



Practice Periodical – Articles for the Practicing Engineering Manager

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Welcome to the Practice Periodical

The 2017 IAC is Almost Here!

Have you registered for the IAC? If not, what are you waiting for? The program promises to be informative with a record number of papers and presentations scheduled. The tours and social events - especially with the Space and Rocket Center - look amazing. A special feature this year is a workshop, organized by Javier Calvo-Amodio on the subject of Systems Science. See the next post for an example of what you can expect in an IAC workshop.

Won't you join us in the Rocket City? More information is available here: http://asem.org/2017_IAC

The ASEM 2016 Workshop Report

(This piece was submitted for an earlier Practice Periodical and was set aside due to space constraints; my apology. ~ TSK)



Workshop Held: Thursday, Oct 27, 2016, 9:30-11:45am

Workshop Delivered by: Dr. Alice F. Squires, Washington State University (WSU) and Dr. Jim Boswell, The Aerospace Corporation

Workshop Vision and Purpose

The American Society of Engineering Management (ASEM) Systems Engineering Workshop was held in Concord, NC during the ASEM 2016 International Annual Conference on Thursday morning, October 27, 2016. The workshop addressed early phases of the systems engineering life cycle starting from identifying the right problem, deficiency, or opportunity to developing an initial system functional architecture.

The vision for this workshop was to provide a sample approach (one of many) that included a minimum subset of the initial steps needed for defining a set of system level functions in support of a desired system capability for a known and well-understood system. To relay the concepts, a system of low complexity was chosen for the example, a coffee maker, and teams were encouraged to use a commonly known and understood system of relatively low complexity that they defined, to go through the steps as the workshop progressed.

The workshop balanced topic presentation with active learning through group work and team reporting. The entire report (PDF) is available here: [ASEM2016SEWorkhopReport.pdf](https://www.sem.org/-/media/assets/conference/2016/asem-2016-se-workshop-report.pdf) (15.13MB)

Ethical Blind Spots (used with permission, originally published in the KYCPA Journal)

When you don't know what you don't know, how can you make an ethical decision? Best-selling author and speaker Kevin McCarthy served thirty-three months in a federal prison -- for a crime he didn't *knowingly* commit. After getting swept up in the con of a manipulative CEO, McCarthy is now able to look back with keen insight and share three important tools for how to protect

yourself from the bad decisions you don't see coming. Although the article is written for accountants, these tips are incredibly relevant for any engineering or technical manager who might be faced with a tricky ethical decision -- or caught in one unawares.

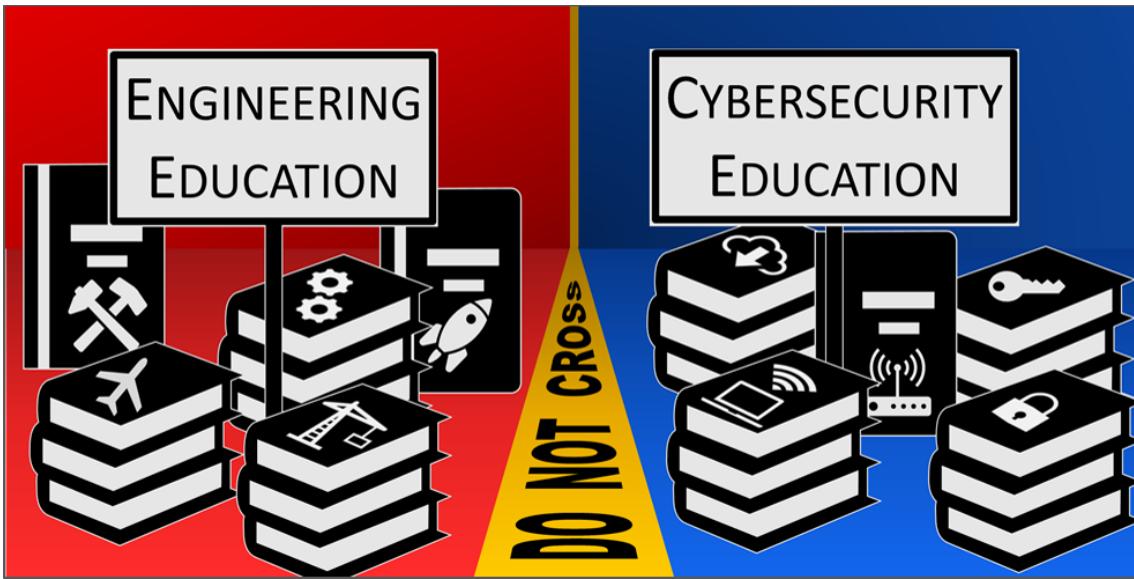


This article is published in the KYCPA Journal, Page 11, Issue 3, 2017 and can be found
[at...https://issuu.com/kycpa/docs/kentuckycpajournal2017issue3/11](https://issuu.com/kycpa/docs/kentuckycpajournal2017issue3/11)

About the author: Kevin McCarthy is a keynote speaker for conferences throughout North America and abroad. He is the author of Blind Spots – Why Good People Make Bad Choices. For more information, contact him at info@kevinmccarthy.com.

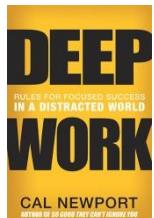
Inclusion of Cybersecurity in Engineering Education (used with permission, originally published at MissionMultiplier.com by Sara Elizabeth Woodard)

The men and women who pursue degrees in engineering are brilliant innovators and problem solvers, but do they have a blind spot when it comes to securing their work? Could the standard engineering curriculum be improved by the inclusion of some basic principles of cybersecurity? Mission Multiplier, a cybersecurity company based in Huntsville, AL, thinks that a basic knowledge of cybersecurity could help engineers (and everyone else) improve the quality and security of their work. With that in mind, they sat down with two employees to get their take on the topic. One is a current engineering student and the other recently graduated with his engineering degree. Their conclusion: it certainly couldn't hurt.



Link: <https://www.missionmultiplier.com/single-post/2017/08/13/Should-Cybersecurity-Be-Included-in-Engineering-Education>

Deep Work by Cal Newport - A Book Review by Teresa Jurgens-Kowal



Deep Work: Rules for Focused Success in a Distracted World by Cal Newport. Grand Central Publishing: New York (2016). 303 + xv pages. US\$28.00 (hardcover).

Like many companies today, ExxonMobil's new campus at The Woodlands, Texas, features an open work space without traditional offices. The theory behind open work spaces is to drive collaboration and the chance encounters that will trigger an idea that leads to the next great thing.

Unfortunately, as Cal Newport argues in his new book, "Deep Work," such open work spaces not only fail to drive magical chance encounters but are indeed quite harmful to the productivity of workers. Newport defines "deep work" as "professional activities performed in a state of distraction-free concentration that push your cognitive capabilities to their limit" (pg. 3). He contrasts deep work with "shallow work," defined as "non-cognitively demanding, logistical-style tasks, often performed while distracted" (pg. 6).

The full book review (PDF) is available here:
[ASEM Book Review-Deep Work-TJK.pdf](#)

Crisis Planning - by Teresa Jurgens-Kowal

Engineers and engineering managers are especially skilled at fixing things which makes us uniquely qualified to deal with the technical aspects following a disaster. Crisis planning, however, must also look at the human side of an event or series of events that have led to the unacceptable result. Recently, I have been exposed to the aftermath of Hurricane Harvey and then found myself in the panhandle of Florida as Hurricane Irma made landfall in that beautiful state.

My first exposure to disaster response came as I was a new supervisor at Exxon on September 11, 2001. Our R&D lab was undergoing a routine compliance audit at the time. Not knowing the extent of the attacks, and assuming the largest refinery in the nation could be a target, I needed to account for 21 employees, two administrative personnel, and a team of auditors who I had only met for a brief time the day before. Each had a range of emotions in reaction to the terrorist

attacks and need personal attention to either continue work or to go home.

Hurricane Harvey has taken an untold emotional toll on my city as well. The huge mounds of debris stacked in front of flooded homes is the most visible marker of the disaster. However, cleaning out the damaged flooring, drywall, and insulation is a step in the recovery process as well.

How do we plan for these natural disasters? Is our planning adequate? The linked article to Harvard Business Review (HBR.org, tiered subscription) introduces some considerations for managers in the health care industry. However, as engineering managers, we, too, can learn from the experience of others. While we know that our crisis planning may not identify all risks, we cannot afford to move forward without it.

Article link: <https://hbr.org/2017/09/what-harvey-is-teaching-the-health-care-sector-about-managing-disasters>

Gratitude and What's to Come

I want to thank Alice Squires, Kevin McCarthy, Brandon Dean and Teresa Jurgans-Kowal for submitting and sharing their ideas and content for this issue of the Practice Periodical. I especially want to thank Teresa because she is always by my side and lending her expertise for all things ASEM. Her guidance has been tremendous.

This issue provides me with a lot to consider about the Practice Periodical and the future of Engineering/Technical Management. Of course, in the next issue you can look forward to reading more about the outcomes and ideas from the 2017 IAC. Following that issue, I want a different format for this publication. As a reader, you have a number of ways to receive information about ASEM. What I propose is a way to present more ideas from our industry peers, favorite thought leaders and emerging trends. If you, someone you mentor or someone you admire is interested in sharing materials in the Practice Periodical (or a blog post or webinar), please get in touch with me. I will do likewise with my network with the hopes that the Practice Periodical becomes something that you value and look forward to reading. Thank you for your readership!

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