*

## Service Award

The Keith Burbridge Service Award is presented to a Society Member or participating group who have 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 award has been presented 22 times since 1988.

The joint 2010 recipients are **Sherry Stukes**, of JPL, and **Kurt Brunner**, of Tecolote Research. This team received six nominations which touted their dedication and many years of accomplishment to the Southern California ISPA Chapter. One of the nominators said, “For the past five years, Sherry and Kurt have promoted parametrics and the society through teaching and mentoring of other professionals. Most notable has been their promoting the Southern California chapter as a regional example of the benefits of ISPA membership.” Sherry served as chapter President until turning over the reins to Kurt two years ago.



**Kurt Brunner and Sherry Stukes with their award certificates at the conference.**

Sherry was also praised for her role as ISPA Publications Chair, for numerous tours of duty as conference track chair, and for her most recent support

as the ISPA Education and Training Chair where she organized the ISPA training program at the conference. Most significantly, Sherry was mentioned by several nominators as “a born mentor and teacher,” typified by her frequent trips to other ISPA and SCEA regional chapters to conduct software cost estimating seminars.

Kurt was separately praised as current chapter President and for his many occasions to serve as conference track chair and ISPA training instructor. One nominator observed Kurt’s term as President for “raising the bar in running a local chapter and ... for getting younger professionals connected with ISPA.”

Upon receiving their award, Sherry and Kurt told PW: *“We are genuinely honored, surprised, flattered, and delighted to jointly receive the Keith Burbridge Service Award. This is especially meaningful to us because it seems appropriate that we would share in receiving this honor as we have worked together on so many society*

**Continued on page 6.**

### ISPA 2010 International Board of Directors/Treasurer Election Results

**T**he election for the 2010 International Board of Directors and Treasurer was concluded at the Conference in San Diego in June. This election saw participation from almost half of the membership! My thanks to Erick Canche and Doug Howarth who served with me on the Elections Committee. I would also like to extend a special thanks to Joanne Wang who assisted in counting the ballots and Nina Tahir for collecting the ballots at the ISPA booth.

The outcome was announced at the conference banquet at the San Diego Air and Space Museum on Thursday, June 10. Newly elected to the international board were Kurt Brunner and Madeline Ellis (who returns to the board after a brief hiatus). Re-elected were Andy Prince, Greg Kiviat and George Stratton. Bruce Minett was also re-elected as the Treasurer.



**Kurt Brunner,  
Director**



**Madeline Ellis,  
Director**



**Greg Kiviat,  
Director**



**Andy Prince,  
Director**



**George Stratton,  
Director**



**Bruce Minett,  
Treasurer**

We congratulate the winners on their election and look forward to the dedicated service they will provide, and we sincerely thank all of the candidates for their participation. We especially express great appreciation and gratitude to the corporations who employ or are associated with our board members. These institutions, through their generosity, make it possible for them to travel and invest their time for the benefit of our society. Most importantly, we are grateful to you, our members, for participating in the election and making it a success.



**Rich Harwin, Chair**  
2010 ISPA Elections Committee  
richard.a.harwin@boeing.com  
(562) 797-3869

#### **Continued from page 5.**

*activities and initiatives. We are truly privileged to have the opportunity to serve as a true team on the ISPA Southern California Chapter Board of Directors with such an exceptional group of supportive individuals. We would most sincerely like to thank all of the individuals that took time from their busy schedules to nominate us and to provide the endorsements for our award."*

All-in-all, this year's society awards were a great success, with a high number of nominations and a strong slate of candidates. It is not too early to begin thinking about next year's nominees.

**Hank Apgar**  
Professional Awards Committee Chair

### ISPA/SCEA Joint Office Report

BY ERIN WHITTAKER

**I**n 2007 member services for The International Society of Parametric Analysts (ISPA) was taken over by the National Office of the Society of Cost Estimating and Analysis (SCEA) with the formation of the Joint Business Office. The Joint Office staff members include **Jennifer Clegg** and me, **Erin Whittaker**. We provide administrative and publications support and services to the ISPA Boards (local and international) and their membership. The Joint Office maintains the ISPA membership database, signs up new members, sends out membership renewal reminder notices, maintains ISPA's Certified Parametric Professional (CPP) files, and provides publications support to include mailing lists and some desktop publishing work. The Joint Office also manages the logistical planning and on-site work for the ISPA and SCEA Joint Conferences.

While ISPA and SCEA remain separate societies, many people are members of both. The Joint Office has streamlined member services and joint conference planning and administration and based on feedback from our members, we are serving both societies well.

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 above. 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 was selected from numerous entries and comes from [Edgar Zapata](#) of NASA's Kennedy Space Center.

## EDGAR'S QUESTION:

*"Launch vehicle parts are arguably in the reliability range of 3 or 4 "nine's" and the systems they comprise end up in the 2 "nine's" range. That is launch vehicles have struggled for decades just to become 0.99 reliable systems demonstrated, and even when shown low numbers of data points leave little "confidence" should one try and extrapolate. This in a world that talks about 6-sigma systems and how even then that's often not enough to succeed in today's markets. How can launch vehicles attain 0.9999 reliability one day?"*

## ANSWER:

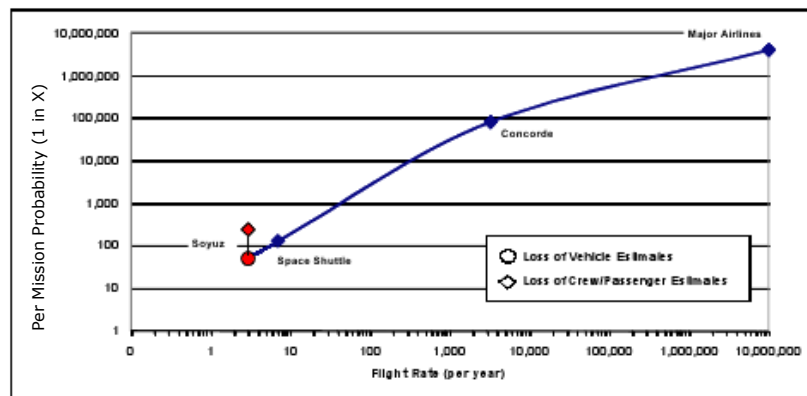
I went to two of the recognized experts in launch vehicle reliability to get the answer. And both experts gave such reasoned answers that I decided not to dilute them using them both in one column but to instead use one for this issue of *PW* and save the other for the next *PW*. So this month we will hear from Gaspare Maggio, a Vice-President at ISL and manager of their Technology Risk Management Operation. Gaspare has been involved in numerous launch vehicle studies over the years supplying the reliability analyses to quantify the expected reliability of many different conceptual designs for launch systems and launch architectures. Gaspare writes:

*"The answer to this question must address two different types of launch vehicle reliabilities in order to be complete – the inherent reliability of a design and the demonstrated reliability of a system. The inherent reliability of a design relates to the theoretical potential that a launch vehicle has at achieving a certain reliability level over time and using a term Carl Sagan popularized, namely 'Extraordinary claims require extraordinary evidence,' the higher the claimed launch vehicle reliability, the more flights are required to demonstrate it.*

*So the simple answer to the question is: a launch vehicle will attain a 0.9999 demonstrated reliability when it has successfully flown 10,000 times without failure.<sup>1</sup> Of course this is a trivial response – the questioner is actually more interested in how*

*one attains the inherent reliability that would make such a feat possible some day. For this we need to examine why launch vehicles have not been able to achieve this feat to date.*

*The launch vehicle with the highest demonstrated reliability, if one does not consider the re-entry and landing portion of its flight, is actually the Space Shuttle – which has experienced only one ascent failure over 132 attempts so far giving it a demonstrated launch reliability of 0.9924, meaning that the Shuttle would have to fly successfully 9,868 more times in order to be the first launch vehicle to demonstrate a reliability of 0.9999 – a very low likelihood given that the Shuttle is slated to*



**Figure 1: Relationship between Mission\* Failure Probability and Flight Rate**

\*Note that "Mission" here refers to just the launch phase for launch vehicles and take-off to landing for aircraft

**Continued on page 8.**

<sup>1</sup> In actuality some may claim that a 0.9999 reliability is demonstrated after only 3,333 successful flights but for educational purposes I'm using the simplest mathematical expression for demonstrated reliability which is one minus the inverse of the number of flights.



**Continued from page 7.**

fly only 2 more times before it's retired. Thus we see one major impediment to achieving a 0.9999 demonstrated reliability – flight rate.

The flight rate, I contend however, is correlated to the inherent reliability of the system design as demonstrated in Figure 1. As seen in the Figure, both the Soyuz and the Shuttle have roughly a 1 in 100 chance of failure ("two nines") on any given flight (the Soyuz loss of crew metric is a bit better than its loss of vehicle metric due to a launch abort capability which can theoretically save the crew while the vehicle is still lost). Both the Soyuz and the Shuttle have very low flight rates—less than 10 times per year. On the other extreme, the major airlines collectively mount about 10 million flights per year worldwide and achieve reliabilities that are better than "6 nines"—less than 1 crash in a million flights (actually only 1 crash in several million flights). Between these two extremes there is another good data point—the Concorde, the first turbojet-powered supersonic passenger airliner, which flew roughly 4,000 flights per year and achieved nearly "5 nines" reliability—only 1 loss in about 80,000 flights over its lifetime. The plot of this data in Figure 1 suggests that reliability is highly correlated to flight rate. So not only do the mathematics of demonstrated reliability depend on large numbers of flights but the basic engineering impetus to build inherently reliable launch systems seems correlated to their flight rate—fly them more and one has the business incentive to make them more reliable as well as the luxury of amortizing the cost of reliability (both non-recurring and recurring) over a large number of flights so that the business case can still close (well, in the case of Concorde, the business case probably did not actually close but it wasn't extraordinarily far from doing so)."

**Gaspere Maggio**  
**Vice President, ISL**

## ISPA Library

***Because our ISPA membership keeps growing, we periodically want to remind our members of a resource available to them — our ISPA Library.***

The ISPA library has been maintained as a Special Collection within NASA's Resource Data Storage and Retrieval (REDSTAR) Library since 2003. REDSTAR is housed and maintained by SAIC as part of a contract which is sponsored by the Engineering Cost Office of Marshall Space Flight Center. Although the REDSTAR website is password protected, and one must be a registered user to obtain access, the ISPA Library Section itself is considered an open resource.

Considered an historical collection, the ISPA library contains issues of the **ISPA News** from 1979-1981, **ISPA Whisper** from 1981-1985, **SCEA Journal of Cost Analysis** from 1984 to 2004, **Journal of Parametrics** from 1981 to 2007, **Journal of Cost Analysis and Parametrics** from 2008 to present, and **Parametric World** from 1984 to present. Also, the ISPA Collection contains over 800 documents and 40 videocassettes, including all proceedings from 1982 to present.

The family of the late Dr. Robert Solverson, an ISPA member who passed away in 2009, donated his collection of papers and reference materials to the ISPA Library which has been catalogued and is now accessible through our library.

If you are interested in the historical aspects of our society or want technical information contained in our journals and other documents, you may obtain a list of documents in the ISPA Collection by contacting **Mary Ellen Harris**, the REDSTAR Librarian, at 256-971-6425, or mary.e.harris@saic.com, 6723 Odyssey Dr., Huntsville, AL 35806.



BY STEVE STERK

**O**ur Membership had a STRONG second quarter as the Membership Team signed up 51 folks in June with most of the folks renewing their Membership at our Annual Joint ISPA/SCEA Conference in San Diego. I'd like to personally thank Mary Sue Collins of Wyle for being pro-active and taking care of her staff in one fell swoop. Kudos go out to our ten colleagues who reside across the pond and work for the UK's Ministry of Defense. They not only joined our society as new members but also took the Certified Parametric Practitioner (CPP) exam post conference and passed.



### Denise Nelson Wins iPod Touch MP3 Player

Denise Nelson of Boeing/Huntington Beach, pictured here with me, won the membership drive prize — an iPod Touch MP3 player. Obviously Denise was thrilled and we were happy that she stayed until the conclusion of the banquet when the drawing occurred. There are rewards to sticking around other than good company, warm ambience, and fun.



We've added 2 additional people to our membership committee: **Mark Schankman** and Lisa Yedo. Mr. Schankman (left) works for Booz-Allen and has an impressive list of career-related accomplishments. Mark will be an excellent addition to our membership team.



**Lisa Yedo** (left), Business Manager from Ball Aerospace and Technologies Corporation located in Denver, brings her experience and a "can do attitude" to the team and we look forward to working with her.

### Lost or Forgotten Your ISPA Website Member's Portal Password?

Send me an email. I normally turn your password reset around within 24 hours. Or simply call the Joint ISPA / SCEA Office. My email address and phone number are listed in this article.

### 24 NEW ISPA MEMBERS!

ISPA has 24 new members (yes!) which I've listed below: As you know, networking is one of our key strengths as identified in our survey conducted in June 2010. If you see these folks at the upcoming NASA Cost Symposium, SCAF, SCAG or other events, please introduce yourself and welcome them to our community.

- Sherry Kilpatrick
- Karin DeGraffenreid
- Mary Boghosian — Aerospace Corporation
- Elizabeth Prudhomme — Boeing
- Mark Bruce — HiTech PR
- Alan Cole — IRS
- Mostain Billah — Jain Irrigation Inc.
- Richard Shea — KSJ & Associates
- Angela Vu — MCR LLC
- Marc Greenberg — Navy
- John Swaren — PRICE Systems
- Harold Van Herringen — Sogeti Nederland BV
- Gary Collier — UK MOD
- Michael Johns — UK MOD
- Andrew Butcher — UK MOD
- Allan Davies — UK MOD
- James Homer — UK MOD
- Bob Snowden — UK MOD
- Suleman Timol — UK MOD
- Simon Wray — UK MOD
- Lara Sayer — USAF
- Scott Fine — Wyle Laboratories Inc.
- Chris Massey — Wyle Laboratories Inc.
- James Smirnoff — Wyle Laboratories Inc.

My personal goal this year is to increase our membership (naturally) and add more value to membership in our society. To do this, a strong membership team is mandatory, and with the support I already have and the latest additions of Mark Schankman and Lisa Yedo, we can make it happen and move our community forward. We have 100 renewals that will occur in July, and with sign-up capability on our website, growth markets in the United Kingdom and Europe, and renewals from abroad, we hope to grow our membership to over 400.



**Steve Sterk (CPP)**, ISPA Membership Chair  
[steve.a.sterk@nasa.gov](mailto:steve.a.sterk@nasa.gov)  
 (661) 276-2377

## EUROPEAN PERSPECTIVES

### Notes from René Berghuijs — *Brussels, Belgium*



**G**reetings to all of you from a very warm Brussels! It was a long trip to San Diego, but I enjoyed the very well organized and attended annual conference over there. There were a lot of interesting presentations and I met many people that I only knew by name before. And San Diego is a nice place!

Agency reform at NATO is getting a lot of attention at the moment. NATO is amidst a budget crisis, resulting from a campaign in Afghanistan coinciding with a downturn in most western economies. Nations have asked for a rationalization of the 14 agencies, reducing them to 3 programmatic areas: procurement, support and communications & information. The proposal for this new structure is to be briefed to the defence ministers in October for approval. The international staff at NATO headquarters is getting their own reform, that focuses on flexibility and mobility. But it is not all gloom and doom at NATO: a contract has been let to build the new NATO headquarters building, which will include 250,000 m<sup>2</sup> 'useful space', of which 120,000 m<sup>2</sup> office space is to house 4,500 staff members. The first brick will be laid on October 1, 2010 and the opening is planned for 2015. It will be built right across the road from the current headquarters.

On the ISPA front, we are busy planning our next BeneLux chapter meeting to be held in September; initial preparations are also underway for the 2012 OCONUS conference. With the San Diego conference freshly in mind and a report on the Noordwijk 2008 conference available, we will start looking for a suitable location.

#### **Réne Berghuijs**

NATO Air Command and Control System (ACCS)  
Management Agency

### Notes from Arthur Griffiths — *The UK*



**A**fter a dreary winter the spring arrived with great pleasure and joy. But with it came a General Election. Everyone knew it would be a win for the opposition party having endured a now beleaguered Labour party for three terms. But even this came with a few surprises. The Conservatives won with a reasonable majority (circa 50 seats) but it seems that even this was not enough to achieve a working majority in the House of Commons. So some two weeks after the election result we had our first coalition party (Conservatives

and Liberal Democrats) for over 40 years. Growing up, we always awakened the morning after an election to a newly elected Prime Minister with a big grin and a spring in their step. Imagine waiting then for just over two weeks to find out if we had a new government or whether Labour who had lost the election could muster sufficient alliances with the minor parties and come up with a working majority of their own!!!!

No one knows how long this coalition will work together but for now they are getting on with things. We all knew that one of the first things to do was to come up with a plan to reduce the UK financial debt. Within days we had news of a £6Bn (\$9Bn) cut through the cancellation or suspension of public sector programmes. Next came the warning of an emergency 'austere' budget and this was delivered with gusto. Further public sector cuts, more cancellations, welfare cuts, etc. This did initially stimulate the city financiers but then came the news that each Government Department had to take a budget cut of 20%, and that this could result in further programme cancellations and staff reduction.

All a bit gloomy but seems to have been accepted by the general public. On the Defence front the Strategic Defence Review is underway and is due to report later in the year. We understand that nothing is sacrosanct and there is no doubt that there will be some big surprises by the autumn. Work on the capability development of the MoD's internal costing group 'Cost Analysis and Assurance Services' (an increase of some 50% in staff is expected) is continuing with the Invitation to Tender to assist in the areas of Cost Forecasting, Cost Engineering and Cost Certification now issued to a shortlist of companies.

Hank Apgar (MCR) and Dale Shermon (QinetiQ) delivered a course on parametric estimating leading to a CPP examination at the end of the course. I think Hank must have brought the California weather with him as we now have glorious sunshine and all the problems seem a long way away.

We have the soccer World Cup from South Africa and the Wimbledon Tennis Tournament where we witnessed an incredible match between an American and a Frenchman who played some 154 games in the final set to decide a winner. The Pimms and Strawberries were sold out and everyone collapsed in a heap afterwards.

The rock musical festival season has begun and Glastonbury was, for once, bathed in sunshine so this year's 'wellies' were dumped. So let's forget about the gloom for a little while and just enjoy the weather with the words of the bards, "Roll on those lazy, hazy, crazy days of summer....."

#### **Arthur Griffiths**

Decision Analysis Services Ltd.

# Web Site Ad Order Form



## The International Society of Parametric Analysts

Phone Number: 703.938.5090

Fax Number: 703.938.5091

*Please check the applicable boxes on the form:*

I would like to place a job posting ad on the ISPA web site ([www.ispa-cost.org](http://www.ispa-cost.org)). ☐

The ad will run on the ISPA web site for **3 months** at a cost of **\$150**.

Checks may be made payable to **ISPA** and mailed to:

ISPA/SCEA Joint Office  
527 Maple Avenue East, Suite 300  
Vienna, VA 22180

---

Payment may also be made by credit card:

Amex ☐

Visa ☐

Mastercard ☐

Card Number

<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
----------------------	----------------------	----------------------	----------------------	----------------------	----------------------	----------------------	----------------------	----------------------	----------------------	----------------------	----------------------	----------------------	----------------------	----------------------	----------------------	----------------------

Expiration Date:

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

Print Name of Card Holder: \_\_\_\_\_



# Jointness Report: Member Survey

BY HANK APGAR, MEMBER, ISPA/SCEA JOINTNESS COMMITTEE



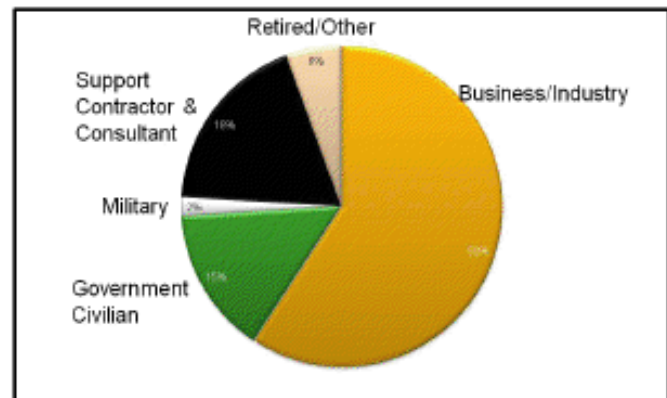
**F**orty two percent of the ISPA membership responded to our members' survey, released just before the Joint Conference. The purpose of the survey was to measure your attitude regarding current and future services as well as overall society direction. The same survey went to the SCEA membership and was authorized by the two Boards of Directors.

Survey results were interesting. Thirty two percent of the SCEA members responded. While each society's responses were tabulated separately, the responses were similar between societies. Of the ISPA responses:

- More than half of you have been an ISPA member for more than six years.
- Three-quarters are employed by industry, including government support contractors, as shown in the pie chart.
- Sixty eight percent have more than 15 years of relevant experience.
- More ISPA responses than SCEA responses use parametric methods frequently.
- Seventy percent of both organizations belong only to ISPA and/or SCEA, indicating little interest in other professional societies.
- Twelve percent of those responding are members of both societies.

The survey was prompted by a joint board discussion at the St Louis conference (2009) and was developed by the Jointness Committee with specific requests from each Board. The survey was designed by a professional survey company and was distributed simultaneously to both memberships during the period of May 24 through June 7. A total of 681 responses, many including specific comments, were tallied.

While the results are still being studied with respect to potential organizational and service changes for members of both societies, the following general trends were noted:



**Employment Demographics of Member Responses**

- Regarding your perception of specific ISPA resources, you gave high marks to our **Parametric Estimating Handbook** and **Parametric World**; SCEA members rated their **CeBOK** (cost estimating body of knowledge — similar to our handbook) and their certification program highly.
- Regarding your perception of joint resources, you gave high marks to joint conferences, the joint journal, and joint training.
- Regarding jointness, 66% (the same in both societies) want to continue joint activities with common dues and an enhanced training program as obtainable objectives; many endorsed the idea of a single organization. SCEA members also endorsed the idea of an integrated certification program.

Watch for specific ISPA Board of Director actions resulting from the survey.

**Hank Apgar**

Member — ISPA/SCEA Jointness Committee

hapgar@mcricri.com

# Do More Details Imply Better Accuracy in Cost Estimates?

BY JOSEPH W. HAMAKER, PhD, CPP, CCA, SENIOR SAIC COST ANALYST

*Author's Note: This little article was presented in PowerPoint form at the May 2010 SSCAG meeting in Berlin. So if you endured it there, you have suffered enough. I didn't want you to belatedly recognize the material and fling the entire PW across the room in disgust.*

**T**he idiomatic expression “the devil is in the details” has several connotations but one meaning is that whatever one does (cost estimates for example) should be done thoroughly because the details are important. Like many proverbs which involve the devil, this figure of speech is meant to sound a note of caution. I submit that in cost estimating, such caution might cause us to obfuscate what could be a very simple task.

Some cost estimators and many consumers of cost estimates seem to think that unless an estimate involves a buildup of elements from very low levels of the WBS, it must be unreliable. This is not at all obvious to me. I would sooner believe that the cost of a house can be accurately estimated using dollars per unit area (in just a few seconds) than I would believe an estimate based on a detailed BOM which carefully prices out every scrap of material, every hour of labor, accounts for the vagaries of weather and material shortages, roofers who over imbibed the night before, etc., to arrive at an estimate. Why would any rational observer think that the latter method, which is totally dependent on the enumeration of the requirements, would not most probably leave out a lot by accident? Meanwhile, if my neighbor recently built a similar dwelling and it cost X dollars per unit area, why wouldn't a better and quicker estimate be possible using  $\text{cost} = (\text{x dollars per unit area}) \times (\text{area})$ ? Somewhere the devil has to be laughing his horns off.

To be fair, I need to address the question “are detailed estimates ever required?” Sometimes yes. Darryl Webb of the Aerospace Corporation has recommended that cost estimates should be done at the level of the WBS where technology and business decisions are being made. This is true for internal project estimating where technology and business choices need good cost information in order to be made correctly (or at least with foresight). Rich Greathouse of the NASA IPAO has recommended that cost estimates should be done at the level where commonality/heritage/new design can be assessed and at the level that facilitates reconciliation of an advocacy estimate with an ICE. These recommendations probably imply one or two levels below the subsystem level for some WBS branches. But sometimes detailed estimates are not required. For decadal survey type estimates, broad portfolio studies, very early conceptual studies and the like, estimating at the top of the WBS may be fine.

Build-up estimates are built from labor, material, vendor quotes and subcontractor bids are problematic. Labor estimates are notoriously optimistic—based on impossible to achieve productivity levels by a team from Lake Wobegon (where as Garrison Keillor explains on his Prairie Home Companion radio show, “all the children are above average”). All providers of labor estimates believe they are above average. Material cost, immaterially small in my world of NASA spacecraft projects (<10%) to begin with, are based on optimistic scrap and rework assumptions. Vendor quotes and subcontractor bids, even if fixed price, are contaminated by the desire to win in a competitive environment. No costs are “fixed price” in an R&D environment of engineering change orders. Einstein knew this when he reportedly said “If we knew what it was we were doing, it would not be called research, would it?” Parametric approaches are often better because they subjugate the need for productivity level and rework assumptions and the need to enumerate each individual requirement/cost item and they rather automatically include changes. Thus parametric estimates, in my whole experience base of 30 + years are almost always more accurate. This annoyed a former NASA Comptroller, Mal Peterson, who observed: “The damn parametric estimate is right again for the wrong reasons!”

The deeper one goes into the WBS, the more unsure one is of the data. Messenger was launched in August 2004 and is in route for orbit insertion around Mercury in March 2011. The mission's development cost was \$305 million according to the NASA CADRe, \$289 million per the Science Mission Director (“Freaner-Bitten Database”) and \$327M from the Messenger website (all excluding \$70M of launch services and \$7M per year of mission ops). If there is this much noise at the total mission level, who believes that the noise is attenuated at lower levels of the

***Continued on page 22.***

## 2010 — SAN DIEGO



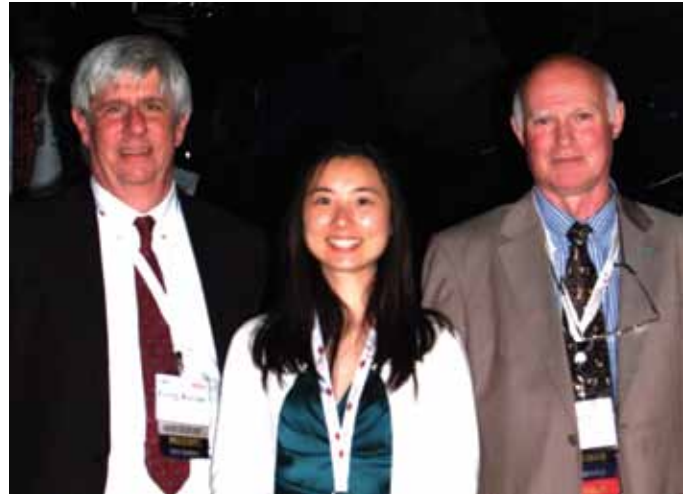




## 2010 — SAN DIEGO









## ATTENDANCE WAS HUGE!

### ISPA/SCEA Joint Conference Highlights

ISPA and SCEA's Joint Conference was held from June 8 -11 and concluded with the certification exams on June 12. The resort setting at the beautiful Sheraton San Diego Hotel and Marina with its comfortable meeting rooms and banquet facilities was the perfect backdrop for our event. Now that the conference is over, I'm reminded of the old saying, *"Be careful what you wish for."* This conference was one of our most successful joint conferences and the record attendance resulted in some major staff scrambling to accommodate the higher than expected numbers. Historically, we see a spike in registrations a few weeks before the conference, but this year we had an even higher number of last minute registrations. And we even had 8 walk-ins. Final attendance was 628. This breaks down to 592 paid attendees, 3 keynote speakers, and 33 guests.

The volunteer support from the San Diego SCEA chapter who gave of their time and energy to help us was amazing. The local chapter was revitalized in the spring of this year and some of its members were gracious enough to lend a hand with the pre-conference preparations and with registration. My sincere thanks to the SCEA members who worked behind the scenes to make our conference a success.

This year we had 16 Exhibitors: **ACEIT—Automated Cost Estimating Integrated Tools, The Boeing Company, Booz Allen Hamilton, Dekker, Ltd., EcoSys, KSJ & Associates, Inc., MCR LLC, National Contract Management Association (NCMA), PRICE Systems, Pro-Pricer, Quantech Services, Raytheon, SEER by Galorath, TASC, Technomics, Inc., and Wyle.** We sincerely thank them for their support and participation.

Four of our exhibitors offered "Exhibitor Sessions" to the conference attendees on Tuesday which facilitated lengthier presentations of products and services in a classroom environment without the distractions and interruptions which often occur at exhibitors' booths. These sessions were not part of the training and technical presentations and the rooms were crowded.

We also wish to thank our 10 corporate sponsors for their generous support: **ACEIT—Automated Cost Estimating Integrated Tools, The Boeing Company, Booz Allen Hamilton, Lockheed Martin, MCR LLC, Northrop Grumman, PRICE Systems, SEER by Galorath, TASC, and Technomics, Inc.**

Sponsorship was up by 26% more than we had anticipated for this year, and that goes a long way in supporting the operations of our organizations.

We had an industry *mini panel* whose theme was *"The Widening Role of Cost Estimation in Program Execution and Contracts"* led by our very knowledgeable guest speakers **Susan Côté**, Northrop Grumman Vice-President, Corporate Contracts, Pricing, and Supply Chain; and **Kathleen Hedges**, SAIC Senior Vice-President, Corporate Director of Program Execution.

The Keynote speaker on Wednesday was **Dave Burgess** who is the Director NAVAIR 4.2 at Patuxent River, Maryland. His presentation was informative to me because he spoke to the working operation of his organization and the way he goes about the day-to-day running of the Navy's NAVAIR cost estimation program.

On Thursday we heard **Stan Soloway**, President and CEO of the Professional Services Council who spoke at length (without any notes) and gave the attendees a strategic view of our work at the national level.

**Mike Thompson** and I, as conference co-chairs, thought we'd try something different this year and have the Thursday night awards banquet outside of the hotel. We chose the San Diego Air and Space Museum (a Smithsonian Museum Affiliate) and it was a great venue.

The event started with a reception at the museum, where the 350 attendees mingled with colleagues and leisurely toured the museum's many exhibits. Tour guides were available to take small groups to the museum's restoration area.

Underneath antique planes and dramatic lighting, with the roar of passenger jets flying overhead, conference attendees indulged in delicious food catered by the French Gourmet Restaurant. During dessert which featured elegantly presented pastries, awards were handed out to honor the winners from both societies.

It was a memorable event for all of us, and it gave conference-goers a rare chance to unwind with their guests and colleagues and enjoy themselves in a unique and inspiring environment.

There were many, many people who gave generously of their time at the conference to make it a success. I can

*Continued on page 21.*

## Conference 2010 Workshop Report

**T**hanks to the hard work of our track chairs, and the high quality of the presentations, the 2010 Joint Conference workshops were a great success. We had 80 papers presented out of 82 scheduled, plus 4 exhibitor sessions and 4 information sessions (two by NCMA, one by Boeing, and one by the US Navy). The attendance was incredible, with many rooms packed to capacity. It was obvious that the record number of attendees were extremely interested in hearing what the presenters had to say. I want to once again thank the track chairs:

<b>Estimating:</b> Bob Hunt/Greg Hogan	<b>Life-cycle Cost:</b> Claude Freaner/Francisco Rojo	<b>Methods:</b> Leigh Rosenberg/Angela Vu	<b>Risk:</b> Jairus Hihn/Rick Collins
<b>EVM/Schedules:</b> Hank Apgar/Brian Kolstad	<b>Management:</b> Kurt Brunner/Jesse Celis	<b>Models:</b> Herve Joumier/Diane Butler	<b>Software/IT:</b> Parl Hummel/Andrew Drennon

I also want to thank Tim Anderson, Rick Garcia, and Kirk Schneider who filled in for a couple of folks who could not attend. I also want to take this opportunity to recognize our best paper award winners. A big thanks to Jairus Hihn, who in addition to being a track chair, was also the ISPA conference papers awards chair. This year's winners are:

Track	Authors	Title
Estimating	Bob Hunt	Estimating Issues Associated with Agile Development
EVM/Scheduling	Ms Nhung Tran, Mr. Eddie Hall, Dr Mun Kwon	CAM Notebook Evaluation
Life-cycle Cost	Sidharta Sahirman	Estimating Life-Cycle Cost of West Virginia Fiber Reinforced Polymer (FRP) Bridge Decks
Management	Dr. Michael N. Beltramo, Emily Beltramo, Rick Collins, Brian E. Torgersen	Competition in DoD Systems Acquisition: Past Lessons and Future Considerations
Methods	Dr. Shu-Ping Hu	Simple Mean, Weighted Mean, or Geometric Mean?
Models	Mark S. Schankman, John W. Reynolds	Advancing the Art of Technology Cost Estimating — a Collaboration between NASA and Boeing
Risk	Christian Smart, Ph.D., CCEA	Here There be Dragons: Considering the Right Tail in Risk Management
Software/IT	Jennifer Leotta	Software Cost Estimating Relationships

Best overall conference paper went to Christian Smart for his paper ***"Here There be Dragons: Considering the Right Tail in Risk Management."*** This is the third consecutive year that Christian has won best overall conference paper!

Finally, I want to give a big thanks to Paul Marston, who was the SCEA half of this team. Paul did a great job as my partner. He was steady and calm, making sure we had everything covered. I know he will do a great job in Albuquerque.

Speaking of Albuquerque, it is not too early to be thinking about presenting a paper at the 2011 Joint Conference. Writing and presenting a paper is a great way to get exposure and recognition for your innovations and hard work. It is also a wonderful mechanism for getting feedback from the luminaries of our profession.

Another way to be a part of the conference experience is to be a track chair. Track chairs work with the authors and the workshop chairs to coordinate the paper tracks. It is a fun and easy way to be a part of the conference experience and to help make the conference a success. If you are interested in helping out in 2011 please contact Sherry Stukes or Paul Marston.



**Andy Prince, Co-Chair**

Workshop Presentations, San Diego - 2010

## 2010 Joint Conference Training Program

BY SHERRY STUKES, ISPA EDUCATION AND TRAINING CHAIR

**T**he Conference joint integrated training, initiated in 2007, continues to work well for the trainers and attendees of both societies. The ISPA portion of training, intended for attendees interested in becoming Certified Parametric Practitioners (CPP), was included in two of the three training tracks. The three training tracks are:

- **Fundamentals** — for junior level analysts seeking to become proficient in cost estimating or experienced estimators that are interested in a refresher course
- **Practitioner** — for the experienced cost estimator/analyst to gain more insight and hone their estimating skills
- **Integration** — for the more advanced attendees to build on complex topics and subject matter

The integrated training program consisted of the training sessions shown in the table below. Specific CPP training sessions are highlighted in bold italic font. Abstracts for each session were provided in the workshop proceedings. Trainer biographies were also included describing the trainers' general backgrounds and qualifications.

Fundamentals	Practitioner	Integration
Cost Estimating Overview / Basics Cost Estimating Techniques Data Normalization and Inflation Basic Data Analysis Principles Learning Curve Analysis Linear Regression Multivariate Regression Basic Cost Risk Advanced Cost Risk Probability and Statistics Economic Analysis Contract Pricing	Technical Baselines Development of Work Breakdown Structures <b><i>Parametric Analysis Overview</i></b> <b><i>Data Collection and Analysis</i></b> <b><i>Cost Estimating Relationships (CERs)</i></b> <b><i>Company-Developed Complex Models</i></b> <b><i>Complex Hardware Models</i></b> <b><i>Complex Software Models</i></b> Prediction Intervals and Risk Multiplicative-Error Regression EVMS Basic Concepts Integrated Baseline Review (IBR)	<b><i>Government Compliance</i></b> <b><i>Other Uses of Parametrics</i></b> <b><i>International Use of Parametrics</i></b> <b><i>PEH Appendices Overview</i></b> Government Cost Data Sources Basic Critical Path Scheduling Schedule Analysis Techniques Schedule Risk Analysis Monte Carlo Simulation Advanced Earned Value Practical Software and Systems Measurement EVM/RM Integration

Attendees were permitted to mix and match training sessions to fit their individual needs. In addition, personnel from the training program were on-site to advise trainees and help them determine what training would be best suited to their specific situation.

This robust training included exam preparation sessions for both the ISPA and SCEA certification programs — the Certified Parametric Practitioner (CPP) and the Certified Cost Estimator/Analyst (CCE/A) — as well as training for general purposes. **Dr. Roy Smoker**, the ISPA Certification Chair, led a CPP preparation session for prospective exam-takers and other attendees interested in the exam content. Dr. Smoker was responsible for updating the exam for this year's test.

The structure of the exam along with sample test questions was reviewed in the CPP preparation session. There was only one CPP certification candidate that met all of the requirements and was approved to sit for the June 12, 2010 exam. The candidate, **Joanne Wang** from Sikorsky Aircraft, passed the exam. If you know Joanne, please congratulate her on becoming the newest Certified Parametric Practitioner.

Finally, I would like to thank the following subject matter experts listed on the next page who conducted the CPP certification training. Without them, our CPP training program would not have been possible. We greatly appreciate the time and effort these individuals dedicated to preparing and presenting material that made this an outstanding training program!

*Continued on page 21.*



*Continued from page 20.*

### CPP Training Instructors

Roy Smoker  
Dan Galorath  
Christian Smart  
Hank Apgar  
Greg Kiviat  
Jairus Hihn  
Diane Lindsey  
René Morgan  
Jerry McAfee  
Kurt Brunner  
René Berghuijs

If you were unable to attend the workshop and would like to obtain a copy of the training materials or the workshop proceedings, they are available for purchase from the Joint Office. If you have any questions about the integrated training program, please feel free to contact me.

*Sherry Stukes*

The Jet Propulsion Laboratory  
California Institute of Technology  
sherry.a.stukes@jpl.nasa.gov  
(818) 393-7517

*Continued from page 18.*

only mention a few here: **Paul Marston** and **Andy Prince** were the program co-chairs and handled the difficult job of scheduling the workshop presentations and making everything "fit"; and **Bethia Cullis** (SCEA) and **Sherry Stukes** (ISPA) did an excellent job on joint training; and **Lisa Yedo** also did a great job on the conference proceedings; and many thanks to **Dr. Roy Smoker** for his training and preparatory work in connection with the Certified Parametric Practitioner (CPP) program and for giving the exam on the Saturday after the conference.

Plans are already underway for next year's conference to be held in Albuquerque, New

Mexico so mark your calendars for **June 7 – 10, 2011.**



**Doug Druley**  
2010 Co-Conference Chair

## Certified Parametric Practitioner (CPP) Program Report

It's been a month since the successful ISPA/SCEA Conference in San Diego. In the time that has elapsed, one new member from the United States has passed the Certified Parametric Practitioner (CPP) exam and several new members from the United Kingdom Ministry of Defense Cost Assurance and Analysis Service (CAAS) have also passed the exam. Please help me congratulate our newest Certified Parametric Practitioners, including Joanne Wang of Sikorsky from the United States and the following members from the UK: Andrew Butcher, Gary Collier, Allan Davies, Nicholas Grindley, A. J. F. Homer, Mike Johns, Alexander George Overfield, Sulleman Timol, Philip Weston, and Simon Wray.

We also want to congratulate our members who recently were recertified by submitting their continuing education credits. As most of you know, you must recertify every five years to keep your CPP status current. This past year, Claude Frenner and Steve Sterk were recertified as Parametric Practitioners. Please join in with ISPA and congratulate Claude and Steve for their continued support and the spreading of knowledge about the benefits of applying parametrics.

The recertification process involves accumulating over 75 points from such activities as:

- Employment
- Attending ISPA Conferences and Workshops
- Attending other conferences
- Publishing or presenting papers
- Attendance at classes or seminars
- Membership in related professional organizations
- Election to a local chapter position or ISPA Board of Directors
- Appointments to ISPA positions
- Being a Workshop or Conference Track Chair
- Receiving awards or honors

Remember, if you are a member who needs to recertify, send me the activities that qualify you for recertification along with any additional information to [rsmoker@mcri.com](mailto:rsmoker@mcri.com).

com for confirmation and your Parametric Practitioner Certification will be updated.



**Dr. Roy Smoker, (CPP)**  
Chief Parametric Practitioner  
[rsmoker@mcri.com](mailto:rsmoker@mcri.com)

**Continued from page 13.**

WBS? Lower level WBS elements increasingly suffer from the “village watchman syndrome” at lower and lower levels of the WBS—that is, the village watchman wrote down what he/she damn well pleased (or to put it more politely, makes decisions about how to segregate cost to various accounts, divide management and systems engineering cost etc.—no two village watchmen do it exactly the same).

In the case of space project estimating, with which I am most familiar, you can derive some simple top level cost models that do a decent job of estimating most projects quickly. This may not seem likely from Exhibit 1 which shows a scatterplot of the top line total mission costs for some space projects against mass. Similar scatterplots could be shown for other hopeful predictor variables (power, design life, percent new)—there’s some pretty scary looking scatter (or as statisticians say, “variability”) in the data. Doesn’t all this scatter doom being able to predict anything with confidence? But the apparent noise of single independent variable scatter plots can be controlled by adding additional variables that are causing the noise—we already see the hopefulness of this in the “planetary” effect in the scatter plots.

NASA has recently developed some estimating tools that are designed for estimating automated spacecraft science missions at or near the top of the WBS. QuickCost for example, is based on a regression of ~130 historical missions, uses statistically validated cost estimating relationships. Various versions predict total mission cost on mainly objective variables which include mass, power, design life, data rate, new design, ATP year, destination (earth orbital or planetary), number of instruments, etc.

So how good are such high level models? QuickCost replicates the cost of its own data base within 25% accuracy 80% of the time (based on an 80% trimmed mean of absolute value of the percent residuals). Depending on which version of the model we are discussing, the mean error is generally less than 5% (but this is with positive and negative errors canceling—not a bad thing if you are estimating a portfolio of projects and you want the overall estimate to be accurate but potentially problematic if you want accuracy on individual projects). The absolute value of the mean error is <30%. A specific version of QuickCost for NASA earth orbital and planetary science missions is shown in Exhibit 2.

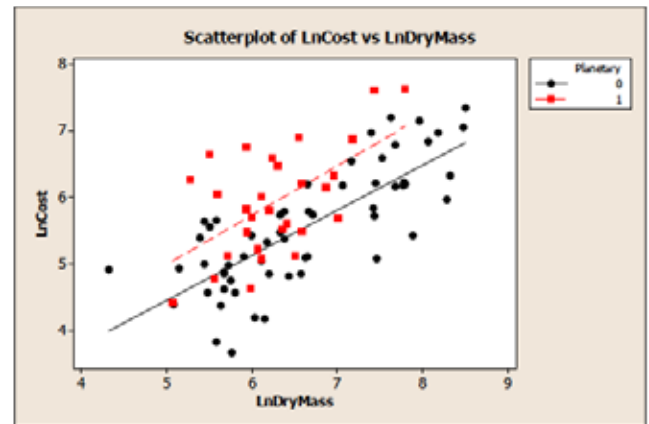


Exhibit 1: Scatterplot of Cost Versus Mass

$\text{LnCost} = 0.205 + 0.402 \text{ LnDryMass} + 0.265 \text{ LnPower} + 1.90 \text{ New} + 0.00771 \text{ Life} + 0.366 \text{ Planetary} - 0.0235 \text{ Yr-1960}$

- Mean error is 4%
- Absolute mean error 26%
- Absolute mean error 80% trimmed is 23%
- This is without calibrating to the project being estimated
- Calibrating the model to analogous missions improves the results

Exhibit 2: One Version of A High Level Model

These results, of course, are with perfect knowledge of the technical and programmatic inputs which is a major problem in cost estimating. Inputs are usually optimistic. Sensitivity analysis and cost risk analysis are two ways to deal with uncertainty in the inputs (as well as model error) but that is beyond the scope of this little paper and is thoroughly discussed elsewhere.

The performance of such models can be improved by calibrating to the type of project being estimated. Calibrations might be based on

capped missions (SMEX, Explorer, New Frontier, Discovery Programs), “facility class missions” (Great Observatories and other 2000 kg/\$1 billion missions), technology demonstrator missions, communications missions (versus science), etc. Calibrating the model to analogous missions generally improves the results.

In NASA, estimating at the top of the WBS should work well for “normal” scientific satellites with “normal” instruments where 50% to 70% of our estimating work is done. I suspect the same is true for other industries. So don’t be too quick to assume that serviceable estimates can’t be done at the top of the WBS. In summary, I believe top level models are often a worthy tool to consider. Even if a more detailed approach is being used, a top level model offers a great sanity check.

# CHRISTIAN SMART HONORED BY NASA

**C**hristian Smart, ISPA 2009 Parametrician of the Year and winner of the best over all paper at our 2010 conference (that's 3 years in a row) was awarded the NASA Exceptional Public Service Medal for "outstanding service in the development of the Ares I joint cost-schedule confidence level and exemplary performance in support of the Human Space Flight Review Panel."



*The annual NASA/Marshall Honor Awards ceremony was held on June 3, 2010 in Morris Auditorium. Pictured below is Christian Smart (in the dark suit) on his way to pick up his award.*

## 2010 ISPA PROFESSIONAL AWARDS

**FREIMAN AWARD:**  
Neil Albert, MCR, LLC

**PARAMETRICIAN OF THE YEAR:**  
Tom Coonce, NASA

**CLYDE PERRY SERVICE AWARD:**  
Kurt Brunner, Tecolote Research, Inc.,  
Sherry Stukes, Jet Propulsion  
Laboratory

Read more about the professional awards in Hank Apgar's article on page 4.

By GREG KIVIAT



One point discussed at almost every Board of Directors meeting is how well ISPA is serving its members. Certainly the recent success of the 2010 ISPA/SCEA conference in San Diego with over 600 registered participants indicates a high level of interest in cost analysis and estimating across government and industry. But it is difficult to gauge the level of member satisfaction with specific services such as publications, training and outlets for academic study plus intangible benefits such as peer-to-peer networking, historical perspective and inter-society activities.

Recently, ISPA and SCEA jointly polled the two memberships to determine member concerns and satisfaction with questions ranging from association memberships, the importance of selected resources, activities and publications, to the kind of work the members do on a day-to-day basis. The data is being tabulated and a joint ISPA/SCEA committee will present the results in the near future. Early indications seem to show that while there is considerable overlap in the perceptions of both ISPA and SCEA members (with high marks for the value of training and conferences) there are unique attributes of each organization that need to be preserved.

A wider question on the unique contributions of each society to the cost analysis and estimating community is still being interpreted with specific questions on the value of society "jointness." It is clear that for many activities, joint efforts gain economies of scale that reduce costs and well serve both communities in other ways. The value of other joint activities is less clear in some areas that may reflect each membership's type of work. Many respondents are members in both societies and may have an entirely different view of what "jointness" means.

The ISPA and SCEA Boards will review the survey results to understand the common and unique needs of the two memberships. There are several important questions before the board. One is to decide on how to move forward on the jointness issue with respect to SCEA and other professional societies.

Another Board consideration is the issue of investments. ISPA has made significant and successful investments to have Parametrics approved by the DoD as an acceptable method for proposals and created the *Parametric Estimating Handbook*. Additionally, an initial investment has been undertaken to improve our website and to create other member services. The Board is looking into how best to move forward with these uniquely ISPA initiatives as well as ensure that the benefits of jointness are realized.

Membership input to the Board is welcomed as a key part of that discussion. Please send your comments and thoughts to me at: [gkiviat@sikorsky.com](mailto:gkiviat@sikorsky.com).

**Greg Kivat**, ISPA Secretary



## ISPA Southern California Chapter News

By Kurt Brunner, Chapter President and Sherry Stukes, Chapter Vice President

**O**ur next stimulating joint **ISPA/SCEA** workshop scheduled for the fall will be hosted by **MCR** in **El Segundo, California** at the **Doubletree Hotel** (pictured here) on Thursday, September 23, 2010. We've planned a dynamic and enlightening program by world-class speakers, along with a CPP training topic. Additional details about the workshop are posted on the ISPA Web site ([www.ispa-cost.org](http://www.ispa-cost.org)) on the home page. If you attended a previous workshop and we have an up-to-date e-mail address for you, an e-mail notification with a reminder to save the date was sent to you already.

Here is a list of program speakers from government and industry (US and international) and their thought-provoking topics for the upcoming workshop:

- **Keynote Speaker: Colonel Roland Kent**, Comptroller, Air Force Space and Missile Systems Center (El Segundo, California)
- **Welcome Address: Neil Albert**, CEO, MCR LLC (McLean, Virginia), *"Report on a Survey as to How Government Agencies Develop Cost Estimates"*
- **Guest Speaker: Pierre Foussier**, President of 3F (France), *"Improving CER Building: Getting Rid of the R2 Tyranny—Building a CER with the Median"*
- **Guest Speaker: Dan Galorath**, CEO, Galorath Incorporated (El Segundo, California), Training Topic: *"Data Collection and Analysis"*
- **Guest Speaker: Alf Smith**, Gen. Mgr. Software Products/Services Group, Tecolote (Santa Barbara), *"AFCAA Cost Risk and Uncertainty Analysis Metrics Manual (CRUAMM)"*
- **Guest Speaker: Pat Malone**, Senior Associate and **Roy Smoker**, Sr. Technical Director, Space Programs, MCR, LLC (El Segundo, California), *"The Application of TRL Metrics to Existing Cost Prediction Models"*



The Doubletree Hotel is located at 1955 East Grand Blvd (corner of Continental), in El Segundo, California 90245.

We are also making plans for our third and last joint workshop of 2010 which will be hosted by **Boeing** in Huntington Beach, California at the Building 28 Theater. Mark your calendar for **Tuesday, December 7, 2010**. A highlight of our speakers' program will be **Dr. Christian Smart** who will give his best over all award winning paper presented at the 2010 ISPA/SCEA Conference. Christian has won this prestigious award for the past three consecutive years. Other excellent papers will round out our program.

If you would like a copy of previous workshop briefings please go to our website ([ispa-cost.org](http://ispa-cost.org)) and log in, and then locate our chapter on the listings, the date of the workshop, and then the title or author of the paper. Or you may contact Mr. Henry Apgar at [hapgar@mcri.com](mailto:hapgar@mcri.com).

In conjunction with our ISPA membership drive, **Steve Sterk** of the ISPA International Board of Directors and Membership Chair, will raffle off prizes to lucky winners. Only ISPA members will be eligible for the drawing, so if you are not currently a member or if your membership has expired, please join or renew to have a chance to win. The annual membership is an exceptional value for a great investment in your career! Contact Steve Sterk, ISPA Membership Chair, at [steve.a.sterk@nasa.gov](mailto:steve.a.sterk@nasa.gov) or (661) 276-2377 and he will gladly sign you up. You may also join via the ISPA website. Additional membership information can be found in this issue's membership report.

The ISPA Southern California Chapter Board of Directors are elected to promote parametric estimation and serve the needs of our society. If you have any ideas or issues that you would like to discuss, please contact one of the Board members. The Southern California Chapter 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*

*Continued on page 25.*



Continued from page 24.

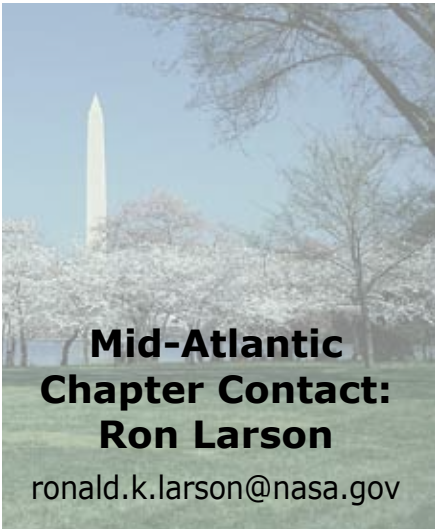
We look forward to seeing you in September and December at the next workshops!



**Kurt Brunner**  
President, ISPA  
Southern California  
Chapter  
kbrunner@tecolote.com  
(310) 536-0011 x144



**Sherry Stukes**  
Vice President,  
ISPA Southern  
California Chapter  
sherry.a.stukes@jpl.  
nasa.gov  
(818) 393-7517



**Mid-Atlantic  
Chapter Contact:  
Ron Larson**  
ronald.k.larson@nasa.gov



**Southwest  
Chapter Contact**  
**Corey Hutchinson**  
President  
corey.s.hutchinson@boeing.com

## CALENDAR OF EVENTS

### September 16, 2010

DON Cost Analysis Symposium, Quantico, Virginia  
Information: <http://www.ncca.navy.mil/doncas/>

### September 21, 2010

SCAF Annual Conference  
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)

### September 23, 2010

ISPA & SCEA SoCA Chapters Workshop, Host: MCR  
Doubletree Hotel - El Segundo, California  
Information: Kurt Brunner, kbrunner@tecolote.com

### September 27 – 28, 2010

INCOSE 3rd Int'l Conference on Model-Based Systems Engineering  
George Mason University, Fairfax, Virginia  
Information: <http://seor.gmu.edu/mbse2010/>

### September 28 – 29, 2010

SSCAG Meeting, Host: MCR, Inc.  
Hyatt/Dulles Corner, Herndon, Virginia  
Information: Dave Pine dpine2@cox.net or 757-766-7931

### October 6 – 8, 2010

PRICE Systems 29th Annual International Symposium  
Gran Hotel Princesa Sofia, Barcelona, Spain  
Information: [www.pricesystems.com](http://www.pricesystems.com), Barcelona2010@pricesystems.com

### November 2 – 5, 2010

International Forum on COCOMO & Systems/Software Cost Modeling  
University of Southern California, Los Angeles, California  
Information: <http://csse.usc.edu/csse/event/2010/COCOMO/pages/home.html>

### November 8 – 10, 2010

22nd Annual Int'l. Integrated Program Management Conference & Training Seminar  
Bethesda North Marriott Hotel & Conference Center  
Information: [http://www.pmi-cpm.org/pages/events/IPM10/conf\\_program.html](http://www.pmi-cpm.org/pages/events/IPM10/conf_program.html)

### November 23, 2010

SCAF Workshop, Theme: Whole Life Costing Case Study — At the Concept Phase  
The BAWA Centre, Filton, Bristol  
Information: Max Murray-Brooks,  
mmbrooks@dstl.gov.uk or [www.scaf.org.uk](http://www.scaf.org.uk)

### December 7, 2010

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

### 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



# 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).





***Proudly serving  
our Federal Government  
for over 60 years***

Wyle is one of the nation's leading providers of independent analytic, engineering and testing services to the Intelligence Community (IC) and the Department of Defense.

We are rapidly growing our cleared IC support team in the National Capital Region and are actively seeking qualified candidates to join our world-class team of professionals currently providing support in the following areas:

- ***Cost Estimating and Analysis***
- ***Budget Analysis***
- ***Financial Management***
- ***Acquisition Management***
- ***Earned Value Management***
- ***Program Control***
- ***Program Management***
- ***Strategy and Operations***

These positions require an active TS/SCI and Counter Intelligence (CI) Polygraph or Full Scope (FS) Polygraph or eligibility to obtain this level of clearance.

Wyle provides an employee friendly environment, exciting and challenging work, competitive salaries, and comprehensive benefits packages.

***Let Wyle be the key that unlocks your future.***



For more information about our current job openings visit our website at [www.wyle.com](http://www.wyle.com) or email your resume to [aerorecruiting@wyle.com](mailto:aerorecruiting@wyle.com).



## 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



ISPA/SCEA Joint International Office

527 Maple Avenue East–Suite 301

Vienna, VA 22180

Phone: (703) 938-5090

Fax: (703) 938-5091

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