

## Elections Open with Restructured Chapter Operational Concept



### Rick Dove, President—

The Chapter organizational structure is in the midst of a major restructuring. Over the years the Board has grown to 13 members. Anybody who wanted to be on the Board was welcome. This has turned Board meetings into time-

pressured deliberations about activity but hasn't increased the number of people involved in the actual activity.

Heavy lifting has principally been the work of a few Board members, for treasury, secretarial, communications, monthly program arrangement, tutorial arrangement, twice yearly social production, Circle Award evidence submission, the Socorro Summit planning and production, web site maintenance, and quarterly Newsletters. These few people have enjoyed the work, but have other pressing time obligations and are getting burned out.

The Board's responsibility is strategic, operational and financial governance. Not a big job when focused on those responsibilities alone; but we have increasingly relied on the Board to plan and execute all of the activities as well. With more activities each year, there is too little time for effective planning in a one-hour monthly board meeting. Implementation falters for lack of focus.

Restructuring will place activity planning and execution as the responsibility of Chapter Committees focused on specific activities. Monthly meetings may still occur, perhaps with Chapter Committee planning and progress brief outs for all in attendance, but with Chapter Committee planning and execution occurring off line. That's my current preference, but is yet to be discussed by both the current and future board.

Next year, a smaller Board, consisting of five officers and four at-large Board Directors, will meet as needed to deal strictly with governance issues that include resolution and allocation of Chapter Committee budget requests. Board members will participate in Chapter Committees as they choose.

Planning the details of this restructuring is in process, with a target for initial restructured operations commencing with the new year as the new Board is installed.

Initial Committees will be established over the next few months and communicated to the Chapter membership. All of you should consider volunteering as a Chapter Committee participant, either proposing or choosing Committees that will reward you with professional growth of personal interest.

No need to wait. Indicate your interests now to [rick.dove@parshift.com](mailto:rick.dove@parshift.com) or Ann Hodges at [alhodge@sandia.gov](mailto:alhodge@sandia.gov).

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## Fall Tutorial—October 26, 2018

### Dr. Tyson Browning—Design Structure Matrix Methods and Applications

Ann Hodges, Sandia National Labs

The *design structure matrix* (DSM) is a powerful tool for visualizing, analyzing, innovating, and improving systems—including product designs, organizational structures, and process flows.

The DSM is a square matrix showing relationships among system elements, which can be product components, software code packages, teams, activities, etc. By analyzing a DSM, one can prescribe a better (e.g., more modular) system architecture or organization. Adding a time-basis to the model enables one to prescribe a faster, lower risk process.

Because the DSM highlights process feedbacks, it helps identify iterations, cycles, and rework loops (key drivers of cost and schedule risk). The DSM is concise, visually appealing, and used in many organizations across diverse industries.

Users have found it extremely useful for fostering architectural innovation and enabling the situation awareness and empowerment that motivates the people executing complex processes.

This tutorial introduces DSM and applications for product developers, systems engineers, and project and program managers. Real-life examples are presented from the aerospace, automotive, semiconductor, and other industries.

Participants will engage in hands-on exercises (building DSM models) and come away with a clearer understanding of the drivers of critical, emergent behaviors in systems. The methods can be applied immediately to systems for quick results and insights.

**Flyer: [Here](#). Registration: [Here](#) - closes October 24.**

INCOSE members: \$150; non-members: \$200; students: \$0.



Dr. Tyson R. Browning is an internationally recognized researcher, educator, and consultant. He is a full Professor of Operations Management in the Neeley School of Business at Texas Christian University, where he conducts research on managing complex projects (integrating managerial and engineering perspectives) and teaches MBA courses on project management, operations management, risk management, and process improvement.

He has trained and advised several organizations, including BNSF Railway, General Motors, Lockheed Martin, Northrop Grumman, Seagate, Siemens, Southern California Edison, and the U.S. Navy. Prior to joining TCU in 2003, he worked for Lockheed Martin, the Lean Aerospace Initiative at the Massachusetts Institute of Technology (MIT), Honeywell Space Systems, and Los Alamos National Laboratory. He earned a B.S. in Engineering Physics from Abilene Christian University before two Master's degrees and a Ph.D. from MIT.

He is also the co-author of a book on the Design Structure Matrix. He is a member of several professional societies: Academy of Management, Decision Sciences Institute, Institute for Operations Research and the Management Sciences, International Council on Systems Engineering, Production and Operations Management Society, and Project Management Institute.

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## Western States Regional Conference (WSRC)—What You Missed

Paul McGoe, Retired

On Sept 20 - 22 the first Western States Regional Conference was held at the Northrup-Grumman Conference Center outside Ogden Utah. Attendance was almost 100 onsite and 20 at two remote locations. The conference theme was Systems Engineering Out W.E.S.T (Workplace – Environment – Sustainment – Technology).

A real success. A very productive and high participation meeting in a beautiful rustic rail-road-days ex-brothel facility, with great food (emphasis on great food!).

Regional Chapter participation was very high, with 10 out of 11 Western Regional Chapters represented. Support was high with 17 sponsors. Rick Dove presented on Agile, and Celeste Drewien gave both a presentation and tutorial on teaming. Of special interest to me was Charles Vono's presentation and tutorial on Complex System Sustainment Management Model (CSSMM). Planning has already begun for next year's WSRC to be held at Loyola Marymount University near the beach at Marina Del Ray in Los Angeles next September.

Personally it was very rewarding, with some really interesting presentations on software testing, system sustainment, and adoption of SE techniques and tools for the lawmaking process. A real Pan-Galactic Gargle Blaster of a conference.

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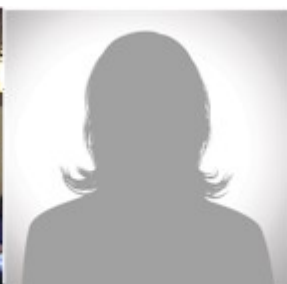
Western Region



Arno Granados, SNL



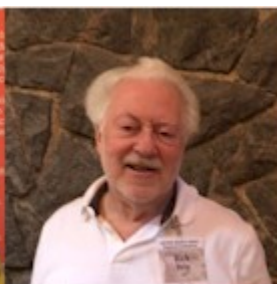
Roy Wolfgang, SNL



Celeste Drewien, SNL



Paul McGoe, Retired



Rick Dove, PSI

Enchantment Chapter Participants

## Summer Social with the Sharks—What You Missed

Mary Compton, Sandia National Labs

On July 18, 2018 twenty-eight of your fellow chapter members and friends gathered at the Enchantment Chapter Summer Social for cocktails, good food, and a view of the Shark Tank.

The social was held at the Shark Reef Café located in the Albuquerque BioPark Aquarium.

Unfortunately we have no people pictures to share here. We were all mesmerized by the sharks and manta rays, engaged in lively conversations, and going back for seconds and thirds of the Caribbean and Italian dishes. No thoughts of picture taking occurred to anyone. But if you were there, you have the pictures in your memory. Next time, take some pictures for sharing.

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## Energy Tech Oct 22-25 Cleveland

Sponsored by INCOSE and NASA.: Energy, Electric Power, Transportation, Aerospace, and Infrastructure.

- Exposition: Systems, Models, Flying Cars, UAV/Drones, MicroGrids, Control, Security, Technology, and a large NASA Aerospace Exhibit.
- Program: [www.energytech.org/conference/upcoming-events](http://www.energytech.org/conference/upcoming-events)
- Registration: [www.tickettailor.com/events/energytech/192426](http://www.tickettailor.com/events/energytech/192426)

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## SEP Training Nearby

SEP Courses by *Certification Training International*:

Course details (more dates/locations)

Courses Nearby (somewhat):

2019 Feb 11-Feb 15 | San Francisco, CA

2019 Aug 12-Aug 16 | Austin, TX

Chapter SEP Mentors:

Ann Hodges [alhodge@sandia.gov](mailto:alhodge@sandia.gov), Heidi Hahn [hahn@lanl.gov](mailto:hahn@lanl.gov)

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### Recent Meetings

*Ann Hodges, Sandia National Labs*

Presentations and recordings are in the Library at [www.incose.org/enchantment](http://www.incose.org/enchantment).

**July 2018**—This year's Summer social, where 28 people had a grand time at the Albuquerque Aquarium's Shark Reef Café. The dinner buffet included both Caribbean and Italian food. See article on page 2 for what you missed.

**August 2018**—15 participants explored 3 SE challenges at the Nexus Brewery. This 1.5 hour event featured lively discussion, with appetizers and refreshments provided by your Chapter.

We spent the first 30 minutes with appetizers and networking, then we spent 60 minutes covering three topics at 20 minutes each (recorded). See article on page 5 for the discussion points. Briefly, the Challenges were as follows:

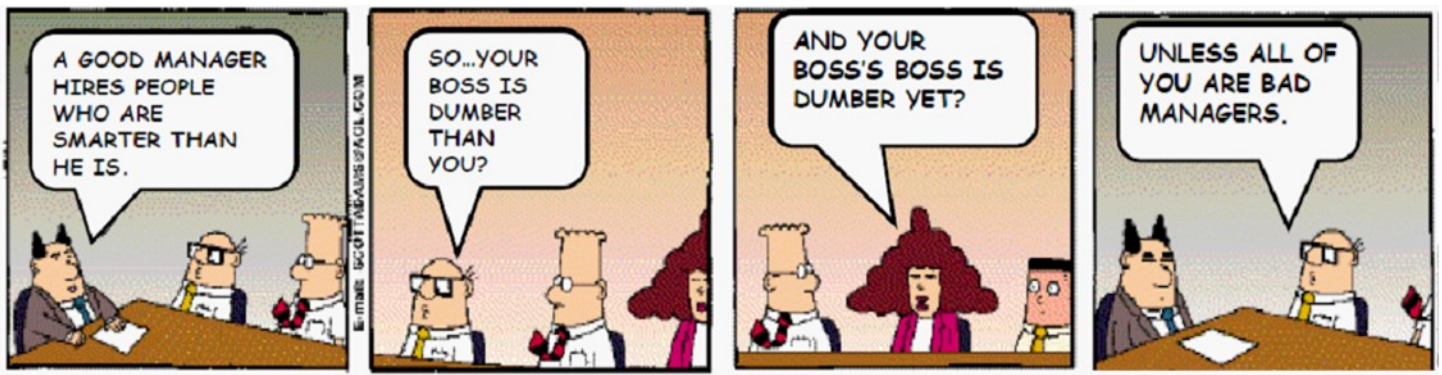
**Challenge 1, submitted by Ed Carroll:** Why/Why Not is the Model-Based Engineering (MBE) Manifesto an Appropriate Guide for Your Modeling Practice?

**Challenge 2, submitted by Eva Wallace:** Product Lifecycle Management (PLM) and Model-Based SE (MBSE).

**Challenge 3, submitted by Rick Dove:** Overcoming the Male Leadership Culture.

**July 2018**—Rick Dove, Chair of the Agile Systems and Systems Engineering WG, presented *Agile Operations 201 – Problem Space Derived Solution Requirements*. Lunch was provided by your Chapter.

Rick opened the meeting by stating that the definition of agile systems engineering is rooted in what it does—respond effectively in a life cycle environment that is capricious, uncertain, risky, variable, and evolving. This presentation covered methods for developing and maintaining problem space characterization, and identifying and tracing the life cycle response requirements dictated by that characterization. Process examples were provided. ∞



### Next Meetings *Ann Hodges, Sandia National Labs*

#### **Oct 10: Using Enterprise Architecture for Analysis of a Complex Adaptive Organization's Risk Inducing Characteristics.**

Laura Salguero, Sandia National Labs, R&D Systems Engineer

**Abstract:** Sandia National Laboratories is an organization with a wide range of research and development activities that include nuclear, explosives, and chemical hazards. In addition, Sandia has over 2000 labs and 40 major test facilities, such as the Thermal Test Complex, the Lightning Test Facility, and the Rocket Sled Track. In order to support safe operations, Sandia has a large Environment, Safety, and Health (ES&H) organization that provides expertise to support engineers and scientists in performing work safely. With such a diverse organization to support, the ES&H program continuously seeks opportunities to improve the services provided for Sandia by using various methods as part of their risk management strategy. One of the methods being investigated is using enterprise architecture analysis to mitigate risk inducing characteristics such as normalization of deviance, organizational drift, and problems in information flow. This talk presents a case study for how a Department of Defense Architecture Framework (DoDAF) model of the ES&H enterprise, including information technology applications, can be analyzed to understand the level of risk associated with the risk inducing characteristics discussed above. While the analysis is not complete, we provide proposed analysis methods that will be used for future research as the project progresses.

#### **Oct 26: Tutorial: Design Structure Matrix Methods and Applications.**

Dr. Tyson Browning, Professor of Operations Management in the Neeley School of Business, Texas Christian University.

**Abstract:** See article on page 1 for details and registration info.

#### **Nov 14: An SE Approach to Providing Photovoltaics in Ghana**

Marlene Brown, Sandia National Labs, Systems Engineer

**Abstract:** This presentation portrays the evolution of the Boko Bed Net System for a Malaria ridden area in Ghana. It is the result of analyzing a serious problem, understanding the environment and limited local resources, and then finding the right technologies and partners to design and implement a simple and elegant solution. The Boko Bed Net System consists of a LED light and fan powered by a small photovoltaic (PV) system inside of a bed net. The system is simple enough, but the project was created out of need. It comes from personal stories of Malaria, cultural communication issues and taboos, and genuine compassion for trying to combat something as common and devastating as Malaria. This is a real project that I worked on, mentored and guided. A Systems Engineering approach was used throughout this project.

#### **Dec ??: Winter Social ? No plans at the moment, may get pushed into January or February, or maybe not.**

Produced by Mary Compton, Sandia National Labs, in the past; but she's burned out and you didn't volunteer to take over.

**Event:** Remains to be seen.



## Socorro Systems Summit—Moved to April 5-6, 2019

*Rick Dove, Paradigm Shift International*

The next Socorro Systems Summit will occur April 5-6, 2019. We moved from the prior October time frame due to conflicts that prohibited interested people from attending.

The April 2019 Summit will be held at, and is co-sponsored by, New Mexico Tech, as usual, with a special tour if the Antenna Array being arranged.

The purpose of the Summit is to provide a useful experience with engaged collaboration, specifically focused on diverse systems engineering topic perspectives of organizational and personal interest that are not receiving sufficient attention.

Workshops are not lectures or subject matter expert pontifications, but rather facilitated exchanges of perspectives on vexing issues.

To make the collaboration meaningful to you, your input on candidate workshop topics is needed. Eight topics will be chosen on October 24. Please affirm interest in some on the list to the right, or offer some additional candidates.

Email your thoughts to [rick.dove@parshift.com](mailto:rick.dove@parshift.com).



Here are *some* topic candidates being considered for the 2019 Summit; but what would you like?

- What impedes and would encourage and facilitate student involvement in INCOSE Chapter and working group activities?
- What impedes and would facilitate women as leaders in systems engineering?
- What impedes and would establish opportunity management as a first class risk management consideration?
- What impedes and would establish effective and evolving problem space attention over a solution focus rush?
- What impedes and would encourage mixed discipline interoperable model centric engineering?
- What impedes and would encourage mixed discipline systems engineering training?
- What impedes and would enable agile systems engineering in mixed discipline projects?
- What impedes and would enable better software development interface with systems engineering?
- What impedes and would facilitate full life cycle consideration by system developers?
- What impedes and would enable SysML to speak effectively to decision makers?
- What impedes and would facilitate dealing with complexity, emergence, and assessment in autonomous systems? ∞

## Do a Paper/Panel/Tutorial for IS19 in Orlando, FL July 20-25, 2019

Disneyland in more ways than one.

### Key Dates

- Paper, Panel, Tutorial Submission - 16th November 2018.
- Notification of Acceptance - 15th February 2019.
- **Paperless Presentation Abstract Submission - 15th February 2019.**
- Paperless Presentation Acceptance - 15th March 2019.
- Final Paper, Panel, Tutorial Submission - 15th March 2019.

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## Rewarding Involvement as an IS19 Reviewer

INCOSE will send a message to all members shortly, asking for people willing to review submissions for IS19 papers, panels, and tutorials. You can choose the topics that interest you. They generally send you 5 or fewer submissions for review. You don't have to consider yourself an expert on the topics you choose.

Reviews open the first week of December 2018, and close in early January 2019. If you lose the reviewer request message, contact Jörg Lalk at [jorg.lalk@up.ac.za](mailto:jorg.lalk@up.ac.za).

Even if you're not going to IS19, as a reviewer you'll get an early peek at some of the proposed action, be part of the program

committee (a bio credit), help INCOSE provide a highly relevant IS19 program, help the authors improve their submissions, help save us all from bad submissions, and help the Chapter earn points for Circle Awards if you tell us.

For those of you that don't usually attend the International Symposium, this is a great alternate way to be involved with both the Symposium and your community of professional practice. For those of you who haven't submitted papers in the past but may in the future, this is a great way to experience how paper reviews are conducted, as full review criteria are provided. ∞





## SE Challenge Event at Nexus Brewery—What You Missed

Ann Hodges, Sandia National Labs

You had to be there. There is no way to capture the sense of comradery and shared mission that hovered in the room. We all enjoyed what everyone had to say about the engaging topics. There was a clear respect for hearing what someone else had to say and thinking about it. It was “yes and” rather than “no but.” There were four new faces as well as eleven old standbys. At the end, participants gave a resounding call for more. We spent the first 30 minutes with appetizers and beer – sharing conversation with the people sitting within talking and hearing distance about whatever. Then we spent 60 minutes covering three topics at roughly 20 minutes each.

### Challenge 1, Ed Carroll: Why/Why Not is the Model-Based Engineering Manifesto an Appropriate Guide for Your Modeling Practice?

Major discussion points included:

- Purpose of the manifesto: generate a conversation leading to transformation to a model-based environment; model-based engineering environment for engineers.
- If a machine can interpret, is there value? Rigor – interpreted the same way across scopes.
- Need for capability to exchange information between SE modeling tools – ISO 10303 Standard for Exchange of Product information (STEP), AP233 (covering early lifecycle phases).
- Has MBE got problems to be saved from? SE needs to be “liberated” – there’s artifacts galore.
- Support for high consequence outcomes, e.g., FAA certification.
- Who is the “user” of a model? Content over container.
- What’s the revolution that we want?



### Challenge 2, Eva Wallace: Can PLM and MBSE be Connected and Coexist to Support Mission Success?

Major discussion points included:

- PLM is a hub, most MBSE assumes there’s a hub.
- OMB MBSE wiki [www.omgwiki.org/MBSE/doku.php](http://www.omgwiki.org/MBSE/doku.php).
- The Open Group [www.opengroup.org/subjectareas](http://www.opengroup.org/subjectareas).
- PLM repository for existing models, e.g., already qualified and V&Vd with respect to limitations/context.
- Consider decision information, e.g., lifecycle costs.
- Product line in an organization may be owned by marketing (have “head” knowledge), SE not involved.
- Models can support knowledge transfer, know where your knowledge base is. Culture issue. Capture and disseminate knowledge and manage info.
- Scope of system, sharing knowledge of players.
- Model integration – how coupled do models need to be?
- Constraints drive characteristics.
- Different languages – product line vs. MBSE.

### Product Lifecycle Management (PLM) and Model Based Systems Engineering (MBSE)

Eva Wallace SE Challenge

#### Challenge: Can PLM and MBSE be connected and coexist to support mission success?

- What is the relationship between them?
- How can both be integrated into a strategy to solve development challenges?



### Overcoming the Male Leadership Culture

Rick Dove SE Challenge

#### Challenge: Reorienting male leadership and organizational culture to value, hire, and promote women as leaders in Systems Engineering.

Some problem reality:

- Unconscious, primate/human behavior patterns.
- Emotionally men feel assumed position of privilege threatened.
- Behavior-changing occurs for emotional reasons, not rational reasons.



What is the personal bigger threat or compelling reward that overcomes the threat?

### Challenge 3, Rick Dove: Overcoming the Male Leadership Culture.

Major discussion points included:

- Alpha male concept rampant, equality is a threat to the male.
- What does empowering women mean? Women are locked into a system with male assumption of privilege.
- Unconscious ingrained patterns prevail
- Culture we typically work in is hierarchical, a “mil std” world.
- Difference in focus - power (male) vs. community (female).
- How to change value structure given the current value structure?
- How to overcome:
  - Find a bigger “threat” or bigger “reward.”
  - Tell a story – has to be personal – crossing a boundary. Forces people to confront their perceptions and biases.
  - Privileges allow a group to function.
  - Take a moment – not instinct and make a decision.
  - Psycho-Cybernetics book shows How to Break a Habit.
  - Need horizontal to vertical “epiphany.”
  - We remember a story – connect emotionally.

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## Not For Women Only

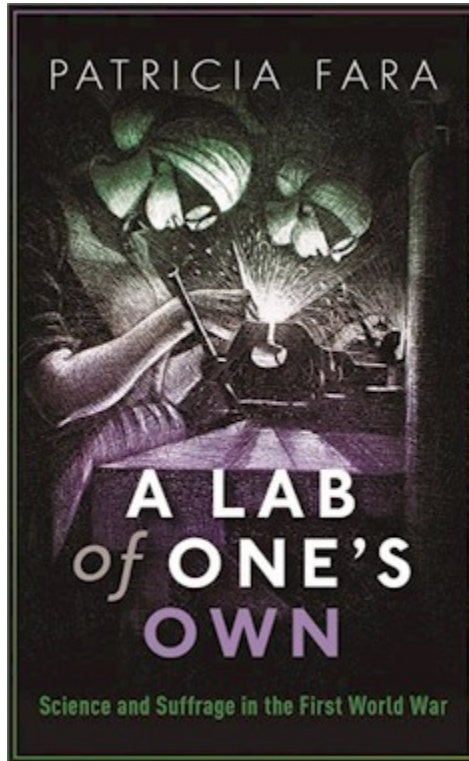
Heidi Hahn, Los Alamos National Lab

Another story along the lines of the movie *Hidden Figures* (about the critical roles played by black women at NASA in the early days), but this time the female “calculators” are unmasking Russian spies, including people like the Rosenbergs and Klaus Fuchs, who had penetrated the Manhattan Project. This should be particularly interesting to our Sandia and Los Alamos colleagues (and anyone else with an interest in WWII history):

[www.smithsonianmag.com/history/women-code-breakers-unmasked-soviet-spies-180970034](http://www.smithsonianmag.com/history/women-code-breakers-unmasked-soviet-spies-180970034).

The 16 March 2018 issue of *Science* (which I’m just now getting around to reading!) was just a treasure trove of interesting articles. Summaries are linked, but full pdf is behind the AAAS paywall:

- To read something truly scary, here’s an article on how China used systems engineering to craft its modern surveillance state: <http://science.sciencemag.org/content/sci/359/6381/1206.full.pdf>.
- And one about how social inequalities such as income inequality and inequalities in learning opportunities lead to gender gaps in performance in math, science, and reading. The girls come out on top in the latter! <http://science.sciencemag.org/content/sci/359/6381/1219.full.pdf>.
- Ladies, get off social media and get back to your research: <http://science.sciencemag.org/content/sci/359/6381/1294.full.pdf>.
- Here’s one about a new book, *A Lab of One’s Own*, that shows how women prospered when they stepped into scientific roles left vacant by WWI: <http://science.sciencemag.org/content/sci/359/6381/1221.full.pdf>. Or for a freely available book excerpt, go to [www.the-scientist.com/reading-frames/book-excerpt-from-a-lab-of-ones-own-30022](http://www.the-scientist.com/reading-frames/book-excerpt-from-a-lab-of-ones-own-30022).



### What Can You Learn About Systems Engineering by Building a Lego™ Car?

Los Alamos National Laboratory’s (LANL’s) Future Female Leaders in Engineering (FFLIE) Program brings female engineering undergraduate students to the Laboratory for summer internships, which include a technical work assignment and a specialized eight-week long professional development program.

During their first year in the program, FFLIE students receive training on LANL’s Mission Assurance (MA) Program, which involves the integrated application of systems engineering (SE), project management (PM), and engineering quality and rigor (QA) to ensure mission success. The instruction is organized around the

system development project life cycle and emphasizes activities and artifacts associated with the various life cycle phases.

A home improvement project (adapted from Braakhuis, Janssen, Koudenburg, de Liefde, Malotiaux, Rens, and Stevenson, 2010) is used in a series of table-top exercises throughout to illustrate various points. The training culminates with a project – building a car for a Lego™ Derby race – on which the students exercise the skills they have just learned in the classroom instruction.

In her presentation on this topic at IS2018, Heidi briefly reviewed the instructional content, with an emphasis on the activities and artifacts exercised in the Derby project; provided lessons learned; and concluded that there’s a lot one can learn about SE by building a Lego™ Derby car if the experience is properly structured! The instructional materials have now been reviewed by LANL management and approved for public release. Send Heidi an email ([hahn@lanl.gov](mailto:hahn@lanl.gov)) if you would like to receive a copy.

### IS2019 Preparations Underway!

The call for submissions for IS2019 is out. Proposals for papers, panels, and tutorials are due November 16, 2018. There is also an option for “paperless” presentations; proposals for those are due February 15, 2019. Info about the submission process and templates are at: [www.incose.org/docs/default-source/events-documents/is2019/promotion/is2019-call-for-submissions.pdf?sfvrsn=c22095e6\\_6](http://www.incose.org/docs/default-source/events-documents/is2019/promotion/is2019-call-for-submissions.pdf?sfvrsn=c22095e6_6).

Ann (Hodges) and Heidi are well along on their paper (working title “Integrating Program/Project Management and Systems Engineering in Practice”) that captures learnings from the tutorial they gave for the chapter and at IS2018. We hope to see great representation of chapter members’ work in Orlando next summer, so get crackin’. November will be here before we know it! ∞

## Intel’s 2017 Diversity & Inclusion Annual Report—It’s Working!

Barbara Whye, Intel Vice President, excerpted from [here](#):

If we want to shape the future of technology, we must be representative of that future. [Read the 2017 report here](#).

### Our progress

Since 2015, our gap to full representation in our U.S. workforce has narrowed from 2,300 employees to 376 employees—an 84 percent improvement.

Our female representation continues to increase and currently stands at 26.5 percent, a key driver in our overall progress.

For women and Hispanic and Native American populations, the growth in our leadership positions exceeded the overall population growth of these groups at Intel. These are promising signs

for our progression goals.

### What’s next?

Our first leg of this journey is to create a workforce that reflects the diversity of the skilled labor market available—which I’m proud to say we’re on track to do.

Our CEO, Brian Krzanich, and I share a vision for a future where Intel’s population mirrors that of the U.S. population and is fully, truly representative.

We want to make this industry better and accessible for all of our children—so they can find the same joy and opportunities in this exciting industry that impacts and changes our world.

[Editor: diversity is numeric, inclusion is cultural.] ∞





## Training Working Group

*Gabriela Coe, Northrop Grumman and  
Co-Chair of TWG*

Did you know that INCOSE has a Training Working Group (TWG)? The TWG provides the Vision to lead and advance INCOSE SE training throughout the SE community. Our Mission is to elicit stakeholders' needs and provide value-added training solutions for INCOSE members. Our Method is to have members training members on best practices and continue to advance Systems Engineering.



### Goals

- Determine our member's needs
- Develop or solicit training modules
- Solicit training volunteer instructors
- Provide training as a benefit to INCOSE members
- Coordinate training throughout INCOSE to expand training opportunities

### Objectives

- Identify, develop, solicit, coordinate, schedule, and present SE training based on ISO 15288, ISO TR 24748, INCOSE SE Handbook, and other SE sources.
- Recommend standardized approaches for SE training.
- Enhance the working group members' knowledge of SE training.
- Develop an integrated approach and strategy for continuous improvement of SE training to the organization.
- Provide representatives to other INCOSE WGs to obtain and provide consistent SE training application.
- Investigate training system development for SEs (e.g., how to develop training within an SE environment, how to develop a recommended set of SE activities to support the use of MIL-HDBK-29612 training system development procedures)
- Develop various training delivery infrastructures such as video, web, and in-company training
- Provide training for members in INCOSE governance roles

### Working Group Products

- SE Webinars
- SE Training modules
- WG Leadership modules
- Training (via presentations, tutorials, videos, and webinars)

### Planned Work for 2018

- Revise the SE Handbook V4.0 Tutorial Technical Product slides if needed.
- Support other INCOSE Chapters in their use of these slides and webinar recordings.
- Support Learning & Development WGs (SE Professional Development and Competency WGs).
- Identify, solicit, schedule, coordinate, and/or enable presentation of SE training products such as future SE tutorial webinars (e.g., Architecture, SEBoK, WG Leadership, and INCOSE Governance Roles).
- Recruit and schedule presenters for the Tech Ops monthly webinars hosted by Andy Pickard. Serve as a backup presenter if the scheduled presenter is unavailable.
- Conduct an SE Training Survey and collect and respond to results.

### How Can You Get Involved?

We always need help! We are in need of volunteer members to provide webinars and/or training on SE topics, specifically on the SE functional areas to help advance our best SE practices and provide training to potential INCOSE professional certification candidates. If you have a SE topic for which you can provide webinars and/or training, please consider volunteering and earning Professional Development Units (PDUs) that can be applied towards your certification renewal requirements. Contact our TWG leadership (see contact information below) and get your session scheduled today!

### SE Webinar Access

We recruit and schedule presenters for the INCOSE Technical Operations monthly webinars hosted by Andy Pickard. These webinars are usually held the third Wednesday of each month from 11am-12pm Eastern US time. All sessions are recorded for later download. To access the materials, do one of the following:

- Log into Connect then click on Library, Webinars, and INCOSE Webinars. Scroll down to the Tutorial Session you want, right click on the file you want, and save it on your drive.

- Click on <https://connect.incose.org/Library/Webinars/Pages/INCOSE-Webinars.aspx>, log-in to Connect, scroll down to the Webinar you want, and follow the above.

### SE Training Access

The Hampton Roads Area Chapter and the TWG provide free INCOSE SE Handbook V4.0, SE Fundamentals, and Leadership Skills training for all INCOSE members, employees of INCOSE CAB organizations, employees and students of INCOSE Academic Council organizations, and INCOSE student members.

The SE Handbook V4.0 weekly training series began on 8 October 2015 and completed on 21 April 2016. All sessions were recorded for later download. To access the materials, do one of the following:

- Log into Connect then click on Library, Tutorials, and Training WG Tutorials. Scroll down to SE Handbook V4.0 Tutorial, click on Tutorial ID: 01\_October 2015, click on the Tutorial Session you want, right click on the file you want, and save it on your drive.

- Click on <https://connect.incose.org/Library/Tutorials/training/SitePages/Home.aspx>, log-in to Connect, scroll down to SE Handbook V4.0 Tutorial, and follow the above.

The SE Handbook V4.0 tutorial also provides tips and personal help in systems engineering. A certificate of completion is provided on request. The tutorial consists of weekly 60-minute sessions. Course materials include the shared documents, tutorial slides, questions, and audio and video recordings for download and use at your convenience. Most slides contain speaker notes in the PowerPoint Notes View.

### Leadership

If you have SE topics for which you can provide webinars and/or training, please contact John or Gabriela. ∞



John Clark  
Founder, Chair  
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Gabriela Coe  
Co-Chair  
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## Chapter Gets Good Neighbor Award

**From: Antony Williams, Director, INCOSE Americas Sector**

Sent: June 29, 2018

Subject: Inaugural Good Neighbor Award to Enchantment Chapter

I want to congratulate you on being selected as Sector I's first winner of the new INCOSE Good Neighbor Award. The Award aims to encourage mature and strong Chapters to support other fledgling (emerging) and struggling Chapters by giving recognition to demonstrable efforts to improve the operations, services and well-being of Chapters in need.

Enchantment Chapter was nominated by the North Texas Chapter. The North Texas chapter was in an inactive period, and upon learning this, leadership from the Enchantment Chapter engaged to help out as a program speaker, and provided tips for websites, meetings, and newsletters.

**From: Garry Roedler, INCOSE President**

Sent: July 01, 2018

Subject: Award of Inaugural Good Neighbor Award to Enchantment Chapter

Congratulations on the Enchantment Chapter being the first recipient of the Good Neighbor award. And thank you for reaching out to help the North Texas chapter.



**From: Christine Kowalski, INCOSE Operations Manager**

Sent: August 16, 2018

Subject: 2018 Good Neighbor Award

The Good Neighbor Award includes a \$2,000 cash payment to the chapter. I will transfer the monies to the account.

Congrats!

∞



## Chapter President Wins INCOSE Outstanding Service Award

Dear Rick,

I am delighted to inform you that you are the recipient of an INCOSE 2018 Outstanding Service Award. You join a distinguished group of INCOSE members recognized for their significant volunteer effort on behalf of our organization.

The award recognizes you for your exceptional, extended and high-impact contributions to the INCOSE community, and for your leadership and the tireless advancements of Systems Concepts.

Your award will be formally announced during the Tuesday plenary session at our International Symposium in Washington D.C., USA, 7 – 12 July 2018. I would be delighted if you are able to attend in person to receive this honor and to be publicly recognized for your contribution to the discipline of Systems Engineering. Further details of the ceremony will be provided to you closer to the time. In the interim, we ask that you do not share news of this award until you are officially recognized at the IS 2018 in July.

Once again, congratulations and thank you for all you do for INCOSE and for Systems Engineering!  
Yours sincerely, Kerry Lunney, INCOSE President-Elect; Chair, Honours and Awards Committee



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## Circle Awards Controversy

*Rick Dove, Chapter President*

In early Chapter years Circle awards offered "good-chapter" guidance. Now there are 10 categories with 51 evidence-scored activities. In 2012/13 we didn't offer a submission; we thought:

- Award criteria had no effect on what the Chapter actually did.
- What got done was only because somebody wanted to do it.
- What got done was good accomplishment for Chapter mission.
- Many categories were of insufficient interest.
- We used it simply to get a trophy???

Conclusion: A lot of submission work for no real value.

But since 2014 we've thought differently:

- Membership has something to be proud of and a part of.
  - Makes us reflect on what was done, and who's engaged.
  - Provides ideas for consideration.
  - Provides President-Elect prep for upcoming Presidential year.
- There is still some Board ambivalence, dissatisfaction with minimum category point requirements, a chance we won't qualify for the top award and little interest in second best, and 40+ hours of work to make an effective evidenced-based submission.

Decision to submit is made in December, if time permits. ∞







### Resources

**From TED, watch:** *How Do You Explain Consciousness*. Our consciousness is a fundamental aspect of our existence, says philosopher David Chalmers: “There’s nothing we know about more directly.... but at the same time it’s the most mysterious phenomenon in the universe.” He shares some ways to think about the movie playing in our heads.

**From TED, watch:** *Being an artist is the greatest job there is*. Without realizing it, we’re fluent in the language of pictures,

says illustrator Christoph Niemann. In a charming talk packed with witty, whimsical drawings, Niemann takes us on a hilarious visual tour that shows how artists tap into our emotions and minds -- all without words.

**From IS18, read:** *INCOSE Working Group Addresses System and Software Interfaces*, by Sarah Sheard, et al. Partial abstract: Software engineers must maintain sufficient knowledge of the non-software elements of the systems that will execute their software, as well as the systems their software must interface with.

Similarly, systems engineers must maintain sufficient awareness of the software to enable early identification and resolution of software risks and issues driven by other system elements. Thus, to enable continued progress in creating and sustaining capability in complex, interconnected systems, systems and software engineers must commit to improving the interfaces between their disciplines.

**From MDPI Open Access Systems Journal, read:** *A Framework for Understanding Systems Principles and Methods*, by David Rousseau, who published a similar paper at IS18. Partial abstract: Systems Engineering is increasingly challenged by the rising complexity of projects. This has resulted in calls for more scientific principles to underpin the methods of Systems Engineering. It is argued that our ability to improve Systems Engineering’s methods depends on making the principles of Systemology more diverse and more scientific. An architecture for Systemology is introduced, which shows how the principles arise from interdependent processes spanning multiple disciplinary fields, and on this basis a typology is introduced.

### Chapter Membership

Jeni Turgeon, Sandia National Labs

Enchantment Chapter now has 92 full members and 39 student members.

We welcome the following new full members:

Marc Boucher	NNSA
Robert Griswold	NNSA
Kent Jones	NNSA
Gerald Kreft	NNSA
Casey Nol	Sandia National Labs
Scott Rubeo	Sandia National Labs
Lew Steinhoff	NNSA
Andrew Urbanski	NNSA

We welcome the following new student member:

Luis Marquez-Calleros	University of Texas El Paso
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## Connect to Your Community of Practice

Chapter meetings with a focus on systems engineering are held monthly on the second Wednesday, except when social events occur, with mingling, dinner, and often a speaker chosen for enjoyment by systems engineers and guests alike.

Monthly meetings feature speakers from out-of-town as well as local subject matter experts on topics of relevance.

On occasion, special facility tours are arranged, sometimes as the monthly meeting, and other times on a separate schedule.

Chapter meetings begin at 4:45 pm.

After chapter news, announcements and introductions, the presentation and discussion lasts until 6:00 pm; and are carried and recorded as a web meeting for anybody to access who can’t attend in person.

Tutorials with coverage on topics of interest are arranged approximately twice a year. Delivered by experts in the field, tutorials range from 1/2 day to day+ durations, and generally involve a tuition.

Mix with people who have the same professional interests as you do, but with a diversity of perspective beyond daily

workmates. It comes in handy when you need help or answers to questions outside your accumulated experience, need a connection at another organization, or simply want some mind stretching thought.

Meeting announcements, event notices, and web-meeting links routinely go to all INCOSE members within the Chapter’s geographic territory; as well as to names on a special *information* list open to one and all. Sign up for the *information* list with a request to the Chapter secretary listed below.

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### Chapter Board

Rick Dove	President	575-586-1536	dove@parshift.com
Anthony Matta	Past President	575-915-6800	armatta@sandia.gov
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