

15 The Value of Cost
Estimating in a Fiscally-
Constrained Environment

19 Integrated Cost-Schedule
Risk Analysis

25 Papers to be presented
at the 2013 ICEAA
Professional Development
& Training Workshop

ICEAAWorld

The International Cost Estimating and Analysis Association

Spring 2013

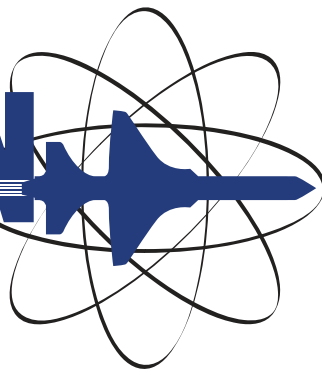


Picturesque New Orleans balconies...
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Professional Development & Training Workshop!

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KALMAN

Kalman & Company, Inc.



Kalman & Company, Inc. (Kalman), a woman-owned business, was founded by Barbara and Walter Kalman in 1987 and has provided program management, acquisition, business, analytical, process improvement, and training support services to both the Government and commercial sector for over 25 years. The Kalman Business Operations Support Services (BOSS) team prides itself on its reputation of providing quality support, excellent products, and professional expertise in cost estimating and analysis, cost policy, cost research, and economic analysis. Kalman is currently developing four Life Cycle Cost Estimates (LCCEs) for each of Sustainment Modification upgrade concepts being considered for the High Mobility Multipurpose Wheeled Vehicle. Kalman has the breadth of knowledge and insight to support their broad customer base with specialized solutions. Kalman has successfully delivered an Independent Government Cost Estimate for the innovative Medical Countermeasure Initiative Advanced Development Manufacturing Facility and is currently developing a Predictive Cost Model for the Marine Air Ground Task Force Command and Control Systems and Applications Tactical Service Oriented Architecture program. Kalman provides strategic, focused support for guaranteed results.

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COST ESTIMATING

Program Life Cycle Cost Estimates, Independent Cost Estimates, Analysis of Alternatives, Budgetary Support, and Milestone Decision Support to DoD Services

ECONOMIC ANALYSIS

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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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Co-Presidents' Address

by Paul Marston and Andy Prince

With our merger complete, we have opened the first chapter of ICEAA. Effective October 26, 2012, ICEAA came into being. It's an Association created by two organizations that recognized the importance of good cost estimates and analyses performed by knowledgeable, experienced, well-trained, and certified professionals. The former leaders of SCEA and ISPA have come together to be the leaders of ICEAA, putting into practice what had been discussed for many months prior to the formalizing of our merger. The fun has begun.

As leaders of the Pro Tem Board, our focus has been on consolidation, the first Board election, and moving the Association forward. In consolidating the two societies into ICEAA, we have been following the plans outlined by the Solution Teams. These well thought-out and much discussed roadmaps have simplified the transition. The other piece of consolidation was getting the right people into the right jobs to continue the great work both societies were doing. To that end, we drew upon the outstanding talent that both SCEA and ISPA had developed, so many of the names you will see will be familiar. These include:

- Certification – **Peter Andrejev** and **Doug Druley**
- Chaptering – **Mike Thompson**
- Body of Knowledge – **Peter Braxton** and **Roy Smoker**
- CEBoK RFI – **Joe Dean**
- Strategic Planning – **Rick Collins** and **Tom Coonce**
- Outreach – **Dan Nussbaum** and **Jason Dechoretz**
- Honors and Awards – **Joe Hamaker**
- Governance – **George Stratton**
- Training – **Brian Welsh** and **Kevin Cincotta**
- Special Interest Groups (SIG) - **Greg Kiviat**
- Publications – **Joe Wagner** and **Madeline Ellis**

Other consolidation tasks, such as combining the membership databases and getting a new website up and running, are not as glamorous but are extremely important to the day-to-day operations of the Association. Special thanks go to **Erin Whittaker**, **Sharon Burger**, **Brittany Walker**, **Don Clarke**, and **Joe Wagner** for all the hard work they have done to integrate the two society's business operations.

On the elections front, **Jason Dechoretz** and **Bill**

Haseltine have been busy recruiting candidates to run for the first full ICEAA Board of Directors. With assistance from **Erin Whittaker**, they drafted regional boundaries that provided the best balance of member and chapters in a given region, designed to ensure that everyone's interests are represented on the Board. We salute both these gentlemen for the amazing amount of work they have put into this. As with the committee chairs, the very well qualified individuals on the ballot represent a cross section of present and future leaders from across the spectrum of cost estimating and analysis disciplines. At the time of this writing, the period of time for members to petition for a slot on the ballot is underway, and we are scheduled to present the final ballot on 2 April. Voting will begin on 1 May (instructions for casting your vote online and requesting a paper ballot will be emailed/mailed shortly thereafter).

The International Business Office and the committee chairs have just done a tremendous job in moving ICEAA forward. We have a new logo and a new name for the newsletter. Two new chapters have been chartered (Central Virginia and Greater Detroit). Updates are being made to incorporate the Parametric Estimating Handbook into CEBoK®. The website has been updated. Formulation has begun for a Parametrics SIG. The foundation has been laid for the development of a long-range strategic plan.

On the conference front, we had a successful 2012 IPM Conference, after a delay caused by Hurricane Sandy. The rescheduled conference was held in December. Preparations are well underway for the first ICEAA Professional Development and Training Workshop in New Orleans. We understand the challenges currently facing government employees, so we have established a special government rate of \$765 for members (\$800 for non-members, ICEAA membership included). If you have not yet registered, now is the time. Don't forget to make your room reservation at the Sheraton New Orleans. Read on for more information in this issue, and visit <https://www.iceaaonline.org/events/conference/2013splash.cfm> for more information, as well as links for conference registration and hotel reservations.

Though nobody knows the plot twists and turns, the ICEAA story is sure to be exciting, productive, and filled with an ever-changing cast of dedicated cost estimating and analysis professionals. ■



Letter from the Editor

by Joe Wagner, ICEAA World Editor

ICEAA – It's here, and as you will find throughout this first issue of the ICEAA magazine, many things are changing to fulfill the promise of a better professional organization bringing better services and opportunities to you, the membership. Along with a new organization name, we have a new magazine name – *ICEAA World*. With the new name, we plan to bring you some new as well as familiar content. Each of our columnists and volunteer functional managers will be bringing you the latest news on how the new Association is redefining ICEAA opportunities and value in such areas as certification, professional development products, training, chaptering, and conferences. A fresh organization with new faces and new ideas is a stimulating environment. I hope our magazine reflects and enhances that fresh feeling. It is our intent to participate in and report to you the results of our new Association, its leadership and its strategies for achieving our overarching goals – a better world of professional development for people and professional performance in cost estimating and analysis.

With *ICEAA World* we are also changing our publication schedule, expanding from two to three issues per year. We hope the expanded opportunity for delivering information and education will result in better and more dynamic content, and prompt those budding authors in our membership to prepare an article for a future issue. In this issue we introduce a new column, brought over from *Parametric World* magazine, which will be edited by Mr. **Joe Hamaker**. Joe's "Ask a Parametrician" column was a long-time fixture in that magazine, and Joe will carry on and expand this feature in *ICEAA World*, as he explains in this issue. Also, we will continue to offer professional informational articles on aspects of our profession, including one by **Lyle Davis** of the Air Force's F-35 Program Office on the value of estimating when resources are particularly tight. We are also publishing the first part of a multi-part article on Cost Risk techniques from Dr. **David Hulett**. Another feature article is from our

reliable contributor, Lt. Col. **David Peeler**, from the Air Force budget office at the Pentagon.

The individual chapter reports and pictures, as always, are a vitally important section of our magazine. They represent "boots on the ground" information that tells us what we are accomplishing and perhaps offer some ideas for more and better cooperation among the chapters, between chapters and the national organization, and the sharing of knowledge and opportunities among all parties, leading to a better profession and better professional opportunities. Turn the page and see what you think of *ICEAA World*. ■

In an uncertain economy,

HOW DO YOU MAKE YOURSELF STAND OUT FROM THE CROWD?

Post your resume on the **Cost Estimating Career Center** to be seen by employers in the market for an employee who thinks outside the box.

- Go to <http://careers.iceaaonline.org/>
- Click on "Job Seekers"
- 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

Congratulations to all on the establishment of ICEAA! And although our collective name has changed, our commitment to serve our membership remains steadfast. One of the most valuable services we provide the cost estimating community is the ability to certify a practitioner's competency. For both the practitioner and employer, certification is used as an indicator of the individual's capacity to create a "legitimate" cost estimate or perform a "bona fide" cost analysis.

As certification has become increasingly popular, we continue to be vigilant in our mission to: 1) establish clearly-defined competency standards that government and private industry can recognize as meaningful indicators of proficiency, and 2) communicate and employ these standards to measure and certify the level of a practitioner's competency. In examining the certification programs of other professional associations akin to ICEAA, I applaud the balance we've struck in using both experience and knowledge as the basis for our measures of competency of a CCEA®. We are neither

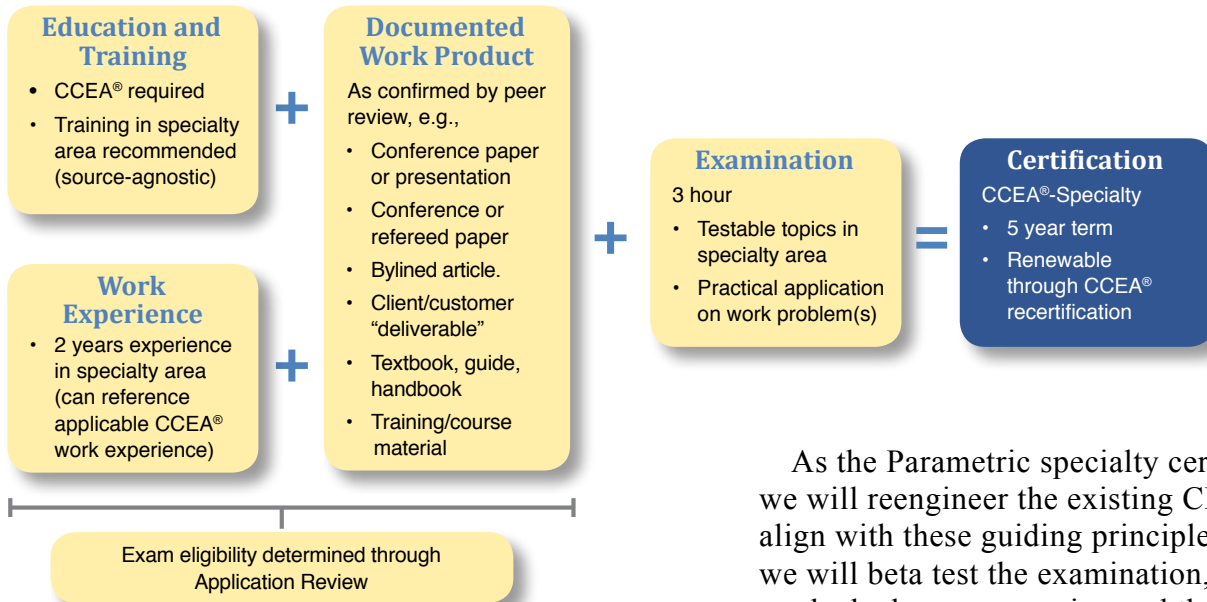
exclusively test-based, nor work product-based, nor course-based, but rather embrace elements of all these markers of proficiency.

Specialty Certification

As we extend the certification program into specialty areas—starting with parametric analysis—we remain true to the certification program's guiding principles:

- Relevant education and work experience, albeit agnostic to the source of training, and
- Demonstration of competency through an examination on applicable topic areas.

In much the same way a graduate degree requires both a comprehensive examination and a thesis/doctorate created by the student, we believe a specialty certification should also require an examination deeper and broader than tested in the CCEA®, and the submission of an applicant's work product. The below depiction provides the guiding principles for ICEAA's specialty certification programs.:



As the Parametric specialty certification develops, we will reengineer the existing CPP examination to align with these guiding principles. Additionally, we will beta test the examination, similar to what worked when we reengineered the CCEA® examination, to ensure both correctness to the "science of testing" and accuracy in the content of the Parametric specialty discipline. ■



Certification Congratulations

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. The ICEAA Office would like to thank the following individuals for proctoring the exam during the fall of 2012 and in early 2013: **John Bates, Scott Boyd, Mike Clay, Stacy Dean, Brian Fersch, Ross Hosse, Ken Hunt, Justin Knowles, Bob Lyons, Ken Marshall, Rick Osseck, Joe Parisi, Lauren Ramirez, Carolyn Smith, Tony Thackray and Nathan Welch.**

Congratulations are extended to the following individuals for passing either the CCEA[®] or PCEA[®] exam since the fall.

CCEA[®] Achievers

- Ghassan Aldossary, Saudi Aramco
- Evangeline Baulch, J.M. Waller Associates
- Elisabeth Boyadjis, TASC, Inc.
- Matthew Cain, TASC, Inc.
- Glenn Florey, Boeing
- Frederick Fry, AFIT
- Pamela Hein, TASC, Inc.
- Conrad Hertzler, Booz Allen Hamilton
- Jean Korkemaz, BAE Systems
- Matthew Leezer, Honda Aircraft Company
- Ted Mills, Navy
- Chris Murray, Murray Consulting Services

- William Roetzheim, Level 4 Ventures, Inc.
- Maureen Tedford, TASC, Inc.
- John Yee, Coast Guard, DHS

PCEA[®] Achievers / CCEA[®] Eligible

- Matthew Burr, Wilde and Woollard
- Jeffrey Locke, Lockheed Martin
- Alan Nicholls, Air Force
- Richard Powell, Herren Associates
- Aaron Runne, TASC, Inc.
- Michael Yanavitch, TASC, Inc.

PCEA[®] Achievers:

- David Adams, TASC, Inc.
- Kevin Dugan, USMC TECOM
- Dustin Hilton, Kalman & Company, Inc.
- Andrew Hwang, Navy
- Kristin Jackman, Booz Allen Hamilton
- Jennifer Lampe, Navy
- Stephanie Leib, Booz Allen Hamilton

Recognized below are those who have been recertified:

- Darren Du
- John Fasciani
- Jeffrey Feuring
- Pierre Filipowicz
- Thomas Goughnour
- David Graham
- Gary Hill

- Max Hodal
- Greg Hogan
- Andrew Jones
- Justin Knowles
- Sriram Krishnan
- Andrew Pitman
- Cari Pullen
- Mitch Robinson
- Tim Salvage
- Daniel Schluckebier
- Rick Schwikert
- Gregory Seavers
- Joanne Smith
- Krista Stroh
- Eric Timinski
- Samuel Toas
- Thomas Walls
- John Yeaman
- Patricia Zedaker



Business Office Update

by Erin Whittaker, ICEAA Executive Director

We're well into 2013 and our first full year as the International Cost Estimating and Analysis Association (ICEAA, pronounced "Eye-see-ah"). The ISPA/SCEA merger was approved by the membership and legally confirmed in late 2012. As a result of the merger, we've seen website updates, a new logo, new name, and now a new newsletter! There are many more changes to come, too.

On the ICEAA website (www.iceaaonline.org) you'll find some new features that weren't available on the old ISPA or SCEA sites, like an integrated homepage calendar, an updated online library, and past issues of both the *National Estimator* and the *Parametric World*. We've also added an exciting new feature: a searchable Membership Directory. Current members can log into the website and search for a specific name in order to get that person's email address. In the future we may consider expanding this feature to allow for searching by company, but no matter what, we will remain committed to our promise to maintain our members' privacy. That's why there's an opt-out feature. If you would rather not be featured in the Membership Directory, just contact **Brittany Walker** at brittany@iceaaonline.org.

Conferences

Our IPM 2012 Conference was a great success, despite a little visit from Hurricane Sandy. After re-scheduling due to the storm, we were able to hold a conference with the same program, exhibitors, and many of the same attendees in mid-December 2012, within 6 weeks of the original dates! We welcomed keynote speakers **David Ahern**, Deputy Assistant Secretary of Defense, Portfolio Systems Acquisition, **Vice Admiral Joseph W. Dyer**, Chief Strategy Officer for the iRobot Corporation, and **Paul Bosco**, Director, Office of Acquisition and Project Management. Join us in 2013 for the 25th Annual IPM Conference, held at the Marriott Bethesda North, 18 - 20 November. We'll see you there!

Are you looking for an opportunity to attend guided training, watch presentations on advances in the

field, and gain valuable knowledge to bring back to your employer? Look no further than the 2013 ICEAA Professional Development & Training Workshop (formerly the ISPA/SCEA Joint Annual Conference). The Workshop will be held at the Sheraton New Orleans from 18 - 21 June 2013, and will feature 43 training sessions, 90 professional papers, and keynote speeches by **Karen Richey**, Assistant Director, Applied Research and Methods Team at GAO, and **Kathleen Hedges**, Senior VP, Corporate Director of Program Execution at SAIC. Read on for more information about the program, the after-hours options, and much more! Visit us online at iceaaonline.org/events/conference/2013splash.cfm.

In addition to these multi-day professional development opportunities we provide throughout the year, we also are expanding our webinar content to allow members to participate in events from around the country. Chapter-sponsored speakers and presentations can be made available to all members via webinar (contact brittany@iceaaonline.org for details). We're also planning on holding some local workshops in the Greater DC area featuring the Best Paper winners from the 2013 Workshop, and we plan on making these events available remotely, too!

Publications

We continue expanding our outreach to members with print, online, and social media communications. Join the ICEAA LinkedIn Group and become part of the real-time discussion! Follow us on Twitter (@iceaaonline) and "Like" us on Facebook to see event updates, important news, and, in the near future, conversations and interviews with leaders in the field. Stay tuned for updates about the release of CEBoK v1.2, coming in mid-April 2013.

The Journal of Cost Analysis and Parametrics, ICEAA's scientific journal, will be printed 3 times per year starting in 2014. ICEAA members already get online access to journal archives (you must log in to the ICEAA website first), and we're looking forward to expanding the online content in 2014. Starting in

late 2013, we will be accepting article submissions via a single portal called ScholarOne. We're currently in the development and testing stage, so stay tuned for an announcement from the Business Office about the new way you'll send in your submissions.

The ICEAA Newsbrief is your source for weekly news articles pertaining to immediate issues affecting the profession. You can invite your friends to subscribe to the newsbrief at <http://multibriefs.com/optin.php?scea>. If your company has purchased an ad in the Cost Estimating Career Center, talk to Erin Whittaker at erin@iceaaonline.org about purchasing a Newsbrief ad at a discount!

Upcoming Plans!

We will be conducting a Membership Survey later this year to find out how we're doing meeting our own goals and objectives, what you think we can be doing better, and to get valuable demographic and salary information. Chapter Presidents will be provided with results for their chapter, and we will post a summary of the results on the website. To view the results of the 2011 SCEA Membership Survey, visit <https://www.iceaaonline.org/pdfs/2011Survey.pdf>.

Starting in April 2013, we will be conducting a Membership Referral Campaign to encourage current members to reach out to potential members, or expired members who have let their membership lapse. Refer 5 people and get an ICEAA polo shirt; refer 10 new people and get a shirt and a one-year extension on your own membership; refer 20 people and get a one-year membership extension, a polo shirt, and a free conference registration! The campaign starts April 9th. Contact brittany@iceaaonline.org if you have questions or need to request a form.

ICEAA has undertaken an ongoing effort to identify the best ways to invest in our training products and member services to provide the maximum benefit to our members. Rick Collins has been leading a determined team, and we want to thank him for his efforts in putting together the preliminary thoughts for SCEA's Strategic Plan, and for continuing that work under ICEAA, with an expanded committee representing SCEA and ISPA interests. The development of this plan will be an important step toward casting off the "SCEA" and "ISPA" labels and moving forward as ICEAA. ■



www.scaf.org.uk

Next SCAF Workshop: Practical Examples of Cost Estimating & Analysis The SCAF 2013 Cost Estimating Challenge

Tuesday 23rd April 2013
The BAWA Centre, Filton, Bristol

Participating Teams Include:

ATKINS



BAE SYSTEMS



THALES QinetiQ

SCAF Annual Conference: Cost Matters

Tuesday 17th September 2013
The BAWA Centre, Filton, Bristol

Papers are invited covering a wide variety of cost estimating, cost analysis and cost management topics including:

- Hardware and Software Estimating
- Costing Methodologies/Applications
- Affordability Assessment
- Earned Value Management
- Risk Analysis
- Cost Growth Analysis
- Decision Analysis
- Cost Benefit Analysis
- Balance of Investment
- Investment Appraisal
- Cost Management
- Benchmarking
- Organisation and Training
- Economic Appraisal

For more information, please visit <https://www.iceaaonline.org/events/other.cfm>



What Do You Know?

By Peter Braxton, Director, Body of Knowledge, pbraxton@technomics.net

This is my second column written since the dawn-
ing of the new ICEAA, but the first for the new
ICEAA World newsletter. I'd like to take a mo-
ment to welcome all the readers of the erstwhile
Parametric World and assure you that my intent is to con-
tinue to share important goings-on in the realm of the cost
estimating and risk analysis body of knowledge.

CEBoK® Version 1.2 Is Coming!

As you read this, ICEAA is readying the CEBoK® Version 1.2 maintenance release for distribution. If you are covered by an active organizational or individual license, you will receive the new version. This was a comprehensive update of all sixteen modules, with hundreds of individual changes, incorporating new research; new materials assembled for corporate, society, and third-party training events; and better explanations of key topics based in large part on feedback from those events. I would particularly like to acknowledge the contributions of **Kevin Cincotta** of the Technomics Training Institute (TTI) and **Brian Welsh**, the current ICEAA Conference Training Chair. Kevin and his cadre of instructors have developed a great deal of new material, much of which has been incorporated in CEBoK v1.2. Kevin and Brian led the expansion to four training tracks at last year's conference in Orlando, with new topics providing a wealth of new material for potential incorporation in CEBoK, and Brian will be continuing that proud tradition this year.

The Version 1.2 update was achieved by a TASC-Technomics team under contract to ICEAA under the leadership of **Maureen Tedford**. Taking responsibility for updating the individual modules were focal points **Remmie Arnold, John Batchelor, Eric Cohen, Colleen Craig, Allison Horrigan, Kim Humphrey, Richard Lee, Travis Manning, Belinda Nethery, Maureen Tedford, Casey Trail, Brian Welsh, Brittany Wilkinson, and Mike Yanavitch**. The team achieved an unprecedented level of internal review, with counterparts **Laurie Calzadilla, Angela Camp, Clayton Carlson, Colleen Craig, Breana Fife, Emily Foglia, Justin Knowles, Kammy Mann, Jessica Phillips, Ken Rhodes, Karyn Sanders, Maureen Tedford, Casey Trail, and Brian Welsh** ensuring that all changes were made satisfactorily.

Throughout the course of the update, the team identified additional areas for improvement, accomplishing more than half again as many changes as originally requested by ICEAA! While most changes are updates to existing slides, there are many new slides in Version 1.2, including the two examples shown on p. 11, both courtesy of major contributor **Brian Flynn**. I reprised my customary role of managing editor.

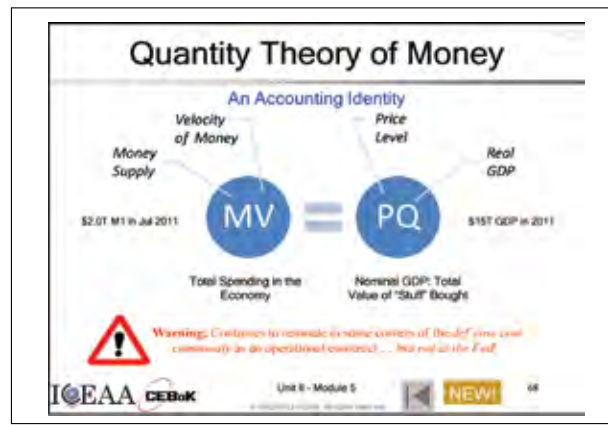
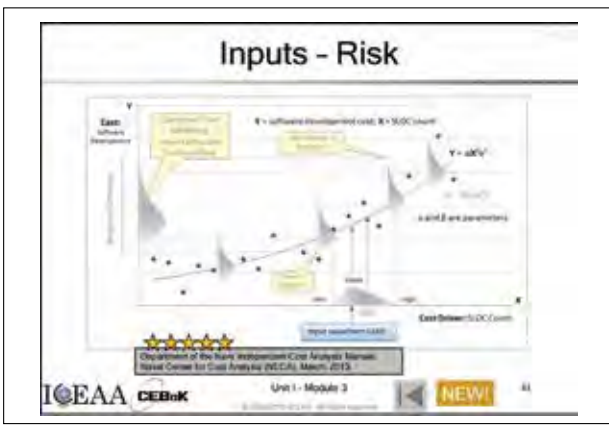
Even with extensive internal reviews, as cost estimators we fervently believe in the power and importance of the independent viewpoint. I'd like to thank the CEBoK Steering Committee in general, and **Dick Coleman, Tim Anderson, and Rex Potter** and colleagues at Lockheed Martin in particular, for their thorough review and feedback on the final draft modules. I will do my best to recognize additional reviewers between the time of this writing and the release of Version 1.2 in the next issue.

Don't Forget the Bibliography

With scores of professional paper presentations each year at the Department of Defense Cost Analysis Symposium (DoDCAS), the erstwhile Society of Cost Estimating and Analysis (SCEA) / International Society of Parametric Analysis joint conference, the Integrated Program Management (IPM) Conference, and many other venues, it is impossible to integrate all new research into CEBoK proper. We manage to have our cake and eat it too by providing an expansive bibliography as part of CEBoK, in order to make these papers available to the broader community. With the incorporation of 2011 and 2012 conferences, the CEBoK Bibliography now contains over 1500 papers from the past decade plus.

ICEAA Does Parametrics!

Now that the new society is operating smoothly, it is high time to incorporate the Parametric Estimating Handbook (PEH) in CEBoK, as laid out in the merger plan. With apologies to Humphrey Bogart, "We'll always have PEH Fourth Edition." This current version, dated April 2008 and available on the website under PRODUCTS, remains ISPA's key legacy contribution to the body of knowledge. Now that the new TASC-Technomics team has demonstrated the capacity to deliver timely comprehensive updates, the Board has expressed interest in proceeding with the incorporation of



There are many new slides in CEBoK® Version 1.2, including the two examples shown to the left. Images courtesy of major contributor Brian Flynn.

PEH content, so that CEBoK® can truly become a unified resource for the merged society. Of course, we already salute parametrics as the hallmark methodology in Module 2 Cost Estimating Techniques; devote Module 3 Parametric Estimating to it; and treat much of the underlying mathematics in Module 8 Regression Analysis. This time, however, with the help of ISPA stalwarts such as **Roy Smoker**, **Doug Druley**, and **Tom Coonce**, we will comprehensively map the PEH content into the existing CEBoK® structure to ensure that nothing is lost. If you are a long-time user of PEH, I would love to hear your suggestions for ensuring the success of this endeavor.

CEBoK®: The Next Generation

At the February 2013 Board meeting, **Jason Dechoretz** (working with **Tom DuPre**), presented an analysis of the request for information (RFI) responses received in the fall for the follow-on to CEBoK®. It became clear that there are a wide range of options, and that ICEAA needs to carefully consider next steps in order to pursue something that is both affordable for the association and valuable to its members. As cost estimators, we know that establishing the right requirements is absolutely critical, and that will be the focus in the near term. ICEAA will need to determine the most efficient and cost effective system for content delivery and maintenance, and answer important questions like whether the next generation product will be an online training program or online distribution of the content. I believe the “right sized” solution for ICEAA would combine a Cost “Wiki” for the body of knowledge and desktop reference, and short, on-demand videos for training and certification preparation. Whatever we pursue, it will be crucial that we keep in mind that ICEAA does not (yet) have the economies of scale that have made many otherwise comparable initiatives successful and affordable.

Research + BoK + Training + Certification = Professional Development

One exciting development in the merger is the creation of the new position of Vice President of Professional Development.

As envisioned, it will encompass the functions of body of knowledge, certification, and professional development, and will work directly with those respective chairpersons to ensure effective coordination amongst those key aspects of professional development. While I don’t want to violate any “equal time” regulations, I can’t help mentioning that I’m honored to have been selected for the inaugural ICEAA slate for this position, and I would be happy to continue to share my vision and leadership with the organization if you would be so kind as to elect me.

Back to the Big Easy

The 2007 Joint ISPA/SCEA Conference in New Orleans was particularly memorable for me for many reasons. The first-ever joint Training tracks, which I co-chaired with ISPA’s **Doug Druley**, represented a key step toward the eventual merger of the two societies. I was flattered that then-SCEA President **Dan Nussbaum** mentioned my Hilbert’s Problems paper in his opening remarks. I was recognized with the Estimator of the Year Award for contributions in Education. And, of course, I enjoyed the great venue and increased participation by our colleagues from Ingalls Shipbuilding in Pascagoula, MS. While this spring brings many uncertainties, I strongly encourage you to join us for our return to New Orleans for the annual conference (18-21 June), for what promises to be the most extensive Paper and Training tracks offerings to date.

Tweet This, Honkus!

My friends and colleagues can tell you that I utterly failed in my “Facebook Before Forty” campaign, but I did get on Twitter shortly before the birth of my daughter in July, 2011. I’ve decided it’s high time to add a professional account to my personal one. Please follow @ICEAA_CEBoK if you’d like news of the CEBoK Version 1.2 release, planned updates, and other goings-on relating to our austere but ever-changing body of knowledge. Let’s see if we can’t get the followers of CEBoK to triple digits before the conference! (P.S. I will buy the first person to tweet me with the correct movie reference a drink at the conference.)



What's Causin' All This?

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

The 2013 Professional Development & Training Workshop is quickly approaching and will be held this year in New Orleans, LA from June 18 – 21. After years of joint ISPA/SCEA workshops, this is the first ICEAA Professional Development & Training Workshop. We have the privilege of coordinating the training portion. We're joined by Program Co-Chairs **Andrew Drennon** and **Mel Etheridge** managing the professional papers and Conference Co-Chairs **Brett Cayer** and **Mike Thompson** taking care of all high-profile items including keynote speakers. The training program could not be possible without all of your help, as well as that of the ICEAA International Business Office who work tirelessly to put together this conference. Thank you all for your hard work and dedication!

This year, we plan to offer 43 training sessions in four training tracks. The tracks are Cost Estimating – Basic, Parametric Training, Cost Estimating – Advanced, and Integration. As in the past, content will be based on the Cost Estimating Body of Knowledge (CEBoK®), the *Parametric Estimating Handbook* (PEH), and other authoritative sources. The training sessions will include twenty based on CEBoK®, six based on PEH, and seventeen created by community subject matter experts. This year marked our second annual “Call for Trainers.” This year, it was expanded to include a “Call for Training Track Chairs” as well. If you would like to volunteer (as a Trainer or Track Chair) for future conferences please contact **Brian Welsh** (bwelsh@technomics.net).

Training Expands

As our organization grows, the responsibility of the Training Chair has grown. Over the past two years,

Kevin Cincotta has expanded the role of Training Chair to now include the identification of new conference training content and aiding organizations and chapters in standing up their own training programs. **Brian Welsh** has taken over Kevin's role as Training Chair, and Kevin is now serving as Chapter & Organization Training Coordinator.

We would like to spotlight the Technomics Training Institute (TTI) as a cornerstone of organization training. TTI is offering a series of training courses that is open to all ICEAA members. The purpose of TTI is to help everyone in the cost community improve their performance. The current series is geared towards non-senior analysts and those who are preparing to take the PCEA® and CCEA® ICEAA professional certification exams. TTI features award-winning presenters and instructors. The Cost Estimating Body of Knowledge (CEBoK®) forms the basis for most of the sessions, as well as other material that is unique to TTI. All of the content is geared toward TTI's vision of thought leadership and raising community of practice standards for our profession. TTI sessions are generally held at Technomics' headquarters in Crystal City, but remote access is available free of charge for those who are not local to the Washington, DC area. To RSVP or for information about future sessions, contact **Rachel Cosgray** (rcosgray@technomics.net). For technical questions, to submit proposed content, or to volunteer as an instructor, contact **Kevin Cincotta** (kcincotta@technomics.net).

Finally, do you have a question, comment, or maybe just an anecdote to share? Send that content our way, and you may just find it reprinted and responded to here, in the next *Training Corner*! ■



Ask an Analyst

Edited by Joe Hamaker

Greetings ICEAA membership! The long running heritage ISPA newsletter *Parametric World* ran a column entitled “Ask A Parametrician” in which members posed questions that other knowledgeable cost analysts answered. My job was to solicit the questions and then find one or sometimes more than one analyst with expert knowledge of the subject to answer the question.

Here’s a sample of the questions submitted in the historical “Ask A Parametrician” column:

- Does history support significant cost savings when technology investments are made prior to full scale development?
- Within integrated schedule and cost risk analysis, how can we get schedule analysts and cost analysts working from the same “sheet of music” in terms of level of detail, BOE, treatment of risks, etc.?
- Can we demonstrate that cost and schedule S-curves have had a positive effect?
- How do various senior estimators use performance measurement techniques, such as EVM or the performance baseline, against their estimates to develop better budget estimates or spend plans on to-go costs?
- Can we demonstrate that EVM has had a positive effect?
- Why are engineering economics/discounted cash flow analysis so little used?
- How serious are normalization inconsistencies in our databases and what can we do to improve?
- How do you take the state of the industrial base into account in cost estimates?
- Is there evidence that refutes the self-fulfilling prophecy notion that cost and schedule reserves will often be used to gold plate the product?
- Since most projects overrun and we continually base new estimates on the past, aren’t we contributing to an upward spiral of cost?
- What probability distributions should I used for different categories of cost?
- How do I tactfully resist unreasonably lowering my estimates when the customer pushes for this?

The ICEAA Board of Directors and the editor of this new ICEAA publication have asked me to continue that column here. Several suggestions have been on how we might make it even better. These include having the column becoming not only a strictly Q&A, but perhaps a forum for back and forth discussion of costing issues through inputs from readers, with me acting as the facilitator. For example, when a question is asked and answered, I might ask, in that same column, if there are any other opinions/inputs that readers might have on the subject. Since we plan to go to three issues per year, the frequency of the column will allow for a better interaction between question/comment submitters and expert opinion-makers.

I am excited about this new column being fueled by the collective experiences and knowledge of our incredibly talented membership from our combined heritage societies. I urge you to jump start this new column by sending me questions that you would like to see raised and addressed in this column. Please send your questions to joehamaker@yahoo.com. I will work to gather some knowledgeable professionals among our membership with the experience to answer some of the challenging questions I know will be submitted. Feel free to send me an email if you would like to be one of those I go to for insightful answers to questions that readers submit—and please tell me your fields of expertise. I look forward to the great potential this column holds in ICEAA! ■



Chaptering & Membership

by Mike Thompson, Chaptering and Membership Chair

Membership and Chaptering has been very busy since the 2012 Orlando ISPA/SCEA Conference. At the last Pro Tem Board of Directors meeting, in El Segundo, CA, two chapters were voted into ICEAA: Central Virginia and the reinstatement of the Detroit Chapter.

Discussions about a Central VA Chapter began at the 2012 Conference, where a group of people from the Quantico and Dahlgren areas of Virginia inquired about starting a chapter that would fill the void that exists in Virginia between the Washington DC chapter and the Hampton Roads chapter. The Central Virginia chapter was born, with 20 signatures on the petition and targeting the areas of Quantico, Fredericksburg, Charlottesville, Richmond, and Dahlgren. The chapter is currently planning on alternating meetings between Quantico and Dahlgren (where the largest focus of members are) and utilizing the ICEAA

webmeeting capability for some of the presentations.

The Pro Tem Board of the Central Virginia Chapter is:

- President **Tucker Moore**
- Vice President **Patrick McGarrity**
- Treasurer **Brad Ellis**
- Secretary **Elizabeth Evans**

Also at the 2012 Conference David Holm inquired about reinstating the Detroit Chapter. The chapter is targeting cost professionals from the government (USA TACOM), Automotive, Academia, and consulting firms in the Detroit Area (Wayne, Oakland, Macomb, Livingston, Monroe, Lenawee, St. Clair, Genesee, and Washtenaw Counties). In January 2013, the chapter had 19 members with an additional 24 individuals either interested or very interested in becoming members.

The Pro Tem Board of the Detroit Chapter is:

- President **David Holm**
- Vice-President **Dan Germony**
- Secretary **Jennifer Lowe**

Committee Members include: Membership – **Sandra Jimenez** and **DeJuan Hair**; Certification Training – **Dan Germony**, **Teresa Kleinberg**, and **Sandra Jimenez**.

Please join me in welcoming these new chapters into ICEAA.

The ICEAA Chaptering & Membership Committee has also been very active, and is off to a good start. The purpose of the committee is to help enrich the member experience by assisting new chapters, chapters whose membership is declining, chapters that need help with programs, and chapters planning workshops, as well as identifying potential new chapters with points of contact. As the year progresses the membership of the committee will be expanded to include Membership Chairs from the chapters, in order to provide each chapter a direct line of communication to the committee.

The committee members are: **Steve Sterk**, **Tom Sanders**, **Ellie Bassett**, **Roger Clark**, **Eric Druker**, **Andy Nicholls**, **Andrew Drennon**, **Michael Thompson**, **Andy Prince**, and **Paul Marston**.

Please feel free to contact any of the committee members with ideas. ■

WANTED

CCEA EXAMINATION TEST QUESTIONS

1 Topic Category: Parametric Estimating: CER **2** Topic: CER **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:

- a. \$1,193.57
- b. \$1,193,565
- c. \$1,797.10
- d. \$1,797,100
- e. \$208,850

4 5 multiple choice responses

ANSWER: B **5** The Answer

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 **6** The Solution

REWARD

Re-Certification Points for Questions Fully Documented as Above

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

The Value of Cost Estimating

IN A Fiscally Constrained Environment

By Lyle Davis

In the multi-billion dollar world of government defense acquisition programs, one area deserving of particular attention is the touch labor estimate. For the F-35 Lightning II program, touch labor estimates are used during negotiations for the various low rate initial production lots. The F-35 Lightning II program is currently in the System Development and Demonstration phase of the acquisition life cycle. Assembly of the F-35 occurs at the Lockheed Martin manufacturing plant in Fort Worth Texas. The F-35 is the Department of Defense's largest acquisition program and the program is developing not one, but three aircraft for three U.S. Services, eight international partner nations and two foreign military sales. The three variants of the F-35 include a conventional take-off and landing (CTOL) version for the Air Force, the short take-off and vertical landing (STOVL) version for the Marines, and the carrier variant (CV) for the Navy. The CTOL, STOVL, and CV variants create varying degrees of complexity for estimating and the touch labor estimates are in the millions of hours; making the choice of a cost technique to estimate touch labor that much more important.

Cost techniques give a cost estimate structure and serve as the foundational integrity of the cost estimate. The fidelity of the cost estimate is in part based on selecting the most appropriate cost technique, ensuring its output is appropriately interpreted for use of the cost estimate, and using data that is reliable and accurate. Another important aspect of putting an estimate together is clearly documenting not only the technique used in the estimate, but the process used to arrive at the end result. The process should be clear enough for an external estimator to repeat the documented steps and arrive at the same end result. Repeatability and traceability give credibility to the estimate, especially when reviewed by peers, and other government agencies.

Cost techniques or models built around different cost techniques are widely available in commercial software packages and are also modeled by individual government program offices. Different models are also used during different phases of the acquisition life cycle. For the F-35 program, which is currently estimating low rate initial productions (LRIP) lots, using actual data from previous LRIP's to estimate

Curve	T1	b
85%	15,000	(0.23)
75%	15,000	(0.42)

X	A (75% Curve)	A (85% Curve)
1	15,000	15,000
2	11,250	12,750
4	8,438	10,838
8	6,328	9,212
16	4,746	7,830
32	3,560	6,656
64	2,670	5,657
128	2,002	4,809

Figure 1: Learning Curve Data.
Inputs for the learning curve equation using an 85% and a 75% curve.

touch labor for future production lots is an excellent technique upon which to base the estimate. This method is known as extrapolation from actuals.

Extrapolation considers actual costs or hours on units already produced or currently in production to estimate future units in dollars or hours. Several variations of extrapolation are the use of averages, learning curves, or estimates at completion. The F-35 program office uses learning curves to estimate touch labor hours for lots currently in production and future lots. Learning curves assume a significant portion of the hours involved are associated with human involvement in the process. Assembly of the F-35 involves significant amounts of touch labor making efficiencies in learning a legitimate part of the touch labor estimate. Complexity of the manufacturing process serves as a gauge in regards to the available amount of learning that can take place. The more complex the manufacturing process is the more learning can occur. Other considerations when using learning curves include product design and manufacturing process changes.

Changes in product design or manufacturing processes must be carefully reviewed. One of the basic assumptions of learning curves hinges on learning taking place on similar designs and like processes. Any significant variations in design or process will impact the consistency of the estimate as compared to the past and the magnitude of the change may necessitate using a different estimating method altogether. In addition, using actual data can pose a potential risk in the estimate if the data has not been validated or normalized. Users of the data must ensure it is accurate, correct, and at the appropriate level of detail. Actuals provided by the contractor provide the basis of a cost estimate using extrapolation and therefore extra care should be taken to ensure their fidelity. Assured of the accuracy of the actual data an estimator can use the data and learning curves to estimate the cost of or touch labor hours for an individual unit.

When working with learning curves one can easily arrive at the individual cost for future units or hours by using the formula $Y=AX^b$; where Y equals the cost or number of hours for the Xth unit; A equals the theoretical first unit cost (T1); X equals the sequential unit number; and b reflects a constant decrease in the rate of cost or hour decrease from one unit to the next (B is equal to LN (slope or learning curve percentage/LN 2)). Figures 1 and 2 illustrate how this works.

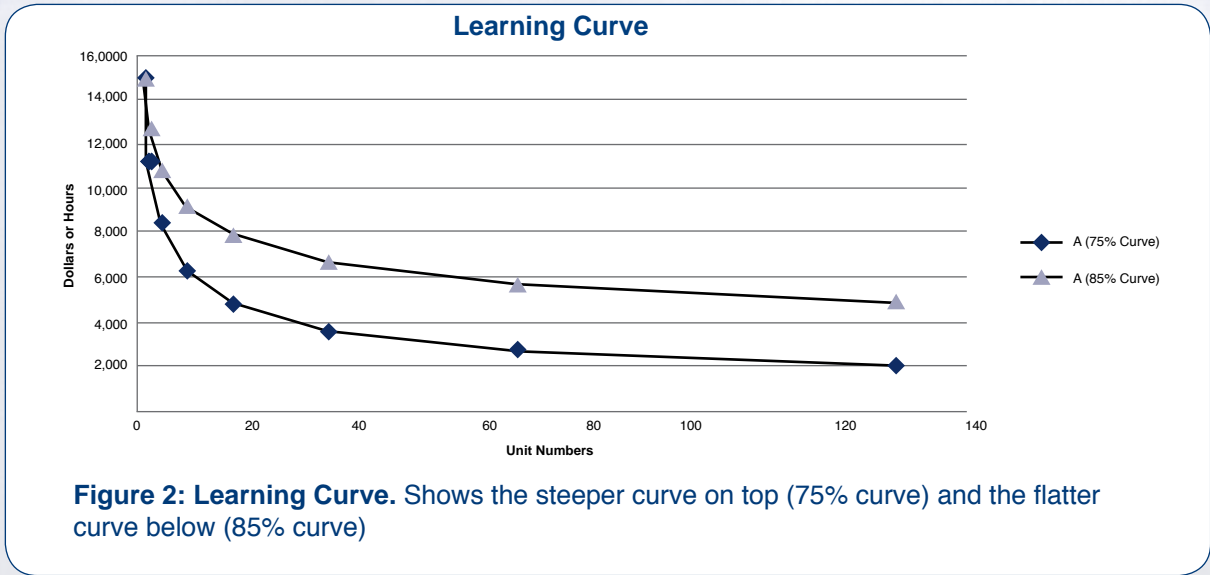


Figure 2: Learning Curve. Shows the steeper curve on top (75% curve) and the flatter curve below (85% curve)

Figure 1 shows the inputs for the learning curve equation using an 85% and a 75% curve. The T1 would be a theoretical value derived by the contractor from an engineering perspective. Column X shows the unit numbers doubling. Looking at the 128th unit and the corresponding values for the 75% and 85% curve, Figure 1 illustrates that the steeper the learning curve, the fewer the hours or dollars will be associated with it compared to a flatter curve. The data in Figure 1 is used to create the chart in Figure 2 which shows the steeper curve on top (75% curve) and the flatter curve below (85% curve). Lockheed Martin assembles the F-35 in four major sections. Figure 1 for the F-35 might only represent one section of the jet and each separate section would have its own T1's and learning curves associated with its section.

Contractors such as Lockheed Martin base their estimates for touch labor off of theoretical T1's derived from engineering estimates or for a contractor like Lockheed Martin off of past programs with similar design such as the F-22. On the government side of a program such as the F-35, currently in the Engineering, Manufacturing, and Design Phase, regressing actuals allows the estimator to calculate the T1 based off the actual data. An estimator can then project what the unit cost or hours would be into the future based off of the learning curve the regression produces. Visually, Figure 3 shows an example of this.

Figure 3 illustrates actuals ending around unit 31. From unit 31 on, the regression shows what the individual values for the units in the future would look like. At this point the estimator can use the learning curve equation from the regression to estimate what future units would be in hours or dollars. The estimate can then be used to support negotiations for future lot production runs and budgeting purposes.

Cost estimating will continue to get more and more visibility as defense budgets trend down. Budgets built around faulty estimates can create difficulties for services fighting for constrained budget dollars in the future. The ability to defend and articulate the cost estimate process with the appropriate technique and with accuracy will become even more valuable than it has been in the past.

Extrapolation from actuals in learning curve theory allows for a credible and accurate method to estimate touch labor hours for manufacturing where production is stable, data is accurate, and an environment for human learning exists. This technique uses actual data to predict future costs or hours for individuals units. It brings credibility and reliability. It has application to hours, material dollars and cost. It is also a recognized method for estimating across federal government

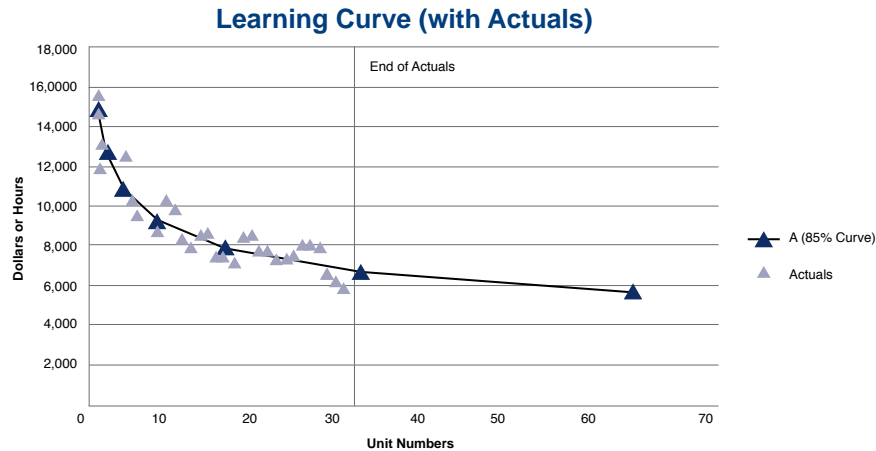


Figure 3: Regression of Actuals. Illustrates actuals ending around unit 31.

defense estimating agencies. An estimate should also be compared with other independent cost estimates to evaluate validity and accuracy. Making comparisons between estimates can reduce risk and minimize errors. Estimates should include documentation with logic, reasoning, and processes that allow for repeatability and traceability. Ad hoc models leave no standardization and repeatability can be near impossible. The F-35 program office has been working on touch labor models that allow for production rate effects, loss of learning, commonality adjustments, affordability initiative and outsourcing impacts, learning curve break points analysis, and estimating touch labor by hours or realization. The more accurate cost estimates become the better the budgets will become, and the better budgets become the more credibility the services will have with Congress and the American public. ■

Works Cited

- United States Government Accountability Office. "GAO Cost Estimating and Assessment Guide." 2009. GAO U.S. Government Accountability Office. September 2012.

Disclaimer: The views and opinions contained in this article do not represent any official statement from F-35 Lightning II government program office for any purpose, and are the views of the author only. The author claims no authority to represent the views for any government program office, including the Joint Strike Fighter. The data used to illustrate the graphs and other figures for this article contain no proprietary data from any government contractors and are for educational purposes only.

Author Biography

Lyle Davis is an Air Force production cost estimator for the F-35 Lightning II program, Crystal City, VA. His cost estimates support contracting in negotiations with Lockheed Martin, and Northrop Grumman and their subcontractors. He also has experience working in the Office of the Secretary of the Air Force for Financial Management and Comptroller (Budget). He has undergraduate degree from Kent State University and a graduate degree from Weber State University.

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Integrated Cost-Schedule Risk Analysis

By David T. Hulett, Ph.D., Hulett & Associates, LLC and
Michael R. Nosbisch, CCC, PSP, Project Time & Cost, Inc.

Summary

A variation of this paper was first published by AACE International and it defines a methodology for the integrated analysis of schedule and cost risk to estimate the appropriate level of cost and schedule contingency reserve on projects. The example used is for construction, but the concepts are applicable to any defined-length project, whether a ship, aircraft, or software development project.

The main contribution of this paper is to assess the impact of schedule risk on cost risk and hence on the need to hold cost contingency reserves. Additional benefits include the application of the Risk Drivers method of using risks to drive the Monte Carlo simulation of a resource-loaded CPM schedule. By using the risks we can prioritize the risks to cost, some of which are commonly thought of as risks to schedule, so that risk mitigation may be conducted in an effective way.

The methods presented are based on integrating the cost estimate with the project schedule by resource-loading and costing the schedule's activities. Using Monte Carlo techniques one can then simulate both time and cost simultaneously, permitting the impacts of schedule risk on cost risk to be calculated.

Introduction

This paper describes an improvement in cost risk analysis over the traditional methods that address cost risk without explicit reference or, indeed, any reference at all to the project schedule and its risk. We now know how to represent the role that schedule risk has in driving project cost, because the longer some resources such as engineering or construction work the more they cost. We can also identify the risks that cause overall cost (and schedule) objectives to be placed in jeopardy, so we can use the results to conduct a risk mitigation exercise to improve the project's prospects for success.

The platform of this cost risk analysis is a resource-loaded project schedule. One may use a summary schedule or a detailed project schedule. The budget is assigned to the activities using summary resources to insert the entire budget into the schedule at the activity level.

Monte Carlo simulation is the most commonly used approach to analyzing the impact of multiple risks on the overall project schedule or cost risk. Simulating a resource-loaded project schedule derives consistent results for project schedule and cost in each iteration.

Context

Corporate culture is important. The organization should be "risk-aware." Management sets this tone, must want to know the truth about the risks to the project, and must view the risk analysis as an important input to project success. Management must be seen to use the risk analysis results as they make key project decisions. Without this condition the analysis will fail, no matter how much sophisticated software and training the staff has had, because the risk data will not be high-quality.

Traditionally, schedule risk has not been a major factor in assessments of cost risk. More recently cost risk analyses have included attempts to represent uncertainty in time, but usually these analyses occurred outside of the framework of the project schedule.

Only recently have the tools been available to include a full analysis of the impact of schedule un-

certainty on the uncertainty in cost. The Monte Carlo tools first calculated labor cost proportional to the duration of activities. This was not a complete assessment of cost risk because it ignored other cost-type risks that are not related to schedule such as risks affecting the time-dependent resources' burn rate per day and the uncertainty in time-independent equipment or material cost.

The integrated cost-schedule risk analysis has several inputs, uses specialized Monte Carlo simulation tools, and produces several valuable outputs.

Inputs

The Cost Estimate:

The cost estimate is a basic input to the risk analysis. Since the risk analysis calculates the

management and other stakeholders.

The values of cost that will be assigned to the activities in the schedule are based on the resources that will be used to accomplish and manage the work and the daily rate of those resources. The cost of a project component may involve several assigned resources, some of which are time-dependent and others are time-independent:

- Time-dependent resources cost more the longer they are employed, e.g., construction, detailed engineering, heavy-lift barges and drilling rigs, equipment, project management team or procurement. These resources may cost more or less even if the activity duration is fixed since the burn rate per day may be variable.

- Time-independent resources such as procured equipment and raw materials, even sub-contracts (particularly before they are awarded) may cost more or less than the engineering estimate, but not because they take longer to produce and deliver.

In this paper we will use a simple project as an example. It is a construction project estimated to cost \$624 million over a 28-month period. The cost estimate is shown in Table 1.

Table 1 — Example Project Cost by Activity

Construction Project Cost without Contingency or Padding	
Activity	(\$ millions)
Approval Process	\$2.1
Environmental	\$5.4
Design	\$46.0
Procurement	\$210.8
Install Equipment	\$7.7
Construction	\$335.8
Integration and Test	\$16.5
Total Estimated Cost	\$624.2

probability of achieving the cost estimate and hence allows the organization to calculate the cost contingency reserve, the cost elements used as inputs need to be stated without contingency embedded in them. A good rule is to make the cost estimate, for each project element, the unbiased “most likely” estimate. Some estimators are uncomfortable about stripping the contingency amounts from the estimate, but the Monte Carlo simulation will re-estimate the contingency reserve that is appropriate for: (1) the risks to the specific project's cost plan, and (2) the desired level of certainty of the project

The CPM Schedule

The platform for the integrated cost-schedule risk analysis is a cost-loaded CPM schedule. To incorporate the schedule risk into the cost risk the schedule has to be taken into account directly and transparently.

For an integrated cost-schedule risk analysis (and for schedule risk analysis) a summary schedule that is integrated, includes representation of all the work, has activities properly linked with logic and includes enough detail to highlight the main project milestones may be used. Experience shows that schedules of 300

– 1,000 activities can be used in a risk analysis, even of projects as large as \$10 billion.

A detailed schedule may be used but it has several limitations:

- It is usually too difficult to identify and correct a detailed schedule with many activities and logical relationships for best practices;
- Applying resources to activities is more difficult for a detailed schedule than for a summary schedule, even if summary resources are used; and
- Simulation of the detailed schedule with risks attached is often time consuming.

The first task in the risk analysis of cost and schedule is to debug the schedule. The schedule needs to follow CPM scheduling recommended practices because it needs to calculate the milestone dates and critical paths correctly during Monte Carlo simulation. It should be noted that the scheduling requirements for schedule risk analysis and for high quality CPM schedules are the same.

The scheduling principles that are particularly important to the success of a Monte Carlo simulation include¹:

- All work needed to complete the project must be represented in the schedule, because: (1) we do not know what the critical path or risk critical path will be a priori, and (2) for integration of cost and schedule risk we need to be able to assign all the project cost to appropriate activities.
- The logic should not contain any open

ends, called “danglers.” This means that: (1) each activity except the first activity needs a predecessor to drive its start date, and (2) each activity except the final delivery needs a relationship from its finish date to a successor.

- The schedule should not rely on constraints to force activities to start or finish by certain dates. It should use logic for this purpose. Date constraints can turn a CPM network into a calendar.
- Lags and leads are appropriate only in limited circumstances and are generally to be avoided in project scheduling.
- The schedule used should be statused current schedule.

It is good scheduling practice to review the total float values to make sure they are reasonable. Large float values may indicate incomplete logic and, perhaps, the need to introduce and logically link additional activities.

Simple Construction Case Study

A simple schedule example of a 28-month construction project is shown in Figure 1.

Resources Loaded into the CPM Schedule

Loading resources into the CPM schedule for the purpose of integrated cost-schedule risk analysis can be accomplished using summary resources. Summary resources are not sufficiently detailed to perform resource leveling.

Figure 1 — Example Construction Project Schedule²



1. These points are consistent with those found in *GAO Cost Estimating and Assessment Guide*, US Government Accountability Office, March 2009 (GAO-09-3SP), pp. 218-224

2. This figure and several others shown below are screen shots from Primavera Risk Analysis, formerly Pertmaster Risk Expert, now owned by Oracle.

Table 2 — Resources for Example Construction Project

ID	Description	Type	Default Loading
COMM	Commissioning	Labor	Normal
CONS	Construction	Labor	Normal
ENG	Engineers	Labor	Normal
ENV	Environmental	Labor	Normal
MGT	Management	Labor	Normal
PMT	Project Management Team	Labor	Normal
PROC	Procurement	Materials	Spread

Their purpose is to get the entire budget into the project schedule. Simple categories of resources that can be given budgeted values and placed on the activities they work on are needed. Resources used on the simple construction project are shown in Table 2.

In addition, the resources need to be tagged as “labor-type” or time-dependent resources or “material-type” or time-independent resources, as mentioned above. An alternative method of applying resources to the schedule when the cost estimate is not specified down to the detail of the schedule activities is to apply resources to hammers that span the activities that get the resources.

Resources are applied to the schedule activities. Sometimes, in doing this, the cost estimate and schedule have evolved largely independently of one another and the cost estimates are not consistent with the activity durations. It is important that if the estimate and schedule are initially developed independently of one another, that they are recon-

ciled prior to holding the risk assessment, or else the implied “daily rates” of cost will be wrong.

The costs that result from placing the resources on the example project schedule are shown in Table 3.

The Risk Driver Method

Risk Data Inputs for the

Risk Driver Method:

Applying the first principles requires that the risk to the project cost and schedule is clearly and directly driven by identified and quantified risks. In this approach the risks from the Risk Register drive the simulation.

The Risk Driver Method differs from older, more traditional approaches wherein the activity durations and costs are given a 3-point estimate that results from the influence of potentially several risks, which cannot be individually distinguished and kept track of. Also, since some risks will affect several activities, we cannot capture the entire influence of a risk using traditional 3-point estimates of impact on specific activities.

Using the Risk Driver Method the risks that are chosen for the analysis are generally those that are assessed to be “high” and perhaps “moderate” risks from the Risk Register. Risks are usually strategic risks rather than detailed, technical risks. While the risk data are collect-

Table 3—Cost Example Construction Project Showing Resources

Cost Estimate by Resource and Activity (\$ thousands)								
Activity	PMT	MGT	ENV	ENG	PROC	CONS	COMM	Total
Approval	720	1,350						2,070
Environmental	900		4,500					5,400
Design	6,000			40,000				46,000
Procurement	10,800				200,000			210,800
Install Equipment	2,250					5,4000		7,650
Construction	13,800					322,000		335,800
Commissioning	1,500						15,000	16,500
Total	35,970	1,350	4,500	40,000	200,000	327,400	15,000	624,220

ed in interviews with project SMEs, new risks emerge and are analyzed. There may be perhaps 20 – 40 risks, even in the analysis of very large and complex projects. Risks to project schedule and cost include: (1) risk events that may or may not happen and (2) uncertainties that will happen but with uncertain impact.

Once the risks are identified from the risk register, certain risks data are collected:

- Probability of occurring with some measurable impact on activity durations and / or costs. In any iteration during the Monte Carlo simulation a risk will occur or not depending on its probability.
- The risk also has an impact on project activities if it does occur. This impact is specified as a range of possible impacts, stated in multiples of the activity's estimated duration and cost. If the risk does occur, the durations and costs of the activities in the schedule that the risk is assigned to will be multiplied by the multiplicative impact factor that is chosen from the impact range for that iteration.
- The risks are then assigned to the activities and resources they affect.

Collection of risk data relies on the processes of the risk identification and risk prioritization. It is important during risk data collection to be alert to possible biases that crop up during workshops. Some people want to influence the results, while others genuinely do not understand the concepts or have some cognitive bias that has to be overcome. One approach is to conduct risk interviews with individuals or small groups for which there is promised confidentiality to the participants so they can talk honestly and openly without fear that management will be displeased with them.

The degree of correlation between the activity durations has long been viewed as being important for understanding and estimating correctly project cost risk analysis. Correlation arises if one risk affects two (or more) activities' durations or if a risk affects the cost of two time-independent resources. If a risk occurs the degree to which their durations are longer and shorter together is called correlation. As we will see in the next installment of this article, the Risk Driver Method causes correlation be-

tween activity durations so we no longer have to estimate (guess) at the correlation coefficient between each pair of activities.

Probabilistic branching or existence risk requires another type of risk data, the probability that an activity and its cost will exist on this project. Some risks may cause activities to occur only if the risk occurs. Some risk events such as failure of a test or a commissioning activity, if they occur, may require new activities such as finding the root cause of the failure, determining the recovery plan, executing the recovery plan and retesting the article. These activities will all take time and increase project cost. They can be inserted in the schedule as probabilistic branches or existence activities with time and cost implications if they occur.

To Be Continued

The continuation of this paper in our Summer 2013 issue will open with a discussion of simulation using the Risk Drivers method. ■

Author Biographies

David Hulett, Ph.D., has been the President of Hulett & Associates, LLC in Los Angeles since 1990. H&A focuses on consulting and training in project schedule and cost risk analysis and on schedule assessment. His clients are international, multi-industry including government agencies. Dr. Hulett has written two books, *Practical Schedule Risk Analysis* (Gower 2009) and *Integrated Cost-Schedule Risk Analysis* (Gower 2011) as well as a Recommended Practice for AACE International. He has presented on risk analysis and scheduling topics at many professional conferences. He is active in the Risk and Earned Value Integration working group of NDIA and in PMI standards development (PMBOK, Practice Standards).

Michael R. Nosbisich, CCC, PSP, has over 24 years of experience in project management/controls within both the government and private sectors. In 2009, Michael joined a leading management consulting firm, SM&A, and was responsible for their successful EVM Compliance and Consulting practice. He currently is Managing Principal, Western Region, and EVM Practice Lead for Project Time & Cost, based in Long Beach, CA. Michael has been an active member of AACE International since 1999, earning numerous professional certifications as well as currently serving as Immediate Past President of the Association. In addition, he is an active member of NDIA's Program Management Systems Committee (PMSC). mike.nosbisich@ptcinc.com



ICEAA Professional Development & Training Workshop

By Mike Thompson and Brett Cayer, Conference Co-Chairs

The 2013 ICEAA Training Workshop, the first professional development and training workshop of ICEAA, will take place 18 – 21 June 2013 in New Orleans 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 currently planning on having 95 professional papers and 43 training sessions.

You'll be able to learn and network with colleagues and discuss current trends with industry experts. 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, or if you are just 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 professional papers address the following areas: Information Technology, Methods and Models, Parametrics, Risk, Life Cycle Cost, EVM, and Management. These professional papers enable you to meet the presenters, listen, and ask questions from authors that

are chronicling some of the hottest topics in the Cost Community. Those preparing to take the CCEA® exam can attend daily two-hour study sessions and work through sample problems with others.

The Training Workshop will also feature keynote speeches by government and industry leaders. This year our keynote speakers are Karen Richey, Assistant Director, Applied Research and Methods Team at GAO, and Kathleen Hedges, Senior VP, Corporate Director of Program Execution at SAIC, offering their insight regarding changes to the cost community during these budget-driven times.

The conference will open on Tuesday, June 18, 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. Peter Andrejev will give a presentation on the CCEA® certification program and be available to answer any questions. The exhibit hall will open Tuesday afternoon. Tuesday evening will feature the Attendee Reception in the exhibit hall where attendees can mingle, network, and enjoy appetizers featuring local New Orleans cuisine.

We're all looking forward to seeing you in New Orleans! See page 28 for a Workshop Registration form.

ICEAA Annual Awards

By Joe Hamaker, 2013 ICEAA Awards Committee Chair

It's time for us to give some careful thought about the annual awards to honor those who have contributed exceptional service to ICEAA, and the two heritage societies SCEA and ISPA, and those who have made technical or management contributions to our profession. Behind the scenes, the ICEAA Board of Direc-

tors and the Awards Committee have worked to define the new structure of ICEAA annual awards by merging and tailoring the heritage SCEA and ISPA awards. This will be the first year for ICEAA awards, and we encourage you to take the time to nominate deserving nominees.

The award nomination period is now open and will remain open up to April 18. After we have received all nominations, the ICEAA Awards committee, chaired by me, will carefully review all nominations and supporting justification and make the final selections based on the evidence that the nominee has met the criteria for the award. The award winners will be announced at the banquet during the New Orleans conference.

So I ask you, as a valued ICEAA member, to consider those with whom you have worked and take the time to nominate one or more of your fellow practitioners for an ICEAA annual award. The nomination form can be downloaded online at https://www.iceaaonline.org/awards/ICEAA_AnnualAwardsNominationForm.pdf.

The ICEAA award structure includes seven prestigious awards:

Award	General Requirements
Society Service Award	Uncommon and sustained volunteer service to joint society
Annual Achievement - Technical	Estimator making technical contributions to the profession
Annual Achievement – Management	Estimator making management contributions to the profession
Parametrician of the Year	Estimator with focus on parametric model building or estimating
Educator of the Year	Estimator making contributions to professional training
Lifetime Achievement Award	Lifetime accomplishments
Freiman Award	Lifetime accomplishments with focus on parametric cost analysis or estimating innovation

ICEAA Workshop Paper Listing

TRACK	AUTHOR	TITLE
EVM	Michael Nosbisch	The [Whole] Truth about ANSI-compliant EVMS
EVM	Peter Frederic	Estimating Cost To-Go Without Stable EVM Data
EVM	Robert R. Jones	Ship Construction Estimates at Completion (EACs) Using the Weibull Distribution
EVM	Justin Hornnback	Time is Money: Importance and Desired Attributes of Schedule Basis of Estimates
EVM	David Nelson	OSD PARCA EVM Data Requirements — Integrated Program Management Report
EVM	Sissy Gregg	Integrating Cost Estimation and Earned Value Management
EVM	Mark Infanti	Understanding Requirements for Earned Value Management flow down to Subcontractors
EVM	Kellie Scarbrough	Measuring and Managing Organizational Performance in the Government
EVM	Gordon Kranz	OSD PARCA EVM Data Requirements — WBS
EVM	Ben Netherland	The Use of Function Points in Earned Value Management for Software Development
EVM	James Ross	New Air Force Integrated Baseline Review Process
Life Cycle Cost	Kathryn Connor	New Approaches to Defense Inflation and Discounting
Life Cycle Cost	Daniel Mask	Lessons Learned from Joint STARS Analysis of Alternatives for Cost and Risk Analyses
Life Cycle Cost	James Linick	Large O&S Contract Construction and Analysis
Life Cycle Cost	Kevin King	The Dynamic Economic Model: Flexible approach to investment analysis with Analytica
Life Cycle Cost	Roberto Perez	The Forgotten Costs and Uncertainty Analysis within the DoD Acquisition Environment
Life Cycle Cost	David Brown	Life Cycle Cost Estimate (LCCE) Assessments
Management	Tom Sanders	Construction vs. Systems Acquisition Cost Estimating — A Comparative Analysis
Management	Niatika Griffin	The Joint Integrated Analysis Tool (JIAT): Making Data Sharing Easier
Management	Allison Moeller	ODNI Acquisition Strategy Study
Management	Eric Buller	Strategic Value of a Business Case Analysis
Management	Peter Braxton	Back to the Big Easy: Revisiting Hilbert's Problems for Cost Estimating
Management	Kevin Schutt	Net Present Value (NPV): The Basics and the Pitfalls
Management	Timothy Anderson	Fifteen Undeniable Truths About Project Cost Estimates, or Why You Need an Independent Cost Estimate
Management	Tolga Yalkin	Data-Driven Estimating at Concept Phase — Canada's Joint Support Ship Project Case Study
Management	David Eck	Supplier Cost/Price Analyses
Management	Sissy Gregg	NRO Experiences With the Implementation of Will Cost/Should Cost Management

ICEAA Professional Development & Training Workshop

TRACK	AUTHOR	TITLE
Methods/Models	Andrew Busick	Avoiding Pitfalls When Applying Learning to your Estimate
Methods/Models	Brandon Shepelak	Cost Effective Analysis: The Role of Discounting in Government Investing
Methods/Models	Brian Welsh	Learning Curve Analysis of Small Data Sets
Methods/Models	Jeremy Eden	Utilization of Visual Basic in Cost Estimating and Analysis Tools
Methods/Models	Matt Blocker	Key Aspects of Building an Analysis Schedule
Methods/Models	Lisa Hackbarth	A Novel Non-Recurring Production CER Methodology
Methods/Models	Arlene Minkiewicz	Data Collection and Analysis Supporting Defendable Cost Estimates
Methods/Models	Daniel Harper	Using Knowledge Management to gather FACTS: Factors, Analogies, CERs & Techniques/Studies
Methods/Models	James Linick	Aircraft Operation — Cost Model Improvement Tasker
Methods/Models	James York	Use of Commodity Specific Price Indices
Methods/Models	Thomas Brooks	Implementing a Data Collection Tool to Estimate and Analyze Spending
Methods/Models	Eric Hong	Cost Estimating Tips: Learn Tricks in Excel and Best Practices
Methods/Models	John Ko	The Dashboard Tool: Taking Cost Analysis to the Next Level By Combining Costs with Capabilities to Evaluate COAs
Methods/Models	John Ko	Realizing the True Cost of Energy — Keeping the DoD Green
Methods/Models	Robert Nehring	Galaxy Charts: Depict and Color Your WBS in a Meaningful Way
Methods/Models	Walt Cooper	Computing Fully Burdened Costs of Energy - Fuel (FBCE-F)
Methods/Models	Robert Georgi	Estimating Alternatives for Joint Future Theater Lift (JFTL)
Methods/Models	Rick Garcia	Expenditure Phasing Analysis of Terrestrial Radar Systems
Methods/Models	Marc Russo	Improving Cost Estimates in a Medical Acquisition Environment
Methods/Models	Leon Halstead	Incorporation of Program Priorities in Funding-Constrained Environments
Methods/Models	Robert Stoddard	Quantifying Uncertainty in Early Lifecycle Cost Estimation (QUELCE)
Methods/Models	Steven Ikeler	Sensitivity Analysis in Cost-Benefits Analysis
Methods/Models	Peter Frederic	Probabilistic Technology Investment Ranking System
Methods/Models	Aidan Depetro	Rapid Generation and Optimization of Ship Compartment Configuration Based on LCC and Operation Effectiveness
Methods/Models	F. Gurney Thompson	Data-Driven Estimating—Quantifying Electronics Complexity Using Public Data
Methods/Models	Dan Galorath	Affordability Analysis: The Role of Process, Cost and ROI Modeling In Improved Program Performance
Methods/Models	Michael Butterworth	Applying Cost Analysis to the DoDAF
Parametrics	David Bloom	Adding Process Tailoring to Product Size for Better Cost Estimation
Parametrics	Caleb Fleming	Evaluating Cost Relationships with Nonparametric Statistics
Parametrics	Shu-Ping Hu	Fit, Rather than Assume, a CER Error Distribution
Parametrics	Sung Jin Kang	Developing a Military Aircraft Cost Estimating Model in Korea
Parametrics	David Wang	Improving Program Affordability Through the Application of Data Analytics
Parametrics	Michael Yeager	Touch Labor Estimate Modeling
Parametrics	Juan Cardenas	Validation of Parametric Models

TRACK	AUTHOR	TITLE
Parametrics	Andy Nicholls	Managing a Portfolio of Future Projects
Parametrics	Evin Stump	On General Purpose Model Credibility
Risk 1	Rafael Hartke	Benefits of Integrating Schedule and Cost Risk Analysis
Risk 1	Brian Flynn	Modeling the Risk and Uncertainty of Inflation Rate Projections
Risk 1	Darren Elliot	Probabilistic Mass Growth Uncertainties
Risk 1	Eric Druker	Decyphering JCL: How to use the JCL Scatterplot and Isocurves
Risk 1	James Johnson	Understanding the Results of an Integrated Cost/Schedule Risk Analysis
Risk 1	Peter Frederic	Top-level Schedule Distribution Models
Risk 1	Justin Hornback	Analysis Schedules: Understanding the Impact of Detailed/Summary Schedules for Analysis
Risk 1	Erik Burgess	Cost of Mission Assurance for Space Programs
Risk 2	Peter Braxton	Base Realignment and Closure (BRAC) Savings and Acquisition Risk
Risk 2	Steven Ikeler	Correlation Matrices Revisited
Risk 2	Duncan Thomas	NCCA Cost Schedule Risk and Uncertainty Handbook
Risk 2	Bohdan Kaluzny	Cost Contingency Analysis using Polytopes
Risk 2	David Hulett	Use of the Risk Driver Method in Monte Carlo Simulation of a Project Schedule
Risk 2	Christian Smart	Robust Default Correlation for Cost Risk Analysis
Risk 2	Marc Greenberg	A Step-Wise Approach to Elicit Triangular Distributions
Information Technology (IT)	Charles Gu	The Effect of the New Defense Business System Policy on Cost Estimating, Tools, and Funding
IT	Chris Kaldes	Capacity Cost Model: Balancing the Demand for Software Changes Against the Supply of Resources
IT	Corinne Wallshein	Software Maintenance: Recommendations for Estimating and Data Collection
IT	David Seaver	Cloud Survival Kit: How to estimate and measure “the Cloud” and make COCOMO II “Cloud Enabled”
IT	Wilson Rosa	Domain-Driven Software Cost, Schedule, and Phase Distribution Models
IT	Blaze Smallwood	Estimating Software Development Costs for “Agile” Development Projects
IT	Ryan Timm	Software Maintenance Cost Estimating Relationship Development for Space Systems
IT	Jennifer Manring	Cloud Computing Starter Kit: Cost and Business Case Considerations
IT	H.S. van Heeringen	The COSMIC Functional Size Measurement Method
IT	H.S. van Heeringen	Estimating Real-Time Software Projects With the COSMIC Functional Size Measurement Method and the ISBSG Repository
IT	Cynthia O’Brien	Developing A Business Case for Cloud
IT	Kevin Cincotta	Software Growth
IT	Valerie Reinert	Methods to Analyze Services Portfolio Cost Drivers and Efficiencies
IT	Arlene Minkiewicz	Cloud Computing and Big Data Analysis — What’s the Big Deal?

To see other titles being presented at the Workshop, including Training Sessions and Informational (Cost Insight) Sessions, visit https://iceaaonline.org/events/conference/2013/2013_Program.pdf

REGISTRATION FORM

REGISTRATION FEE

ICEAA Members:
\$765 for military and
gov't. \$895 for non-
gov't.

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RESERVE YOUR HOTEL ROOM: For online reservations, go to www.iceaaonline.org/events/conference/2013splash.cfm and click on "General Information". The Conference rate of \$182 per night is only available for a contracted room block. Rate availability expires when block sells out.

Money Changes Hands... A Good Book Changes Minds

Book Review by Lt Col David Peeler

To a certain extent, our work as financial analysts and estimators is derivative of the advent, ascent, and advancement of money. Therefore, an expertise in money and knowledge of its history is valuable in both professional and social settings.

In this tight, flowing history of money, not only does one see the invention and evolution of money as a form of exchange but also how money facilitates the rise of civilizations. In the *Ascent of Money*, Ferguson posits that, “financial innovation has been an indispensable factor in man’s advance from wretched subsistence to the giddy heights of material prosperity that so many people know today.” In support of this notion, he puts money in the context of society, ranging from Inca mechanisms of exchange to the bond markets that aided the defeat of Napoleon Bonaparte to the rise Chimerica (his term for China being the United States’ banker), and the causes and consequences of the, so called, Great Recession(s).

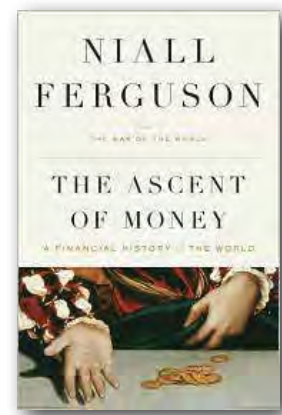
For the mathematicians out there (or any who remember the Fibonacci Sequence from math class), you might be intrigued by how Leonardo Fibonacci changed commercial business in Thirteenth Century Europe and set the stage for easy financial calculation and book-keeping. Those with financier interest will note that the book is replete with the influence of the Rothchilds. The hard-core economist will recognize the influences of Friedrich Hayak and Joseph Schumpeter. Each are woven into the fabric of this financial history with enriching detailed storytelling that is characteristic of Ferguson.

To understand the complexities of modern financial institutions, terminology, and market instruments, one needs to understand origins and contexts. After a concise introduction, the first five chapters sequentially introduce key components of the modern financial system. Chapter one addresses the rise of money and credit, and the formation of banks. Interwoven are usury, Shakespeare, the Medici family, and Adam Smith. In chapter two, we see the arrival of the bond market in the context of war and the need to pay for it; then, the rise of the *rentier* state – the Southern Confederacy, hyperinflationary Germany, and Keynesian justified nanny state – and the resurrection of the bondholder via technological innovation and production relocation. The chapter concludes addressing the possible resurgence of the rentier. The stock market is the topic of chapter three, where the repetition of five stages has cycled since the first shares traded 400 years ago. Ferguson distills the pattern into economic displacement, euphoria, bubbles, distress, and revulsion.

Risk is the subject of chapter four, as the reader acquires an understanding of insurance. The topic includes the contribution of mathematicians in the evolution/evaluation of risk along with intellectual innovations that created six breakthroughs: probability, life expectancy, certainty, normality, utility, and inference. The chapter closes with a discussion of hedged and unhedged bets. Further developing the notion of risk mitigation, chapter five introduces the property market. Covering home ownership from its birth in aristocracy, through the private property axiom in the development of democracy, to *It’s A Wonderful Life* and eventually the current results of market distortion via politics.

Chapter six introduces Ferguson’s notion of Chimerica; but first Ferguson expounds on the impact of financials on the march of history. He presents the influence of Victorian institutions, Cold War economic hit men, and some of the implications of China as banker. In a short afterword addressing “The Descent of Money,” the Austrian School of economics is prevalent vis-à-vis other theories of economics.

This book provides a manageable read, bridging the history of money and monetary markets. I highly recommend this book to anyone interested in learning more about the historical and contemporary aspects of what Charles Dickens dubbed “our mutual friend” – money. The book is invaluable in understanding the evolution of money and its place in history.



**the Ascent of Money:
A Financial History of the
World**

By Niall Ferguson

**REVIEW
BOOK**

Lt Col Peeler currently serves in the Air Force’s Budget Investments directorate in the Pentagon. His most recent master’s degree is in Strategic Studies from the Army War College. Peeler is a Certified Cost Estimator/Analyst and an Air Force certified acquisition professional in both financial and program management.

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European Report

by Rene Berghuijs

Through our affiliation with the Dutch Association of Cost Engineers (DACE) comes an opportunity to publish

and present on “Design to

Cost.” DACE publishes the *Cost and Value* magazine and the Fall 2013 issue will be dedicated to Design to Cost. If you want to write an article for this magazine, please send an e-mail to: arno.rol@movares.nl. The deadline for the articles is June 3rd. On September 19th there will be an afternoon of presentations at the DACE meeting on the same subject. If you want to come over and present, please indicate that.

The 2012 International Conference was held in Brussels, Belgium, and while 2016 is a long way away, it’s time to start thinking about potential locations. Some European options to consider include: 1) Dublin, Ireland. Dublin is probably as close to the USA as one can get. It’s a wonderful city with lots of

attractions (like the Guinness museum) and it boasts U2 as its “local band.” 2) Dubrovnik, Croatia. Croatia will be joining EU in July this year. Dubrovnik is a wonderful place, on the deep blue Adriatic Sea. Walking the old city wall is a lot of fun. 3) Lisbon, Portugal. People who’ve been there consider Lisbon one of the nicest places in Europe, and a popular conference destination. The city is on the Tagus river; it is relatively small but with a good transportation system stemming from World Fair times. Go to a Fado concert and you will never forget the experience. 4) Madrid, Spain. Not the cheapest destination, but what an experience it is to have a late night dinner out on the streets of Madrid. Whether it is culture or soccer that you are interested in, Madrid has it all. There are many potential locations for an international workshop, and the membership will be kept up-to-date as decisions are made.

DACE has invited us to present a two-hour training on parametrics for their certification program. Hervé Joumier who is head of costing from the European Space Agency, has offered his support for this training. ■

Parametric Special Interest Group

by Greg Kiviat

A key objective in creating ICEAA from the ISPA and SCEA merger was to provide our membership wider access to standards, training and networking, and enhancing opportunities for more in-depth activities and information within subdivisions of the general cost profession. The members of the integration committee openly discussed the need for Special Interest Groups (SIGs) to provide such opportunities.

The first SIG that has been suggested is, logically enough, that of the parametric cost estimating community. Several ICEAA members interested in a Parametrics SIG have met to discuss purpose, mission statement, and organization, as well as how SIGs will be chartered and managed by ICEAA. Since the Parametrics SIG is still in the early planning stages, and the ICEAA Pro Tem Board is focused on the integration of the legacy societies, much of the work necessary to make SIGs a reality will fall upon the first fully elected ICEAA Board.

Once the new ICEAA Board has been elected and is

in place, a steering committee can be formed to address the issues associated with establishing a Parametrics SIG, and to define the process for establishing other SIGs. Should other communities of interest be forthcoming, such as for earned value, software estimating, or hardware production estimating, the process can be repeated for those groups.

The steering committee process can be used for benchmarking other organizations and to determine how such communities of interest should operate within the overall ICEAA organization. Suggestions might include developing a charter for each SIG, organizing periodic working meetings, and establishing special conference tracks based on that functional community.

Once the “organizational” issues are resolved, the Parametric SIG, as the prototype effort, will work to set a proper pathway for other SIGs that may follow. In the future, we will invite participation by the general membership and solicit you to contribute to the first ICEAA Special Interest Group. ■

SCAF Case Study Workshop

In the United Kingdom there is an organization with many parallels to ICEAA, known as the Society for Cost Analysis and Forecasting (SCAF). This group has long worked in concert with the prior ISPA organization on utilizing modeling for cost estimates and analysis. Now that ISPA and SCEA have become ICEAA, we have prevailed upon SCAF to continue their relationship, and to participate in the activities and programs of ICEAA. As such, they will be regular contributors to this magazine, and we will present their reports and activities much as if they were a European adjunct to ICEAA. SCAF will hold a national workshop in April, at which they will continue a long-running competition involving teams of estimators. Some details of that competition are presented in this article submitted by Dale Shermon, a senior cost consultant to the UK MoD (Ministry of Defense), and Chairman of SCAF.

– Joe Wagner, ICEAA World Editor

By Dale Shermon

At the 23rd April 2013 SCAF Workshop to be held at MOD Abbey Wood, the SCAF committee will run participative training in cost estimating by continuing the previously successful format of the SCAF Challenges.

The purpose of this workshop is to provide training in cost estimating for professional estimating teams from academia, industry, tool vendors and consulting, with the added benefit of top-level critique by senior government and industry executives. This program will be instructive, entertaining, and suitable for a wide interest audience (estimators as well as managers). The process involves the teams being provided with an identical case study (Challenge), discussing and working through the case, and then presenting the results to a judging committee.

Background

With the current period of austerity foremost in the minds of the defence community, making the correct decision between capability options has become even more important. Defence chiefs are requiring more evidence to enable them to make a selection between different procurement strategies and equipments. For this reason the role of the economic analysis (EA) has become important in supporting the selection process. Following is the Challenge to be presented to the competing teams.

The Challenge (Problem)

You are a Cost Engineer at the start of your career with a mortgage on a 2 bedroom house and a stable salary. Your partner tells you the good news that you are going to have twin babies. You quickly realise that the property that you have will not be large enough and you have a financial decision to make in the near future.

There is sufficient land around your current property to build an extension which will accommodate another bedroom or you could move to a three bedroom house?

Having recently conducted an economic analysis at work for the ministry of defence you realise that you

should conduct an investment appraisal to ensure that you make the correct decision for your new family.

Using the technical and price data in the annex of this case study brief, the objective is to prepare a cost estimate for these two options and then conduct an economic analysis:

- Build an extension to your current house, or
- Move to a larger home.
- Any alternative viable option.

The study output should cover:

- approaches to data gathering
- data normalisation
- data analysis
- presentation of any cost model
- the effects of uncertainty in the data on the cost model
- sensitivity analysis of the results

The objective is not so much to prepare accurate and realistic estimates, but to describe the approach to this task and how the task has been conducted. Team members should not disclose proprietary information, but they may use and display public domain models or even invent some models for the purpose of the exercise.

Assessment

During the April 2013 workshop, the teams will each present their solution to this estimating challenge. The presentation and case study will be reviewed by a Senior Review Panel.

The Senior Review Panel will review each oral presentation, ask questions for clarification, and compile an overview for the general conference audience in the final session of the workshop. The critique will focus on methodology, processes, presentation style and some lessons learned for others to emulate and not on the accuracy of the cost estimate.

A discussion of the results of the study may be provided in upcoming issues of *ICEAA World* magazine. ■

Hampton Roads Chapter News

by **Paul Gvoth, Chapter President**

The HRC installed its first Board of Directors under the new ICEAA banner. The HRC BoD is:

- **Paul Gvoth**, President, Cask, LLC
- **Jon Kilgore**, Vice President, Galorath
- **John Bates**, Secretary, Booz Allen
- **Nani Tosoc**, Treasurer, NASA
- **Rey Carpio**, Outreach Officer, Tecolote
- **Eric Personne**, Communications Officer, Booz Allen

The theme for this year's board action is Engagement. Our goal this year is to increase the frequency of contact with our Hampton Roads members and boost participation in chapter events as well as organize workshops and training to support certification. We will be asking our members for more information on how we may best serve them and the cost estimating communi-

ty. The HRC membership survey process will be refined by exploiting some of the new internet-based tools used to minimize respondent workload and be more effective in collecting member data.

Also, looking outside the chapter we are stepping up efforts to reach out to other professional organizations such as the Association of Government Accountants (AGA) and the American Society of Military Comptrollers (ASMC) to cross-market events and activities of mutual interest. Many of these organizations have robust programs and a long active history here in Hampton Roads. Our aim is to broaden our scope of available resources and introduce other professionals to the ideas found in the practice of cost estimating and parametric analysis. The AGA chapter that covers our area has agreed to promote our events to their membership and we will promote theirs to ours.

We are looking forward to a great year and hope to report our progress in the next issue. ■

St. Louis Chapter News

by **Mike Brozyna, Chapter President**

The St. Louis Chapter would like to thank **Susan Hatcher** for her years of dedicated service to the SCEA/ICEAA community. Susan served the chapter as President for 7 years from 2000-2007 and continued to serve as Treasurer through 2012. Susan's leadership promoted the purpose of SCEA to improve cost estimating and analysis in government and industry and

enhance the professional competence and achievements of its members through the numerous activities she planned. She exemplified SCEA's purpose with her personal efforts to ensure program quality. Susan's leadership expanded the chapter membership and attendance at activities beyond Boeing, including participation from DRS-SSI, Northrop TASC, AT&T, Coca-Cola Enterprises, MCR, Air Force, Army DCMA and DCAA. This enhanced the understanding and appreciation of cost estimating, analysis and related disciplines throughout the general public. Susan truly fostered the professional growth of our members. We are glad she will remain active in our chapter.

This brings me to a larger issue. With limited travel and training dollars in the DoD and reduced support from corporations, our chapter is suffering a decline in membership. We are trying to get teleconferences scheduled with other chapters so our membership can get some additional training opportunities. We just did one with the Alabama Chapter in February. This may be the way of the near future. We wish to be included any event we can remotely access.

At left, you can see a picture of some chapter members from our Fall 2013 outing at the Trainwreck Saloon. ■



(L to R) Bill Lueker, Jill Conlon, Mark Schankman and Parl Hummel all posing with the Sainted Giant Grouper (the Chapter mascot).

Central Virginia Chapter News

by **Tucker Moore, Chapter President**

On February 28, 2013, the Central Virginia Chapter of ICEAA was officially established with a unanimous vote by the Board of Directors. The intent of creating this chapter was to serve the population of cost estimators and analysts in the cities of Stafford/Quantico, Dahlgren, Richmond, Fredericksburg, and Charlottesville, Virginia. Our chapter currently consists of 20 members and we have a lot of room for growth given the density of cost analysts within this region. We are currently planning two kick-off events for Spring 2013: one will be held in the Dahlgren, Virginia area and the other will be held in Stafford or on Quantico Marine Corps Base. We welcome any current or potential members to join these events to meet the Chapter Board of Directors,

learn about our mission, and see the variety of chapter events that we are scheduling for the remaining year. The Central Virginia Chapter plans to host luncheon presentations and will be planning more extensive training sessions throughout the year. The current chapter board is:

President – **Tucker Moore**

Vice President – **Patrick McGarrity**

Treasurer – **Brad Ellis**

Secretary – **Elizabeth Evans**

Chapter / Membership Chair – **Daniel Mask**

If you are interested in joining our chapter, presenting at one of our planned luncheon briefs, or have any questions regarding our new chapter, please contact **Tucker Moore** at Tucker.Moore@tasc.com. We look forward to meeting our new members! ■

Canberra, Australia Chapter News

by **Andrew Nicholls, Chapter President**

The Canberra chapter continues to work to grow our network and make our chapter relevant to its members. Key activities in the recent past have included:

- Beginning to implement our strategy of Building awareness,
- Building Up (our members), and
- Building In (new members).

Building Awareness:

This effort consists of:

- Presentations given by Chapter members at Defence Cost Estimation Conference, which featured local and international presenters, and advertising at Defence Conference.
- Local members working in other cities to promote chapter growth.

Building Up:

- We're working to improve knowledge management/access within the local costing community, and examining use of online learning and knowledge management.

- We're examining areas of common interests with other like-minded societies to better leverage people's time and skills.

Building In:

- We plan to maintain focus on short welcoming meetings in pleasant environments.
- We're encouraging chapter members to bring along other interested parties.

Specific Events:

We're hosting presentations on:

- Costing related to multibillion dollar high speed rail project, and on data management challenges, where multiple organisations are inputting and relying on single source of data for economic analysis, costs analysis, options analysis, etc.
- Examination of alternative costing techniques for new submarine program in Australia and understanding data normalisation issues associated with complex projects delivered over many years.
- Quantity surveyor history, growth of the profession and cost estimation methods employed. ■

Greater Dayton Chapter News

Bowl for Kids' Sake

by *Eric Nardi, Chapter President*

The Greater Dayton Chapter would like to thank everyone who donated and participated in the 2012 Big Brothers Big Sisters Bowl for Kids Sake event. This year was a huge success for the chapter. In total, we raised \$1,795 between the four teams who came out to bowl! In addition, the chapter sponsored \$500 for the event, putting our total chapter contribution at \$2,295! We are very proud and thankful for the support we were able to provide to Big Brothers Big Sisters of the Greater Miami Valley. Again, many thanks to all who participated and to the bowlers for giving their time and support. We are looking forward to another successful event in 2013.

The following is a list of each team's participants.

- **Jeff Hoefler, Ron Vorhis, John Allen, Paul Schaeffer, Rich Williams**
- **Dustin McGlothen, Aaron McGlothen, Damian Gainer, Darius Gainer, Sarah Herzer, Jenna Herzer**
- **Earl Kessinger, Nancy Kessinger, Don Sorrells, Dona Reifenberg**
- **Eric Nardi, Megan Nardi, Jon Bell, Justin Bell**

Adopt-A-Family

by *Thomas Woltman*

In December 2012, the Greater Dayton Chapter of the International Cost Estimating and Analysis Association (ICEAA) participated in an Adopt-A-Family charity. ICEAA teamed up with Epiphany Lutheran Church to find a family with four children — two daughters (14 and 8) and two boys (12 and 10). Thanks to the generosity of the ICEAA membership and their families, we were able to supply two very large bags of wrapped gifts, which included clothing and toys to each of the children. The church was able to provide bags of food and household supplies for the entire family. Together, we were able to provide needed items to make it a truly Merry Christmas for this family.

ATK Plant Tour

by *Sarah Herzer, Chapter Secretary*

The Dayton Chapter of ICEAA (SCEA) visited ATK Military Systems on Wednesday, October 31, 2012. Our chapter participants were given a tour of the 125,000 square foot facility located in Beavercreek Ohio by their Vice President, **Michael Pekar**. The facility is dedicated to the design, fabrication, and performance verification of antenna, radomes and composite structures. Our tour included the machine shop, quality assurance laboratory, composites laboratory, shipping/receiving, ovens/autoclaves, and performance verification laboratories. Also included in our tour was their high demand, state-of-the-art facility that tests and measures radar cross sections...quite impressive!

The tour of the ATK facility was very interesting. If you missed it this year, we highly recommend you catch the tour next year when our Chapter sets up another visit.

AFIT Presentations

On 8 Feb 2013, the Dayton Chapter hosted a pizza lunch and The Air Force Institute of Technology (AFIT) cost students' theses presentations. Three prospective graduates presented their summarized theses to our Chapter fielding questions from our local cost community. Not only did we get to hear about these students' great analyses but the students got the chance to present in front of a large audience of their peers thus getting them ready to defend their theses later this month. Special thanks to **Lt Col Jonathan Ritschel**, AFIT Cost Director, for helping our Chapter set up this event. The following are the students who presented and their thesis topics:

Capt Gary Jones: Validation of O&S to LCC Ratio

Capt Shaun Carney: Coefficient of Variation in ACAT I Programs

Capt Eli Freeman: Identification of High Risk Programs

The Dayton Chapter of ICEAA wishes the best to these students as they begin their cost careers! Thanks so much! ■

Chapter Updates

Greater Alabama Chapter News

by **Theresa Brown, Chapter President**

The Greater Alabama Chapter is off to a great start in 2013. Currently, we have 101 members representing an array of organizations including DoD, NASA, DAU and a number of private companies. Of our members, 33 are certified.

Philanthropy and Community Service:

A goal of our chapter is to give back to the community. Our chapter has given donations to a number of organizations throughout the years. As a philanthropy project at our December meeting, we collected nonperishable and canned goods to donate to the Downtown Rescue Mission.

Luncheons and Training:

Our monthly meetings are educational. We have a variety of interesting and informative speakers throughout the year at our monthly luncheons. In addition to our monthly luncheons, we also had a Cost Workshop. The Greater Alabama Chapter was fortunate to have speakers from different organizations that presented topics on a variety of topics. These speakers and topics included: **Dr. Christian Smart** – MDA/DOC Cost Estimating and Analysis Handbook; **Dr. Wes Colley** of the University of Alabama, Huntsville – Poll Data Prediction Techniques; **Mr. Andy Prince** of NASA – The Human Space Flight Value Study,

Was the Space Shuttle a Good Deal?; **Dr. Brian Gillespie** of MDA – CSDR Reporting: Working with DCARC and **Ms. Crickett Petty** of MDA – Data Collection. Plans are underway to have a seminar during the month of April and this is in addition to our spring training sessions.

Training and Certification Preparation:

The Greater Alabama Chapter is fortunate to have a faculty of instructors who provide cost analysis training. These training classes are free of charge and open to the community, but the classes are designed for those individuals that are preparing to take the CCEA or PCEA examinations. Our training classes met on Monday night beginning February 11 and running through April 1 at the Wyle Facility in Huntsville, AL. Previously, the training sessions were broken into five sessions: Terminology and Concepts, Statistics and Economics, Managerial Accounting, Contracts, Learning Curve Analysis. This year three additional topics have been added to the curriculum. These topics are Inflation and Indices, Software and Risk. Almost 60 individuals registered for the initial training this year! Four of these individuals are out of state and call in to the classes. More extensive classes are offered to those individuals who plan to take the CCEA Exam during April.

Plans are also underway for an ICEAA Seminar in April. We are looking forward to another great year in the Greater Alabama Chapter!! ■

Central Florida Chapter News

by **Jim Roberts, Chapter President**

The Central Florida ICEAA Chapter currently has 47 members, with 16 holding CCEA® certifications. The Chapter holds meetings approximately every other month, with meeting locations alternating between the Orlando area and the FL Space Coast (region around Kennedy Space Center). In early 2012, the Central Florida Chapter elected its current slate of officers for a term of two years:

Jim Roberts (NASA/KSC), President

Joe Ruwe (MCR), Vice-President

Greg Seavers (USMC/CIV), Treasurer

Karen Rivaud (NASA/KSC), Secretary

Other Board Members: **Mike Euziere** (NASA/KSC), **Chris Hobbs** (MCR), **Terry Lambing** (NASA/KSC), **Tina McMillian** (USMC/CIV), and **Bill Shockley** (NASA/KSC)

Meetings/programs held by the Central FL Chapter during the last year included:

- April Meeting: Speaker – **Dr. Joe Hamaker** – on Optimism for the U.S. Economy and book review
- July Meeting: Speaker – **Frank Flett** – on New ICEAA certification and training plans, and how to improve our local chapters
- Oct. Meeting: Speaker – **Bill Haseltine** on the SCEA/ISPA merger and state of the national SCEA & ISPA organizations
- Dec. Event: Annual Christmas party – hosted by **Greg Seavers**

In addition, the Central Florida Chapter supported the SCEA/ISPA Annual Conference which was held in Orlando in June 2012 by providing several members to help with registration, assembling attendee materials and handouts, etc. ■

Washington Capital Area Chapter News

by **Mike Yanavitch, Chapter Secretary**

The chapter holds board meetings on the first Monday of each month from 12:00-1:00 PM. All are welcome to attend. Please contact a board member if you are interested in attending.

Annual Meeting

The Washington Capital Area Chapter held its annual meeting at the end of February. The chapter board provided an overview of the chapter's activities over the past year and noted upcoming activities. A special thank you goes out to **Mr. Rick Collins** of Technomics for serving as the keynote speaker. Mr. Collins presented a briefing on the ICEAA Strategic Outlook. The chapter also took the opportunity to recognize a few of our outstanding members through our awards program. The award winners were as follows:

- Leadership & Management: **Joseph Caico** – Technomics, Inc.
- Team Achievement: OSA DCARC Support Team – Technomics, Inc.
- Team members: **Emily Beltramo, Angela Camp, Robert Currie, John Claude Kassab, Kristen Wingrove, Cassandra Miller, Mike Metcalf, Cathy Ferguson, James Parnham, Sandi Enser, Rob Bailey, and Jeff Cherwonik**
- Technical Achievement: **Peter Meszaros** — TASC, Inc.
- Junior Analyst: **Michael Yanavitch** – TASC, Inc.
- Best Luncheon Presentation: **Steven Oxman** – United States Navy

Monthly Presentations

The chapter continues to offer a monthly speaker series featuring individuals who work in the Washington Metro area.

- September 2012: Galaxy Charts: A New, Innovative Way to View Your Entire WBS. Presented by **Robert Nehring** and **Kammy Mann** of Technomics, Inc.
- November 2012: NRO Program Assessments: Best Practices and Lessons Learned. Presented by **Linda Williams** of Wyle, Inc.
- December 2012: Software Cost Estimating for Incremental Development Programs. Presented by

Bob Hunt of Dulos, Inc.

- January 2013: Logistics Requirements Funding Summary Cost Estimating Tool – A Quick Cost Estimator for Logisticians. Presented by **Jeremy Eden, John Ko, and Charles Gu** of Booz Allen Hamilton
- February 2013: Capabilities Based Portfolio Analysis. Presented by **Brad Ellis** and **Paul Gvoth** of Cask, LLC.

Interested in Getting Involved?

Interested in attending or presenting at our monthly luncheons, attending our monthly Board Of Directors Meetings, or need more information on the Chapter? Check out our website at www.washingtoniceaa.com. ■

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Submit your project or research paper, new or old, for possible acceptance and inclusion in JCAP. Starting in May 2013, manuscripts can be submitted online for consideration. See

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

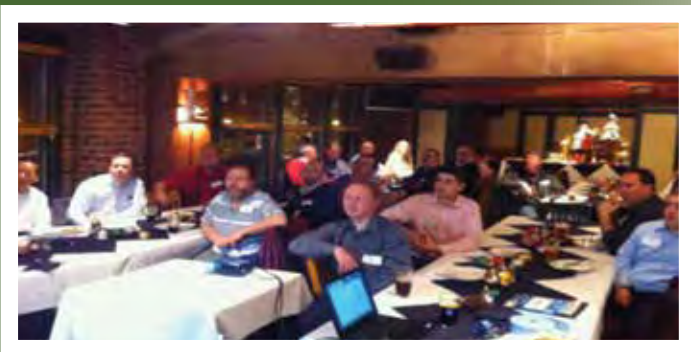




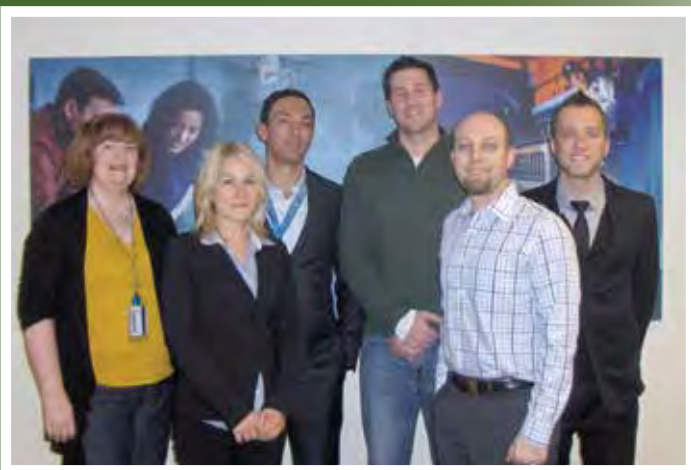
President Spencer Comert introducing guest speaker Rod Wheeler.



Previous president Mike Doherty and Education Chair Stacy Dean presenting progress.



NW Chapter members enjoying the evening.



New NW Chapter Officers (from left to right): Cheryl Wilson (Treasurer); Stacy Dean (Education Coordinator); Spencer Comert (President); Shawn Mahoney (Fundraising Coordinator); David Padineant (Secretary); Cristian Petrini (Vice President)

Northwest/Washington Chapter News

by Spencer Comert, Chapter President

Great Year for ICEAA Northwest Chapter

2012 was another great year for NW Chapter. First of all, thanks to the efforts of our officers, we experienced a 35% growth in membership, taking us to 207 members, making us the second largest chapter.

The growth in membership count in 2012 can also be attributed both to the quality and quantity of the opportunities NW Chapter offered to its members in 2012. These opportunities included two CEBok certification training sessions, two networking events, two catered main events with guest speakers and of course, fundraising events which help us fund some of these activities.

In addition to enjoying members-only meetings with guest speakers, NW Chapter members also had the opportunity to better prepare for the certification exams through the in-class training sessions and six new members became certified cost analysts as a result.

NW Chapter Yearend Event

ICEAA NW Chapter held its 2nd yearend event on December 20, 2012, at Pyramid Brewery in Seattle. With the participation of 30 members, the event started with members networking and enjoying various food and beverages. Following an update on NW Chapter's accomplishments in 2012 and the year ahead, the event hosted two great speakers.

Our first speaker **Jim Hayes**, Director of Boeing BCA Estimating & Pricing, talked about delivering the right answer to leadership, even when the pressure is high. Jim offered some of his recent experiences involving product development estimates.

After Jim's speech, **Rod Wheeler**, who held various executive leadership positions within

Boeing Company including Director of Estimating and later became the Director of Supplier Management Finance, gave his speech titled “Lessons Learned from my Career.” In his speech Rod shared examples that enhanced his career and built trust over time.

Following the speeches along with snacks and drinks, we ended the night with a small raffle, in which several NW Chapter members won prizes. As we did last year, this year’s year end event also received great feedback from our membership. Going forward, we are expecting our year end event at the Pyramid Brewery to turn into an ICEAA NW Chapter Tradition before the holidays.

New NW Chapter Officers on the Move!

In addition to the growth in membership, ICEAA NW Chapter also experienced a growing interest in volunteering to serve as a NW Chapter Officer. Following the conclusion of the 2013-2014 term Elections, by the time the *ICEAA World Magazine* is published in April, ICEAA NW Chapter Officers will be having their fourth monthly meeting. The prime focus of the officers at these monthly meetings is to plan and deliver another great year with training, networking and learning opportunities for the NW Chapter members.

At this first meeting, President **Spencer Comert** discussed the expectations with the NW Chapter Officers. The new officers reviewed the previous year’s accom-

plishments and current financial status of the chapter. The new officers also focused on setting goals for 2013. Each team member is energized to make progress on both administrative tasks and goals for 2013 in order to bring new networking and development opportunities to ICEAA NW Chapter members.

2013 Training & Education Opportunities

Every year, NW Chapter members who are certified through ICEAA volunteer to teach CEBoK modules to help other members better prepare for the Certification Exam. 2013 is no different! NW Chapter is proud to announce continuing training sessions twice in 2013 as follows:

Certification Preparation Course - 2013 Schedule

- Spring: Date: 3/04/13 – 5/06/13
Time: Mon/Wed; 4:00-6:30
Location: Everett Boeing Campus
Test Date: 6/1/13
- Fall: Date: 8/20/13 – 10/22/13
Time: Tue/Thurs; 4:00-6:30
Location: Boeing Field (Seattle)
Test Date: 11/23/13

For more, check with us in the next issues of the *ICEAA World Magazine*! The NW Chapter is looking forward to another great year! ■

Lone Star Chapter News

by **John Deem, Chapter President**

I am happy to announce the continued service of our local Board of Directors into the next two year term. That means, of course, that we have an action on the leadership development front.

President: **John Deem**

Vice President: **Keith Hill**

Treasurer: **Lisa Schmitz**

Secretary: **Nate Armstrong**

Past President: **Rex Potter**

In December 2012, we conducted our first virtual professional development workshop exploring some of our chapter focus areas including proposal manage-

ment, manufacturing and product support. This initial event will be followed by similar workshops in March, April and May accompanied by networking events in the DFW metroplex.

The Lone Star Chapter is comprised of members representing several companies and government agencies in the Dallas-Fort Worth area, but much of our membership consists of a couple of large companies including Lockheed Martin Aeronautics, Lockheed Martin Missiles & Fire Control and Bell Helicopter Textron. With the addition of the virtual forum we have been able to connect with members who are more geographically dispersed, and our reach will likely extend to other chapters as well. ■

Southern California Chapter News

by **Kurt Brunner and David Graham, Chapter Co-Presidents, and Quentin Redman, Chapter Vice President**

Our first ICEAA Southern California Chapter workshop was held on 12 December 2012 at The Aerospace Corporation in El Segundo, CA. Over 80 attendees from across the nation participated in the no cost, day long event. These forums have unfailingly 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.

We were fortunate enough to have as our keynote speaker **Mrs. Kathy Watern**, the acting Air Force Deputy Assistant Secretary for Cost and Economics who spoke about “The Importance of Cost Estimating in the Decision Making Process.” Her knowledgeable, insightful and witty briefing generated a great deal of discussion amongst the attendees.

The other presentations included:

- **Marilee Wheaton**, General Manager, The Aerospace Corporation, “Welcome to Aerospace”
- **Lorrie Davis**, The Aerospace Corporation, “Schedule Risk Analysis with the Aerospace QA-SAR Tool”
- **Mike Ross**, Tecolote Research, Award-Winning Paper from 2012 Brussels Conference, “Joining Effort and Duration in a Probabilistic Method for Predicting Software Cost and Schedule”
- **Dr. Roy Smoker**, MCR Technologies, Training Topic and Award-Winning Paper from 2012 Brussels Conference, “Use of EVM Trends to Find WBS Level 3 Completion Dates”
- **Don MacKenzie**, Consultant, Award-Winning Paper from 2012 Brussels Conference, “Influential Data Points in Regression Analysis”



Kurt Brunner



Quentin Redman

- **Ralph Smith**, Lockheed Martin Aeronautics, “Optimum Cost Assessment Tool Roadmap for Lean Design”

The Spring ICEAA Southern California workshop was equally successful and was sponsored by The Boeing Company on 27 February 2013 in El Segundo. Once again, attendees traveled from near and far, even internationally, to participate. Also, this workshop preceded the International Board meeting, also held at Boeing, so many ICEAA Board members were in attendance. Our keynote speaker, **Mr. Robert Forbes** from the University of California at Irvine (UCI) expounded on how optimism and our perceptions flavor our estimates, and **Paul Marston**, ICEAA Pro Tem Co-President gave the attendees insight into the organizations activities. The complete lineup of briefers and topics included:

- **Claire Leon**, Vice President, National Programs for Space and Intelligence Systems (S&IS), The Boeing Company, “Welcome to Boeing”
- Keynote Address: **Robert Forbes**, Institute for Mathematical Behavioral Sciences, University of California at Irvine, “Cognitive Forecasting”
- **Doug Howarth**, Founder and President, MEE LLC, “What about DAIV (Demand as Independent Variable)?”
- **Pierre Foussier**, Manager, 3F (Paris, France), “Using the Bootstrap or the Jackknife for Satisfying Gauss’ Constraints When Preparing A CER”
- **Kent Joris**, Chief Technology Officer, MEE LCC, “Regression Analysis” (Training Topic)
- **Quentin Redman**, Director – Solutions Architect, PRICE Systems LLC, “Weapon Design Tradeoffs: Using Life Cycle Costs”
- **Paul Marston**, ICEAA Pro Tem Co President “Current ICEAA Events”

The results of the Southern California ICEAA Chapter elections were announced at this workshop. A hearty welcome to the new officers, who are:

President: **Kurt Brunner**

Vice-President: **Quentin Redman**

Secretary: **Evelyn Davalos**

Treasurer: **Chris Hutchings**

Board Members **Tom Bosmans**
David Graham

Southern California Chapter News

Doug Howarth
Suzanne Lucas
Carlos Zerpa

Our ICEAA Southern California Chapter Pro Tem Board consisted of:

Co-Presidents/Secretaries: **Kurt Brunner** and
David Graham

Vice President: **Quentin Redman**

Treasurer: **Sam Toas**

Board Members: **Hank Apgar**
Doug Howarth
Chris Hutchings
Mike Ross
Stuart Swalgen

Our next chapter report will have more information about our Fall workshop of 2013, which will be sponsored by Lockheed Martin on Wednesday, 18 September, in El Segundo.

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. If you have questions about your chapter membership status, 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.

Our chapter workshop invitations are emailed to ICEAA members and past workshop attendees. Information is also posted on the ICEAA website at <https://www.iceaaonline.org/chapters/california-southern/index.cfm>. 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. Briefings from previous workshops are posted at the ICEAA Southern California Chapter webpage (see above link).

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 kbrunner@tecolote.com, or **Quentin**



(Top to bottom) Photos from December 2012 and February 2013 Workshops

Chapter Updates

Southern California Chapter News

Redman at quentin.redman@pricesystems.com.

The New Southern California ICEAA Chapter By-laws and constitution have been finalized. They are intended to be consistent with the very successful model we previously have implemented, with a focus 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 excellent news is that the Southern California Chapter of ICEAA will continue to offer workshops that will include a notable and diverse

group of extraordinary speakers, training sessions, cutting edge topics, and knowledgeable attendees that are fully entertained and engaged.

We would like to thank the ICEAA Southern California Pro Tem 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, and extend greetings to the new Board members. We hope to see you all soon again in the near future! We look forward to seeing you at the next workshop! ■

San Diego Chapter News

By Lauren Ramirez, Chapter President

The San Diego ICEAA chapter is looking forward to gathering together as we meet challenges facing the United States of America in this new season of shrinking budgets yet an ever-increasing threat. In February we hosted a joint seminar with NCMA and AGA and had a panel of speakers presenting on, “How to Pass an Estimating System Review”. It was great to not only hear their presentations and information, but gather together to hear other organizations’ challenges and network. ICEAA hosted Jami Levy from Northrop Grumman and her presentation focused on collaboration across organizations to raise the industry bar for developing estimates and better documenting Basis of Estimates. The other speakers were James Gallagher (McKenna & Long) and David Trotta (ViaSat).

We look forward to this spring, and hope to line up presenters and meetings that will focus on a wide spectrum of topics from case studies to expositions of the current trends in cost analysis. ■



Left to right: James Gallagher (AGA Speaker), Jami Levy (ICEAA Speaker), Dan Chalfant (NCMA Host), and David Trotta (NCMA Speaker).

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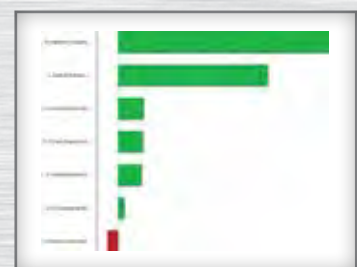
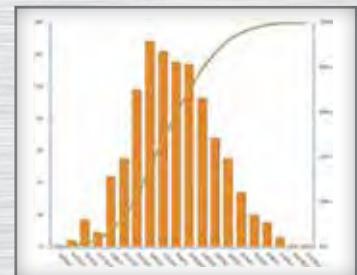
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