March 2019

Newsletter

https://sdincose.org

From our Chapter President

Hello, I am Abbas Rostami and am pleased to serve as the 2019 president of the San Diego Chapter of INCOSE.

In my 44-year career span I have designed, developed and maintained various software intensive systems (mostly for Defense industries) and also taught software engineering courses at the San Diego colleges and universities. I have been member of INCOSE since 1997 and have Systems Engineering certification from USCD and INCOSE (CSEP). I volunteered and served on the board of San Diego and Texas chapters for the past fifteen years.

I like to extend my warm welcome to all board members and hope that we can meet/exceed all chapter requirements by working together and have another successful year.

I would also like to congratulate the 2018 board members especially Mr. Ted Mulder (2018 President) for achieving the highest award points in the history of the chapter. We are confirmed to receive our first Platinum award this year and hope to be able to continue improving the chapter performance throughout this year as well.

On January 23rd 2019 we had our first Social and Membership Drive at the Primos Mexican Restaurant that was well attended. This event was also sponsored by the National University (NU) School of Engineering. The NU offers an advanced degree in Engineering Management with a specialization in Systems Engineering.

During this year we plan to have two tutorials (May and November), a STEM event for the high school students fundraising (September), and our mini-conference (December) Plus our

regular monthly meetings (4th Wed. of each month). Please check our website www.sdincose.org for schedule of events and plan to attend or participate in presenting at any of these events.

I had the opportunity to attend the IW-2019 in Torrance That was a great experience and education. Among many interesting initiatives and working groups I would like to mention the new FUSE (FUture of Systems Engineering) initiative in and will provide detailed information in the future News Letters for this year.

As we all know the fast past of technology advancements especially in the digital transformation requires Systems Engineering principal to plan, guide, and meet the expectation of the new complexity and requirements of the future systems and their applications. The FUSE is the forward looking approach and initiative to meet the demand of the Systems Engineering in the digital age.

On January-19 I attended the joint AFCEA/NDIA luncheon at the Admiral Baker Clubhouse and announced the chapter activities and meetings to a group of more than 100 people.

Abbas sharing San Diego INCOSE insights with the joint AFCEA/NDIA luncheon audience

We also had the opportunity to participate in the first International Symposium for the Safe & Smart Cities (March 20-22). This event was hosted by the CyberTech (a Cyber Security company) and was held at the University of San Diego (USD), Center for Cybersecurity, Engineering & Technology.

As part of a panel discussion, Abbas Rostami (president) had the opportunity to present an overview of the INCOSE and discuss as how the Systems Engineering approach to System of Systems can apply to the Smart Cities ecosystem. Julia Taylor (first year director) also attended this symposium and presented the result of a group exercise to manufacture and operate a driverless shuttle between airport and hotels in a smart urban environment.

Dr. Julia Taylor

Best Regards,

Abbas Rostami – San Diego INCOSE President

San Diego Chapter Receives *Platinum Chapter Circle Award* & *President's Award for Outstanding Chapter* Worldwide!

Last year, the Chapter's Board of Directors (BOD), members, program and activity leaders (i.e. STEM, Ambassadors, Systems Engineering Professional (SEP) Leadership & Mentors) worked very hard to run a successful chapter to promote systems engineering (SE) in San Diego. Our goal was to go for the Gold but late in the year we pushed it to Platinum by promoting educational tutorials such as Agile SE, expanding our Ambassador Program, and establishing the SEP Leadership & Mentors Program.

The chapter's membership hit a record of 200-plus members last year and our fall Mini-Conference on the Transformation of Systems Engineering also hit a record attendance of 70-plus. The monthly dinner meetings touched on a set of diverse subjects such as Cloud and Artificial Intelligence (AI) to accelerate SE, Model Base Systems Engineering (MBSE), Software Process Dynamics, Detection Systems, Lightning Protection, and even applying SE in the beer industry to have a better brew. Our spring tutorial covered the latest on the Software Communications Architecture (SCA) for software-defined radios. The chapter also had a great year promoting future engineers via our annual Science-Technology-Engineering-Math (STEM) fundraising and awards to local schools.

Platinum Award

Outstanding Chapter Award

Thanks to the generosity of our members and our supporting corporations, including Cubic Corp, ViaSat, and Northrop Grumman Corp, the INCOSE San Diego chapter was able to award hard-working county teachers important grants to support their STEM programs. Note

that 100% of the funds we raise are donated, and this year over $10,000 was awarded to eleven schools! Teachers were awarded $800-1100 grants which were used to encourage students in the design and engineering of STEM projects. We celebrated with a STEM-exPLOSION! event at the Children's Discovery Museum for local K-12 students. It was definitely a full year of networking, events, and expanding our knowledge and techniques to expand our SE domain.

To honor these efforts and achievements, this Platinum Circle Award will be presented during the Wednesday Plenary at the 2019 INCOSE International Symposium in Orlando, FL, USA.

In doing so, INCOSE recognizes and celebrates the contributions and achievements of the San Diego Chapter, its leaders, and its sponsors.

Western States Regional Conference 2019
Call for Proposals
Proposal deadline March 31, 2019

Dear Members and Friends,

The Los Angeles Chapter of INCOSE is hosting the second annual Western States Regional Conference (WSRC) on Sept 13-15th, 2019, in Los Angeles, serving the systems engineering communities across the western United States and beyond.

The venue is Loyola Marymount University, located less than 15 minutes north of Los

Angeles International airport (LAX), and convenient to numerous business and entertainment opportunities.

The WSRC Program Committee invites you to submit a proposal for a presentation, panel discussion, or tutorial.

We are open to any submission, but are especially interested in the following topics:

- SE Application to Healthcare and Medical Devices
- SE in Large Observatories
- SE in Transportation Systems
- SE in Natural and Social Systems
- Agile Systems Engineering
- Model-Based Systems Engineering (MBSE)
- Attracting and Developing Tomorrow's SE Workforce
- Systems Research and Analysis
- Resilient and Sustainable Systems

Each accepted submittal will receive one $50 registration discount. At least one presenter (or the panel chair and all panelists) must register for the conference and pay the applicable registration fee.

For full details, please download the flyer HERE!

Thank you! And please consider presenting at the WSRC 2019!

Upcoming March Event!

Characteristics of Effective Systems Engineering Leaders (Wednesday, Mar 27, 2019)

(SD INCOSE events are open to all, including non-members. Please invite friends and coworkers!)

Date: Wednesday, Mar 27th, 2019, from 5:30pm-7:00pm

Location: Filippi's Restaurant in Kearny Mesa, 5353 Kearny Villa Rd, San Diego, CA 92123 (Google Maps)

Registration Fee: **None**

Presentation and Dinner: The first 1/2 hour is for dinner and networking. The optional buffet dinner starts at 5:30 and the presentation begins at approximately 6 pm. The cost of the buffet is $10 for members, $15 for non-members, and includes pizza, salad, pasta, and soft drinks.

Webcasting: This presentation will be webcast starting at approximately 5:50 pm. You will be able to view the presentation slide show and hear audio from the speaker. Please note that during our phase-in period, we will not be take questions from our webcast audience; we hope to do so in the future.

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You can also dial in using your phone.
(For supported devices, tap a one-touch number below to join instantly.)

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Access Code: 224-100-621

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Please RSVP

Synopsis:

Previous studies revealed that the concept of leadership within systems engineering was a major issue for both Defense and non-Defense Industry participants. In order to address this issue, the authors believe we must first understand leadership in the context of systems engineering. With that goal in mind, the authors reviewed existing literature on leadership theory, leadership style, and the significance of leadership within systems engineering. Next, the authors conducted a multi-industry, international study on systems engineering leadership proficiencies. This presentation will reveal the findings of both the literature review and the survey. Following the presentation, the authors will facilitate a group discussion

focused on how we can cultivate stronger leadership proficiencies within the systems engineering community.

Presenters:

John Wood, Ph.D., GCorp Consulting, has spent his career pursuing perfection in areas where less-then-perfect performance can be deadly. For more than two decades he has applied his systems engineering expertise to improve, reduce costs, and save lives in healthcare, aviation, and defense. Dr. Wood holds a Bachelor of Science in Electrical Engineering from the U.S. Naval Academy and a Ph.D. in Systems Engineering from the George Washington University.

Victoria Schaefer Ramirez, Ed.D**.**, Atlas Executive Consulting, LLC, has spent her professional and academic career within the intersection of people, processes, and technology. Principal at Atlas Executive Consulting, Dr. Schaefer–Ramirez is responsible for leading the firm's West Coast Client Services Delivery team, providing consulting practice management in Defense industry sectors. Dr. Schaefer–Ramirez holds a Bachelor of Science Degree in Accounting from San Diego State University, a Masters of Business Administration in Technology Management, and a Doctorate of Education in Organizational Leadership from Pepperdine University.

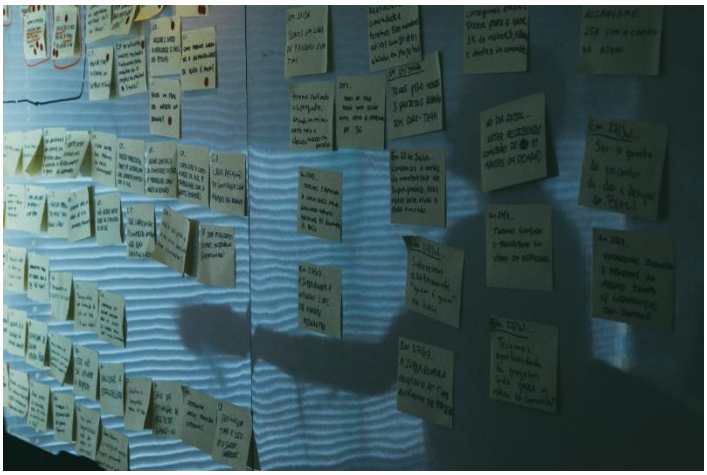
Glenn Tolentino, Ph.D., U.S. Navy Space and Warfare Center (SPAWAR), is a Senior Systems Engineer for the Command & Control and Enterprise Engineering Competency at Space and Naval Warfare Systems Center Pacific. Dr. Tolentino has been directly involved as a software and systems engineer of national level systems in the area of Command, Control, Computers, Communication, and Intelligence Systems. His current research interests include complex systems lifecycle support, systems reliability, operational readiness, and mission reliability. Dr. Tolentino holds a Bachelor of Science Degree from San Diego State University in Applied Mathematics, M.S. Degree in Software Engineering and a Ph.D. in Computer Science from Southern Methodist University.

Please RSVP

NOTE - This presentation's date and location are subject to change. Please watch for email updates.

Upcoming April Event!

Applying Systems Engineering from Startup to Grownup (Wednesday, April 24, 2019)



(SD INCOSE events are open to all, including non-members. Please invite friends and coworkers!)

Date: Wednesday, April 24th, 2019, from 5:30-7:00pm

Location: Filippi's Restaurant in Kearny Mesa, 5353 Kearny Villa Rd, San Diego, CA 92123 (Google Maps)

Registration Fee: None

Presentation and Dinner: The first 1/2 hour is for dinner and networking. The optional buffet dinner starts at 5:30 and the presentation begins at approximately 6 pm. The cost of the buffet is $10 for members, $15 for non-members, and includes pizza, salad, pasta, and soft drinks.

Webcasting: This presentation will be webcast starting at approximately 5:50 pm. You will be able to view the presentation slide show and hear audio from the speaker. Please note that during our phase-in period, we will not be take questions from our webcast audience; we hope to do so in the future.

Please check the website approximately one week beforehand for further details.

Please RSVP

Abstract:
Due to limited budget, resources, lack of knowledge, and time to market - startups and most small businesses or projects do not apply Systems Engineering standards in their design and development process. Most startups use a quick past approach such as "Business Model Canvas", "Lean Startup" or similar processes to design and develop their Most Viable Products (MVP) based on their market research, customer segments and other business model parameters.
Although the above processes are well suited for idea exploration, fast prototyping and proof

of concept they lag the framework required to design, develop, deploy, and maintain products and services with a great rate of success and a solid foundation. This shortfall creates a gap while transitioning from the startup state to a small business entity and contributes to the failure rate of most startups as they start facing the real world challenges to deliver their services and/or products to their customer base!
This presentation will address the above gap and provide a solution based on the ISO/IEC 29110 standards *"systems and software engineering – lifecycle profiles for Very Small Entities (VSEs)"* and also the guidelines and artifacts developed by the ***"Small Business Systems Engineering – Working Group (SBSE-WG)".***

Biography:
Abbas Rostami is a veteran systems engineer and president of the San Diego INCOSE chapter. He has served on the board of San Diego and Texas chapters for the past fifteen years and had been involved with planning and organizing many chapter activities.
In his 45-year career span he has designed, developed and maintained various software intensive systems (mostly for Defense industries) and also taught software engineering courses at the San Diego colleges and universities. He has been member of INCOSE since 1997 and has Systems Engineering certificates from USCD and INCOSE (CSEP). He is mentoring startups and helps entrepreneurs in their strategic planning business model development.

NOTE - This presentation's date and location are subject to change. Please watch for email updates.

Please RSVP

Upcoming May Event!

The Vision Statement:
Step 1 for a Project, though oft' Overlooked!
(Wednesday, May 22, 2019)

(SD INCOSE events are open to all, including non-members. Please invite friends and coworkers!)

Date: Wednesday, May 22nd, 2019, from 5:30-7:00pm

Location: Filippi's Restaurant in Kearny Mesa, 5353 Kearny Villa Rd, San Diego, CA 92123 (Google Maps)

Registration Fee: None

Presentation and Dinner: The first 1/2 hour is for dinner and networking. The optional buffet dinner starts at 5:30 and the presentation begins at approximately 6 pm. The cost of the buffet is $10 for members, $15 for non-members, and includes pizza, salad, pasta, and soft drinks.

Webcasting: This presentation will be webcast starting at approximately 5:50 pm. You will be able to view the presentation slide show and hear audio from the speaker. Please note that during our phase-in period, we will not be take questions from our webcast audience; we hope to do so in the future.

Please check the website approximately one week beforehand for further details.

Please RSVP

Abstract:

Many keynote speakers, forums, and papers have addressed the challenges facing the systems engineering profession – challenges brought on by the explosion in computer and internet capabilities and in the speed with which data can be transmitted, unchecked. Our profession has responded with new concepts, such as System of Systems, and with new tools and methodologies, such as MBSE and Agile. This presentation addresses one aspect of the challenge, that aspect being using a vision statement as a tool to facilitate the proper initiation of a project in a manner to help ensure quality management. The "vision,"

statement is the proverbial plumb line or first furrow. Once a part of the discipline (NCOSE and Caltech, circa 1994), the subject is not explicitly addressed in the current Systems Engineering Handbook. The intent of this presentation is to review the value of such statements and to review their attributes, to cite examples, good and bad, and to consider how the changes in technology in the last 20 years might change them.

Biography:

Jorg Largent's career spans 55 years and ranges from the enlisted ranks of the United States military to Lead Systems Engineer on the B-2. In between he matriculated at the Georgia Institute of Technology. After completing his formal training, he worked in orbital mechanics on the Apollo Program. At the close of the Apollo program Jorg became a Flight Test Engineer, primarily on the CH-46E, the B-1A and the B-2. After he left Flight Test he moved on to liaison engineering and then to systems engineering on the B-2 program and special projects. After Jorg retired from Northrop Grumman, he dabbled in railroading and worked as a conductor on the Sierra Railroad. He has also mentored high school students, served as a judge at the California State Science Fair, has spoken on systems engineering, and has become active in INCOSE working groups, including Transportation, Very Small Entity, and Systems Engineering Quality Management. He has been particularly busy as a writer for and the Editor of the INCOSE-LA Newsletter. At the 2016 International Symposium Jorg was given an award for his contributions to and for his furtherance of systems engineering.

NOTE - This presentation's date and location are subject to change. Please watch for email updates.

Please RSVP

V-Model Approach to K - 12 Learning

At our February monthly meeting, San Diego INCOSE enjoyed a compelling presentation on introducing a systems engineering approach to the K-12 educational system from San Pasqual's District Teacher of the Year, Becky McKinney!

Becky shared that engineering has been relatively absent from the K-12 classroom for years, but the Next Generation Science Standards has challenged this absence. Forty states have shown interest and nineteen states, including all states along the west coast, have adopted the Next Generation Science Standards (NGSS). These standards incorporate science and engineering practices into every grade level.

There is a legitimate concern that teachers are not adequately trained in the process of engineering nor how to properly incorporate engineering practices into the K-12 classroom. Though many are focusing on an engineering design approach for NGSS implementation in the curriculum, the need for utilizing the Vee-Model, as seen within systems engineering, should be the approach used to introduce primary and secondary students to the basics of engineering.

The Vee-Model for systems engineering was adapted for the K-12 classroom. This approach allows for students to think strategically while performing systems analysis, systems validation, verification of requirements, project planning, and decision management. The Vee-Model systems engineering approach has been integrated into the classroom to engage young minds in innovation through collaboration, problem solving, negotiating requirements and critical thinking. Systems thinking is also be utilized by teachers to develop performance tasks for learning and assessment.

This Vee-Model approach to K-12 learning has been presented at CSTA (California Science Teachers Association), NSTA (National Science Teacher's Associations), the STEM Forum, and other conferences and professional development with tremendous response from educators.

Please click HERE to view Becky's presentation.

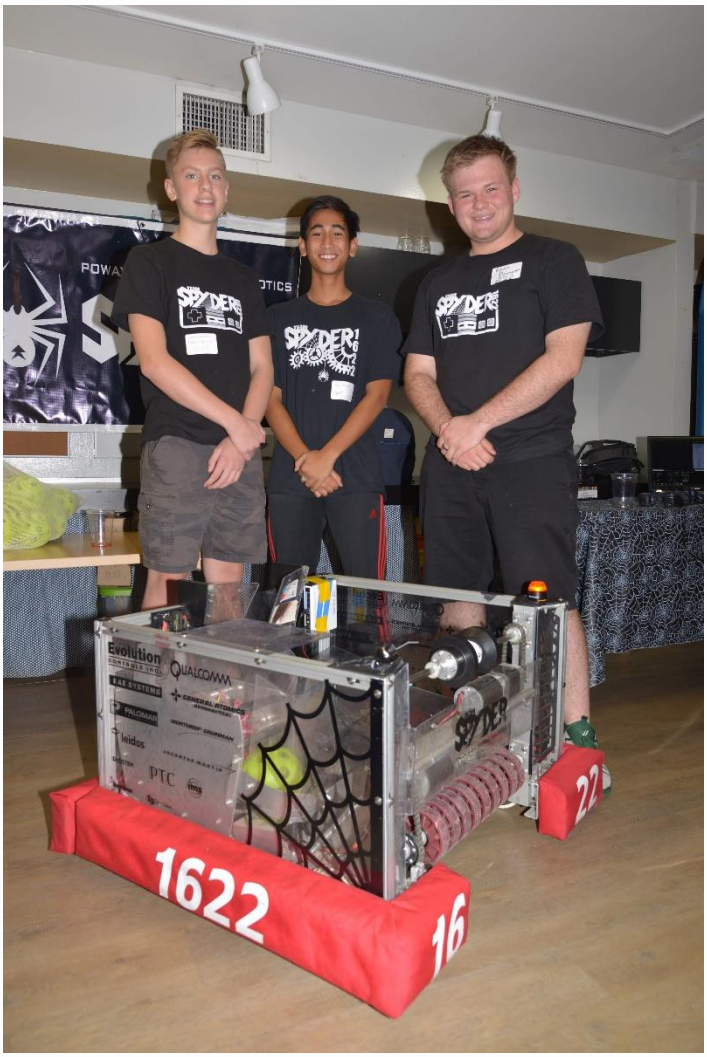
STEM

Science • Technology • Engineering • Math

Our Support of STEM

Every year the San Diego INCOSE chapter and Foundation of INCOSE along with our corporate sponsors open up opportunities for Teachers to apply for grants related to STEM (Science, Technology, Engineering, and Math) that range from $400-$1100 for classroom or extended education programs to fund STEM related activities that will excite students and encourage them to consider careers in science, engineering, math, or other technology related areas.

Our last event was at the San Diego's Children's Discovery Museum which is our annual Family STEM event. At this event we honor the teachers who were awarded a grant by INCOSE to facilitate STEM learning in the classroom.



Interesting System Engineering Articles

We hope that you find these articles as interesting as we did!

http://intercax.com/2018/01/11/model-based-systems-engineering-autonomous-vehicles-part-1/

https://www.theengineer.co.uk/how-machine-learning-will-keeping-car-control-systems-safe/

https://www.scaledagileframework.com/model-based-systems-engineering/

INCOSE San Diego Welcomes 22 New Members

INCOSE San Diego is pleased to welcome **22 new members** to our chapter! We now have over 200 active members, an all time high! San Diego continues to be a hub for systems engineering in the medical community, department of defense, telecommunications, start ups, and with a wide range of other industries.

New to our chapter:

Chelsea Ballinger - Booz-Allen-Hamilton
Joesph Beel - Cisco Systems
Brian Apodaca - Stanford MU
Habte Manna - Washington State University
David Popp - General Atomics
Jordan Grider - UCSD
David Ruf - Nordson Asymetek
Jeffrey Elkind - SAIC
Kevin Evans - SAIC
Jeremy Freeman - SAIC
Preston Hathaway - SAIC
Eileen Judkins - Northrop Grumman
Erika Salem - Northrup Grumman
Nicole Wall - BAE Systems
Jacob Haderlie - Northrup Grumman
Richard Rossetti - SAIC
Patrick Nollen - SAIC
Victoria Owens - BAE Systems
Katheryn Li - Booz-Allen-Hamilton
Phillip Price - SAIC
Emily Cook - SAIC
Ohmeko Ocampo - SAIC

Please introduce yourself to a new member at one of our many events!

2019 INCOSE San Diego Board Contacts

Please feel free to contact a board member with suggestions or comments:
President - Abbas Rostami, abbas.rostami@gmail.com
Past-President - Ted Mulder, tedmulder@gmail.com
President-Elect - Greg Bulla, gbulla@yahoo.com
Secretary - Keith Conway, keith_conway@yahoo.com
Treasurer - Mike DiPaolo, michael.j.dipaolo@saic.com
VP Administration, Webmaster - Gary Saner, gsaner@primerosystems.com
VP Chapter Development - Howen Fernando, hqfernando@gmail.com
VP Technical Development - Ray Madachy, madachy@gmail.com
2nd-Year Director - Susanna Faruque, susanna.faruque@ngc.com
1st-Year Director - Dr. Julia Taylor, drjulia2taylorsuccesssystems@gmail.com
You can also send general questions to: info@sdincose.org

Links:

info@sdincose.org

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