

13 In Memoriam:
David G. Olsen,
Colonel USAF

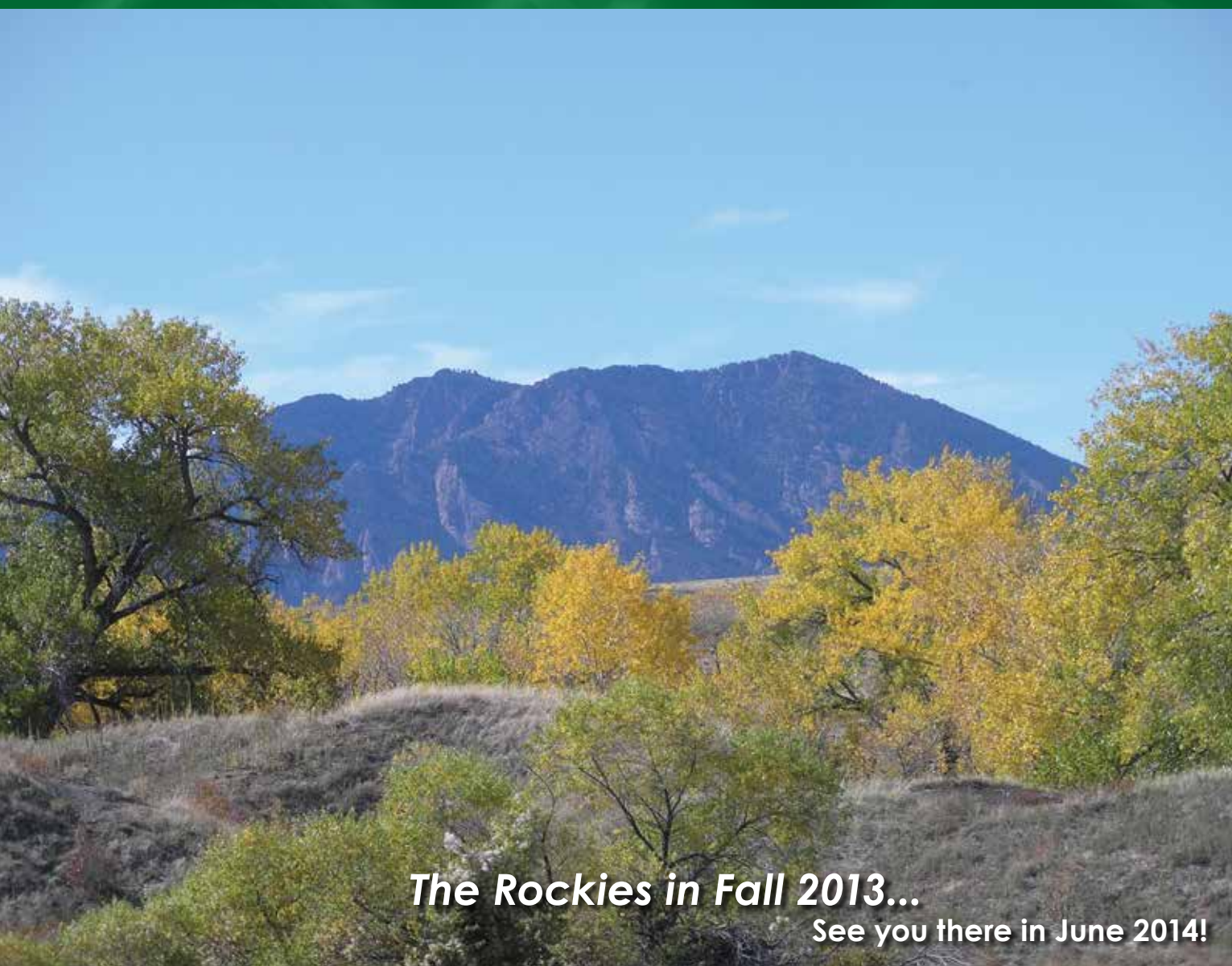
14 Analysis of Joint Strike
Fighter Cost Growth

22 Book Review:
*The Weapons Acquisition
Process: Economic
Incentives*

ICEAAWorld

The International Cost Estimating and Analysis Association

Winter 2013



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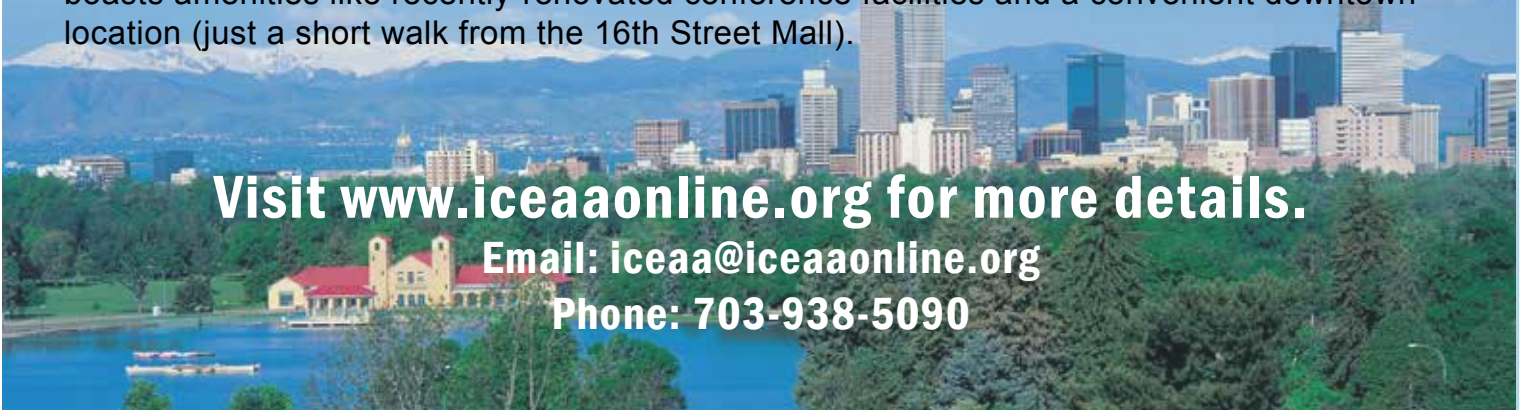
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ICEAAWorld

International Cost Estimating and Analysis Association

A non-profit organization dedicated to advancing the profession of cost estimating and analysis, through the use of parametrics and other data-driven techniques, and enhancing the professional competence of its members.

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President's Address

by *Brian Glauser, ICEAA President*

Fellow ICEAA Members,

Your Board of Directors held its fall meeting, hosted by Technomics, Inc. in Arlington, VA on October 19. Thanks to **Peter Braxton** of Technomics and the ICEAA International Business Office staff for all of their efforts. Some of the items covered at the meeting included:

- **2013 ICEAA Professional Development & Training Workshop Report:** **Mike Thompson** (Cobec Consulting) provided the final debrief for the 2013 Annual Conference held in New Orleans. In spite of lower attendance attributed to economic restrictions, the conference was a resounding success and the feedback regarding the training, presentations and venue were positive. If you were unable to attend the conference, I encourage you to order a copy of the proceedings from the International Business Office. They have CDs which can be shipped out for your immediate use as training and technical reference. Hopefully you have been able to attend some of the Webex sessions that have been taking place showcasing 10 of the conference Best Paper presentations, as well as 8 training webinars.
- **2014 ICEAA Professional Development & Training Workshop:** **Rich Harwin** (Boeing) provided a briefing regarding next year's conference, which will be held in Denver, CO, June 10-13, 2014. The call for papers has gone out with abstracts due by January 10, 2014. The venue looks fantastic and the program for training and presentations should again be world class.
- **Independent Review of Financial Practices:** An independent committee was formed to review the association's financial practices. **Peter Andrejev** (Booz Allen Hamilton) chaired the committee and provided their findings. Their findings were favorable as to the accounting practices of the association but included some recommendations which are being adopted to ensure that we are managing the funds entrusted to us in order to carry on the work of the association for the benefit of all of its members. Thanks to Peter, **Joe Dean** (AFCAA), **Dave Graham** (DAU) and the International Business Office staff.
- **Executive Director:** **Paul Marston** (MCR) is heading a search committee to identify a candidate to take over from **Erin Whittaker** as ICEAA Executive Director. The committee has received numerous qualified

candidate resumes and they are reviewing them to set up in-person interviews. We thank them for their time and effort in this most important endeavor. Acknowledgement to **Joe Wagner** for stepping up to serve as Interim Executive Director as we go through the search process for the wonderful work that he and the rest of the International Business Office staff are doing.

- **Journal Co-Editor:** **Tony White** will be stepping down from his position as co-editor of our journal at the end of the year. Tony has done an outstanding job during his tenure. **Peter Braxton** (Technomics) is heading up a committee to identify a new co-editor to serve alongside **Ricardo Valerdi** (University of Arizona) to continue this esteemed publication. Our co-editors and associate editors have continuously published a high quality journal that serves our membership greatly.
- **Regions and Chapters:** It was exciting to hear the activities taking place in the various Chapters and Regions. It is refreshing to hear about and see volunteerism at its best to support the efforts of our association.

I can go on with so much more, but many of the items and details are covered in other areas of this publication. I encourage each of you to reach out to me and/or the other Board members to express your feedback regarding the association activities or to volunteer your time and talent to the association. Our membership is more than 2,000 strong and I believe will be much greater. Please continue to get the word out to your colleagues regarding the benefits of membership, including:

- Professional Development (Certification)
- Publications and Products:
 - *Journal of Cost Analysis & Parametrics*
 - *ICEAA World*
 - *CEBoK® (Cost Estimating Body of Knowledge)*
- Annual Professional Development & Training Workshop
- Regional Workshops and Training Seminars
- Local Chapter Meetings
- Networking with Peers
- Webinars

Have a wonderful rest of the year and we'll look forward to producing the next issue of ICEAA World and hopefully getting the chance to see you in Denver in June. ■



Letter from the Editor

by Joe Wagner, ICEAA World Editor

I want to correct an oversight of mine. This past year the publication of our new ICEAA Magazine — *ICEAA World* — has been aided greatly by the presence of my Associate Editor, **Ms. Madeline Ellis**, who has done the majority of the first-pass editing of draft articles and other inputs for publication. Madeline was a long time member and driving force of the ISPA organization and their publications, and having her work on this magazine has made the preparation of new issues three times a year a much more manageable task.

You may have noticed there is an expanded set of contributors to our chapter and other group reports. One of the major benefits of the merger of ISPA and SCEA was the expansion of our overseas network of members and associated organizations. We are now receiving inputs from our British associates in the Society of Cost & Forecasting (SCAF), reporting on their activities, as well as the European members of ICEAA, the Air Force Institute of Technology (AFIT) and other non-chapter entities. We also hope to revitalize the role of the Regional Directors, who have attained new prominence in the ICEAA organization, and whose views and ideas I would like to see represented in this magazine. Chapter reports and pictures continue to be an important contribution that tells us what you are achieving at the Chapter level and

perhaps what support you could use to better perform your role of a professional association chapter.

Somewhere in this issue is an advertisement for more articles to be submitted to *ICEAA World* for publication. We have been blessed by submissions of a number of quality technical articles that are not appropriate for publication in the *Journal of Cost Analysis & Parametrics*, and it is something I would very much like to continue. When you have accomplished a piece of professional work, consider writing it up as an article and sending it to us for publication. It is a win for everyone — you receive credit and kudos for your efforts, your organization or company receives publicity and recognition, and we can provide some enlightenment to the membership of ICEAA.

Lastly, I have the sad duty to report the passing of a decades-long member of the Air Force cost community, **Colonel David G. Olsen**. Please see the short reflection on his life in this issue. ■

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- Follow link for **"Post your Resume"**
- Get your name out as an employee who will go the extra mile for the job!



ICEAA



ICEAA Certification Director's Corner

by Peter Andrejev, Director of Certification, CCEA®, PMP

Borne of many parents, ICEAA remains committed to the long-term objectives of its predecessor organizations. On a daily basis, ICEAA strives to:

Develop and promulgate a common understanding of cost estimating techniques and methods

- Unify the cost community while providing a platform for the recognition of specialties
- Establish competency standards that government and industry can recognize as meaningful proficiency

measures against which practitioners can be tested and certified

- Uphold the ethical standards of conduct throughout the profession

Senior leaders in business and government have long recognized the need for accurate cost estimates to inform decisions that impact both top-line resource allocations and bottom line performance or profitability. Not surprisingly then, employers seek cost estimators who have the appropriate knowledge and skills to generate accurate cost analyses reliably, expeditiously, and efficiently. Likewise, practitioners, especially in constricted markets, desire mechanisms to attest to their competencies and distinguish themselves among their peers. These are the constituencies that our certification program serves.

Over the past several years we have worked hard to create a certification program that filters competent practitioners from those simply seeking another set of letters behind their name, by requiring applicants to:

- attain a minimum level of proficiency through training and real-world experience, and to
- demonstrate retention of those competencies through a recognizable testing standard.

Our program is designed to identify those who have retained enduring knowledge and skills, and to disregard those whose only skills are short-term test-taking.

So I encourage those of you who are practitioners, but fearful of tests, to apply for certification. The application process itself will help determine if you are a candidate to become a CCEA®. ICEAA's many training materials, classes and courseware will also help determine your preparedness. And lastly, the examination questions themselves are designed to advantage the experienced practitioner and to challenge the less experienced. Besides, what have you got to lose? The voyage itself will make you a better estimator/analyst. ■

WANTED

CCEA EXAMINATION TEST QUESTIONS

1 Topic Category

Parametric Estimating: CER

2 Topic

3 Question

1. QUESTION: If a CER for Site Development was developed giving the relationship, y (in \$K) = $31.765x + 145.32$ (where x is the number of workstations) for a data set cost driver that had a range minimum of 2 workstations to 52 workstations, and the independent variable has tested positively for significance, the predicted cost for a site that had 33 workstations would be:

4 5 multiple choice responses

a. \$1,193.57

b. \$1,193,565

c. \$1,797.10

d. \$1,797,100

e. \$208,850

ANSWER: B

5 The Answer

6 The Solution

SOLUTION: $y = 31.765 * 33 + 145.32 = 1,193.57$ but must convert to \$K; value is $1,193.57 * \$1000 = \$1,193,565$

REFERENCE: CEBOK Module 3

7 Reference

REWARD

**Re-Certification Points for Questions Fully
Documented as Above**

Contact the ICEAA Office or Director of Certification at iceaa@iceaaonline.org for Specifics.



ertification ongratulations

ICEAA would like to acknowledge both those who volunteer their time to proctor the Certification Examination and those who achieve certification.

Without CCEA[®] certified proctors to manage exam administration, ICEAA would be unable to offer the exam in so many locations throughout the year. If you are CCEA[®] certified and would like to proctor an exam in your area in exchange for points toward recertification, please contact the ICEAA International Business office.

Thanks go out to following individuals for volunteering their time to proctor the certification exam during the spring and early summer of 2013: **Erin Barkel, Neil Chakrabarti, Toyya Pujol, Anthony Thackray, Tad Walls, and Bill Wiltshko.**

Congratulations are extended to the following individuals for passing either the CCEA[®] or PCEA[®] exam during the summer and early fall:

CCEA[®] Achievers

- Rennie Arnold, Technomics, Inc.
- Ashton Bulloch, Technomics, Inc.
- Andrew Busick, Technomics, Inc.
- Emile Ettedgui, Technomics, Inc.
- Daryl Kubo, Tecolote Research, Inc.
- Matthew Langevin, Booz Allen Hamilton
- Patrick Malone, MCR
- Diane Maurry, Tecolote Research, Inc.
- Eric Tarantino, Active Decision Support
- David Thirtle, Tecolote Research, Inc.
- Chinson Yew, Air Force

PCEA[®] Achievers / CCEA[®] Eligible

- Chris Collins, Air Force
- John Howard, Technomics, Inc.
- Samira Jackson, Air Force
- Kammy Mann, Technomics
- Zachary McGregor-Dorsey, Technomics
- Karina Vivas, Tecolote Research, Inc.

PCEA[®] Achievers:

- Brian Kim, Space Engineering & Acquisitions
- Michael Kim, Defence Materiel Organisation (Australia)

Recognized below are those who have been recertified:

- Timothy Appleby
- Donald Brown
- Charles Casserly
- Cindy Coon
- Brian Fersch
- Travis Logsdon
- Daniel Mask
- Mary Margaret Mertz
- Brian Opaska
- Andrew Panella
- Ann Schenk
- Robert Schwartz
- Bryan Shrader
- Christian Smart



Business Office Update

by Joe Wagner, ICEAA Interim Executive Director

No — you are not seeing double. That's my picture both on the editor's page and here under the Executive Director's report. As most of you have heard, our excellent Executive Director, **Erin Whittaker**, has left ICEAA and moved on to another position. While our Board of Directors is conducting a job search for Erin's replacement, I have added the job of Executive Director to that of *ICEAA World* Editor.

It is only in the last few months that I have truly learned to appreciate what a magnificent job Erin did. The scope of ongoing activities and future plans within ICEAA is truly amazing and the International Office is tasked with carrying those activities and plans to successful completion. Following are just some of the many projects and activities we are pursuing for the membership of ICEAA:

Webinars

One of our signature achievements in recent months is the development of webinar-based training and education programs for the membership. Built largely on CE-BoK-based training and "Best Paper" presentations at the 2013 ICEAA Professional Development & Training Workshop last June, over twenty webinars have been presented through October of this year, with more on the way. Consult the ICEAA web page for a schedule of future presentations. The key people making this wonderful collection of training programs available are **Brian Welsh**, the ICEAA Training Chair, and **Brittany Walker**, the International Office member outreach POC. The complete list of those coordinating and presenting for our webinars is a testament to the impact of our numerous volunteers that make these kinds of professional programs possible. Program management includes **David Holm** and **Daniel Germony** of the Detroit chapter, **Ellie Bassett** of the New England Chapter, and **Lauren Ramirez** of the San Diego Chapter. The presenters are:

Dr. Ricardo Valerdi
Aidan Depetro
Kevin Cincotta
Peter Braxton
Blaze Smallwood
Omar Mahmoud

Matt Kleinberg
Dr. Christian Smart
Lauren Nolte
Daniel Harper
Matt Pitlyk
Kathryn Connor

Michael Nosbisch
Justin Hornback
Dr. Shu-Ping Hu
Tim Anderson
Patrick Staley
Bruce Parker
David Hulett

Jeremy Eden
Shawna Jones
Dale Linguar
Daniel Germony
Eric Druker
Greg Hogan
Wilson Rosa

Membership Survey

In September, we offered a 44 question survey of the membership, covering many aspects of your personal circumstances, professional status, and your experiences and expectations with ICEAA. Over 450 of you completed the survey — about 25% of the membership. The results will soon be found on the ICEAA web site through a link on the front page. While the results as posted will be fairly detailed, we fully intend to conduct some more analysis of some of the questions to derive useful information and ideas for advancing the organization. One of the first efforts will be to break down the inputs by Regional and Chapter origin. We also would like to provide some analysis and deliver valuable information from such questions as "What activities do you feel would be useful to attract new members?" and "What can local chapters do to encourage more attendance?" You, the membership, have provided a wealth of good and thoughtful information in your responses that we plan to use for the benefit of the Association.

2013 Integrated Program Management (IPM) Conference

As this issue of *ICEAA World* comes out, we have just completed another conference focused on practitioners of EVM (Earned Value Management) at the Integrated Program Management conference in Bethesda, Maryland. Co-sponsored by ICEAA, NDIA (National Defense Industrial Association), and CPM (College of Performance Management), this long-running annual conference represents a coming together of related and interdependent specialties of program financial management that benefits a broad cross-section of specialists. ICEAA provides a complete training track on cost estimating and analysis, which this year was coordinated by ICEAA past-President Bill Haseltine.

2014 ICEAA Professional Development & Training Workshop

While the IPM conference is behind us, we are just starting to work towards the 2014 ICEAA conference in Denver, Colorado in June. Headed up by **Rich Harwin** and **Andrew Drennon**, we'll be at the Denver Marriott City Center from June 10th to 13th. If your best opportunity to attend is via a paper presentation, see the "Call for Papers" notice in this issue of *ICEAA World*. I always like to point out that the conference training program, based largely on our CEBoK tool, is absolutely the best way for junior analysts to prepare for their certification exam, and generally, for advancing the quality of their work performance in the career field.

Journal On-Line Paper Submissions


As noted in the Summer issue of *ICEAA World*, the on-line submission of manuscripts for the *Journal of Cost Analysis & Parametrics* is now operational. The process of submission, review, and publication is now conducted entirely at <http://mc.manuscriptcentral.com/iceaa>. You can help to achieve our goal of three issues of the Journal per year by sharing your research and analyses with the cost community through that site. As an aside, for anyone interested in subscribing to the Journal, the least expensive method by far is to simply join ICEAA. For the price of your membership, along with the many other benefits and opportunities, you will receive each issue of the Journal free of additional charge.

Financial Reporting from Chapters

We are nearing the end of the calendar year, and one of the tasks that arrive with the New Year is the submission of financial reports by all of our chapters. In early January the International Office will be sending out requests for the

chapters to provide us with their financial activity for 2013. The format for this report will be provided at that time, but basically will consist of the chapter income broken down by the sources, along with the chapter expenses, also broken down by sources. Following receipt of this information, along with the head count of the membership, the chapters will be provided with the annual budget based on membership.

As I noted in the opening paragraph, we are diligently searching for the right person to lead the International Office going forward. I am confident we'll find that person, and this office will continue to provide the great support and organizational initiatives that characterized it under the leadership of **Erin Whittaker**. ■



Want to Be Published???


ICEAA World is always in need of articles and studies of a professional/technical nature. If you have a project or research effort that may not be suitable for the *Journal of Cost Analysis & Parametrics*, send to us!

Recent published articles have included:

- "Getting (and Sharing) COST Facts: Factors, Analogies, CERs & Tools/Studies" by Daniel Harper and Ruth Dorr. – Summer 2013 Issue
- "Integrated Cost-Schedule Risk Analysis" by David I. Hulett and Michael Nobisch – Spring and Summer 2013 Issues
- "Analysis of Joint Strike Fighter Cost Growth" by Brad Ellis – Fall 2013 Issue

Come on – see your name in print and your work recognized by your peers – the Spring 2014 Issue needs your work. Deadline for submission will be the end of March 2014.

Send your articles to:
jwagner@iceaaonline.org





What's Causin' All This?

by *Brian Welsh, Training Chair and
Kevin Cincotta, Chapter & Organization Training Coordinator*

This past summer and fall have certainly been exciting and stressful times! A debt ceiling battle, a government shutdown, sequester levels of funding...and all of that before we had breakfast in the morning! Maybe its just us, but we think the government is trying to prevent the ICEAA membership from attending training. Conference attendance was down in New Orleans due to travel restrictions and tightened budgets. These restrictions precluded the attendance of many first-timers, as well as several veteran attendees and training instructors. However, the ICEAA membership rose to the occasion! We had a stellar group of training instructors which were recognized in the summer issue of *ICEAA World*.

To supplement conference training, the International Business Office sponsored eight training sessions in a webinar format. These sessions were among some of the most popular at the conference and also represent a wide variety of material and instructors. There are two sessions from each training track. In September PT 03 - Linear Regression was taught by **Peter Braxton** and **Matt Pitlyk** and PT 02 - Cost Estimating Relationships was taught by **Christian Smart**. October included INT 08 - Advanced EVM taught by **Michael Nosbisch** and **Shawna Jones**, CEB 08 - Basic Probability and Statistics taught by **Tim Anderson**, and INT 04 - Joint Cost and Schedule Risk taught by **David Hulett** and **Eric Druker**. CEB 05 - Basic Data Analysis Principles, by **Bruce Parker** and **Patrick Staley**, was scheduled for October, but was postponed due to the government shutdown. November and December will include CEA 11 - AIS: Cost Estimating Methods and Metrics taught by **Wilson Rosa** and CEA 06 - Advanced Cost Risk taught by **Greg Hogan**. My many thanks to the training instructors and everyone who has participated in the webinars. Be on the lookout for future training opportunities!

The call for 2014 conference papers has already been issued and a call for training instructors and



Outgoing TTI Points Champion Colleen Craig (Left) passes the belt to new Champion Cassie Miller

training track chairs will be sent in January. Look at schedules from previous years and if you have any recommendations of sessions to add or emphasize please contact **Brian Welsh** (bwelsh@technomics.net). Mark your calendars for June 10-13, 2014 in Denver, Colorado.

Within the realm of non-conference, chapter, and organizational training, the summer marked the successful completion of the second season of the Technomics Training Institute (TTI). TTI partners with the Washington, DC Chapter of ICEAA to offer free training to the entire cost community in the Washington, DC area (with opportunities to attend remotely from other locations). The training is primarily based on the Cost Estimating Body of Knowledge (CE-BoK), but also includes related areas such as cost estimating software, cost assessments, and the DoD Planning, Programming, Budgeting, and Execution (PPBE) process. This season, TTI looks to expand, to include training related to the Project Management

Body of Knowledge (PMBOK) as well—particularly, those areas of project management that are most tightly integrated with cost estimating and analysis. Congratulations to all recent TTI graduates, including **Cassandra (Cassie) Miller**. At graduation, “Lady Cassandra” took home the coveted TTI Points Championship Belt, the season’s top prize. If you are interested in participating in TTI, either as a student or an instructor, please contact TTI Administrator **Rachel Cosgray** (rcosgray@technomics.net).

In addition, if you would like your organization’s non-conference or chapter training featured in this

column, let us know about it! Email Chapter and Organization Training Coordinator **Kevin Cincotta** (kcincotta@gmail.com), or send a note by carrier pigeon, which works just as well.

Finally, do you (or someone you know) have training content to share? Or maybe you have feedback about the conference training. Or maybe you just want to ask what everyone else asks me: What’s causin’ all this?!? Whatever the feedback, you may share it with us, and it just might appear in the next *Training Corner*. ■

ICEAAWorld

Chaptering & Membership

by Mike Thompson, Chaptering and Membership Chair



Data from the Member Survey recently completed showed that there were several concerns by the members about chapters, programs, and not having a chapter in their geographic area. The Membership and Chaptering Committee is working to address as many of the member concerns, as is possible, not all concerns will be solved “overnight”, but we are working with chapter presidents, regional directors, and the International Business Office to address as many as possible. The two concerns that the committee addressed were chapter activities and what happens if there isn’t a chapter near me. Results of the survey will be posted on the ICEAA website as soon as all results are compiled.

The latest discussion group for the Membership and Chaptering Committee was to combine our quarterly discussion with a Chapter Presidents Telecom. This became a forum for the chapter presidents to talk about some of the problems that they face and to get help in addressing those problems from other chapter presidents and past chapter presidents that are on the committee.

The chapter constitution and by-laws, although based on the International documents are not a blue print for chapter success. Each chapter is unique and established to address the needs of members in

a geographic area. Within the next quarter the chapter presidents will receive an electronic copy of the *ICEAA Chapter Handbook*, this handbook will be a tool for the chapter president and the chapter board of directors to use as a guideline and toolbox for chapter operations.

Each member is unique and each chapter reflects the uniqueness of each of its members. Not every chapter wants to have the same programs, as other chapters, but each member deserves to have the opportunity to dial into any Web-Ex on a topic they are interested in. This is why we’ve added the chapter event calendar to the ICEAA web site.

A challenge has been sent out to the Regional Directors, to identify potential new chapter sites within each of their regions. Currently the following areas have expressed an interest in starting a chapter; Phoenix, AZ, Toronto, and Adelaide, Australia. Talks are also taking place in the UK and the Netherlands, to have agreements with SCAF and DACE.

If you don’t have a chapter close to you, address an email to the regional director in your geographic area and copy me (mthompson@cobec.com) to discuss what can be done to get a chapter near you.

It would appear that 2013 – 2014 are shaping up to be an exciting time for ICEAA chapters and members. ■



Ask an Analyst: Q&A

Edited by Joe Hamaker

The question in this month's column is from a cost analyst who wishes to remain anonymous but I think it is a very good question. The question is: *I am involved in an estimate of a spacecraft instrument where I really don't have enough data points of analogous items. Nevertheless, I have developed a CER from the limited data I have and I have a median estimate from that CER. I would like to portray the estimate as a range around that median due to uncertainty. Are there any rules of thumb for the variability that I should use?*

One way to provide a probability distribution of the cost would be to use a "representative" measure of variability for the type of equipment being estimated. Variability in probability distributions is of course measured by the standard deviation but the value of the standard deviation is very much determined by the units of the probability distribution. Even specifying that we are in this case using the units of dollars (as opposed to weight, age, height, IQ, temperature, time or countless other measures that can be expressed as a probability distribution) is still insufficient because of the wide system of units that can be used for something called dollars (what year dollars?, thousands/million?, etc.).

Happily there is a dimensionless measure of dispersion and that is the Coefficient of Variation (abbreviated COV or CV). For a CER, this metric is calculated as the ratio of the Standard Error of the Estimate (SEE) divided by the average dependent value (output) — in our case here dollars in whatever units the cost estimate was done. CV is expressed either as a decimal fraction or as a percent. CV can, as Wikipedia points out, be thought of as the inverse of the signal to noise ratio in our data. Therefore, theoretically at least, CV can be thought of as being more portable than standard deviation — in our problem here, we need some typical values for the CV for space projects (or even more targeted, for spacecraft instruments).

So what are some CVs in the space project estimating world? I put this question to a few experts on this subject who were, in alphabetical order, **Tim Anderson**, currently a private consultant in our field, **Raymond Covert** of Covarus, LLC, **Dr. Christian Smart** of the Missile Defense Agency, and **Alfred Smith** of Tecolote Research Inc.

Christian Smart wrote, "I have used 30-35% based on the spacecraft development cost growth work [performed at] NASA Headquarters."

Tim Anderson wrote, "My opinion would be 50% for KDP-A, 20-30% for KDP-B, and 10-20% for KDP-C (in NASA vernacular)".

Ray Covert wrote, "Here is a table that I pulled from a review of instrument CERs I did a few years ago. The CERs are for Phases B-C-D. The value that would be most relevant to you would be the multiplicative standard error, which is about the mean, so this is the equivalent CV value." Here is the table Ray provided which I interpret to provide a range of CVs from about 35% to 86%.

CER	N	C	DoF	MSE	Bias	R ²
Earth Orb. Optical (old)	10	4	6	0.851	0.224	0.457
Planetary Optical (old)	21	6	15	0.357	-0.037	0.762
Optical Instruments (new)	37	7	30	0.562	0.000	0.806
MW Instruments (old)	12	6	6	0.494	0.006	0.913
RF Instruments (new)	15	5	10	0.424	0.000	0.638
Particles Inst (old)	10	4	6	0.663	-0.171	0.003
Fields Inst (old)	5	4	1	0.862	-0.313	0.611
F&P Instruments (new)	24	3	21	0.425	0.000	0.589

Both **Tim Anderson** and **Alf Smith** directed me to a great resource and that is the multi-Agency *Joint Cost Schedule Risk and Uncertainty Handbook* which was conceptualized and developed under the guidance of **Mr. Duncan Thomas** of the Naval Center for Cost Analysis and supported principally by Tecolote (**Alf Smith** and **Jeff McDowell**). The handbook can be accessed at <https://www.ncca.navy.mil/tools/csruh/index.cfm>.

The handbook, paraphrased here a bit, offers that CVs of regressed CERs tend to fall in the 0.15 to 0.35 range (good to not-so-good fits) for many commodities—very consistent with **Christian Smart's** advice. The handbook goes on to say that for space systems, specifically, CVs of 0.45 and above are not uncommon and that CVs at lower levels in the WBS tend to be much wider. The handbook provides tables and figures which show CVs up to 80% for post 2000 projects which is consistent with the data provided by Ray Covert. The handbook provides even more specificity to CV values as a function of the transformation that might have been made to develop the CER (linear, log-normal, etc.), what lifecycle phase the project is in (just as **Tim Anderson** suggested) and other considerations.

So there you have it for this issue's *Ask A Cost Analyst* Column. Please keep those questions coming in. Please send them to me at joehamaker@yahoo.com. ■

In Memoriam...

DAVID G. OLSEN, COLONEL USAF
3/11/1942 - 7/26/2011

by Joe Wagner,

ICEAA Interim Executive Director

As we go through our working lives, we often settle into a pattern of career choices that bring us repeatedly into contact with the same people. We are in a parallel track with them, and they repeatedly pop up in our careers. Such was the case with Dave Olsen and me. First off – we nearly share a birthday, right down to the year. He was three days older than me.

Dave and I first met when I was transferred into the F-15 aircraft program office at Wright-Patterson AFB in the late 1970's. He was the Director of Program Control, and I was one of his cost analysts. We spent a year or so together there, and I think our next crossing was at HQ Air Force Systems Command on Andrews AFB, MD, when I transferred there about 1984. I believe he was the Director of Cost for the Command, and again I was one of his analysts in the cost shop. Dave went from Andrews to the Pentagon about 1988 and served as military deputy to the Deputy Assistant Secretary of the Air Force for Cost & Economics, at the time, Mr. Lee Baseman. Simultaneously, he was named the first commander of the Air Force Cost Analysis Agency, then known as the Air Force Cost Center. He retired from that post three years later. He stayed in the Washington, DC area, working as an analyst and manager for various support contractors, including from 1993

to 2003 at MCR, where we saw each other regularly, and then he retired to his home in Florida.

The first thing I always remember about Dave was the spelling of his last name. He was always sure to remind you, if the subject came up, that it was Olsen with an “e”, not Olson with an “o”. I guess he came by that habit honestly, coming from Muskegon, Michigan, where a lot

of Scandinavians were divided along those lines based on their national heritage (Danish-Norwegian “e” vs. Swedish “o”). He also sometimes talked about his three sisters, and what a major role they played in raising him. After graduating college, he spent 24 years in the Air Force, including a tour in Vietnam.

If it seems this is very little to relate about a man I knew off and on for some 30 years, I think you will find that to be the case with pretty much everyone he knew. He was a very private person, never talked about himself, and his professional life in the Air Force and the cost community were the only parts of him you were likely to see.

David Gordon Olsen, Colonel, USAF retired, died at his home in Florida on Tuesday,

July 26th, 2011. I regret that the news of his passing did not reach his friends in our community until this past month. He was buried on August 1, 2011 at Fort Custer National Cemetery in Augusta, Michigan. I note with great sorrow his passing, and would share those feelings with our cost community. ■



Analysis of Joint Strike Fighter Cost Growth

by Brad Ellis, MBA, CCA, Cask, LLC

The F-35 Joint Strike Fighter (JSF) aircraft being developed and procured in different versions for the U.S. Air Force, Marine Corps, and Navy is on track to becoming the most expensive weapon system ever developed as costs have continued to increase since its inception.

Furthermore, the impacts of Sequestration will likely delay production and flight tests, virtually guaranteeing additional cost growth. In light of the cost growth experienced by JSF program, it's instructive to explore the following questions:

How has total cost growth (development and procurement) of the JSF program compared to the total cost growth of other major DoD acquisition programs?

Is there a statistically significant difference among total JSF cost growth and major DOD acquisition programs?

Methodology

Using data and information obtained from several GAO studies and RAND studies, this article analyzes the total cost growth experienced by the JSF program, since its baseline estimate, and compares this cost growth to other major DoD acquisition programs. Additionally, a statistical analysis was performed to compare JSF total cost growth to the average total cost growth experienced by major DoD acquisition programs to determine if there is any statistically significant difference

Analysis

Total cost growth reflects the sum total of development and procurement cost growth. RAND determined that total cost growth for major DoD acquisition programs, at MS-B, averages 46 percent (adjusted for quantity changes) and 65 percent (unadjusted for quantity changes). RAND also analyzed cost growth within different types of commodities (i.e. aircraft, missiles, etc.) and Table 1 presents those results¹.

To analyze total cost growth for the JSF program, development and procurement cost growth data were compiled to derive a total cost growth percentage for the JSF program and those results are presented in Table 2 (page 16).

Table 1 – Cost Growth Factor by Commodity Class at MS-B

Commodity	Mean	Standard Deviation	Observations
Aircraft	1.35	0.24	9
Cruise missiles	1.64	0.40	4
Electronic aircraft	1.52	0.47	5
Electronics	1.23	0.33	12
Helicopters	1.76	0.21	3
Launch vehicles	2.30	N/A	1
Missiles	1.52	0.38	8
Other	1.40	N/A	1
Satellites	1.55	0.57	2
Vehicles	1.67	N/A	1
Weighted average	1.46	0.38	—
Total observations			46

Source: Arena, Leonard, et al. (2006).

An analysis of the total cost over time reveals a growth of 69 percent over the original baseline estimate for the JSF program, which is 23 percent more than the 46 percent average total cost growth (adjusted for quantities) and 4 percent more than the 65 percent average total cost growth (unadjusted for quantities) for major DOD acquisition programs. The total cost growth for the JSF program is also 34 percent more than the total cost growth average of 35 percent for the aircraft commodity. Incidentally, a 41 percent cost growth over a program's original baseline is considered a Nunn-McCurdy Breach, which is described as being significant if 30 percent or more over the original baseline estimate and critical if 50 percent or more over the original baseline. That said, only 11

¹ RAND Corporation, *Is Weapon System Cost Growth Increasing?*, Younossi, Obaid, et.al., 2007.

Table 2 – JSF Total Costs

Total Costs	
Original Dev Cost (billions)	\$34.40
Original Proc Cost (billions)	\$196.60
Current Dev Cost (billions)	\$55.20
Current Procurement Cost (billions)	\$335.70
Total Program Cost Growth	69%

Cost Data Source: GAO-12-437

percent of programs throughout DOD have ever been canceled after a Nunn-McCurdy Breach and of that, only 3 percent of Air Force programs have been canceled after experiencing this breach.

A statistical analysis was conducted to compare the total cost growth of the JSF program to the average total cost growth for DOD acquisition programs using data provided by RAND², which is summarized in Table 3.

To perform this analysis the distribution of the mean cost growth factors for each acquisition commodity (i.e. aircraft, helicopters, missiles, etc.) were graphed and

those results are depicted in Figure 1. Note that the average cost growth computed when analyzing the mean cost growth factors across all commodities is slightly higher (49 percent) than that which was reported by RAND (46 percent) and this is likely due to rounding and the manner in which RAND computed the weighted average. Nevertheless, a statistical analysis can still be performed to compare JSF cost growth to the average cost growth experienced by other DOD acquisition programs to determine if there is a statistically significant difference.

The population of the sample appears to be normally distributed with an average cost growth across all commodities of 49.4 percent and a standard deviation of 17.1. To more accurately assess whether a normal distribution is a good approximation for this data set, a normal quantile plot was created (See Figure 1). An analysis of the normal quantile plot shows all data points falling within the 95 percent confidence bands and the data points plot rather closely to a straight line. Note, the solid red line is for reference only to aid the eye in deciding if the line defined by the data points is straight.

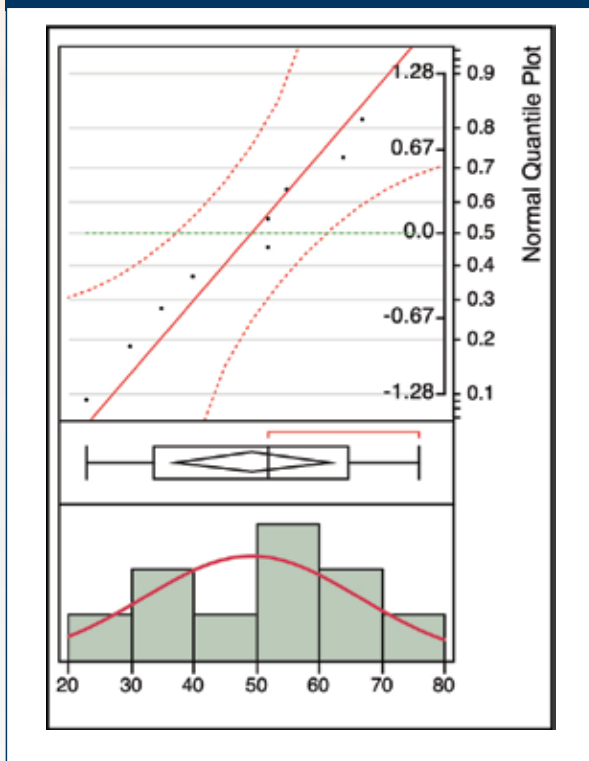
Table 3 – Cost Growth Summary Statistics by Funding Categories at MS-B

Category	Observations	Mean	Median	Standard Deviation	Min.	Max.
Total (adjusted)	46	1.46	1.44	0.38	0.77	2.30
Total (unadjusted)	46	1.65	1.25	1.08	0.37	5.56
Development	46	1.58	1.34	0.79	0.77	5.47
Procurement (adjusted)	44	1.44	1.40	0.42	0.51	2.29
Procurement (unadjusted)	44	1.73	1.30	1.37	0.28	7.28
MILCON	10	1.33	1.11	0.82	0.51	2.87

Source: Arena, Leonard, et al. (2006).

² Is Weapon System Cost Growth Increasing?, RAND Corporation 2007.

Figure 1 – Distribution of Mean Cost Growth by Commodity

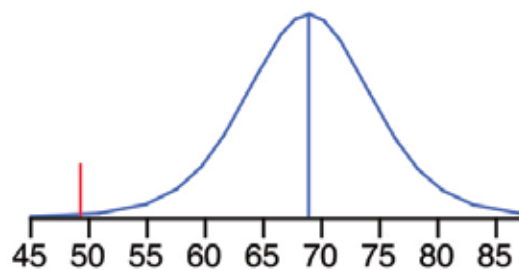


Based on this finding, a Student's T-test was performed to determine whether there is any statistically significant difference between the JSF program total cost growth and the average total cost growth among other DOD acquisition programs. The results of this analysis are presented in Figure 2.

Using the hypothesized total cost growth value of 69 percent for the JSF, the p-value of the Student's T-test is 0.0056, which is far less than the significance level of 0.05 (using 95 percent confidence). Therefore, with statistical rigor, the conclusion is that the total cost growth for the JSF program is

Figure 2 - Mean Test of JSF Total Cost Growth

Test Mean		
Hypothesized Value	69	
Actual Estimate	49.4	
DF	9	
Std Dev	17.1412	
	t Test	Signed-Rank
Test Statistic	-3.6159	-24.5000
Prob > t	0.0056*	0.0098*
Prob > t	0.9972	0.9951
Prob < t	0.0028*	0.0049*



statistically different from the broader population of DOD acquisition programs.

A Wilcoxon signed-rank test was also performed which is a non-parametric alternative statistical hypothesis test to compare two related samples and is often used when the population cannot be assumed normally distributed. The previous analysis of the distribution of mean cost growth factors appears to support the normal distribution assumption; however, to add analytical rigor a Wilcoxon signed-rank test was performed to compare results with the Student's t-test. The p-value of 0.0098 for the Wilcoxon

Signed-Rank test is far less than a significance level of 0.05 (using 95 percent confidence). Therefore, with statistical rigor, the same conclusion is made in that the total cost growth for the JSF program is statistically different from the broader population of DOD acquisition programs.

Based upon these statistical analyses, the total cost growth experienced thus far by

the JSF program is significantly different than what has been observed with major acquisition programs throughout DOD. Sources of the cost growth vary and will be the subject of a subsequent article on JSF cost growth. ■

Author Biography

Brad Ellis, MBA, CCA; Cask, LLC,

Senior Cost Analyst: Upon completing a successful tour as an enlisted Marine, Mr. Ellis attended the University of Tennessee where he earned his BS in Biochemistry and Molecular Biology in 1998. After attending Officer Candidate's School he served four years in the aviation command and control field. Mr. Ellis received his MBA, with a focus in Operations Research, from the Naval Postgraduate School, Monterey CA in 2004 after which he served as an Operations Research Analyst and Cost Analyst supporting the Marine Corps Combat Development Command and Marine Corps Systems Command. Mr. Ellis left active duty in 2006 and joined Booz Allen Hamilton's Economic Business Analysis team. Mr. Ellis is currently the Cost Estimating and Analysis Practice lead for Cask, LLC specializing in cost estimating and analysis, business case analyses and economic analyses. He currently leads Marine Corps Enterprise IT (MCEITS), Common Aviation Command and Control System (CAC2S), Tactical Air Operations Center (TAOC), Mobile Tactical Air Operations Module (MTAOM), Tactical Air Control Center (TACC), in addition to several business case analyses for DoD acquisition programs. Mr. Ellis recently completed his Masters in Cost Estimating and Analysis (MCEA) degree in March 2013.

F-35 Lightning Joint Strike Fighter. © 2013 iStockphoto



2014 ICEAA Training and Professional Development Workshop

The 2014 ICEAA Training and Professional Development Workshop will take place 10 – 13 June 2014 in Denver, CO, and will be an opportunity to learn about the most recent developments in the field, best practices, and lessons learned from industry experts. This year we are again planning to have more than 100 professional papers and dozens of training sessions at the workshop.

You'll be able to learn and network with colleagues and discuss current trends with industry experts. You may even attend a training session or two. The training sessions are designed for all skill levels and organized into 4 tracks: Cost Estimating - Basics, Cost Estimating - Advanced, Parametric Training, and Integration, featuring content from the *Cost Estimating Body of Knowledge* and the *Parametric Estimating Handbook*. Stay up-to-date in the field by attending training, professional papers and keynote speeches and gain valuable knowledge that you can take back to your employer or customer. This training can be used in preparation to take the CCEA® or PCEA® exam. But if you are looking to learn a new skill or to brush up on your current skills and stay up-to-date with changes in the field the training sessions may be what you'd like to attend.

The professional papers address the following areas: Methods and Models, Parametrics, Risk, Life Cycle Cost, EVM, and Management, these professional papers enable you to meet the authors, listen, and ask questions from authors that are chronicling some of the hottest topics in the Cost Com-

munity. For those preparing to take the CCEA® exam can attend daily two-hour study sessions and work through sample problems with others.

The conference will open on Tuesday, June 10, with training sessions, as well as exhibitor sessions (featuring vendors discussing new tools), and Informational Sessions on topics like graduate degrees in cost estimating, the psychology of cost estimating, and presentations by IFPUG and NCMA. The exhibit hall will open Tuesday afternoon. Tuesday evening, will be the Attendee Reception in the exhibit hall where attendees can mingle, network, and enjoy appetizers featuring cuisine inspired by the American West. ■

We're all looking forward to seeing you in Denver,

Rick Harwin & Andrew Drennon



International Cost Estimating
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Abstracts are due by 10 January

The Workshop Planning Committee will be accepting abstracts until 10 January 2014 for the 2014 ICEAA Workshop in Denver, CO. This event will be a great opportunity to demonstrate your expertise, contribute to the advancement of the profession, and expand your network. Space is limited, and we expect a high number of quality submissions, so be sure to submit your abstract early! Accepted authors should plan on submitting a PowerPoint by the deadline of 28 March 2014 for final review and scheduling. Possible topics include:

- Hardware/Software Estimating
- Parametrics
- Risk Analysis
- Management
- Methods & Models
- Earned Value Management
- Life Cycle Cost Analysis

Deadlines:

- Abstract and Biography submission deadline – 10 January 2014
- Author Notification – 31 January 2014
- Final Paper/presentation and release form submission – 28 March 2014

Submission Process:

To upload materials, select the "Call for Papers" link under the Calendar menu on the ICEAA website (www.iceaaonline.org). For your abstract submission, you are encouraged to choose a desired Track designation for your paper. Biographies must be submitted for abstract consideration.

Need More Information?

Contact Mel Etheridge, Workshop Program Chair (metheridge@mcricri.com), or Brittany Walker (brittany@iceaaonline.org), ICEAA Member Services Assistant, 703-938-5090.



Join us in the Mile High City in 2014!

Society for Cost Analysis and Forecasting (SCAF) – Costing News from the UK

by Dale Shermon, Chairman, Society for Cost Analysis and Forecasting (SCAF)

In common with the aerospace and defence communities around the world, it would seem that the UK has woken up to the need for cost analysis, estimating and forecasting in these times of austerity. The Society for Cost Analysis and Forecasting (SCAF) held its annual conference in September with the theme “Cost Matters” which resonated with many of the attendees and presenters who included the National Audit Office (NAO), BAE Systems, BMT, Cost Assurance and Analysis Service (CAAS), Association of Project Management (APM), Defence Science and Technology Laboratory (Dstl), PRICE Systems and Decision Analysis Service (DAS).

The conference was also the Annual General Meeting (AGM) which provided the opportunity to thank the 2013/14 committee (see picture on the next page) of:

- **Chairman – Dale Shermon, QinetiQ**
- **Treasurer – Dave Hedley, BMT RCL**
- **Secretary – Neil Morrill, DSTL**
- **Members**
 - **Mark Wright, CAAS, MoD**
 - **Dr Paul Wood, BMT Hi-Q Sigma**
 - **Dr Paul Baguley, Cranfield University**
 - **Karen Sparks, Atkins**
 - **Dr Andy Pearson, Rolls Royce**
 - **Andy Nicholls, PRICE Systems**
 - **Arthur Griffiths (Past Chair)**

The AGM provided the chance to promote the programme of events for the next SCAF year. As usual, this will be another busy year which includes:

- **19 Nov 13 – “Vendor and Provider Day”, BAWA Centre, Filton Bristol**
- **Feb 14 – Joint workshop with the Defence Study Group of the UK Operational Research Society, date and venue TBC**
- **01 Apr 14 – “The 2014 SCAF Cost Estimating Challenge and Training Workshop”, BAWA Centre, Filton, Bristol**



Presentations from the annual conference, “Cost Matters.”



Presentations from the annual conference, "Cost Matters" (continued).



SCAF 2013/2014 Committee

- **03 Jun 14 – SCAF Workshop** (theme to be agreed), Preston, Lancashire
- **01 Jul 14 – SCAF Summer Reception and Awards Banquet**, date and venue to be agreed
- **16 Sep 14 – Annual Conference**, BAWA Centre, Bristol

In the new programme the committee has decided to introduce an awards banquet to reward the best article for the SCAF news letter, best quality presentation and the service award to add to the current P Pugh award for the most innovative and thought provoking paper. We will, also, continue the SCAF Challenge this year aimed at encouraging younger members of the cost community to get involved.

Other cost related events that should be in the diary include the Association of Cost Engineering (ACostE) conference in Coventry on the 9 and 10 October (anne@acoste.org.uk) and the European Aerospace Cost Engineering (EACE) working group meeting in Toulouse, France on the 10th and 11th of October (EACE@hotmail.co.uk).

In September the DSEi event was held in London with more than 32,000 International attendees from 121 countries visiting 1,489 exhibitors showing the latest defence and security equipment and systems. This was a great opportunity to update your knowledge of capabilities on offer and question suppliers regarding the cost of their services.

Looking forward the cost community is going to be more and more in demand as our decision makers realise "cost matters". ■

Calling All Authors!

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<https://www.iceaaonline.org/publications/journal.cfm> for more information and publication guidelines.

ICEAA International Cost Estimating and Analysis Association



**The Weapons Acquisition
Process:
Economic Incentives**

By Frederic M. Scherer

BOOK REVIEW

Lt Col Peeler is currently a Secretary of Defense Corporate Fellow, working at Amgen, Inc. He is a certified cost estimator/analyst and an Air Force certified acquisition professional in both financial and program management. He is a member of both the American Society of Military Comptrollers and the International Cost Estimating and Analysis Association

Money Changes Hands... A Good Book Changes Minds

Book Review by Lt Col David Peeler

For the first time in this book review series, we examine a sequel. Again, a step back in time that informs underlying motivations, mostly of a financial nature, affecting the weapons procurement process. Balancing the effective with the efficient accomplishment of program goals remains a seemingly continuous and natural topic of discussion. As stated with respect to the previous book review, “Nothing serves to bring the lasting challenges of the acquisition process home than reading a book from history – not about history – that resonates and broaches many of the same issues and questions we continue to ask today.” The current challenges surrounding economic incentives are not so different from those of the past.

In this, almost 50-year-old book there is a lot to contextualize. Many lessons and research from the past remain applicable and yet unapplied to the present. This point is true of the predecessor book – reviewed in our last issue (Summer 2013) – and is particularly relevant for this sequel. *The Weapons Systems Acquisition Process* books share primary titles, with distinctive sub-titles. The second one, reviewed here, is the product of only one of the initial book’s authors. Each book stands well singly and may productively be read independently; however, a greater understanding is obtained from reading both. As with the first book, sub-titled *An Economic Analysis*, the *Economic Incentives* sequel also revisits old lessons, albeit different ones, that may be relearned and reapplied.

Absent an eye-catching illustrated cover, with neither pictures nor letters on the front or back, the innards contain intriguing material that engages thought and inspires potentialities. The book explores the mechanisms and underpinnings of contractual incentives from several perspectives: competitive, reputational, contractual, and financial (budgetary and profit-seeking). Contract types are integrated into the analysis, as are the influence and effects of government policies. Collectively, the aim is a better balance between effectiveness and efficiency.

The structure of the book mirrors that of its forerunner. The book is organized into 15 chapters, presented in three parts. After a brief introductory first chapter, Part I addresses competitive incentives. The discussion delves into the nature of substitute weapons systems, tradeoffs, efficiencies, talent allocation within firms, and the general nature of competition in the weapons industry. On a broader scale the amount of competition was high in the 1950s and ‘60s; but before today’s reader dismisses the points, assuming a dearth of competition in the current environment, strategic reflection reveals a perceptible degree of substitutability regarding means of meeting national security objectives. There are still a lot of programs out there and a substantial number of firms in the defense industry. Although difficult for some to grasp, government policy – past and present – might have more to do with limiting options than expanding them.

The often-debated topic of contractual incentives is intensely scrutinized in Part II. The treatment of contractual incentives within the context of contract types is particularly cogent in today’s shifting framework, favoring firm fixed price over cost plus. This preference pendulum swings, but the provided context, both historical and theoretical, is very valuable and instructive. The author grounds his analysis regarding the role of incentives in an understanding of the differences between a fully market system and the nonmarket environment of government weapons acquisition. This situation is foundational in examining/evaluating incentives as a mechanism for adjusting contractor behavior in this nonmarket arena. This examination scrutinizes

the role of automatic incentives in both development and production efforts, and variations in negotiated profit rates as an incentive. Another interesting discussion regards the question of arsenal versus contract R&D and production, with concomitant questions and observations regarding talent recruitment and retention. Part II closes with suggestions for “other contractual incentives” that better mirror the private sector and drive government-desired contractor behavior.

Incentives and government policy is the focus of Part III. The author provides a summary of incentive systems existing in the early 1960s. Astonishingly, the incentives of then are curiously similar to those of now; of course, some things have changed significantly. Presented is a discussion of after-the-fact evaluations, as a new incentive approach when proposed in the early ‘60s. Also offered are alternative policies for improving

incentives, as well as replacements in lieu of the incentives approach. Following a short conclusion, two appendices tackle user costs, as distinct from opportunity costs, and over-run–under-run sharing proportions, with mathematical rigor, for a profit-maximizing contractor and a cost-minimizing government.

In 450 intensely interesting pages, Scherer provides a holistic examination, with much analysis, of the contractual incentives system used by the Department of Defense then and now. While some things have changed, much remains. The goal of cost reduction, fair profits, and innovation play prominently throughout the book, making it an important read for us today. Most importantly, this book provides perspective and opportunity for reflection, as well as several ideas worthy of (re)consideration. As sequel to a seminal work in our field, this book is worthwhile reading. ■

Successes, Trends, and Future Endeavors at AFIT

By Lt Col Dan Ritschel, PhD

New Students & Positive Trends

The Air Force’s Graduate Cost Analysis Program at the Air Force Institute of Technology welcomed 7 new students in August: **Lt Sheddric Bridgeforth, Lt Greg Brown, Lt Nick Gardner, Capt Rey Heron, Lt Justin Moore, Lt Nathan Smith, and Lt Chris Thomas**. We are excited to welcome these new students and know that they will do great things over the next 18 months.

The increasing importance of cost estimators to accomplishing the Air Force mission is clear. AFIT enrollment trends for cost analysts are on an upward trajectory. 2013 enrollment exceeded 2012 and enrollment for 2014 is projected to be even higher. In addition to the increase in raw numbers, the percentage of cost students in relation to the overall AFIT student body is also increasing. In other words, cost estimators are becoming a bigger piece of the pie. This is great news for our community!

Research Success

Congratulations to **Capt Kevin Crumrine** (2013 AFIT grad) whose research on Earned Schedule was very well received at the recent EVM World conference. Kevin’s work was also recently published in *The Measurable News*. Congratulation are also in store for **Capt Gary Jones** (2013 AFIT grad) whose research on the ratio of O&S costs to life-cycle costs in major DoD weapon systems has been accepted for publication (date TBD) in the *Defense Acquisition Review Journal*.

On the Horizon

It is going to be a busy year. We continue to stress the integration of the academic ideal with the practical knowledge of the “real world”. To this end, the AFIT students will be visiting the Life Cycle Management Center (LCMC) cost research shop for a presentation from **Dustin McGlothen** and **Damian Gainer** on a recent CER they developed. Additionally, students who are projected to graduate in March 2014 are on the docket for a presentation of their research to the local Greater Dayton ICEAA chapter this winter. ■





European Report

by *Herve Joumier*

The 25th workshop of the EACE was hosted by Centre National d'Études Spatiales (CNES), in Toulouse, on the 10th and 11th of October 2013.

The meeting attracted about 20 persons which represents a medium-low attendance. It was a great satisfaction to see that despite this moderate attendance, all professional actors were represented: Agencies, Large and small Industrial companies, Consultants and Universities.

Papers presented at this workshop included:

- An Approach to Statistical Hazards Management on Projects Portfolio — Gilbert Duran — DDSP//SMA Strategy, Programs and International Relations Directorate Synthesis & Risk Management
- From Tables to Diagrams (A discussion on how to align routine costing (RC) models to abstract (systemic) engineering (AE)? — Jean-Pierre Micaelli — Université de Lyon, Éric Coatanea — Aalto University, Alain-Jérôme Fougères — ESTA Belfort
- PRICE Systems: Cost Management solution provider — Jean-Marc Delcros — Business Development, PRICE Systems International.

- Affordability Analysis: The Role of Process, Cost, Risk, and ROI Modeling In Improved Program Performance — Dan Galorath — Founder and CEO, Galorath Incorporated (SEER by Galorath)

- Value Driven Design — Julie Cheung Product Cost Engineering Rolls-Royce plc

Concurrent engineering approach to design mission feasibility studies at CNES — Jean-Luc Le GalPlateau d'Architecture des Systèmes Orbitaux

- La démarche Valeur pour réconcilier coûts et besoin dans une approche système, Olaf de Hemmer Gudme, Int. BM Lowendalmasaï

At the end of the workshop there was a visit to the CNES CIC (Concurrent Design Facility) and the ATV Command Control Center.

Upcoming events

CNES will also be the venue for the Joint International Meeting of SSCAG/SCAF/EACE on the 1st and 2nd of July 2014.

The date of the meeting has been chosen to coincide with the Toulouse Space Show 2014 that will take place from the 30th of June till the 2nd of July.

<http://www.toulousspaceshow.eu/tss14/>

A call for paper has now been released so you are all invited to participate actively to the success of this event. ■

ICEAAWorld Region I News

By **Ellie Bassett**

Hello from Region One!
Why are we, why are you, a member of ICEAA? I was pondering that question all week. I sat and stared for a long time at the blank word document on my monitor, thinking about the 13 or so years I have been involved with ICEAA. Over those years I have served in various capacities at the Chapter level and have performed many duties. I've had the opportunity to meet some wonderful and bright people, local celebs, all presenting a variety of interesting topics. I've been contacted by other ICEAA Chapters and members to help with Chapter organization and events and advice. I've even been honored being chosen as the recipient of an Annual Chapter Award and an Annual National award. And those are all wonderful outcomes, but quite frankly, I joined because I thought it would be a good bullet on my resume.

And then it dawned on me why I've been involved for so long. It's the general sense of accomplishment and self-accomplishment, the knowledge that I have helped others in their professional development, the self-accomplishment for moving a Chapter forward, the honor of meeting many wonderful people, reaching out to others to serve on committees, creating opportunities for members to earn recertification points, advocating ICEAA to industry to gain support and grow the Chapter, outreach activities to get the ICEAA brand known. Belonging to a professional society isn't enough to enjoy all the benefits, you have to participate.

And so with that I present to you the Region I news. Region I encompasses the New England and the Mid Atlantic Chapter. Unfortunately, I failed in contacting the Mid Atlantic Chapter for their news; I do promise that the Mid Atlantic Chapter will be represented in the next newsletter edition. ■

New England Chapter News

By **Jessica Karnis**, Chapter Secretary

We are currently enjoying the fall foliage before we have to hibernate for the winter.

This past May we hosted former US Senator **Scott Brown** who discussed “Challenges: Sequestration and the Constrained Economic Environment.” We had a great turn out at Hanscom Air Force Base and were able to reach many attendees outside of the cost community. In July, **Dr. Ricardo Valerdi** of the University of Arizona presented “Cost Modeling for System Engineering” that was broadcast as a Webinar to all ICEAA members. We found this format to be very successful and look forward to hearing Webinar speakers from other chapters. Our most recent speaker in September was **Ms. Ranae Woods**, Technical Director for Cost and Economic Analysis Research, Air Force Cost Analysis Agency (AFCAA). Her presentation on “Air Force Cost Analysis Strategic Picture & Hot Topics” brought our chapter up to date on current Air Force cost policies.

In addition to our regular speaker luncheon series, we hosted the ICEAA New England Chapter 3rd Annual Cost Workshop in May. Our presenters included **Barbara Meyers** and **Brian Fersch** from the Air Force Life Cycle Management Center, **Rich Mabe** from AFCAA, **Greg Kiviat** from Sikorsky Aircraft Corp, and **Alf Smith** from Tecolote Research Inc. We, also, hosted a joint end of year event in October with the American Society of Military Comptrollers (ASMC). This served as an opportunity to introduce ICEAA to the FM community and we hope to gain some new members!

We are, also, pleased to announce the winners of the 2013 New England Chapter Annual awards: Technical Achievement was awarded to **Linda Blackwell** and **Kelly Kane** won Service to Society. Our chapter held elections in September and we’d like to present our new Board of Directors: President – **Brian Fersch**, Vice President – **Kelly Kane**, Treasurer – **Eric Timinski**, Secretary – **Jessica Karnis**, Board of Di-



Kelly Kane, Ellie Bassett, Scott Brown, Carrie Pullen, Ken Marshall

rectors Members – **Marge Evriviades**, **Ken Sherman** and **Barbara Meyers**.

If any ICEAA members are planning travel to the Boston area and are interested in attending our events or speaking to our chapter please contact Jessica Karnis, ICEAA New England Chapter Secretary, at (781) 225-9102, or via e-mail at jessica.karnis@hanscom.af.mil ■

Baltimore Chapter News

By **Asha Dachevall**, Chapter President

After a year of many board changes, the Baltimore Chapter is currently holding elections for the new Board of Directors. Our elections will be wrapping up at the end of October with the new board taking office in November. Special thanks to **Brittany Walker** for helping us set up our elections online!

With our widespread membership, the Baltimore Chapter seeks to hold more networking events to provide an opportunity to get to know each other and socialize. Additionally, with a new and eager board starting, the hope is to revitalize our membership participation and to provide more chapter events and training opportunities. ■

Chapter Updates

St. Louis Chapter News

By Brett Cayer, Chapter President

The St. Louis Gateway ICEAA Chapter has remained active this past year through monthly chapter meetings and by supporting the International Professional Development and Training Workshop held in New Orleans June 18-21, 2013.

Of notable interest, Gateway Chapter member **Eric Druker** was elected as the US Region 4 Director for ICEAA. In support of the International Workshop, Eric presented a paper: "Deciphering JCL: How to use the

JCL Scatterplot and Isocurves", for which he was awarded Best Paper for the Risk 1 track at the workshop. In addition, Eric led several CEBOK training sessions for the attendees and was presented with an ICEAA award as the Educator of the Year within the association. Outstanding achievements, Eric!



Eric Druker's paper, "Deciphering JCL: How to use the JCL Scatterplot and Isocurves," was awarded Best Paper for the Risk 1 track at the International Professional Development and Training Workshop.



Tammy Kopp

Gateway Chapter member **Bill Lueker** served at the workshop as a Track Chair where he organized presenters and the associated paperwork required to present at the workshop, facilitated the presentations within his track, served as the primary point of contact for track presenters, planning and executing the track presentations

at the workshop, introduced speakers, manage presentation length, and thanked the presenters with a gift on behalf of the association.

Gateway member **Brett Cayer** assisted Conference Chairperson **Mike Thompson** with the overall workshop planning and execution as the Deputy Conference Chairperson. In this role Brett recruited keynote speakers, supported the logistical planning of the workshop and supported communication with the Board of Directors regarding the progress of the workshop planning.

New ICEAA Gateway Chapter member **Tammy Kopp** challenged herself as a first-time International workshop attendee by sitting for, and passing, the PCEA exam. Congratulations on being the newest PCEA in the Gateway Chapter, Tammy! Certification matters! ■

Central Virginia Chapter News

By Tucker Moore, Chapter President

The Central Virginia Chapter is excited to announce that we're back in business and the board is in the midst of planning the next speaker event tentatively scheduled to take place in Dahlgren, Virginia. Unfortunately, the majority of the Central Virginia Chapter membership base was directly affected by the summer Department of Defense furloughs and the temporary government shutdown. This frustrating series of events created a temporary hiatus for the chapter's activities, but we're looking forward to our late-November event.

One of the primary focal points of discussion for this meeting will be the impact of the sequestration and shutdown on Navy, Marine Corps, and Missile

Defense Agency programmatic and cost analysis activities. Some of the initial feedback from our members has actually been positive from a cost analysis standpoint. With the tightening budgets, many analysts are noticing an uptick in cost estimation requirements and increased affordability analysis requests. This only reinforces the importance of cost analysis during both the best and worst budget environments.

The Central Virginia Chapter leadership will communicate the details for the next event in the early November timeframe and will distribute to all chapter presidents for distribution. As always, all ICEAA members are welcome to participate. We look forward to seeing you in November! ■

United Kingdom Chapter News

By Andy Nicholls, UK Regional Director

Since attending the excellent conference in New Orleans and meeting many of the new ICEAA Board members I have come to the conclusion that ICEAA is unique amongst professional societies in that it has two Regional Directors with the same name – Andrew Nicholls! My alter ego is in Canberra, Australia and uses the full name ‘Andrew’ whilst mine is shortened to Andy. We are not twins or related in any way and I have

traced my ancestry back to 1600. Visually there should be no mistaking us but e-mail addresses in a contacts list may need to be checked to ensure the right person is selected. If in doubt I am the real one!

I have had discussions over the summer and early autumn with both **Mike Thompson** and **Jason Dechoretz** about how the possible establishment of a UK Chapter might be achieved.

Many years ago (late 1980s) this was attempted by the International Society of Parametric Analysts (ISPA) which is now part of ICEAA. There was some limited success due to the efforts of the UK Society of Cost Analysis and Forecasting (SCAF). Unfortunately success was short lived due to tax regulations in the USA related to transfer of funds from abroad related to the US based ‘not for profit’ parent. Little has changed in the taxation world since those early days and it appears as though a fully fledged UK Chapter cannot be established at present.

In order to serve members and provide them with the kind of benefits as in the US Chapters of meetings, shared community experience and networking opportunities I initiated with **Jason Dechoretz’s** help some encouraging discussions with the SCAF President **Dale Shermion** and with the SCAF Board and it is hoped that in the near future an agreement will be reached to have combined meetings as well as other potential benefits. I will provide more information as development progresses.

The SCAF forward meeting programme is decided well in advance and any ICEAA members are encouraged to attend those meetings and offer presentational material if the opportunity arises. The SCAF forward programme is shown elsewhere in the ICEAA publication with their permission and also on the respective websites.

I would like to take the opportunity to thank all those UK members who took part in the membership survey – results analysis is underway at present. I ask that everyone contribute to such reviews as it helps the Board decide how best to promote ICEAA and to show case the costing profession.

I will normally be at most SCAF meetings, please come and meet me especially if you have questions or require assistance with anything ICEAA related alternatively you may mail me at andy.nicholls@pricesystems.com

Detroit Chapter News

By David Holm, Chapter President

The Detroit Chapter completed the training series for our members in preparation for the CCEA certification exam. Unfortunately, the recent government shutdown and budget restrictions have caused us to postpone the exam date to the Dec/Jan timeframe. On September 18th, President **Brian Glauser** and Treasurer **Mike Thompson** came out for a visit and attended a luncheon where Mike gave his unique and informative “Cost Price Journey through Winemaking” presentation. There was some excellent positive feedback on Mike’s presentation. The leadership focus for the remainder of the year will be to plan out the Chapter’s activities and training plans for next year, continue to network and grow the chapter membership. ■



President Brian Glauser and Treasurer Mike Thompson came out for a visit and attended a luncheon.

Canberra, Australia Chapter News

By Andrew Nicholls, Chapter President

The Chapter met at Australian Defence building, Canberra, and had a presentation from Angus Stubbing on the use of Enhanced Scenario Based methods for cost risk analysis. The presentation covered the theory and background to its use as well as some discussions on its practical application. The members then discussed the applicability of such an approach in the Australian Defence context.

Monthly Newsletter

To create additional value for membership in the Canberra Chapter, a monthly newsletter was launched last month. The aim of the paper is to both assist communications with members as well as to act as a primer to stimulate thinking in cost estimation and analysis. A total of 10 monthly newsletters are planned to be issued each year.

Adelaide Chapter?

There is significant interest about ICEAA in Adelaide and a number of members of the Canberra Chapter live there, including our Treasurer (Tracey Clavell). BAE Systems kindly hosted a meeting of people in Adelaide that may have an interest in forming a chapter and joining ICEAA. Thanks go to Katie Andrews and Tracey for all the work getting the news out. The Canberra Chapter President (Andrew Nicholls) also flew to Adelaide for the event. A total of 15 people attended, and there was interest from a number of others that were not able to attend. Overall the feeling was that they would like to keep meeting, but there was currently insufficient people at the moment to form an Adelaide Chapter at this time. The next meeting for this group is planned early next year. ■

Northwest Chapter News

By Spencer Comert, Chapter President

So far 2013 has been another great year for ICEAA NW Chapter. In addition to our on-going training and fund raising activities, NW Chapter also had another active summer with its annual society meetings. Our first event in August at Red Hook Brewery hosted approximately 25 members and their guests.

This event also marked an important mile stone for us: We received our first charitable contribution to our organization from our distinguished member, **Darren Du**. In addition to being our first beneficiary, Darren is also one of recurring instructors at the certification training courses. Darren's initiative opened the door for those who couldn't volunteer due to their busy schedules, but still are interested in contributing to our efforts. Every drop counts, so we truly appreciate Darren's contribution.

Our second meeting with our members was at Madison Park Conservatory in early October. This event took place at a new venue and attracted nearly 20 members and their guests. In addition to enjoying a new location, our members also discussed the upcoming ICEAA events and exchanged ideas in regards to development opportunities.

As part of our year end event this year we will be hosting a Casino Night/Silent Auction December 12th at Pyra-

mid Brewery. The ICEAA NW Chapter is very excited as this is the Chapter's first attempt at making our end of the year event a little more like a social/fundraiser along with having 2 of our Estimating Directors speak. For the Silent Auction portion of the event we are expecting to have at least 25 items up for auction in the \$40.00 – \$50.00 price range. Some of the items that have been donated are 2 tickets to the Seattle Men's Choir, Renton Civic Theater Tickets, Gifts of Wine, Putt Putt Golfing Tickets and an Italian Themed Food Basket. We will also be hosting a fundraiser casino event with blackjack and craps. This looks to be our most exciting event yet!

Education/Training:

The 2013 fall ICEAA Certification Preparation course is complete! Over the past few months, students have been taken through each of the modules in the Cost Estimating Body of Knowledge (CEBoK) to assist in preparation for the upcoming CCEA exam on November 23rd. Now we are down to the last few weeks, with 8 students busily preparing. The ICEAA NW Chapter is committed to assisting all those interested in achieving their certification goals through providing 2 preparation course annually (spring & fall) to all NW employees. The certification course is only made possible by current NW chapter

Lone Star Chapter News

By John Deem, Chapter President

Pricing Tools and Manufacturing Estimating

In April we held a networking meeting at Spring Creek Barbecue in Hurst near the Bell Helicopter facility. Discussion topics included a critique of available pricing tools along with manufacturing estimating methods. A few weeks later we held a virtual demo of the aPriori software for estimating the cost of manufactured components.

Contract Negotiations

We introduced the topic of negotiations with a teleconference sharing a list of useful resources for developing negotiating skills, and we followed that up with a networking meeting at Chili's near the Rangers Ballpark in Arlington. We hosted **Michele Stoudt-Wright**, Director of Contracts & Pricing at American Eurocopter in Grand Prairie, and a past president of NCMA, North Texas Chapter, who shared some of her insight and experiences based on texts associated with the Harvard Negotiation Project, Getting Past No and Getting to Yes. Negotiating routes home was an adventure as everybody had apps that identified the location of tornados approaching from all directions.

Northwest Chapter News (continued)

CCEAs volunteering their time and energy to support their fellow peers pursue certification. A very big thanks to all the teachers supporting the fall certification course: **Randall Aldrich, Spencer Comert, Stacy Dean, Kerry Kou, David Padineant, Monte Perry, Tim McMain, Ann Schenk, Alan Shores, David Torgerson, Pat Zedaker**. For more information on training or the certification application process please contact the **Stacy Dean** (ICEAA NW Chapter Education Director) @ Stacy.M.Dean@boeing.com ■

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Cost/Price Analysis

A PRICE Systems team will be in the DFW metroplex on November 7th to host a one-day workshop covering PRICE TruePlanning applications and a sample of topics from recent conferences. On November 17th the Lone Star Chapter will follow the lead from several other chapters in hosting **Mike Thompson** who will entertain us with a thought-provoking analysis of a wine-making operation.

Professional Development Workshop

Members have expressed interest in planning our first all-day professional development workshop, and we will share with you soon. ■



Two negotiating teams meet at the table at Chili's near the Ballpark in Arlington



One of the negotiating teams caught in the all-important preparation phase



Chapter President, John Deem sporting the new ICEAA golf shirt, thanking Michele Stoudt-Wright for sharing her insights on contract negotiating

Southern California Chapter News

By Kurt Brunner, Chapter President and Region 7 Director, and Quentin Redman, Chapter Vice-President

The ICEAA Southern California Chapter had a very well received fall ICEAA Southern California workshop that was sponsored by Lockheed Martin on September 18th, 2013 in El Segundo, California. Over 100 people attended from across the United States, both virtually and in person. Among the riveting speakers were:

Wayne Wright; Parametric Estimator for Lockheed Martin Aeronautics Company's Advanced Development Programs; "Welcome to Lockheed Martin"

Ralph Smith; Lockheed Martin Fellow; "Overview of the Lockheed Martin Advanced Development Program — Affordability Design Tool (ADP-ADT) Features & Estimating Methods"

David T. Hulett, Ph.D., President, Hulett & Associates, LLC; "Integrated Cost-Schedule Risk Analysis"

Eric Unger, Ph.D.; Cost Estimating Division Chief, Space and Missile System Center (SMC) at Los Angeles Air Force Base (LAAFB); "Cost Perspectives at SMC"

Alf Smith; General Manager, Tecolote Research Inc., "Joint Cost Schedule Risk and Uncertainty Handbook"

Christian Smart, Ph.D.; Chief, Cost Estimating Division, Missile Defense Agency; Bayesian Parametrics: Estimating with Limited Data"

Mike Butterworth; West Coast Cost Analysis Lead, TASC; "An Alternative Methodology to Weight Based CERS"

Now the SoCal team has shifted into high gear in planning our winter workshop that will be held at Northrup Grumman Aerospace Sector (NGAS) in El Segundo on 18 December 2013 at Redondo Beach. Some of the dynamic and exciting speakers for this event include:

Scott L. Tobin; NGAS Host; "Welcome to Northrup Grumman"

Christopher Cool; VP for NGAS Affordability; "Northrup Grumman's Approach to Affordability"

Paul Killingsworth; Independent Consultant; "Pseudo-Mathematics: A Critical Reconsideration of Parametric Cost Estimating in Defense Acquisition"

Shu-Ping Hu; Chief Statistician, Tecolote Research Inc; "Fit, Rather Than Assume, a CER Error Distribution"

James Fieber; Systems Engineer, Lockheed-Martin Company; "Systems Engineering Affordability"

Kent Joris; Chief Technology Officer, MEE, Inc; "Training Session"

Richard Brodkorb; President, REB Management Company; "How EVM and CE&A can work together to meet the challenge of affording what we need"

Usually we have 80 to 100 attendees from across the nation (and also from overseas) that participate in our no cost, daylong events. These forums have consistently drawn a huge cross section of the cost analysis and parametric community while presenting the latest concepts and techniques, and have produced energetic dialogues and great interest in the topics discussed. The winter workshop promises to continue this tradition!

Our spring workshop will be held on March 19th, 2014 at Galorath in El Segun-



Workshop Attendees – 18 December 2013 – Lockheed Martin, El Segundo

Southern California Chapter News

do. More details will follow, so start your planning now!

At the conclusion of our ICEAA Southern California workshops, and as an incentive to stay until the last presentation is complete, a membership drawing is held. Our Membership Chair, **Steve Sterk**, is always 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 or (661) 276-2377, or the ICEAA office at iceaa@iceaaonline.org or (703) 938-5090.

SoCal workshop agendas are e-mailed to all ICEAA members and previous workshop attendees by the ICEAA office, and they contain registration information, a location map, and driving instructions. The agenda is also posted on the ICEAA Southern California web site at: <https://www.iceaaonline.org/chapters/california-southern/index.cfm?eventID=178>. As always, our workshops are free. We will also have frequent lunchtime seminars at The Aerospace Corporation in El Segundo, so stay tuned.

If you would like a copy of these or previous workshop briefings please go to the ICEAA web site located at: <https://www.iceaaonline.org/chapters/california-southern/index.cfm?eventID=178> under the Southern California Chapter Documents. 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 ICEAA Southern California Board of Directors or the ICEAA office (iceaa@iceaaonline.org).

Please consider hosting a workshop or presenting at a workshop! It will be a rewarding experience. If you are interested in hosting a workshop or making a presentation at a workshop, please contact **Kurt Brunner** at kurt.r.brunner@saic.com or **Quentin Redman** at quentin.redman@pricesystems.com.



Kurt Brunner



Quentin Redman

Our workshop focus is always to “Advance, encourage, promote and enhance the profession of cost estimating and analysis through the use of parametrics and other data-driven techniques for use by the membership as well as the general public”. The Southern California Chapter of ICEAA will continue to offer workshops that include a notable and diverse group of extraordinary speakers, training sessions, cutting edge topics, and knowledgeable attendees that are fully entertained and engaged.

Our ICEAA Southern California Chapter Board of Directors consists of:

President	Kurt Brunner
Vice-President	Quentin Redman
Secretary	Evelyn Davalos
Treasurer	Chris Hutchings

Board Members

Tom Bosmans

David Graham (Program Director)

Doug Howarth

Suzanne Lucas

Carlos Zerpa

We would like to thank the board for their tireless teamwork in making these workshops a great success, as well as all the members and participants for their support over the years. We look forward to seeing you at the next workshop!

Also, the ICEAA San Diego Chapter of Region 7 (Southwest) has been holding regular webinars and early evening get-togethers. They are hosting a workshop the first week of December to encourage those who are interested in presenting at the 2014 ICEAA Conference in Denver, Colorado. This workshop is intended to assist with brainstorming paper topics, facilitate peer reviews for draft abstracts, and answer any questions to help you prepare for the upcoming conference. The workshop will feature past presenters, trainers, and white paper reviewers. More information is available on the San Diego Chapter ICEAA website. ■



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