2021: Issue #1

Adapting to Virtual Reality: Navigating a Cost Estimate for a Major Acquisition Program through a Pandemic The Online Exam: How it Works and How We're Making it Better



The magazine for the International Cost Estimating & Analysis Association



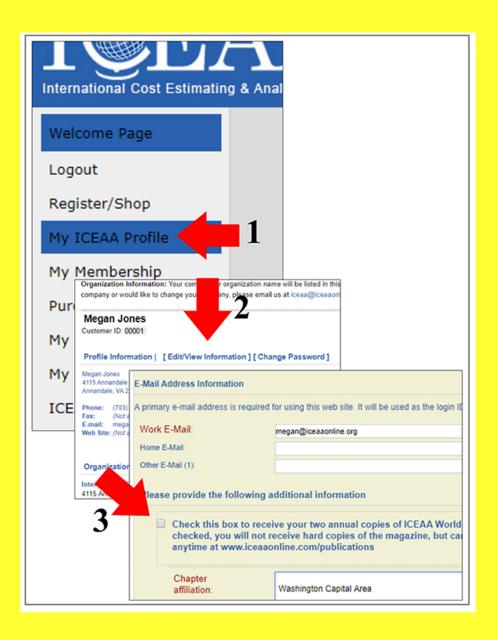
2021 Online Workshop Preview

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The International Cost Estimating and Analysis Association is a 501(c)(6) international non-profit organization dedicated to advancing, encouraging, promoting and enhancing the profession of cost estimating and analysis, through the use of parametrics and other data-driven techniques.

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President's Perspective

Rick Collins, ICEAA International President

H appy 2021! Though the time warp we've been experiencing continues, I hope the new year is off to a promising start for you and your family. My bubble is small, three to be exact – me, my wife and Rusty the Plott Hound. We're managing to co-exist rather nicely with one exception: Rusty, a failed bear and boar hunter rescued by an animal shelter in Woodstock, Virginia and then Collins' five years ago, has a penchant for letting his hound dog howl rip at the most inopportune moments during virtual meetings. This dog can't hunt, but he has the uncanny ability to sound off when I'm unmuted, particularly when I'm speaking. Fortunately, meeting participants have maintained, or at least feigned, a healthy sense of humor about Rusty's decision to be a big mouth. I hope you've had your share of similar but different moments of virtual meeting levity. I think it's good for our sanity during this unprecedented test of our adaptability!

I've said it in past articles and it bears repeating here -- I continue to be excited about ICEAA's prospects for delivering greater value to you and new members in 2021 and beyond. The International Business Office (i.e., **Megan Jones**, **Sharon Burger** and **Chelsea Torres**), the Board of Directors and the Board's appointed principals and volunteers here and abroad continue to work hard to accomplish the five priorities that I have highlighted in my previous four *ICEAA World* articles:

- 1. Improve CEBoK[®] and associated certification exams
- 2. Develop Software CEBoK[®] (aka sCEBoK) and associated certification exam
- 3. Stimulate increased level of U.S. Government (USG) cost analysis community engagement
- 4. Deliver greater value to public/private sector cost analysis community outside the U.S.
- 5. Stimulate increased level of original equipment manufacturer (OEM) estimating, pricing, and engineering community engagement

I'm not going to get into details regarding the priorities because some of my ICEAA colleagues have written their own articles discussing their and others' progress achieving our objectives. However, I do feel compelled to highlight some of the association's notable progress and accomplishments since the last *ICEAA World* edition in Fall 2020.

- We are now **over 100** test-takers (up from 20+ last edition) into the era of an online certification exam that affords aspiring applicants tremendous test-taking flexibility. Reviews of the online exam continue to be very positive.
- We have a beta version of CEBoK[®]2.0 available online to all members at no cost, but not for much longer. Reviews of the latest content/format continue to be favorable, but we're open to any additional feedback before license fees for the online (and only) product take effect.
- We have created four national sections of CEBoK[®] that represent a significant step towards globalizing the content, including sections for current and

future members in Germany, France, United Kingdom and Australia. These sections will be incorporated into the CEBoK[®]2.0 Beta and three other national sections are on the drawing board.

- We are well into our contracted effort to develop a specialty version of CEBoK[®] oriented to software cost/schedule estimating intended to appeal to a global audience composed of public and private sector professionals, including individuals very interested in a corresponding certification.
- We continue to offer a series of free and priced webinars on a wide variety of technical topics. Cancelling the San Antonio workshop provided the impetus for the association to create these virtual

presentation opportunities and members have continued to take advantage as speakers and audience members.

- We and the U.K.'s Society of Cost Analysis and Forecasting (SCAF) partnered in offering eight virtual presentations over four days in November and December.
- In close cooperation with key industry stakeholders from OEMs, have established the OEM Cooperative Opportunities Group (COG). The hear n mission of this group is to create a dialogue between ICEAA and our OEM members, explore ways ICEAA can provide support and solutions tailored to our OEM community, and provide a forum where members from various OEM organizations can communicate and share best practices. The group's first meeting, held February 18, featured presentations by six OEMS, attracted 94 attendees and laid a strong foundation for continuing dialogue and collaboration.

As you can see, the Board and other volunteers continue to do their best to create and deliver value for our membership and more broadly our community of practice. I owe each of these individuals a debt of gratitude for making the time to make a difference and urge any of you who think you might be interested in doing the same to reach out to the International Business Office.

I'd like to close with a few words about this year's virtual workshop. As great as it would have been to assemble with colleagues in an outrageous Minneapolis venue (a renovated train station) for the fun learning, teaching and networking experience that ICEAA's annual workshops have proven to be, we are extremely excited about the 2021 Online Workshop scheduled for 17-20 May in your favorite virtual meeting spot. There are lots of useful details about the event in later pages that I'll resist repeating here and encourage you to consume. I want to convey my



Hi, this is Rusty. Can everyone hear me or am I on mute?

hearty thanks to the workshop committee members for their diligent efforts to plan and execute an event that's going to set a new standard for virtual events of this type.

I also want to thank those of you who submitted abstracts and congratulate those of you whose abstracts were accepted. Although the 24 February paper deadline will have passed by the time you are reading my article, I'm keeping my fingers crossed that many of you went the extra mile and

submitted a paper. You can't win a best paper award if you don't write a paper. Win or not,

the experience of writing a paper is an invaluable opportunity to grow your reputation.

Finally, I would like to thank those of you who took the time to thoughtfully nominate a colleague or group of colleagues deserving of one of ICEAA's coveted Association Awards. What a great thing to do for a colleague or client. It's possible that the March 15 submission deadline will not have passed by the time you read this, so get your act together and craft a compelling nomination that acknowledges and promotes your colleagues accomplishments!

Please stay healthy. Rusty and I look forward to joining you at the workshop for a howling good time!

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Business Office Update

Megan Jones, ICEAA Executive Director

Before I write these articles, I like to go back and read the one from the year prior to think about where we were then and what was coming up. Oh, how sweet, naïve and hopeful February 2020 Megan was. I'd say I wish I could send her an email about all that was going to happen in the next year, but I don't think she'd believe it. I was there and I'm still not sure I do.

It feels like only a few weeks since I welcomed everyone to the last *ICEAA World*, but like every year, the time between November and February was a lightning-fast blur (can't blame the pandemic on that one at least).

Throughout November, we co-hosted the 2020 SCAF/ ICEAA Virtual Workshop with the Society for Cost Analysis and Forecasting, our sister organization in the UK. Eight cost experts from either side of the pond gave presentations on cybersecurity, risk management, software estimating, and modeling from a variety of perspectives. If you missed any or all of the presentations from the event, they're up on our YouTube channel and at www.iceaaonline.com/scaf2020iceaa

The blur smeared on through December when your ICEAA Business Office team, **Sharon Burger**, **Chelsea Torres**, and I watched and listened to demo after demo from providers of online conference software to pick the best one for ICEAA's 2021 Online Workshop. There were certainly plenty to pick from, and we're very happy with what we've chosen. More on that later in the issue.

Also in the blob of pixels that was December we worked with ICEAA Past President and Nominating Committee Chair **Paul Marston** to solicit and coordinate candidates for the upcoming 2021-2023 International Board of Directors Election. Voting begins March 15 when all current ICEAA members will get an email containing their ballot. If you have noticed you tend to miss ICEAA's emails (or don't remember getting any in a long time), log on to your ICEAA profile to make sure the email address we have is current—along with your membership; only current ICEAA members can vote—and if your address is right but you still don't get emails from us, consider changing your contact information to a personal address that's less likely than your employer's network to block emails. Voting will be open from March 15-April 1, so if you have everything set up but don't see your ballot right away, check the usual hiding places, and if it's nowhere to be found, let us know and we'll send you another one.

Smudging into January the newly formed Original Equipment Manufacturers' Collaborative Opportunities Group, that we've acronymically dubbed the OEM COG, began meeting and preparing for their first webinar in late February. As part of 2019-2021 ICEAA President **Rick Collins**' Five Priorities, ICEAA gathered a group of members representing various OEM organizations to consider what ICEAA has to offer that is of value to this important segment of our membership, and what we could begin to offer that will make ICEAA even more valuable to them.

The resulting inaugural meeting was a great success: well attended and well received, and has provided us with actionable recommendations for enhancing our appeal with OEMs. If you work for an OEM and missed the first meeting, be on the lookout for upcoming announcements for future OEM COG meetings and take a look at the recording on www.iceaaonline.com/oemcog

Recently, I had the exciting experience of being backstage for the recording of a podcast! I was virtually introduced to Dr. **Amritpal Singh Agar**, the host of *The Cost of Everything* podcast by **Sanath Rajagopal**, who we all know as the chair of SCAF, shortly after Sanath's appearance on the show. The podcast has since featured

episodes starring ICEAA members and friends Christian Smart, Ricardo Valerdi, and Fabian Eilingsfeld.

Dr. Agar is a compulsive collector of certifications and degrees, and was interested to learn more about ICEAA and our certification program. Without hesitation, I suggested our board Secretary Christina Snyder and Region 5 Director Kellie Wutzke to serve as our CCEA Ambassadors to the podcast world. Needless to say, they did not disappoint. Christina and Kellie's journeys are informative and inspiring, and both were proud to report that ICEAA has been an important asset along the way. If you or someone you know still needs to be talked into achieving your certification, be sure to check out their episode (and all of the other ICEAA stars' episodes) at www.thecostofeverything.net

This also won't be the last time you'll hear from or of Dr. Agar! Given the breadth of interviews he's already given on his relatively new podcast, we have invited him to give a keynote address at the 2021 Online Workshop about the common themes that reappear show after show, whether about the cost of space tourism or the societal value of terrestrial infrastructure.

The Cost

Podcast

If it felt like the few months between November and February came and went in a blur, the next two months are bound to be a g-force neckbreaker: it's Workshop Season again, and a Workshop Season like no other. The intricacies of holding an Online Workshop are as new and unknown to us at the ICEAA office as they are to you at home and we'll be streaking through entirely new territory with every step.

Let's not kid ourselves. Nobody would rather have an online workshop, but we can't have an in-person one and that's that. So by golly we're going to have the best ding-dang Online Workshop anyone has ever seen, and from the looks of things, we're well on our way.

The 2021 Workshop Committee met throughout the blur to make sure all of the outstanding features of the ICEAA Workshop you know and love will shine brightly through your workstation. We've all had more screen time than we'd have liked in the past year, but we're confident that the 2021 Online Workshop will stand out against all the blurriness as not just an outstanding online workshop, but an outstanding ICEAA Workshop. If you weren't already planning to register, learn everything about what's to come in this issue's Workshop Preview!

How has ICEAA membership and of Everything certification impacted two careers? Hear their stories on the podcast.

Log on and listen to earlier episodes:

What is Project Risk, Anyway? with Christian B. Smart

Work Smarter, Not Harder: The Future of Estimating with Sanathanan Rajagopal

Cost Estimating, Sports and the Art of Storytelling with Ricardo Valerdi

The Cost of Space Tourism with Fabian Eilingsfeld

www.thecostofeverything.net



Certification Corner

Kevin Cincotta, Certification Principal

Updated Certification Exams Now Online!

n recent months, ICEAA has transitioned updated its Professional Cost Estimator/Analyst (PCEA[®]) and Certified Cost Estimator/Analyst (CCEA[®]) certification exams. Both exams have been enhanced and streamlined. Here's an overview of the new process.

Bigger, Better, & Faster

The online exam is 100% multiple choice, with each question featuring either four or five answer options and exactly one correct answer – and there's no penalty for guessing. The case study has been eliminated from the CCEA, although some aspects of it remain in that exam's multiple-choice questions. While we've been able to administer most of our exams online, we can make rarecase exceptions and arrangements to provide a paperbased exam. Each exam has a two-hour time limit, and there is an opportunity at the end of each exam to provide feedback, including arguing your case for/ against a particular answer.

Each exam instance relies on a random draw of questions from an underlying pool of questions. We're currently assessing each question as easy, medium, or hard difficulty to ensure a relatively even mix in each instance. The question pool has roughly 50% more questions than is required for any particular instance, meaning the 60-question PCEA has a roughly 90 eligible questions and the 50-question CCEA exam has approximately 75. This expanded pool of questions is thanks to contributions from many of you. A special shoutout is in order to (graduated) students from the Air Force Institute of Technology (AFIT), who provided a trove of excellent questions. All of this effort, in addition to user feedback, has been used to correct, polish up, rework, or even completely eliminate several questions, resulting in a much better, more fair exam.

Virtually all of the questions are based on the Cost Estimating Body of Knowledge (CEBoK[®]), version 1.2,

with a *very* small minority of questions are based on Advanced Topics sections of those modules. It's important to note that the advanced topics aren't included on the beta version of CEBoK®2.0 that's available through your membership login. Those of you relying exclusively on that version may encounter (at most) one or two questions on topics unfamiliar to you. The questions are roughly uniformly distributed across the CEBoK[®] modules; some questions apply to more than one module.

The 70-70 Rule & Success Indicators

A passing score is 70% correct on each exam. We have observed a "70-70 rule" of sorts in the exam, where our goal is for roughly 70% of exam-takers pass the exam (by getting at least 70% correct). The following factors are highly correlated with exam success:

- Previous exam attempts
- At least three years of cost-related work experience
- Use of CEBoK® to study
- Amount of study time
- Preparation for the exam as part of an employer sponsored study group

The last item is worth emphasizing. To date, no student has self-reported participation in an employer-sponsored certification exam prep group, with at least 50% attendance in that group, and failed to pass either exam.

A tip for those getting ready to take the exam: don't spend too much time on any single question. Invariably, when I see students who barely miss passing the exam, they spent up to 10 or 15 minutes on each of one or two problems—only to get them wrong anyway. If a question is taking too long, make a guess and move on! Then, make a note of it, and come back to it as time permits. The exam is about getting credit for all the things you

already know, not trying to figure out things you may not know.

Other Online Exam Features: Artificial Intelligence Proctoring & On-Screen Calculator

When you take the exam remotely, it's proctored with AI. The AI detects actions such as opening a new browser window or tab, another individual being present in the room, or looking something up on your phone or in a book etc. While you're certainly allowed (and encouraged!) to use scrap paper for calculations, these are *not* open-book exams.

By far, the issue about which we hear the most is the onscreen calculator. It works similarly to the built-in Windows calculator, but differently than the TI83/84 calculators to which many of you are accustomed. I strongly recommend taking advantage of the calculator practice session that will be made available to you before the exam to familiarize yourself with the calculator's strengths and limitations. Also, be sure to use or plug in a keyboard that has a number pad when taking the exam!

Question Performance & Other Analytics

We're also assessing the *performance* of each question (defined as the correlation between success on that question and success on the overall exam, with higher

numbers being better). Over time, lower-performing questions will be identified and tweaked, and/or replaced with higher-performing ones. So far, quantitative questions tend to perform better than qualitative ones. Does that mean quantitative questions are more important? Not necessarily: it means that those who fare well on quantitative questions tend to also fare well on the exam generally (including qualitative questions), but the converse is not true. In other words, memorizing terms/definitions is important, but is no substitute

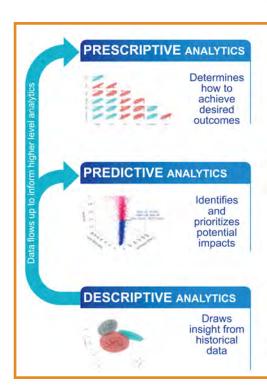
for being able to problem solve and understanding why the solutions work.

The analytics we perform on each question can also help us identify how the exam is performing across various student populations. For example, if a particular question is thought to be US-centric, do the data bear out that US students tend to do better on it than non-US ones? This is yet another way we can independently assess the performance of our questions.

Submit Your Questions!

In general, the feedback we've received on the new exams is favorable. Most students have commented that the questions are a decent representation of CEBoK[®] material and are appropriately balanced across modules. As Certification Principal, I read every word of every comment submitted about the exam and am willing to adjust scores upward if a question is found to be flawed. So, please keep your comments coming! Make a note on your scrap paper during the exam so you don't forget to include your suggestion in the post-exam survey—or better yet, submit questions yourself (one recertification point per accepted question; maximum of 20) for the database to <u>iceaa@iceaaonline.org</u>.

Of course, you may have more questions about the exam itself as well. You're always free to submit them as well, and you may just find them printed—and answered—in the next *Certification Corner!*



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

Book review by David Peeler

The past two review installments centered around the strategical and operational aspects of social science in general and broad statistical applications in particular. This review is more tactical in the sense it focuses upon a title dedicated to the practice of risk management. Specifically, how cost estimators, schedule analysts, and program managers can better understand and apply risk to projects. In fact, this read is relevant to anyone involved in bringing a project to timely and successful fruition.

Those who know me know I'm an avid reader. So... I've held a number of books in my hands; and yes, I still like to hold books and turn pages. There's something about the tactile feel of a well-constructed book. I also write in them fairly freely, unless they are precious, as are my latest devouring – six volumes of Churchill in a first United States printing. Solving for Project Risk Management has the comfortable, sturdy feel of older bindings; and is textbook worthy in heavy paper that takes ink well without bleeding through.

In nine well-crafted chapters, Smart provides thought-provoking material dealing with the enduring problems of cost growth and schedule delays, specifically as they relate to risk. Each chapter is well written, except for the occasional sentence missing an antecedent [Blame Mrs. Huffman, my seventh-grade English teacher, for my noticing]. The chapters are quite captivating, starting with great titles, then moving through historical examples of relevance before imparting well-presented discussions of data, costs, schedules, realism, portfolios, distributions, risks, and mitigation approaches.

Chapter one, "Show me the Data," deals with data and its asymmetry, emphasizing "more can go wrong than right" and typically as price increases, value decreases. "Here We Grow Again" moves the discussion to perverse incentives and optimism. From big data to baseball... risks to results, Smart takes us

Solving for Project Risk Management:

UNDERSTANDING THE CRITICAL ROLE OF UNCERTAINTY IN PROJECT MANAGEMENT

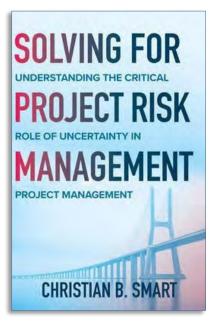
DR. CHRISTIAN B. SMART

McGraw Hill Publishing, New York. 2020

"Beyond the Matrix" in chapter three. He provides one of the best presentations of distributions, the problem of averages, and the almost inevitable waste of time and money when risks are inadequately deliberated, condensing a one to two-day course into 47 pages. Next is a meaty chapter on risk types, correlation, S-curves, calibration, and the theory versus the practice of risk interpretation. Of note, Smart brings in mathematics in a qualitative way to aid comprehension of distributions and aggregations. Chapter five discusses the mythical portfolio effect and free lunches. The former often touted by government bureaucrats that think they know investing and know next-to-nothing about program management, let alone risk [my words, not Smart's]. "Here Be Dragons" is my favorite chapter; aptly titled due to the risks in these waters. Sail carefully, remaining alert for those dangerous dragons' right tails, percentile funding, confidence, the lognormal paradox,

and the difference between risk and uncertainty [yes, there is a difference]. Chapter seven addresses "Trying to Do Too Much with Too Little," elaborating on portfolio planning, cost phasing, funding constraints, and producing more to get less. A little thinking can produce big results; in "Thinking Strategically" Smart deals with incentives and information, punishment and recourse, as well as moral hazards, adverse selection, and game theory. Attentive, informed thought allows for big results before arriving at Churchill's admonition "We are out of money; now we have to think."

He concludes with more than a cursory summary, delivering contextual strategiclevel applicability to the pieces as he fits them into a coherency for broad understanding. I haven't enjoyed reading about cost and risk this much since... well, maybe ever! The book is packed with insight and practicable methods for everyday application, laced with entertaining snippets for broader context. If you maintain a reference shelf of pertinent materials regarding our occupational specialty, Smart's book belongs on it; if not, his is a perfect start. I highly recommend it for reading pleasure and academic environments. If I taught cost estimating, cost analysis or econometrics, this book would absolutely be incorporated into the curriculum.



David Peeler is an associate with Dayton Aerospace Inc. and Deputy Director emeritus of Financial Management and Comptroller for the Air Force Life Cycle Management Center. He is a certified cost estimator/analyst and a DoD certified acquisition professional in financial, program, and test management. He is a member of both the American Society of Military Comptrollers and the International Cost Estimating and Analysis Association.



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International Cost Estimating & Analysis Association

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2021 Online Workshop Preview

by Megan Jones

For years, this article has let our membership know about the new features and improvements you can look forward to at the coming ICEAA Workshop. This year, we have the privilege of announcing an event unlike any other with more changes than ever: the 2021 ICEAA Online Workshop.

Months of planning have gone in to making this year's workshop truly original and memorable, and the next two months will be spent executing those plans in preparation for the main event that will kick off on May 17.

Immediately after the decision was made to conduct this year's workshop virtually, the 2021 Workshop Planning Committee began brainstorming ways to make our event truly original, genuinely valuable, and stand out from all the rest.

We started by thinking about how to translate those elements into an online event. Right away, we realized we need to determine what parts of an in-person workshop *wouldn't* work online, and how to keep the spirit of those aspects alive as they're beamed to your office, kitchen, living room, or whatever your workspace has morphed into over the past year.

The very first thing we knew we had to do was to make sure our Online Workshop was more than just a glorified conference call. ICEAA Workshops have met a standard we fully intend to uphold regardless of where you are when you log on, and your ICEAA staff researched and watched demos of several providers of virtual meeting solutions to pick the right one for us.

Whova is a professional and proven online meeting management solution that has been trusted to support events by Lego, Ikea, Hilton Hotels, the Rockefeller Foundation, and many more high-profile clients; and ICEAA trusts Whova to help us deliver a polished and professional event.

All general and breakout sessions will be conducted in Whova (which integrates with Zoom for videos). Registrants will be able to either download the Whova app to their tablets or phones, or watch from the comfort of your preferred internet browser. We know that some of your work computers can be picky about which webinar software you can use, and

Whova will be providing us with a test link that you can use to determine which computer you'll be logging on with.

Anyone curious enough to want a preview of Whova's features, spend a few minutes at www.whova.com for videos and screencaps!

The next thing that would need adjusting was the overall schedule. The ICEAA Workshop is usually three very dense days of training and professional development, where we barrage you with knowledge from 8:00 in the morning until 5:00 at night, with upwards of ten sessions running simultaneously. It didn't take long for us to realize that wouldn't work: staying engaged in a virtual environment is much more difficult than in person, harder to maintain for long periods, and next to impossible to focus on one thing at a time, let alone for an entire day.

The resulting schedule is both longer and shorter than usual: rather than three full days, we'll be holding sessions for four half-days. To make the live event as convenient as it can be morning in California, and an evening in the UK.

Each day of the 2021 Online Workshop will boot up with a general session for all to enjoy. Two days will begin with inspiring keynote addresses that will get you thinking about cost in a new and different way; two days will begin with a panel of senior leaders from the US Government sharing their thoughts and insights on the challenges and opportunities facing their cost centers today.

The next four hours each day will consist of three concurrent tracks of the outstanding presentations that are the core of every ICEAA Workshop. If anything was similar this year to the usual, it was the number of abstracts that were sent in! Our team of abstract reviewers pored over your abstracts over the holidays to rate and rank which of the abstracts will become the 48 presentations during which your peers and colleagues will share their thought-provoking research and conclusions.

Another job that hasn't changed much is that

for as many of you as possible, each day will run from 11:00am until 5:00pm EST, making it an afternoon engagement in DC,

48 Presentations in 8 Tracks:

- Analytical Methods
- Cyber Security & Cloud Computing
- Machine Learning & Data Science
- Operations & Support Analysis
- Processes & Best Practices
- Soft Skills & Communication
- Software & Agile
- Technical Management

of our Best Paper Awards team. By the time this issue reaches you, a team of judges will be in the process of scoring the narrative/white-

paper formatted papers we received from our authors, first to choose the best in each category, then to determine the best of the category winners: the Best Paper Overall.

And what about those Best Paper Awards? To keep you from having to be in front of your screen for yet another session, and to leave as much time for the breakout sessions as we can, the Best Paper Awards will not be presented in the same way as they have before.

During the 15 minute breaks between the breakout sessions, we will be running short videos in all three rooms. Videos congratulating our best paper winners will be shown during the first break on Monday, right after the first general session, and marked on the schedule as the ones to make sure to see live, or make a note to watch later.

Watch later? Why yes! It's a virtual workshop after all. We will be recording all 48 of our presentations and those recordings will be available on the Workshop app for six months following the main event. If the schedule keeps you from seeing one of the sessions you wanted to, registered attendees will have six entire months to binge any or all of the ones you missed.

While you're watching the videos during breaks, keep an eye out for profiles of our 2021 Association Award winners. Each award winner will star in their own short video showcasing their accomplishments, along with some comments from their nominators. Even though we won't have a dedicated ceremony, our Association Award winners deserve no less fanfare, but this time their plaques will be mailed instead of presented with a handshake.

And of course, these video breaks will feature a few words from our sponsors!

ICEAA's loyal sponsors have always been huge supporters of our events, and this year is no exception. Their contributions to the Workshop always go well above and beyond a simple financial commitment. Our sponsors are ICEAA's biggest advocates in encouraging their employees to submit abstracts, write papers, send nominations for Association Awards. Their support is what makes the ICEAA Workshop better and better every year, and their commitment to sponsor in 2021 despite the break from the norm just goes to show what genuine advocates for the cost community these companies are.

Their short videos aren't the only place you'll be able to check in on the sponsors whose booths you love to visit. Our virtual exhibit hall will allow attendees to interact directly with our sponsors using chat windows, online polling, live and recorded demos or videos, and interactive forms. Stop by the virtual exhibit hall to see what's new from the

continued

www.iceaaonline.com/online2021

2021 Workshop Committee

Workshop Chairs

Jennifer Scheel, CCEA Christina N. Snyder, CCEA

Training Chair

Kellie Wutzke, CCEA

Abstract Review Chairs

Nick DeTore, CCEA Karen Mourikas

Best Paper Chairs

Cat Dodsworth Mike Thompson

Awards Chairs

Erin Barkel, CCEA Nicole D. Robertson

companies facing the challenges you face every day, as well as those companies that provide the tools and software to make facing those challenges easier.

The fun of walking the booths and picking up sponsor swag is something we all look forward to, but how do you get a squishy stress ball or branded USB squid at an online conference?

Our clever and creative Workshop Committee came up with the answer. The first 250 paid

registrants will be sent boxes full of goodies from our sponsors as our special gift and to help make one thing feel a little more normal in a very abnormal world. If you love getting gifts in the mail, sign up as soon as you can!

Speaking of gathering in the exhibit hall, the most fun (and some might say most valuable) parts of the ICEAA Workshops usually take place there: our networking events. The people you see year after year, and the new connections you can make at the ICEAA Workshop become important resources in your day-to-day job that you can count on for advice or insight.

To keep that spirit alive, each day will conclude with fun networking events coordinated by the 2021 Workshop's gold and silver sponsors. Whether themed meetups, games, prizes...and maybe even a little more learning, get excited to see what our sponsors will have in store for us!

Your Workshop Committee would like to think we've thought of everything that should go into our first online workshop. But there was one part we decided was better to leave out: the CEBoK®-based training sessions.

For many of the same reasons we chose to alter the schedule to better fit the virtual medium, the training sessions are, in a way, their own event that happens at the same time as the Workshop. The attendees that go to the

training sessions tend to stay at the training sessions and vice versa, making something of a self-selected separate audience. Meanwhile, our PCEA® and CCEA® certification exams have also moved to an online format, making our exams more accessible to more people in more places than ever before.

Therefore, we made the decision to conduct the training sessions at a separate event that will take place later in the year. Plans for the Training Summit (working title) are in the very early stages, but we do know a few things: the Training Summit will be designed to prepare individuals to sit for the ICEAA certification exams, Online Workshop attendees will be offered a discounted registration rate, and the sessions offered at the Training Summit will lay the groundwork for a suite of on-demand CEBoK® training courses that ICEAA intends to offer for years to come, even after the world and the Workshop go back to normal.

Details and additional information on the Training Summit will be distributed via email and social media in the months to come. If you're not already following ICEAA on LinkedIn or Facebook, be sure to connect with us for the most up-to-date announcements on all things ICEAA!

Daily Outline Schedule

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All times Eastern
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Monday, May 17 - Thursday, May 20

Keynote/discussion panel general session 11:00 am - 11:45 am

Video break

Presentation sessions in three concurrent tracks Noon - 12:45 pm

Video break

Presentation sessions in three concurrent tracks 1:00 pm - 1:45 pm

Video break

Presentation sessions in three concurrent tracks 2:00 pm - 2:45 pm

Video break

Presentation sessions in three concurrent tracks 3:00 pm - 3:45 pm

Video break

Networking events hosted by our sponsors 4:00 pm - 4:45 pm

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Adapting to Virtual Reality: Navigating a Cost Estimate for a Major Acquisition Program through a Pandemic

by April Huan Li and David Stem

In March 2020, when the pandemic first hit the U.S., we never imagined the impacts that it would have on our daily work life or how long the effects would last. At the same time, we at the Air Force Cost Analysis Agency

(AFCAA) launched into a cost estimate to support a production decision for a major acquisition program. Typically, a cost estimate is done by a team of estimators, using data from various sources, along with program office personnel and subject matter experts

to create a tightly-integrated answer for future program funding. Usually, this integration is done through face-to -face interactions for gathering data, developing methodologies, reviewing estimate products, and presenting and documenting final results.

The Air Force Cost Analysis Agency (AFCAA) performs independent component cost analyses for major Air Force system programs as required by public law and Department of Defense policy, or those of special interest. It is responsible for cost estimating and for enhancing the state-of-the-art in cost analysis. It provides guidance, analytical support, and quantitative risk analyses to the Air Force corporate staff on major programs. AFCAA performs special studies supporting long-range planning, force structure, Analysis of Alternatives, and life-cycle cost analyses. AFCAA was tasked to perform an independent estimate for the F-15 Eagle Passive/Active Warning and Survivability System (EPAWSS) program milestone decision.

The team had no idea at the time that the entire effort would need to be accomplished in the teleworking environment where all meetings were held remotely (including contractor site visits and headquarters presentations). During the 32 weeks it took to complete



the effort, there were over 150 meetings with an average of 10 participants involved in each meeting. The final cost review board meeting spanned 45 people representing 10 organizations.

> As many found out at the outset, we were not technically prepared to perform work this way. The team faced technical challenges to stay connected using VPNs and tools we were not trained to use. Additionally, the bandwidth was limited and peak usage further disrupted connections adding to the frustration. The

team feared the social isolation would jeopardize the collaborative work environment that is critical to getting to a credible cost estimate. However, we knew to get to an answer for this critical program meant we had to find a way and based on our experiences, the team came up with the following tips for achieving success.

Tip 1: Ensure all parties have a clear and defined end goal and have frequent meetings to keep everyone on track. During estimate development, we had weekly virtual team meetings where 7-15 people representing five organizations and seven functional areas discussed questions, closed action items, and tracked products for the week. A project-specific SharePoint site was implemented to share data and keep track of action items so all team members were updated in real time and had instant access to same information.

Tip 2: Create touch points during the workday with teammates to ensure information is shared, collaboration is effective, and there is clear accountability for work performed. Cost estimating demands a lot of data and modeling that must be done iteratively as more information is known or as methods

continued

NOTE: The views expressed are those of the authors and do not necessarily reflect the official policy or position of the Department of the Air Force or the US Government.

are modified. At times three people were sharing the same spreadsheet and screen so that all could participate in formulating the estimate. For meetings, WEBEX and CVR were used to discuss the work to be done and Skype to do collaborative, one-on-one spreadsheet modeling. The cost team leader needs to ensure the team feels they have his or her feedback and support along the way.

Tip 3: Identify the correct tool for team work and

knowledge sharing. The initial kickoff meeting required 50 participants to connect from various organizations. This required performing dry runs prior to the meeting and planning for failure by having a contingency plan. Read-aheads were sent out in case the tool didn't work and a teleconference line was established in case WEBEX wasn't working. Besides working within the Air Force, the team had to ensure that it could effectively communicate with contractors to gather data and discuss program issues, link to OSD reps who were developing the independent cost estimate, leverage expertise from other agencies' assessments, and present to Air Force management the final products. Ordinarily, this sort of work would have been done face-to-face, but needed to be done remotely to adhere to social distancing requirements and keep all participants safe in the pandemic.

Tip 4: Accommodate different formats based on meeting objectives and maintaining information security. To obtain information for the cost estimate and

to ensure the security of the proprietary data, separate meetings were held with each contractor using their

preferred IT sharing application (e.g. WEBEX). The team also had to ensure the correct audience was participating (on both the government and contractor side) in each meeting. For example, the prime contractor was not privy to the depth of analogous subcontractor information, so separate meeting links were setup to facilitate those discussions.

Tip 5: Don't forget to laugh a bit and socialize with the team.

Working through a major acquisition program milestone can be stressful along with the anxiety of the unknown during a pandemic. At the beginning of a call, the team tried to socialize by discussing personal projects and family topics to help break the social isolation and build team cohesion. At the end of the project, the team had a Zoom happy hour where we could finally see each other and celebrate the completion of a successful cost estimate. It really provided a sense of group accomplishment and cemented the bond within the group.

Working in the pandemic environment is more of a challenge and will likely be more normative, at least in the short run. Hopefully some of the tips from our experience will provide you with a model that you can try for your projects in the virtual world.



"April" Huan Li works at the Wright Patterson operating location of Air Force Cost Analysis Agency (AFCAA) Aircraft & Weapons Division. She is the team lead for the Service Cost Position on F-15 Eagle Passive/Active Warning and Survivability System (EPAWSS) Decision Point 1. Prior to AFCAA, she worked for AF Lifecycle Management Center and private industry. She is currently the Dayton Chapter ICEAA president and CCEA certified.



Dave Stem is the Air Force Cost Analysis Agency (AFCAA) Aircraft & Weapons Division Chief. He has 29 years of experience in cost analysis working at RAND, the Naval Center for Cost Analysis, OSD (AT&L), and Navair. Dave is currently serving as an ICEAA National Board Member (At-Large) and has held several ICEAA Washington Chapter board positions including president.

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I©EAA Chapter and Region Updates

Southern California Chapter Report

Karen Mourikas, Southern California (SoCal) Chapter President

The SoCal chapter installed its newly elected slate of Officers and Directors at our first weekly virtual board meeting of 2021. President **Karen Mourikas** immediately charged the group, all with previous experience supporting ICEAA and similar cost analysis organizations, with generating new initiatives for enhancing member and nonmember outreach benefits.

Due to COVID-19 pandemic, the chapter held a virtual "All Member Invitational" meeting in which we announced the new board, recognized the outgoing board, presented highlights from 2020, and engaged in an enthusiastic discussion of potential activities for 2021 and beyond. In addition, outgoing president **Rich Harwin** was announced as interim Director for Region 7. Each member of the outgoing board was recognized and received an official ICEAA Certificate of Appreciation along with the ICEAA SoCal Chapter Commemorative coin, designed by the chapter earlier last year. These special edition tokens of esteem were also presented to our volunteers in appreciation of their efforts during the year: Elections Chair, **Sherry Stukes**; Workshop Presenter, **Lisa Colabella**; and Workshop Planner, **Nicole Leighton**.

We have encouraged our members to submit abstracts for, and participate virtually in, the 2021 ICEAA Online Workshop, and encourage the authors to prepare a paper for local chapter meetings.

Member Outreach:

The SoCal Chapter identified 3 priorities for the year: growth, professional development, and networking - all of which go hand-in-hand:

- Our Growth priority includes outreach to the younger generation such as college/university students and early career personnel, promotion of ICEAA via professional societies and job fairs, and membership drives.
- Our Professional Development priority includes CEBoK training with flexible curriculum to the community, competitions for early career and/or students, and publication support to authors for the reinvigorated ICEAA Journal.

 ♦ Our networking events include local breakfast, lunch or after-work meetings, full day workshops (postpandemic), CEBoK training sessions, engagement with academia, a local service project, and social outings.

Our thanks to the 2019-2020 SoCal Board:



Rich Harwin, President



Karen Mourikas, Secretary



Justin Knowles, Director at Large



Nicole Leighton, Workshop Planner



Tom Bosmans, Vice President



Melissa Winter Treasurer



David Bloom, Director at Large



Danny Polidi, Director at Large



Lisa Colabella, Workshop Presenter



Kurt Brunner,

Director at Large

Steve Sterk, Director at Large



Sherry Stukes, Elections Chair

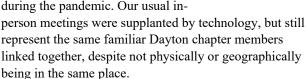


I©EAA Chapter and Region Updates

Greater Dayton Chapter Report

April Huan Li , Greater Dayton Chapter President and Alicia White-Alsup, Greater Dayton Chapter Publicity Director

It is Thursday January 21, 2021 and time for the Dayton Chapter's monthly Lunch and Learn. Today's topic is the Diminishing Rate of Learning Model. There are 48 members in the audience waiting for the presentation to begin, which is a fabulous crowd. Since the transition of the board at the middle of last year, we, the new board members of ICEAA Dayton Chapter - or as we like to call ourselves, the Aviation Chapter - are pleased to see we can only maintain audiences but also expand participants at workshops during the pandemic. Our usual in-



For the past few months, we have created, finessed, scrapped, and restructured processes to work best for our teams in our respective organizations as well as for our

local ICEAA chapter. Utilizing the overall Air Force guidelines, we have been able to transition to working from home in a nearseamless manner. Of course, we've run into those occasional remote server VPN issues or spotty Wi-Fi connections, but largely, we have been able to maintain a familiar cadence, even while apart. In fact, our chapter has proven that determination will not be swayed due to a change in office location. The work itself has continued and the sheer amount of materials completed while in quarantine has been nothing short of impressive! To date, we have hosted a series of monthly CEBoK® training as well as monthly lunch and learn workshops via WebEx on current



Zooming it up with the Greater Dayton "Aviation" Chapter

cost topics with participation ranging from 25 to 48 people for the workshops. With pre-workshop remote tool test runs with speakers, we have ensured seamless remote screen sharing between speakers and moderators during our events.

There's a certain level of uneasiness that can be expected with any transition, and this is no exception. Collectively, we've faced something we've never seen before, and as a result, we've been forced into personal/professional coalescence. But we've adapted, breaking through any unfamiliarity or discomfort, and proving the importance

of hustle, determination, and compassion. What started as an awkward blending of personal and professional lives has turned into welcoming our bosses, colleagues, and clients into our whole worlds. And we, too, have been welcomed into their homes, hearing children running down halls, birds singing, dogs barking. Not because of the pandemic, but in spite of it.

Introducing the ICEAA Greater Dayton Chapter 2020-2021 Board of Directors

President: "April" Huan Li

Vice President & President Elect: Greg Brown

Secretary: Aaron Bingham

Treasurer: Julie Louthain

Publicity Director: Alicia White-Alsup

Membership Director: Capt. Joshua Reese

Education Director: Scott Weaver

Awards Director: Joe Bauer

Policy Director: Bryan Daly

With board members' involvement using our expertise, our chapter has allowed itself an opportunity to experiment and recreate itself within the virtual world. In this time of increasing social distancing, our chapter has remained connected via the virtual gatherings. We have instituted some fun at the end of the Lunch and Learn sessions by having a member in attendance win a small token of appreciation, which lets us be more connected and stave off loneliness.

Though this time has been unpredictable and possibly somewhat painful due to lapses in technology, the Dayton "Aviation" Chapter has managed to create meaningful ways of being together while apart.

SCAF Newsletter

Society for Cost Analysis and Forecasting Scare Chairman



hat a year this has been so far! As we all got hit by this new crisis, it made us think about what we had and how easy it is to lose the very basic freedoms that we had taken for granted. This crisis has certainly changed our lives and we are slowly settling into our new norm. It is the same with SCAF, we followed (and continue to follow) the UK government's guidelines on what can and cannot be done and adjusting our commitments to our members in compliance with those guidelines. This has also allowed us to embrace the new technology to deliver our commitment to our members.

In September of 2020, we had our AGM (our very first virtual event) and we published our new committee members to our community. I am very happy to congratulate **Antony March** (MoD, UK) for becoming SCAF's new Deputy Chair and **George Lyon** (TP Group) on his appointment as SCAF Secretary. A big thank you to **Dale Shermon** who stepped out as Deputy Chair and to **David Baggley** who stepped down as secretary for their selfless commitment and support. Dale and David will still be part of the SCAF Committee.

Our Annual SCAF Challenge was postponed from its planned April 2020 date and rescheduled as virtual events in September and October. This year, we challenged our young and next generation cost graduates to come up with a cost of having an electric car in an average UK household.

The SCAF Award event was also cancelled this year due to Coronavirus and social distancing; however, the awards for the 2019 SCAF year (November 2018, February 2019, April 2019, June 2019, September 2019 workshops) have been judged and the committee will make awards and commendations in the following categories at the next physical event:

- **P Pugh Innovation Award** the best annual presentation with novelty and originality content
- Technical Content Award best presentation with scientific, mathematical, process driven topic

- **Best Quality Presentation Award** the most visually stimulating, colourful, and otherwise interesting presentation
- Members Award based upon the highest workshop questionnaire score
- Service to the Society Award

In the autumn of 2020, SCAF held a series of very successful and well-attended joint workshops with ICEAA. The success of these workshops illustrates the potential of further collaboration between SCAF and ICEAA. If you missed one or all of the presentations, they're available on ICEAA's YouTube channel or at www.iceaaonline.com/scaf2020iceaa

Many thanks to all of our members who has supported us during this crisis. Stay safe and look after each other and the family.



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ertification ongratulations

The new online certification exam continues to be a success affording those pursuing certification the opportunity to do so in a safe environment as the pandemic continues. For more information about the online exam, be sure to check out **Kevin Cincotta**'s article in the Certification Corner in this issue of the magazine.

Congratulations are extended to the following individuals for passing either the CCEA® or PCEA® exam between September and December 2020:

CCEA® Achievers:

John Baltz, Tecolote Research, Inc.

Scott Bidlack, Technomics, Inc.

Peter Iburg, Department of National Defence (Government of Canada)

Thomas Sullivan, Herren Associates

Jonathan Thomas, Centauri

Donald Wong, Treasury Board of Canada Secretariat

John Woodcock, Technomics, Inc.

PCEA® Achievers:

Benjamin Cratsley, Herren Associates

Kirandeep Gund, Booz Allen Hamilton

Stephen Ketcham, Cobec Consulting, Inc.

Monika Splett, Department of National Defence (Government of Canada)

Eric White, Booz Allen Hamilton

PCEA® Achievers/CCEA® Eligible:

Andrew Goyens, Department of National Defence (Government of Canada)

Lars Hoffman, Booz Allen Hamilton

The following recertified between September 2020 and December 2020:

Aziz Abidi John Bates Dana Beaumont Ronald Beheler Jonathan Bell Sharon Burnette James Freeman Christina Galletta Dustin Hilton Mark Hodgins Francois Levesque Laura Lucas Omar Mahmoud David Mattingly Matthew McNally Jérôme Montpetit Richard Osseck Andrew Pugh Kevin Rathbun Jim Smoot Barbara Stone-Towns Christopher Svehlak Andrew Vieweg Stephanie Warnes



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2021-2023 I@EAA Board of Directors Election Polls are open March 15 - April 1

Ballots will be emailed on March 15, 2021 to all current ICEAA members.

Email iceaa@iceaaonline.org to confirm your address and membership satus or to request another email. Expired members will not receive a ballot.