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# ICEAAWorld

The magazine for the International Cost Estimating and Analysis Association Issue #3 2014

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The magazine for the International Cost Estimating and Analysis Association

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ICEAAWorld

## President's Letter

by *Brian Glauser, ICEAA President*

**F**ellow ICEAA Members,  
Your Board of Directors held its fall meeting, hosted by The Boeing Company in Huntington Beach, CA on September 16. Some of the items covered at the meeting included:

- **2014 ICEAA Professional Development & Training Workshop Report:** **Rich Harwin** provided the final debrief for the 2014 Annual Conference held in Denver. Attendance exceeded expect-

tations and the vast majority of the feedback we received regarding the training, presentations and venue were positive.

- **2015 ICEAA Professional Development & Training Workshop:** **Mike Thompson** provided a briefing regarding next year's conference, which will be held in San Diego, CA June 9-12, 2015. The call for papers has gone out with abstracts due by December 1, 2014. I have every expectation that the program for training and presentations will again be world class.
- **ICEAA Website:** Work continues to expand the new website. The first phase of the new members-only section has been released, which will add additional value for the members.
- **ICEAA Advisory Panel:** The Board of Directors voted to approve a bylaws update to allow for an ICEAA Advisory Panel, with the purpose of providing input and guidance from senior government representatives. **Jason Dechoretz** has been in communication with several individuals, some of whom have expressed their willingness to serve in this capacity.

Chapters joint Workshop the day following the Board meeting, which was also hosted at Boeing. Thanks to **Rich Harwin** of Boeing for hosting both days. Once again, it was a well-organized, well-attended workshop with a full agenda of topical presentations. ICEAA's Chapters continue to fuel the Association and provide ongoing value to the membership. Please take the time to read about the many activities in the Chapter and Region updates section of this publication.

As you have seen, **Andy Prince** (NASA) graciously accepted the position to chair the nominating committee for our upcoming election. He has a very capable committee comprised of **Hank Apgar, Tim Anderson, Joe Hamaker** and **Madeline Ellis**. I encourage you to consider the opportunity to run for the Board and take an active role in shaping the future of ICEAA.

I can go on with so much more, but many of the items and details are covered in other areas of this publication. I encourage each of you to reach out to me and/or the other Board members and the International Business Office staff to convey your feedback regarding the association activities or to volunteer your time and talent to the association.

Have a wonderful and productive rest of the year and best wishes to you and yours for a safe and enjoyable holiday season. I look forward to seeing many of you in San Diego in June.

It was a pleasure to attend the Southern California/San Diego

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# Business Office Update

by Megan E. Jones, ICEAA Executive Director



**T**he last time I penned one of these we were just coming back from having a great time in Denver at the 2014 Professional Development & Training Workshop. This time, we're fresh off the 26<sup>th</sup> Annual International Integrated Program Management (IPM) Workshop, November 3-5, in Bethesda, Maryland. This year's IPM Workshop was a real success: over 350 attendees joined us for training sessions, workshops, and practice symposia focused on program planning, earned value management, and a special ICEAA cost track that featured five encore presentations of our 2014 Best Papers.

I would like to send a big thank you from all of the hosts of the event — ICEAA, the College of Performance Management and the National Defense Industrial Association—to all 26 of the IPM 2014 sponsors and exhibitors. I'd like to especially thank our gold sponsors, Project Technology, Inc. and Steelray Software, and our silver sponsors, ARES Prism; Integrated Management Concepts, Inc.; MCR, LLC; and Safran Software.

Speaking of sponsorships, you can start signing up now to sponsor the 2015 ICEAA Workshop in San Diego, June 9-12, 2015. The sponsoring and exhibiting prospectus is ready and available at [www.iceaaonline.org/sd15](http://www.iceaaonline.org/sd15) or by emailing me at [megan@iceaaonline.org](mailto:megan@iceaaonline.org).

I've noticed that many of you have already explored the new ICEAA


Members-Only Portal: our new online system that allows you to check your membership status, renew, register for the 2015 Workshop, or purchase ICEAA products such as CEBok®. I hope you've also noticed that there is a new member profile section, where you can update your mailing or email addresses and give us a little more information about your interests, marketing preferences, and working relationships. All of this information will let us know more about which of ICEAA's offerings are the greatest benefit to you, and help us determine what new features we should move toward in the future.

If you haven't yet already, check out the Members-Only Portal at [www.iceaaonline.org/login](http://www.iceaaonline.org/login).

Dozens of your fellow members, ICEAA chapter staff members and international leaders took the time to test the portal, but that doesn't mean the site is perfect. If you notice any errors, find anything confusing, or have any other suggestions for improvement, please pass them along.

The second phase of the Members-Only Portal should roll out in the early part of 2015. We're working now on developing a more automated system that will link your CCEA® and PCEA® certification information to your member profile, allow you to more easily upload and update your certification information, and give a real-time count of your CEU credits. So stay tuned!

I will close with a bittersweet announcement: **Brittany Walker**, ICEAA's all-around International Business Office Champ has left us for a new job at a prestigious law firm in downtown D.C. I hope you will all join me wishing her the best at this promising new opportunity. Joe, Sharon, and I will be holding down the fort until a new employee is found, so if you need to get a hold of the business office, please reach out to one of us directly or you can always email [iceaa@iceaaonline.org](mailto:iceaa@iceaaonline.org).

I hope you all enjoy the coming holiday season, savoring every delicious mouthful, every wonderful moment, and every joyful occasion with your families and friends. 

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## Letter from the Editor

by Joe Wagner, ICEAA World Editor

First of all, my thanks as always to the regular lineup of subject matter and office holder contributors to *ICEAA World*, such as **Brian Glauser** (National President), and our other regulars, as well as the long list of Regional Directors and Chapter heads who conscientiously send in their reports from the field. I also want to recognize the

continuing contributions to this magazine from two of our regular authors – **Colonel David Peeler** of the US Air Force, and Mr. **Dale Shermon**, Chairman of the Society for Cost Analysis and Forecasting (UK). As you can see in this and other recent issues, both of these gentlemen have provided interesting and informative articles and columns to *ICEAA World*. I recognize

them here both as a genuine “thank you”, and also as a gentle hint to the many in our readership who may have yearnings to become a published author. Despite the contributions from Col. Peeler and Mr. Shermon, we are always in need of articles dealing with costing issues and projects. Why not trot out your pet issue or recent professional accomplishment and share it with the community? Just to give you a start, there is nothing as simple as taking a paper you authored for the 2014 ICEAA Workshop in Denver, and submitting a version of it for publication in either the *Journal of Cost Analysis and Parametrics (JCAP)* or *ICEAA World*. For the JCAP, see the advertisement in this issue of *ICEAA World*, or go to the [www.tandfonline.com/UCAP](http://www.tandfonline.com/UCAP) website. In the process, we can give you a reasonable claim to being a part of the cost literati.

Having the subject of cost learning curves by the scruff of the neck (see our summer 2014 issue on unit curves), **Joe Hamaker** is not letting go. He moves on from unit theory to software theory in this issue, with some technical help from **Evin Stump** and **Arlene Minkiewicz**.

On a related cost issue, much of our membership and the general focus at ICEAA is on systems development, production, and support estimating and analysis. But just to consider how far afield (get ready for it) cost estimating can go, I came across a nice article on a cost estimating tool from Michigan State University estimating the cost of field crop irrigation by shared users, answering such critical questions as, “What is the cost per acre if the crop is in an

In an uncertain economy,

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- Get your name out as an employee who will go the extra mile for the job!




arid verses wet climate?” and “How topography plays into irrigation costs for distribution of water.” Estimators are needed everywhere!

The 2015 ICEAA Professional Development & Training Workshop, as you may have seen in our summer issue, is going back to San Diego, repeating our very successful 2010

gathering at the Sheraton Harbor Island. Only an afternoon’s drive down I-5 for many of you, we are really looking forward to bringing our very successful Denver Workshop format to southern California. Remember – your best shot at getting approval to attend is by presenting a paper, and the deadline for submitting a paper topic is Dec. 1, 2014 – which

is SOON.

Don’t look for this issue of *ICEAA World* to show up at your mailbox. Once a year we put out an e-version only, and this is it. I hope you have a good Thanksgiving and coming holiday season. We wish you all the best. 

# 100 Best Jobs

by Joe Wagner, ICEAA World Editor



**U**S News and World Report magazine has just issued their new ranking of the 100 best jobs in the American economy, including those in the fields of construction and general business activity. Included in this latest list for those two fields was the profession of “cost estimator”. Our profession was ranked as #2 in the construction field, and #56 in general business. The scoring that created the rankings was generated using the parameters shown below:

- 10-Year Growth Volume (10 percent)
- 10-Year Growth Percentage (10 percent)
- Median Salary (30 percent)


- Job Prospects (20 percent)
- Employment Rate (20 percent)
- Stress Level (5 percent)
- Work-Life Balance (5 percent)

As part of creating the ranking, ICEAA was contacted last year by the magazine, and provided narrative information as noted in the excerpt below. We did not provide the salary data or other statistical information. The complete content for cost estimator can be found at <http://money.usnews.com/careers/best-jobs/cost-estimator>.

## Cost Estimator

*A product or service is nothing without the eyes, ears and attention spans used to estimate how they will be manufactured, constructed, managed and priced. These are just some of the challenges cost estimators meet daily. Nearly every endeavor... needs someone to estimate what it will cost and analyze the reasons why, says Joe Wagner, executive director of the International Cost Estimating and Analysis Association. “You may estimate or analyze the costs of cars, aircraft, ships, software systems, bridges, electronics, manufacturing facilities, satellites, government programs, etc.,” he says. “You also may analyze what something is already costing, or why it is costing more or less than previously estimated.” Many cost estimators work in*

*nonresidential building construction or for building equipment contractors. Unlike financial analysts, cost estimators don’t directly counsel businesses and individuals on making investment decisions. They collect and analyze data to estimate the time, resources and labor required for product manufacturing or construction projects.*

*As companies continue their search for top-notch cost projections and cost-effective products and services, the need for cost estimators will rise. In fact, the Bureau of Labor Statistics predicts employment growth of about 26 percent between 2012 and 2022, which is much faster than the average for all occupations and translates to more than 53,000 new jobs.* 





# Finding a fair cost for shared irrigation systems

by Lyndon Kelley

Michigan State University Extension

If you can find the true annual cost of an irrigation system it is easy to assess the annual cost for each party participating in the program.

Estimating annual irrigation cost is the first step in determining a fair system for split irrigation cost between neighbors. Annual irrigation cost can be divided into two categories: annual cost of ownership and the annual cost of operation, mainly the cost of energy and labor. The annual cost of ownership is often estimated by the depreciation, interest, repairs, taxes, and insurance formula which spreads the actual cost of ownership of an equipment investment over its usable lifespan or investment period. A standard procedure is outlined on page 7 of Michigan State University Extension Bulletin E-2131, "Custom Work Rates in Michigan". This formula can provide you with the an-

nual cost of the original investment in equipment and improvements.

Annual operating cost will include an estimate of energy cost and labor attributable to the average operation of the equipment. For calculation purposes an annual use of six one inch applications of irrigation was used. A greater number of small applications will favor systems that have low labor costs, where a smaller number of large applications would favor systems with high labor and low investment attributes. Systems with low energy cost primarily from low pumping cost are favored by higher total annual use where low initial cost often compensate for higher energy cost if a low total volume of water is applied annually.

Examples of estimating annual irrigation costs for common irrigation equipment designs are available at

the Michigan State University Extension irrigation page.

Irrigation systems need to be able to replace the typical water use of the plant during a prolonged dry period. System costs increase as capacity increases. Typically water sources capable of 400 to 1200 gallons per minute are used to supply irrigation water. Systems designed to apply 0.25 inch per day, 5 gallons/minute/acre of irrigation, can provide adequate water in all but the most extreme situations. Evapotranspiration rate (E.T.) is a term that represents the daily water lost by the plants maintenance and growth along with the evaporative loss from the soil surface. E.T. rates for almost all crops grown in northern Indiana and Michigan have rates under 0.25" per day for all but a few extreme days.

In extreme situations of average daily temperatures over 90





degrees, low relative humidity and wind, water use may reach .31 to .33 inches per day. Crops that cannot tolerate extremes may need an irrigation system designed to meet a requirement of one inch every 3 days, 6.5 gallons/minute/acre of irrigation. System design capacity of greater than 6.5 gallons/minute/acre of irrigation are only needed in situation where crop management practice result in water application at rate faster than the soil infiltration rate resulting in water loss below the root zone or less than 100% effective water use. For more information see the fact sheet on Reducing and Evaluating Irrigation Runoff

There are tremendous differences in cost of establishing irrigation. Factors leading to high water source cost, greater than \$50,000, are the reciprocal of what is listed:

- Productive water tables are close to the surface (less than 40 feet)
- Riparian rights to a dependable surface water option adjacent to field
- Ample three phase electric power is readily available near the pumping site
- System is designed for moderate to low pumping pressure
- Hills and steep slopes may require higher pressures

and large wetted areas to reduce chance of run-off


Several factors can lead to low water source cost, less than \$15,000. Low distribution equipment costs can be achieved with the right combination of the following:

- Total size of irrigated areas, the bigger the system the lower the cost
- Shape of the irrigated areas, 160 acre squares are hard to beat
- Three phase electric power is readily available near control panels
- Flat topography, hills and slopes require shorter pivot spans to maintain crop clearance.

Here is an example to help you further understand, dividing cost for a 1320 foot (standard 160 pivot) between two owners. The 160 area in question can be covered by a 1320 foot (standard 160 pivots). Owner A has 120 acre of the area and owner B. has 40 acres. Actual irrigated area is 132 total acres with owner A having 99 acre of irrigated land and Owner B having 33 acres. The an-

nual cost of ownership is estimated at \$95.64 per acre and the annual operating cost is estimated at \$4.36 per acre inch or \$30.50 per acre for a seven inch application year.


A common proposal for a fair sharing of cost would be Owner A purchase and installs the well, pivot and infrastructure on his property, situated to cover both properties. Owner B would pay annually \$3,156 (33 acre \* 95.64 per acre) to cover annual ownership cost of the portion of the machine that covers his 33 acres of irrigated land. Owner B would also compensate owner A for energy cost, \$1,060 (\$30.50 per acre for a seven inch application year \* 33 acres of actual irrigated land.

Owner A would be responsible for the total original equipment and installation cost along with annual energy, insurance tax (if applicable) and repair costs, At the end of the ten year agreement owner A would retain the Equipment. An extended agreement could be drafted using the salvage values in place of new equipment cost at that time. 

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*This article was published by Michigan State University Extension. For more information, visit <http://www.msue.msu.edu>. To have a digest of information delivered straight to your email inbox, visit <http://bit.ly/MSUENews>. To contact an expert in your area, visit <http://expert.msue.msu.edu>, or call 888-MSUE4MI (888-678-3464).*

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# Contract Types for Innovation and Savings

Colonel David L. Peeler, Jr.

**S**ocial hour before a cost conference banquet can be very different from that preceding a sports or community social. After a day of presentations filled with cost curves, multivariate calculus, earned value analysis, and software estimation tool mechanics, the topics of small talk still tend to stay far afield from typical sports and leisure banter – “Sports Center,” “TMZ,” or “Idol” minutiae. Indeed, finding yourself standing between Dr. **Steven Book** and **Paul Garvey**, you learn that the conversation takes on a mathematical flare – “Sports Center” stories in standard deviation lingo. Then the topic turns to contract types, with intellectual inquiry exploring the question of the best way to struc-

ture a contract vehicle. What’s the best way to incent contractor cost savings?

This piece isn’t meant to be a comprehensive look or analysis of the various contract vehicle types or even a recantation of what each type provides in terms of risk allocation and/or incentives. Rather the intention here is to provoke thought, much the same as Dr. Book and Mr. Garvey did while conversing years ago with this then young officer. Coupled with my private sector management experience prior to joining the military, the social hour conversation and a couple of follow-on chats with Dr. Book served to provide some critical analysis of contract vehicles.

Dr. Book – always engaging and giving of his time – offered to collaborate on a presentation and may be write a paper on the best contract type for performance and cost reduction incentive. I regret that I didn’t take him up on his offer. After all these years I finally drafted a short think piece – not the envisioned quantitative examination – based on our discussion during social hour. Further research, a rediscovery of old research, and actual change action is needed to realize the optimization of contract vehicles.

Often the aspirations of a project or program director are diminished by the behavior induced via the type of contract applied. What seem to be incentives are often disincentives due to the complex nature of all of the issues a defense contractor is balancing. Government manag-

ers or contract specialist are often oblivious to factors beyond profit and costs; the contractor also is concerned with user costs, opportunity costs, tax implications, dividends, re-investment percentages, costs of goods sold impacts, and subcontract relationships. This list is not all inclusive, but a subset of contractual concerns contractors must weigh in their decisions.

Many people are familiar with the term opportunity costs. However, fewer are acquainted with user costs. The difference can be somewhat technical and I think the best contrast between the two was provided by **Frederic Scherer**:

*User cost is the loss of future profits due to cost reduction on current contracts; while opportunity cost is the loss of profits due to using resources inefficiently, or in essence, not reducing costs on current contracts.*

While the concept of user cost was a legacy of **John Maynard Keynes**, the refinement of them in the weapons acquisition process is largely attributable to Scherer. Of most import to our treatment here, reductions in user costs coincide with potential reductions in future sales. While somewhat counterintuitive, reductions in costs on current programs can significantly reduce the ability to win future contracts. Think about the accumulation of advanced machine tools, technology, or maintaining a technical cadre of engineers achieved during a given contract performance. All are much less likely if not charged to the current program,

**Colonel Peeler** currently serves as Interim Director, Financial Management and Comptroller for the Air Force Life Cycle Management Center. Prior to his current assignment, he was a Secretary of Defense Corporate Fellow at Amgen, Inc. Leveraging that experience, he wrote a paper on biotechnology business lessons for the DoD. Peeler is a certified cost estimator/analyst and an Air Force certified acquisition professional in both financial and program management. He is a member of the American Society of Military Comptrollers and the International Cost Estimating and Analysis Association.

even if they are not essential to the current effort.

Also of interest to contractors and usually absent from the consider-

of nothing? Using the cost estimate as the basis, the contractor and the government would each get 50% of all savings realized – tallied for the scheduled life of the effort. [Care is

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**User cost is the loss of future profits due to cost reduction on current contracts; while opportunity cost is the loss of profits due to using resources inefficiently, or in essence, not reducing costs on current contracts.**

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ation and even the understanding of government personnel are things like free cash flows, costs of goods sold – both pre-and post-tax – and internal rates of return. All these and more are in play for the contractor, who comes to contract negotiations with a cadre of lawyers to augment the project team. Often the government comes with too small a team, lacking in the requisite knowledge to grasp all implications of the terms, or even the potential outcomes of conditions the government insists upon.

All of these intricacies add layers of complexity to contract negotiations and management. In order to simplify, incentives are required that work for both the government and the contractor. During our conversations, Dr. Book and I were intent on applying the principle of parsimony, keeping it simple, to override the complexity with ease of application for the government contracting and program managers. The hardest part from our perspective would be to incent the contractor to drive cost reductions on cost plus contract types. The product of our discussions was a simple 50/50 sharing of the cost reductions on cost reimbursement type contracts.

Some would argue, “Why so big?” Our view: under the current arrangements, we aren’t getting the savings at all. Wouldn’t you rather get half of something than a larger portion

required to book cost savings only, disallowing cost avoidances.] This tally could be on discrete efforts or complete programs. Our initial thoughts were application to full programs.

The most prominent obstacle we saw was appropriating dollars in future years to pay 50% savings to contractors for support and operating cost savings no longer tied to the program as a cost. Again, unless this approach is defined carefully, the cost is otherwise 100% of potential savings. Without the incentive to eradicate a cost, the government still incurs the full legacy costs of the effort. Significant incentives are needed, in fact required, to move major defense contractors to action. Without sizable incentive, they will continue to operate as they do now. With user cost implications and without long production runs, the incentive for contractor cost reductions on cost type contracts is minimal, at best. A 50% share might be large enough to encourage them to get paid for not doing something unessential, or not carrying expensive equipment and personnel through a program for future proposal efforts.

Regardless of the contract type at issue, much reflection is needed, as today’s reality makes it clear that change is needed. Dr. Book and I were focused on cost plus type contract vehicles, as they were in vogue

and do seem to be warranted for advanced technology, large complex defense projects. However, as the penchant for fixed price contracting again gains traction, we must be careful not to assume that fixed price contract vehicles will in and of themselves solve the problems of the cost plus ones. History demonstrates otherwise. This particular pendulum has swung more than once. Whether fixed price or cost plus, the attributes of and approaches to contracting for major weapons systems deserves much scrutiny and critical contemplation. Unfortunately, most government personnel are unaware of the factors that impact contractor behavior beyond costs and profits.

Having been given the opportunity over the past 12 months to explore acquisition realities and opportunities vis-à-vis private business practices, I arrived at several strategic-level observations. Considerable time spent researching and reflecting on the defense acquisition community reveals defects in con-

*Contract Types, continued on page 12*





# Contract Types

*continued from page 11*

tracting approaches. We continue to apply regulation to defense acquisition under the notion that we are controlling a free enterprise community. With that presupposition, we create unintended consequences because in reality we are regulating a closed economy, in which the number of players and available contracts is severely constrained. Therefore, most of the tweaks and changes made to contract types and arrangement will fail to produce the desired results. What is needed is a re-crafting of the system in toto to ensure that we have a free market verses a planned market approach to defense acquisition.

Much of my previous thinking on contract types and incentives for cost savings has been ousted. The needed changes are at a higher, strategic level; reforms at the tactical level will produce little to no intended results. We must get at reforming weapons acquisition away from the planned, limited player model it has become and return it to one of inherently market-incentivized behavior that innovates.

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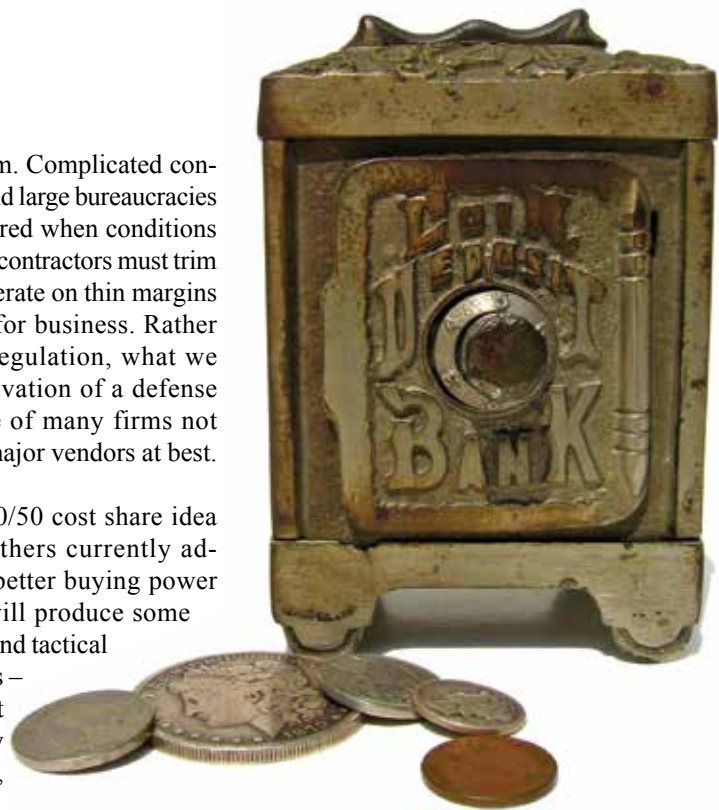
**We must get at reforming weapons acquisition away from the planned, limited player model it has become and return it to one of inherently market-incentivized behavior that innovates.**

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The 50/50 cost share idea can produce tangible savings for the government. However, producing the same reductions and more, without all the regulation, and negotiation is possible. The elimination of much of the regulation and administration inherently flows from movement back toward a free-enterprise system of defense acquisition. We once had

such a system. Complicated contract terms and large bureaucracies are not required when conditions are such that contractors must trim costs and operate on thin margins to compete for business. Rather than more regulation, what we need is cultivation of a defense marketplace of many firms not one of two major vendors at best.

While the 50/50 cost share idea and many others currently advocated by better buying power initiatives will produce some operational and tactical level benefits – hopefully not off-set by monitoring, reporting, and compliance costs – the real solution is strategically revamping the government’s approach to the market. Rather than a planned market, what is needed is a return to the free market approach. As a thought experiment, just think for a bit about what might have transpired over the past two decades if the defense community had not thought



I don’t know if Dr. Book would agree with my analysis of the defense market writ large, but I’m confident that he would be open to the discussion and cognizant of both the impediments and the promises of market-based reform, as well as the tactical and operational level efforts based around contract types and approaches for cost savings. While our original desire to produce a presentation containing quantitative representations of the value of our 50/50 cost share thinking never came to fruition – all my fault, as I failed to seize on such a propitious opportunity – I thought I’d share our musings in the hope of generating some reflection on contract types and on the operation of the defense industry as a whole.

“there are too many of you”, but had instead remarked that “each of you is too big”. To help the neurons start firing, think of the innovation and price reduction that cascaded through the U.S. economy as a result of the breakup of Ma Bell. Could we have created, or now start creating, such innovation and competition in the defense market?

*Scherer, Frederic M. The Weapons Acquisition Process: Economic Incentives. Harvard University: Boston, Massachusetts; 1964, page 185.*

# ertification ongratulations

ICEAA would like to acknowledge both those who volunteer their time to proctor the Certification Examination and those who achieve certification. Without CCEA® certified proctors to manage exam administration, ICEAA would be unable to offer the exam in so many locations throughout the year. If you are CCEA® certified and would like to proctor an exam in your area in exchange for points toward recertification, please contact the ICEAA International Business office.

Thanks go out to following individuals for volunteering their time to proctor the certification exam between July and September 2014: **David Bach, Kurt Brunner, Stacey Dean, James Glenn, Jeremy Goucher, Nathan Honsowetz and Matt Langevin.**

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# AUSTERITY –

## *Is it all bad news?*

BY DALE SHERMON,  
QINETIQ FELLOW AND HEAD OF PROFESSION COST ENGINEERING

**A**usterity is a depressing word for a lot of people whose 'glass is half full'. For cost engineers austerity is a word of joy. As an engineer and an optimist we have never been so busy. For the first twenty years of my career it was a fight to persuade project managers and executives that they needed to understand the cost of their project; now everyone is chasing me to get an understanding of the cost for their project. Austerity - the best thing that ever happened to cost engineering.

The only downside is that I'm being asked to estimate the cost of more diverse products, equipment and services than ever. So how do you approach the cost estimation of a project that you have not seen before? It can be a daunting prospect for a novice cost engineer to look into the eyes of a project manager, shrug and say "I can't do it." In these times of austerity, anyone who can populate a spreadsheet thinks that they can pass themselves off as a cost engineer when, if you scratch under the surface, you will realize that there is more to cost engineering than meets the eye. So how would I tackle a project that I had never seen before? The philosophy of knowledge based estimating (KBE) has always been a good guide. KBE

utilizes the building blocks of a good estimate in data, tools, people and process.

The first order of business is to gather some historical data for previous kindred projects. This financial and technical data needs to be normalized and cost estimating relationships (CERs) established. The next order of the day is to gather information regarding the project to be estimated. I recall a bid manager in Australia who told me that I would not be able to forecast the cost of his project. With wild expectation I told him I looked forward to seeing this incalculable project which obviously has no electronic circuits, aluminium fabrication, welded steel, composites, software, or anything else ever used before. Reluctantly,

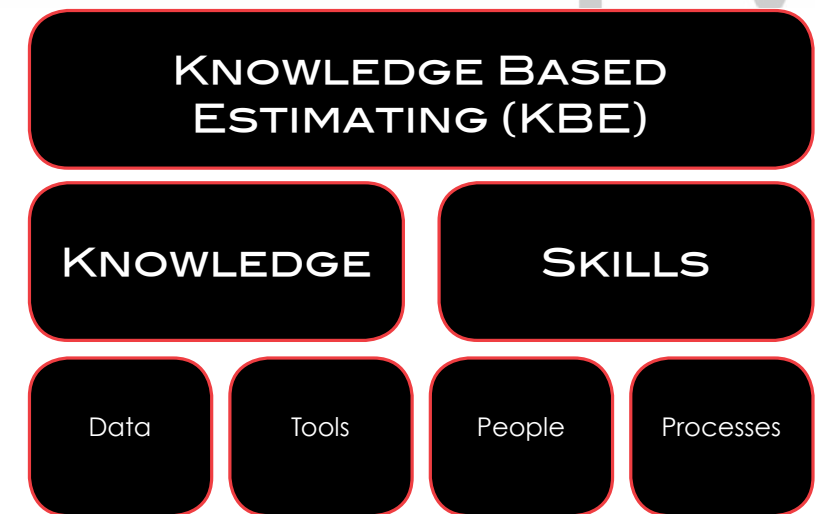
he admitted that his project did in fact have all of these technologies. I acknowledged that I might not have seen his precise configuration, but if it had these familiar components, I was confident that I would be able to estimate it.

It is essential to have good statistical tools at your disposal to enable you to quickly and with confidence understand the historical data. These give you the ability to generate individual CERs which can be combined into forecasting systems. Typically as cost engineers we are required to predict the cost of projects that are beyond our historical data. It is essential that these project managers and other staff recognize the increased uncertainty that arises in these circumstances. To this



end we require people on the cost staff who are skilled in cost engineering, trained and certified, and prepared to explore the unknown. Cost engineers need to have a good broad system engineering appreciation, understanding of accounting practices, business skills, project management, risk impacts, business development, presentation, interpersonal skills, and statistics. Just finding the =SUM function in Microsoft Excel will not make you a cost engineer.

Finally, for any cost estimate, and a new project is no exception, you need to have a process. The basis of estimate (BOE) is a critical part of the process. If you are unable to communicate your cost or schedule estimate than you have wasted your time. You need to be able to



articulate your estimate and ensure other people are able to follow the process. Ultimately, a third party should be able to take the same data, tools and if they have

the same skills, utilize the same process to come to the same conclusion or estimate as you, regardless of the level of knowledge of the project.

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visit [www.iceaaonline.com/certification-matters](http://www.iceaaonline.com/certification-matters) for more information



## Ask a Cost Analyst

*Edited by Joe Hamaker*

**Y**ou may recall the last installment of this column was based on an idea that **Madeline Ellis** suggested to me and that was to poll several estimating contractors for questions they had been asked by their customers and the answers they had provided. So, working with **Evin Stump** of Galorath and **Arlene Minkiewicz** of PRICE, we narrowed down the field to one really good Q&A from each company. Covering one of the questions in the last issue of *ICEAA World*, we ad-

ressed the subject from Galorath on how to develop a learning curve from historical production data. In this issue we turn to PRICE Systems and use their question and answer on the subject of parametric estimating and Agile software development. I hope you enjoy it—I know I did. For those not working in the software estimating area, Agile software development is a group of software development methods in which requirements and solutions evolve through collaboration between self-organizing, cross-func-

tional teams. It promotes adaptive planning, evolutionary development, early delivery, continuous improvement and encourages rapid and flexible response to change by the estimators and developers.

And please remember, I'm always on the lookout for some good questions about cost analysis to use in this column. Please send to me at [joeamaker@yahoo.com](mailto:joeamaker@yahoo.com). So without further ado, here is the *Ask A Cost Analyst* for this issue:

### **Q:** How can I use a parametric model to estimate software projects that use agile?

*Answer provided by Arlene Minkiewicz of PRICE Systems:*

My first thought is that if your development organization is truly agile, why do you need to estimate at all? Agile tenets require flexibility and embrace change, concepts that are completely at odds with the notion of creating a full blown estimate early in the project. Of course this isn't a very helpful answer for program management that needs to worry budgeting issues. While the agile development team is probably very good at estimating short term goals as they plan for each iteration, the business needs to be able to understand how much it will cost in total, and how long it will take to deliver a software project.

Agile development is more a paradigm than a process, based on a set of tenants expressed in the Agile Manifesto (learn more about the agile manifesto at <http://agilemanifesto.org>). Any project that

is adhering to these tenets can be considered an agile project. There are no rules or standards emerging from the tenets—they just propose an overarching philosophy with which organizations should approach software development.

Agile development projects develop small usable chunks of software in short periods of time. Software is delivered in short increments or sprints lasting anywhere from a week to a month. The end user or customer works with the agile team so that misunderstandings and confusion occurring around requirements can be addressed quickly and proactively. Agile teams are self-organizing, cross functional, and expect and embrace change.

So let's revisit the question, "How can I use a parametric model to es-

timate software projects that use agile?" And while it's true that the fact that you're using agile isn't a cost driver, it's also true that specific practices, common to agile projects, can and will influence costs. When asked this question, I like to talk the estimator through a series of agile practices likely to impact productivity.

The first area to consider has to do with the experience and skill level of the development team. Agile teams tend to be highly skilled. There are several reasons for this. Unskilled or unmotivated workers stand out in an agile environment more so than they would in a traditional development environment. It's not easy for slackers to hide in an agile shop. If pair programming is utilized, new members of the team are quickly brought up to speed on the project. The




estimator would be well advised to determine if this phenomenon exists in their agile environment and adjust input parameters to reflect this.

Another area to consider is whether the development team is co-located and/or holds daily stand up meetings, common practices in agile projects. Co-location has several impacts on productivity. Agile creates a 'culture of interruption'. When a team member has a question or a test fails, it is addressed immediately. While this may seem to be a disruptive practice, in the big picture it often actually increases productivity. Team members do not waste time trying to figure something out by themselves; failed tests are addressed immediately, while code changes that are fresh in the developer's mind can be resolved much more quickly. Co-location and the practice of holding daily stand up meetings tend to improve team communication. Co-located teams also tend to act with high cohesion and function similar to an IPT, especially if the customer is part of the team (another agile practice). If the agile team embraces any of the aforementioned practices, cost drivers associated with communication, team cohesion, and/or IPT use should reflect this.

Another common agile practice is continuous integration with automated testing. Either the software is built at regular intervals throughout the day or a build is kicked off each time code is checked into the source control system. With each build a set of automated tests are run. The benefit of this is that problems are identified as soon as they're introduced to the system and can be addressed efficiently by the team. Continuous integration with automated testing, as compared to the more traditional approach of integrating and testing near the end of the project should result in a significant reduction in effort applied to integration and test activities. If this practice is employed by the agile team, relevant cost drivers in the model should indicate this.

The short answer to the question is "yes of course you could use a parametric model to estimate agile software development." And in many ways your estimation approach should not be all that different than the approach you would take estimating any software project. First you need to study the history of the team and the organization to understand how they function. Next you need to understand the nature of the software being developed and the practices commonly employed by the development team. Sizing the project may be somewhat problematic, given the

notion that requirements may change as the project evolves. But remember in many cases, the only difference, in this respect, between an agile development approach and a more traditional approach is that the agile organization accepts this from the beginning while the more traditional organization always seems surprised. As with any other estimate, the estimator needs to do the best they can with the information available based on their understanding of the requirements, the development team and their practices, and the organization. 

# WANTED

## CCEA EXAMINATION TEST QUESTIONS

**1 Topic Category**  
Parametric Estimating: CER

**2 Topic**

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

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  $1,193.57 * \$1000 = \$1,193,565$

**6 The Solution**

**REFERENCE:** CEBOK Module 3

**7 Reference**

# REWARD

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

Contact the ICEAA Office or Director of Certification at [iceaa@iceaaonline.org](mailto:iceaa@iceaaonline.org) for Specifics.



# Book Review

## Money Changes Hands... A Good Book Changes Minds

*Book Review by Lt Col David Peeler*

Cost folks like numbers and analysis. This *ICEAA World* edition's book review selection is awash with intriguing data, documented sources, and keen analyses. As I have asserted previously, cost and financial personnel should be fluent in financial subjects broader than their occupational roles. This selection is a primer in macroeconomic crises and a delightful read for those easily enthralled by quantitative documentation in support of conclusions.

**Martin Wolf** of the *Financial Times* calls this book "A Masterpiece." I agree. Seldom does a book filled with tables, charts, and appendices get described as a page-turner, but the phrase applies in this case. *This Time Is Different* is a tour de force through the financial crises in known history. Do not be misled that it is a chronological walk through financial history; it's not. The data, and lessons derived from the data, are summarized into story form and presented in a comfortably readable style. This is a great accomplishment in that it simultaneously provides the numbers, methods, and analysis we "quants" enjoy.

According to the authors, the book's aim was "to be expansive, systematic, and quantitative..." with "empirical analysis [that] covers sixty-six countries over nearly eight centuries." The *ICEAA* readership will be surprised and pleased that Reinhart and Rogoff hit the bull's-eye. It contains a thorough mix of data and analysis, presented cogently and systematically across the various crises examined.

The book is organized into six parts with roughly three chapters each. Following a preface and short preamble, part I takes up the topic of financial crises, providing an operational primer. These three chapters address the varieties of crises, debt intolerance, and introduces a global database on financial crises with a long-term view. The authors introduce "The This Time Is Different Syndrome" that leads to repeated bubbles and "the fragility of highly leveraged economies..." In chapter two, the authors deal with the avoidance of hard decisions with respect to taxing and spending. Part I ends with a description of the database – breath of coverage, what is included and what it lacks.

In part II, sovereign external debt is explored, with chapters on the theoretical underpinnings of debt crises, cycles of sovereign default on external debt, and external default throughout history. In a point of macroeconomic primacy over microeconomic activity, the authors delve into the financial character of debt between sovereigns. Of particular interest are several assumptions and problems that span economies across centuries.

Part III delves into the forgotten history of domestic debt and default. In these three chapters, the authors address the stylized facts of domestic debt and default, the missing link between external debt and internal inflation, and the age-old question of which is worse: domestic or external default. Thus, this part of the book gives considerable coverage to the typical economic



### THIS TIME IS DIFFERENT: EIGHT CENTURIES OF FINANCIAL FOLLY

CARMEN M. REINHART &  
KENNETH S. ROGOFF

Princeton University Press:  
Princeton, New Jersey; 2009.

assumption that internal public debt is honored, while external defaults are much more common. Adding intrigue to this discussion is the expedient alleviation of debt via “making” money.

The book concludes with part VI, a single, final chapter composed of reflections on early warnings, graduation beyond the cycle of bubbles and policy responses, and the foibles of human nature. The memories and

# Book Review

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*The ICEAA readership will be surprised and pleased that Reinhart and Rogoff hit the bull's-eye. It contains a thorough mix of data and analysis, presented cogently and systematically across the various crises examined.*

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Part IV covers banking crises, inflation, and currency crashes. These three chapters deal with banking crises, default through currency debasement, and modern inflation and contemporary crashes. Of note is the prevalence of indirect taxation via government bailouts and the huge debt increases that lead to further currency debasement. As a tickler, the average post-crisis debt increase is 86%.

The U.S. subprime crisis is the subject of part V, with international and historical comparisons, a look at the aftermath and the international dimensions of the U.S. crisis. A fourth chapter concludes part V with the development of composite measures of financial turmoil, indices, and a potential predictive tool. This part of the book treats the U.S. as the epicenter of the global Great Recession, or Second Great Contraction, as the authors dub the 2008 financial crisis. The notion of amplifying mechanisms, rather than a mere trigger, is presented along with historical indicators of the proper steps to reinvigorate the pace of an economy. Further, the authors provide good evidence to support the notion that we should “not push too far the conceit that we are smarter than our predecessors.”

restraint of all parties don't seem to improve over time, and lessons ‘learned’ fail to avoid the next bubble. In fact, financial systems can collapse despite the best regulation, given “the ability of governments to mismanage financial markets” with either fiscal or monetary policy.

*This Time Is Different* is well worth the time invested in its 400 plus pages of clean data presentation, empirical insight, and keen analysis regarding topics often rife with social science adulteration of the data and method. The analysis is clean and well presented; the text flows nicely for a quick read, full of information and synthesis of financial market operation. This book will enhance your finance discussions with friends and colleagues; you will be glad you read it. 

*Colonel Peeler serves as Interim Director, Financial Management and Comptroller, for the Air Force Life Cycle Management Center. He is a certified cost estimator/analyst and an Air Force certified acquisition professional in both financial and program management. He is a member of both the American Society of Military Comptrollers and the International Cost Estimating and Analysis Association.*



## ICEAA PROFESSIONAL DEVELOPMENT & TRAINING WORKSHOP

June 9-12, 2015  
Sheraton San Diego Hotel & Marina

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The ICEAA 2014 Workshop exhibit hall will be open for over 20 hours, with 8 hours on the Workshop schedule dedicated for attendees to visit our exhibitors. The limited number of available booths allows for a focused, consultative environment in which you can meet with current and future clients. Tuesday and Wednesday's receptions as well as food buffets and beverage breaks will be served in the exhibit hall among the booths, providing ample time to develop leads.

For additional details on sponsoring opportunities and booth packages, visit:

[www.iceaaonline.org/sd15](http://www.iceaaonline.org/sd15)

ICEAAWorld


# Air Force Institute of Technology (AFIT) Update

*By Lt Col. Dan Ritschel, USAF*

## New Arrivals

The 2014-2015 academic year at AFIT began in September with the arrival of 13 new students in the Air Force's graduate Cost Analysis program. This year's group includes three civilians alongside their ten military counterparts. While civilians have been attending AFIT regularly in other degree programs, this is the first time since the mid-1990s that there has been a civilian presence in the cost program. This diversity in perspectives and experiences will be a great addition to both the classroom dynamic and the prospective research papers received. We are excited at the potential to continue this model for future student cohorts.

## Distinguished Visitors

We have been very fortunate in the number of outstanding senior Defense Department leaders who have taken time out of their busy schedules to speak at AFIT this fall. Dr. **Richard Burke** of the Office of Cost Assessment and Program Evaluation (CAPE) in the Office of the Secretary of Defense was our first visitor in September. He participated in a town-hall forum where the cost students were able to ask him about a wide range of topics from the current budget environment to will-cost should-cost estimating applications. Lt Col **Anthony Smith**, from the Air Force Cost Directorate in the Secretary for Financial Management (SAF/FMC), also visited in September. He provided an update on the cost career field and a perspective on the importance of cost-focused graduate education in the Air Force. In October, AFIT welcomed Col **David Peeler**, Deputy Director Financial Management and Comptroller, Air Force Life Cycle Management Center. Col Peeler has been a regular at AFIT over the years and we are truly grateful for his continued support, guidance, and wisdom. 

ICEAA

ICEAAWorld 2014: Issue #3





# Society for Cost Analysis and Forecasting (SCAF): Cost news from the (still) United Kingdom

*By Dale Shermon, SCAF Chairman*

**T**his summer has seen some interesting politics played out in the UK: should Scotland become independent and leave the United Kingdom? On September 18 there was a referendum and 45% of the eligible Scots said 'Yes', while 55% voted 'No'. The voter turnout saw 85% of the Scottish nation voting.

Not wanting to drift too far into politics, two things occurred to me regarding this news story. Firstly, while the Scottish people are seeking to become independent, the costing community seem to be traveling in the opposite direction. Recently SCAF signed a MOU with ICEAA to work more closely together. We still want to keep our identities as a society and an association, but it would seem that by pooling our knowledge and resources we are stronger. Secondly, the incredible high voter turnout must mean that in Scotland there was a real passion for the subject and topic being debated. It would be great to see more cost forecasters, parametricians, cost analysts and cost engineers engaged in our associations and societies. How do we make our subject and topic being debated sufficiently interesting that 85% of the cost community engage with the workshop, confer-

ence and committees that we run?

This year will be a special year for SCAF as we will have been in existence for 30 years! This is a remarkable milestone and one of which the SCAF committee is very proud.

We held the 30<sup>th</sup> annual conference on Tuesday September 16<sup>th</sup>, 2014 at the BAWA Centre, Bristol. The theme was "Benefits of Cost Engineering and Realistic Cost Forecasting." The conference was well attended with more than 50 representatives from public and private sectors, including academia.

The chairman of SCAF gave a welcome address to start the conference. He introduced the keynote speaker Mr. **Nick Hopkins**, Strategy Lead for the Public Sector, KPMG Management Consulting. Nick is currently the support partner for Cost Assurance and Analysis Service (CAAS) in the UK Ministry of Defence (MOD). These opening comments were followed by presentations from Dr. **Stuart Wicks**, Head of Business Analysis, Rolls-Royce Submarines; **Derek Salkeld**, Founder and Owner, DS+A Risk Analytics Ltd.; **Brian Sugden** from the Ministry of Defence, CAAS; **Mark Lee**, Head of Profession, Programme Assurance, QinetiQ and finally **Sanathanan Rajagopal** from MOD CAAS.

There was a pause in proceedings just before lunch while the SCAF annual general meeting was chaired by **Dale Shermon**. Here it was reported that the society has had another good year with workshops, conference and a new awards evening. Several new venues had been explored and these had been a great success. The Society has elected a strong committee for its 30<sup>th</sup> year and is still financially sound.

If you are traveling to the UK on business or vacation and would like to join SCAF, the event dates for the forthcoming year are:

**February 3, 2015** – "Cost Analysis and SDSR 2015", Royal Institute of Naval Architects (RINA), London

**April 14, 2015** – "The 2015 SCAF Cost Estimating Challenge and Training Workshop", BAWA Centre, Filton, Bristol

**June 2, 2015** – SCAF Workshop (theme to be agreed), Ribby Hall, Preston, Lancashire

**July 7, 2015** – SCAF Summer Reception and Awards Banquet, venue to be agreed

**September 15, 2015** – Annual Conference, BAWA Centre, Bristol

## UK Regional Director Report

By Andy Nicholls, UK Region Director

Some ICEAA members will be attending the joint DSIG/SCAF Event in Bristol on November 18<sup>th</sup>, which is the

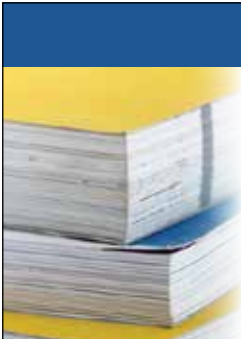
first joint meeting of SCAF with the Operational Research Society Defence Group. The overall theme for the workshop is “Affordability, Value for Money and Decision Making”.

Since my last report (post the Denver Conference) I have met and spoken with a number of people who were not members yet who deliver cost estimates as the main part of their day job. In addition to recruiting new members, one of my day roles is training” and by the time this is printed two training courses will have been completed each with the potential for enticing new members. Occasionally course students are already members and it is useful to have their experiences of membership benefit within the class to encourage ‘signing up’.

At least two members agreed to take part in the new ICEAA Members-Only portal website testing and I am very pleased that their input has helped advance services to all members.

I am hoping that a selection process for recognizing the outstanding achievements of the ICEAA UK members now underway will be completed and results announced in time for my Spring 2015 Report.

Finally it is never too early to wish all Members, Friends, Colleagues and new readers a good and enjoyable December holiday and Happy New Year for 2015!



### Want to Be Published???


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

**Recent published articles have included:**

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

Come on – see your name in print and your work recognized by your peers – the Spring 2015 Issue needs your work. Deadline for submission will be the end of February 2015.

Send your articles to:  
[jwagner@iceaaonline.org](mailto:jwagner@iceaaonline.org)



## Canberra, Australia Chapter

By Stacey Wehmeier


**T**he year has seen the Canberra Chapter host four events so far, with a final lunch proposed as a Christmas event before we all enjoy a break at the end of the year.

On August 6, 2014 we were privileged to have Ms. **Jennifer Kirchhoffer** (Tecolote) make a presentation on “Using Automated Cost Estimating Integrated Tools (ACEIT) and the Joint Agency Cost Schedule Risk and Uncertainty Handbook (JA CSRUH).” This event was held in the Australian Department of Defence offices in Canberra and was attended by some 80 interested cost personnel. Not all attendees were members of ICEAA as the event also sought to introduce ICEAA to the wider community in an attempt to grow the membership. The presentation was very well received and has since been hosted on our Australian ICEAA website.

On October 14, BAE Systems kindly hosted the chapter at their premises in Canberra, with Mr. **Ian Skulicz** (BAE Systems) delivering a presentation titled “From Critic to Creator.” This gave the members an interesting and candid insight into the culture, mindsets, and organizational approach to estimating he has experienced during his transition from the role of customer (UK MOD Cost Assurance and Analysis Service - CAAS) to supplier (BAE Systems Australia). The event attracted 14 attendees from various organisations including Defence, BAE Systems, QinetiQ and KPMG. The presentation was very well received and stimulated some great dialogue, questions, feedback and networking.

While the Australian membership in total is around 80, our country’s geography means that on average about 15-20 members are able to attend the Canberra Chapter meetings. We are attempting to establish new chapters in Australia and especially in Adelaide, where growing interest and potential chapter development continues to make progress. We have had one event in Adelaide at the KPMG offices, with about 20 in attendance, where Tony List from Costplan gave a very insightful presentation on civil estimating, which we wrote about in the last issue.

At the time of writing this article, we have one more event planned in Canberra where **Rob Starbuck** from Nova Systems will be presenting on “Monte Carlo Analysis of Cost and Schedule Estimates - Pit-falls, Practicalities and Positives.” Rob is a risk management consultant with Nova Systems, an engineering and project management professional services firm. His experience includes conducting Monte Carlo analysis of cost and schedule for defence projects to meet both DMO (Defence Materiel Organisation) and major prime contractor requirements. Rob will share his perspectives on the practical challenges and psychological pitfalls in using Monte Carlo analysis in performing quantitative analysis of cost and schedule.

Next year we will continue to grow events in other cities across Australia to ensure our wide membership gets the benefits of sharing knowledge, experience and understanding of cost estimation and analysis. 

### ICEAA Events Calendar

#### ICEAA 2015 Professional Development & Training Workshop

December 1, 2014. Abstracts and bios due.

December 31, 2014. Earlybird registration rates end.

January 15, 2015.

Announcement of accepted abstracts.

March 30, 2015. Presentations, papers, and release forms due.

#### Southern California Chapter Winter Workshop.

December 17, 2014 at Lockheed Martin El Segundo, CA. Contact **Kurt Brunner** (kurt.r.brunner@saic.com) or **Quentin Redman** (quentin.redman@pricesystems.com).

#### Southern California Chapter Spring Workshop.

March 18, 2015. San Pedro, CA. Contact **Kurt Brunner** (kurt.r.brunner@saic.com) or **Quentin Redman** (quentin.redman@pricesystems.com).

#### ICEAA CCEA® Examination

Exam Date: April 11, 2015

Application Deadline:  
February 27, 2015

Locations: DC Metro Area.  
Additional locations can be scheduled upon request.

Contact **Sharon Burger** (sharon@iceaaonline.org)



## Detroit Chapter

*By David Holm, Detroit Chapter President*

**A**t a recent meeting, the Detroit Chapter hosted a half-day training session on the relationship of acquisition contract pricing vs. cost estimating. Mr. **Patrick Watkins**, Chief of the US Army Stryker Pricing Office, presented a talk on Pricing 101 while Mr. David Holm, Director of US Army Tank Automotive Command (TACOM) Cost and Systems Analysis, presented a parallel talk on Cost Estimating 101. The purpose of the training event was to educate the audience

on the differences and similarities of the pricing and cost estimating functional areas and look for ways to utilize each other's products in our respective areas.

Additionally, a special guest speaker from FIAT/Chrysler LLC, Mr. **Seyed Mirmiran** gave two presentations to the group. The first was titled "A Novel Asset Management Business Algorithm" which described how automotive original equipment manufacturers (OEMs) used a low-cost business algorithm

to accurately describe locations of the manufacturer's physical assets as well as assign a value to them. The second talk, titled "A New Approach to Cost Management" described a parametric approach and model to estimate tooling costs for use in the OEM's supplier negotiations. The presentations were well received by the audience and hopefully marks the introduction of a process for exchange of information and ideas between the automotive and government cost estimating communities in our chapter area. 

## Region 5 News

*By Mike Doherty, Region 5 Director*

**T**his fall has been a busy time as the Region 5 chapters have been busy working to provide opportunities for their membership to interact through chapter activities.


The Pikes Peak Chapter recently held a monthly get together virtually via the web share system Defense Connect Online (DCO). Topics discussed focused on cost analysis and optimization of maintenance and operations support concepts on the F-35 aircraft using Opus Suite. This capability is being leveraged by all Joint Strike Fighter customers to identify the "knee-in-the-curve" beyond which increasing costs over-

shadow capability improvement. This analysis can achieve cost effective capability and drive the program cost per flying hour estimates down significantly.

The Rocky Mountain Chapter recently held a social event to allow members to meet their new officers. **John Fasciani**, Rocky Mountain Chapter President, has been working with **Megan Jones** to identify speakers for future chapter dinner meetings. John and the rest of the Rocky Mountain Chapter officers are working to plan several dinner meetings in 2015, notionally in February, June, September and November. One of these will be purely social, proba-

bly the summer meeting, possibly to be conducted at Coors Field.

John is also working with **Justin Woulfe**, Pikes Peak Chapter President, to potentially hold a joint educational workshop with that chapter in the spring.

The Northwest Chapter is getting ready for their annual year end event at the Pyramid Brewery in Seattle to celebrate recognize the success of their members as well as enjoy some food, beverages, silent auction and casino games! Spencer Comert has provided a detailed report for the Northwest Chapter that covers this event, their chapter board elections and more. 

## Northwest Chapter

by Spencer Comert, Northwest Chapter President

### Education Survey

Since 2003, the ICEAA Northwest Chapter has hosted an instructor-led training course to assist individuals in preparing for the CCEA® certification exam. Course participants receive training in each of the CEBok® modules as well as study tips and guidance from currently certified volunteer instructors. Overall, the course has assisted countless participants in sharpening their cost estimating knowledge, and approximately 40 course participants who were successful in obtaining their CCEA® certification.

This year, the NW Chapter has been focusing on ways in which to improve and expand upon the existing certification and educational offering available to the members. To support this emphasis, the Chapter launched a survey to garner feedback on areas of improvement the members would like to see in the educational offerings. The response rate overall was very impressive and provided great ideas for the chapter to focus on going forward.

Key target areas based on the results included:

- Expanding online/virtual education resources
- Increased emphasis in practical application of equations and concepts
- Expansion of course facilitator volunteer opportunity to non-certified members

The valuable insight and creative ideas provided by the chapter members has provided a great foundation for improvement and expansion activities of the NW chapter educational offerings.

### Joint Accelerated Certification Course

The Boeing Company has long been an active supporter of the ICEAA organization and its mission of enhancing the profession of cost estimating. Historically, Boeing has shown support through corporate sponsorship, as well as encouragement of its employees to participate in local chapter activities, conferences and workshops, and obtaining certification.

In 2014, Boeing continued to show its support to ICEAA and provide active sponsorship by initiating an accelerated CCEA® preparation course as part of the internal Boeing training curriculum. The initiative is a great step forward for both ICEAA and the Boeing organization to perpetuate the enhancement of data-driven techniques within the cost estimating profession. The initiative is being sponsored by **Mike Doherty**, U.S Region 5 Director, and the Northwest Chapter. Training is targeted to commence in 2015.

### Election Time in NW: New Officers on the Way!

Over the past 2 years, the ICEAA NW chapter officers have made great strides towards expanding and improving the chapter. However, with chapter elections right around the corner, it will soon be time to transition to a new set of leaders. The Northwest chapter has 6 different positions to manage the chapter's various activities:

**President:** Oversee chapter operations and preside at all meetings

**Vice President:** Acts on behalf of the president when needed, hosts meetings

**Secretary:** Manages all chapter communication and member services

**Treasurer:** Maintains chapter funds and annual financial reports

**Fundraising Director:** Facilitates chapter fundraising activities

**Education Director:** Facilitates chapter educational and certification activities

On December 1<sup>st</sup> the Nominating Committee's slate of candidates, complete with biographical data, will be sent to the membership along with information regarding nominations by petition. The official ballot will be sent to our members by December 5. The ballots will be counted and results announced in early 2015!

For more information on any of the chapter roles please feel free to contact any NW Chapter officer or our Election Committee:

### Ready for another great Year End Event?

Our year end event will once again be held at the Pyramid Brewery in Seattle. We will celebrate the success of our members as well as enjoy some food, beverages, silent auction and casino games! We are excited to have **Jim Hayes**, Boeing BCA Director of Estimating, and are looking forward to having our members join us on December 18, 2014 at 5PM.

#### ICEAA Northwest Chapter Contacts

**President:** Spencer Comert,  
spencer.comert@boeing.com

**Vice President:** Cristian Petrini,  
cristian.d.petrini@boeing.com

**Education:** Stacy Dean, stacy.m.dean@boeing.com

**Fundraising:** Shawn Mahoney,  
shawn.p.mahoney2@boeing.com

**Treasurer:** Cheryl Wilson, cheryl.r.wilson@boeing.com

**Secretary:** David Padineant,  
david.padineant@boeing.com

#### 2014 Nominating Committee

**Mike Doherty**, michael.k.doherty@boeing.com;  
**Darren Du**, Darren.E.Du@boeing.com

**Sarah Cabezas**, sarah.e.cabezas@boeing.com;  
**Jeani Tommervik**, Jeani.Tommervik@boeing.com

**Katherine Coyle**, Katherine.E.Coyle@boeing.com

## Lone Star Chapter News

*By John Deem, Lone Star Chapter President*



*Michele Stoudt-Wright, Sr. Director of Government Contracts at Airbus Helicopter*

### Negotiating Skills Workshop

The Lone Star Chapter's interactive lunch break book discussion on September 10 was a great addition to our professional development offerings. Participants attended both live and virtually to discuss a book by **Jim Thomas**, *Negotiating to Win: The 21 Rules for Successful Negotiation*. Just reading books is nice, but it's better if you have the opportunity to share observations and get feedback from others based on some experience. Fortunately we had three seasoned Lockheed Martin negotiators **Rick Snow**, **Bill Davies**, and **Bob Bond** on hand to support our group discussion and provide real life insights on negotiation.

### DFW Fall Workshop

October 23 the Lone Star Chapter hosted an all-day professional development workshop at the Country Inn & Suites near the Fort Worth Stockyards covering eight sessions of interest to our local cost community.

Attendees from Lockheed Martin Aeronautics, Lockheed Martin Missiles & Fire Control, Bell Helicopter, Airbus Helicopter, and Quantech got a double dose of Fort Worth Tex-Mex cuisine with lunch at Mercado Juarez and a social at Los Vaqueros followed by a tour of the F-35 production line. Feedback was extremely positive, and attendees expressed interest in doing more down the road. This workshop was made possible with support from PRICE Systems.



*Workshop Attendees*



# Chapter and Region Updates ICEAA

## Fall Golf Outing

In response to member interest, the ICEAA Lone Star Chapter hosted a golf outing at Squaw Creek in Willow Park on October 24.

## Officers

New chapter officers for the positions of President, Vice President, Treasurer, and Secretary will assume responsibility to serve two-year terms upon confirmation by members starting November 1.

If you are interested in joining the Lone Star Chapter or you are ever in the Dallas, Fort Worth or Arlington area, and you are interested in presenting or participating in a Lone Star Chapter event, please contact us, and we'll see what we can do to accommodate your interests!



*Bill Davies, Sr. Manager of Commercial Contracts at Lockheed Martin Aeronautics*

### ICEAA Lone Star Chapter Contacts

**President:** Augie Goerner,  
augie.j.goerner@lmco.com

**Vice President:** Cathy Kehoe,  
cathy.kehoe@lmco.com

**Treasurer:** Lisa Schmitz,  
lisa.s.schmitz@lmco.com

**Secretary:** Nate Armstrong,  
nathalene.armstrong@lmco.com

**Past President:** John Deem,  
john.w.deem@lmco.com

**Region 6 Director:** Rex Potter,  
rex.m.potter@lmco.com



*Golf Outing at Squaw Creek in Willow Park: John Deem, Cathy Kehoe, Stephen Jean-sonne and Craig Callahan*

## Tell us what you think!

Please complete *ICEAA World's* readership survey at:  
<https://www.surveymonkey.com/s/ICEAAWorld>

## ICEAA Region 7 News

*By Kurt Brunner, SoCal Chapter President and Region 7 Director,  
Omar Mahmoud, San Diego Chapter President,  
and Quentin Redman, SoCal Chapter Vice-President*

ICEAA Region 7 successfully conducted a joint workshop promoted by the San Diego and SoCal Chapters at Boeing on September 17, 2014 in Huntington Beach, California. The workshop featured a robust lineup of terrific presentations that were very highly rated by the many attendees.

In case you missed the fall workshop, a dynamite Southern California Chapter Winter 2014 workshop is

being planned. It will be held December 17, 2014 at Lockheed Martin in El Segundo, California.

The Southern California Chapter Spring 2015 workshop promises to continue this tradition! It's scheduled for



Kurt Brunner



Quentin Redman



Omar Mahmoud

### ICEAA Region 7 Fall Meeting Speakers and Presentations:

**Co-Keynote Speaker: Paul Geery**, Director, Boeing C3 (Command Control Communications) Solutions; *"Boeing Huntington Beach Site Overview"*

**Co-Keynote Speaker: Bill Seeman**, Chief, Space Division, Air Force Cost Analysis Agency; *"The Five Pillars of Credible Cost Analysis"*

**Omar Mahmoud**, Lead Associate, and **Blaze Smallwood**, Associate, Booz/Allen/Hamilton; *"The Agile Project Management Tool — Effectively Managing the Three Dimensions of an Agile Project: Cost, Schedule, and Scope"*

**David Bloom**, Senior Engineering Manager, Raytheon Space and Airborne Systems, and **Danny Polidi**, Manager Electrical Engineering, Raytheon Space & Missile Systems; *"Building A Complex Hardware Cost Model For Antennas"*

**Arlene Minkiewicz**, Chief Scientist, and **Shawn Hayes**, Independent Consultant, PRICE Systems LLC; *"Space Missions Cost Estimation Model"*

**Kathy Kha**, Consultant, Galorath, Inc.; *"Bottoms Up Estimating of NASA Instruments Using Technical Parameters"*

March 18, 2015 at Fort MacArthur in San Pedro, California. This promises to be another exciting event, so start planning now!

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

Typically we have 80 to 100 attendees from across the nation (and also from overseas) that participate in these no cost, daylong events. These forums have consistently drawn a huge cross section of the cost analysis and parametric community while presenting the latest concepts and techniques, and have produced animated and enthusiastic dialogues and great interest in the topics discussed.

# Chapter and Region Updates ICEAA

## 2014 ICEAA SoCal Board

**President:** Kurt Brunner  
**Vice-President:** Quentin Redman  
**Secretary:** Evelyn Davalos  
**Treasurer:** Chris Hutchings  
**Board Members**  
Tom Bosmans  
David Graham (Program Director)  
Doug Howarth  
Suzanne Lucas

## 2015 ICEAA SoCal Board

**President:** Kurt Brunner  
**Vice-President:** Quentin Redman  
**Secretary:** Melissa Winter  
**Treasurer:** Chris Hutchings  
**Board Members**  
Dara Billah  
Tom Bosmans  
Rich Harwin  
Doug Howarth  
Suzanne Lucas

## 2014 ICEAA San Diego Board

**President:** Omar Mahmoud  
**Vice President:** Walt Bednarski  
**Treasurer:** Scott Hardy  
**Secretary:** Sheona Whitwer  
**Director of Membership:** Sam Toas

As always, our workshops are free. Stay tuned!

At the conclusion of our ICEAA Southern California workshops, a membership drawing is held. Our Membership Chair, **Steve Sterk**, is always on hand with a selection of great gifts for the drawing – “winner must be present”. If you have questions about your membership status or would like information about membership in general, contact **Steve Sterk** at [steve.a.sterk@nasa.gov](mailto:steve.a.sterk@nasa.gov) or (661) 276-2377, or the ICEAA office at [iceaa@iceaaonline.org](mailto:iceaa@iceaaonline.org) or (703) 938-5090.

Visit the ICEAA SoCal website at [www.iceaaonline.com/socal](http://www.iceaaonline.com/socal) for upcoming workshop agendas and briefings from

past workshops. If you are interested in hosting or making a presentation at one of our workshops, please contact **Kurt Brunner** at [kurt.r.brunner@leidos.com](mailto:kurt.r.brunner@leidos.com) or **Quentin Redman** at [quentin.redman@pricesystems.com](mailto:quentin.redman@pricesystems.com).

We look forward to seeing you at the next workshop!

## 2015 SoCal Chapter Board Election:

The election process for the SoCal Chapter Board of Directors has just been completed. Our many thanks are extended the elections chair, **Pamela Ehrreich**, from Boeing. The new Board

## ICEAA SoCal Winter Workshop

**December 17, 2014**

### *Agenda as of November 7*

**Wayne Wright**; Value Engineer Senior Staff; Lockheed Martin Aeronautics Company; *“Estimating Prototype Air Vehicle Development Costs at the Skunk Works”*

**Randy Jensen, Ph.D.**; Software Acquisition Consultant; *“Effectiveness Formula: Key To Improved Software Development Productivity”*

**Joe Hamaker, Ph.D.**; Senior Cost Analyst, Galorath Inc.; *“Dr. Strangelove Or: How I Learned To Stop Worrying and Love Parametrics”*

**Lunch Training Session**; by PRICE Systems, LLC; *“Data Analysis In Support Of Defensible Estimates”*

**Doug Howarth**; President and Founder, MEE Inc.; *“Aiming and Missing In Multiple Dimensions”*

**Christian Smart, Ph.D.**, Director of Cost Estimating and Analysis, Missile Defense Agency; *“Bayesian Parametrics: Developing A CER With Limited Data And Even Without Data” Best Overall Paper at the 2014 ICEAA Workshop in Denver, Colorado!*

**Robert Becker**; V.P. Business Development, PRICE Systems, LLC.; *“Cost Management Implementation at U.S. Army PEO STRI”*

will serve from January 1, 2015 through December 31, 2016.

We would like to thank the current SoCal board for their tireless teamwork in making the SoCal workshops a great success, as well as all the members and participants for their support over the years.

## San Diego Chapter

The ICEAA San Diego Chapter has been holding regular webinars and early evening get-togethers. It will be holding nominations in November for the 2015 San Diego Chapter Senior and Junior Cost Estimator/Analyst of the Year. ©





# ICEAA's 2015 Professional Development & Training Workshop

**June 9-12, 2015**

**Sheraton San Diego Hotel & Marina**

Don't miss out on the year's most in-depth cost estimating and cost analysis workshop!

## Keynote Speakers Announced!:

**Dennis Conner**, Captain of the Stars and Stripes America's Cup yacht

**Greg Cotton**, N03, Deputy for Undersea Rescue at Submarine Squadron ELEVEN

- ☀ Comprehensive training sessions featuring content from CEBoK® and the Parametric Estimating Handbook
- ☀ Professional papers written and presented by your peers in the industry
- ☀ A roundtable of premier authors from the cost community will describe their books and the process of getting from idea to published work

- ☀ Prepare for the CCEA® or PCEA® exam and earn CEU credits for recertification
- ☀ Discuss the latest tools and technologies directly with the companies generating these valuable resources

## Call for Papers!

Present your paper at the 2015 ICEAA Professional Development & Training Workshop

Demonstrate your expertise, contribute to the advancement of the profession and expand your network with a paper presentation. Space is limited, and we expect a high number of quality submissions, so be sure to submit your abstract early!

## Important Dates:

- Dec. 1, 2014:** Call for Papers Deadline: Abstracts, bios and release forms due
- Dec. 31, 2014:** Earlybird registration rates end
- Jan. 15, 2015:** Announcement of accepted abstracts
- March 30, 2015:** Papers/presentations due

For details, registration, or to submit a presentation for consideration, visit:

[www.iceaaonline.org/sd15](http://www.iceaaonline.org/sd15)



# CALL FOR PAPERS

## Journal of Cost Analysis and Parametrics

**Editor-in-Chief:** Prof. Ricardo Valerdi, *University of Arizona* • **Managing Editor:** Dr. Christian Smart, *Missile Defense Agency*

The *Journal of Cost Analysis and Parametrics* is the official publication of the International Cost Estimating and Analysis Association. It is a scholarly journal featuring peer-reviewed articles that provide the latest developments in cost estimating, cost analysis, and cost management. Its objective is to improve the theory and practice of cost estimating, analysis, management, and research results among cost-analysis educators and practitioners around the world.

The journal seeks to publish research that is interesting, intellectually rigorous, and advances the body of knowledge of cost analysis and parametrics. Papers involving a variety of topics, settings, and research methods are solicited. Manuscripts related to a broad range of application areas for any sector of the economy including manufacturing, financial services, construction, retail, defense, and not-for-profit are desired. New theories, topical areas, and research methods are encouraged. Areas of interest include, but are not limited to:

- Cost model development and validation
- Decision analysis
- Risk and uncertainty
- Simulation
- Trade studies
- Learning curves
- Productivity assessment
- Earned value management
- Design to cost
- Lifecycle costing
- Statistical techniques for analyzing data
- Data visualization

### SUBMISSIONS

**Submissions will be evaluated based on their: (1) readability; (2) relevance; and (3) reliability.** All papers accepted for publication in the Journal must have a high level of readability. Poor readability can impede the ability of a reviewer to evaluate the contribution of a paper and may lead to rejection. It is necessary to ensure the paper can be readily understood by individuals involved in the area discussed in the paper. References should not impede the flow of the paper and unnecessary obscure jargon should not be used. If applicable, details of the statistical methodology should be in an appendix rather than in the body of the paper if they are not central to the focus of the manuscript.

**The second criterion is relevance.** A paper is relevant if it has the potential to influence cost estimating, analysis, or management. A paper that appeals to a broad spectrum of readers or is unique or innovative has a better possibility of influencing practice and theory development and therefore, is more relevant than a paper without these features.

**The third criterion is reliability.** The paper is reliable if the conclusions of the paper can be reasonably inferred from the arguments. Reliability is easier to assess when a paper is statistical or involves empirical research with which the reviewer is familiar. Authors can improve the probability of acceptance of a paper by including a section on the limitations of the research techniques.

Authors are advised to consult previous issues of *JCAP*—and its predecessor journals—for suitable topics to submit for consideration. For questions from potential authors please contact:

**Ricardo Valerdi, Editor-in-Chief**  
([rvalerdi@arizona.edu](mailto:rvalerdi@arizona.edu)).

[www.tandfonline.com/UCAP](http://www.tandfonline.com/UCAP)





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## ICEAA PROFESSIONAL DEVELOPMENT & TRAINING WORKSHOP

June 9-12, 2015

Sheraton San Diego Hotel & Marina

# Call for Papers



*Reach hundreds of peers*

*Contribute to the advancement of the field*

*Expand your skills and professional network*

Present your paper at the 2015 ICEAA  
Professional Development & Training Workshop

June 9-12, 2015 ☀ San Diego, California

Demonstrate your expertise, contribute to the advancement of the profession and expand your network with a paper presentation. Space is limited, and we expect a high number of quality submissions, so be sure to submit your abstract early!

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**March 30, 2015:** Papers/ presentations due

*Only those entries submitted with a long-form paper will be considered for Best Paper Awards*

Submit your abstract and bio at:

[www.iceaaonline.com/callforpapers15](http://www.iceaaonline.com/callforpapers15)