The International System Safety Society
Tennessee Valley Chapter
ALABAMA - MISSISSIPPI - TENNESSEE
http://www.isss-tvc.org/

June 2016 Newsletter

Tennessee Valley Chapter Officers 2015-16

President: Christopher Trumble, 256-847-3247

Vice President: Open

Treasurer: Ronnie Sams, 256-842-1005

Secretary: Jason Rupert, 256-313-8650

Immediate Past President: Ken Rose, 256-645-1621,

Special Events Coordinator: Open

Webmaster: Don Swallom, 256-842-8641

President's Corner

ISSS-TVC Election –The ballots were sent out in May for positions in the Chapter and I am pleased to announce the winners. The President position was won by David West who was a chapter president in 2004-05 so he has previous experience which will help flatten the learning curve. The Vice President position was won by Melissa Waters. The treasurer position was won by the current treasurer, Ronnie Sams. The secretary position was won by the current secretary, Jason Rupert.

I was pleased to see such high quality candidates run for positions and the membership took the time to carefully consider the candidate's qualifications and cast votes for people who will best represent the chapter and our profession. I congratulate the winners and the voting membership for their efforts.

Awards - During the May meeting I was happy to present the members of the nomination committee (Rhonda Barnes, Saralyn Dwyer and William Pottratz) with certificates of appreciation for their efforts in locating quality applicants to run for ISSS-TVC leadership positions for the 2016-17 year. Additionally, it was an honor for me to present certificates of appreciation to; Ken Rose for performing the duties of Past President, Steve Hosner for performing the duties of Vice President, Ronnie Sams for performing the duties of treasurer, Jason Rupert for performing the duties of secretary, and Don Swallom for performing the duties as Webmaster for the 2015-16 year. I was very fortunate to have an enthusiastic and dedicated group of consummate professionals as members of the Chapter Planning Team, for that I was truly blessed and grateful.

Certificates of Appreciation were given to representatives of local businesses who opened their doors to the ISSS-TVC and allowed us to host our monthly meetings. Without their support we would be hard pressed to have a place to hold our monthly meetings. APT Research, Bastion Technologies, Dynetics, Intuitive Research and Technology, Quantitech and the University of Alabama Huntsville (UAH) were recognized via the Certificates of Appreciation. Their generosity is recognized and greatly appreciated by the ISSS-TVC membership.

Meetings – The Chapter Planning Team met the 20th of May to discuss awards, current chapter elections, the previous year's lessons learned and on behalf of the ISSS-TVC membership, I extended my thanks to the 2015-16 planning team members for their tireless efforts and selfless service to the ISSS-TVC.

Chapter Awards will be presented at the June meeting and it's hoped the members will attend to show their support of the winners. Additionally, it will be an excellent opportunity to learn about Machine Guarding Safety from Dr. David Folk of the United States Army Materiel Command (AMC) Industrial Safety Directorate. You may want to refresh your memory concerning OSHA 29 CFR 1910.212 and have your questions regarding compliance and risk assessments ready. This will be your chance to get answers regarding the often times significant challenges associated with machine guarding due to the complex designs and human interface risks. Looking forward to seeing our membership well represented at this meeting.

Patriotism - In May we celebrated Memorial Day and remembered those who made the ultimate sacrifice for our country and for the values it holds. During July 4th we will be celebrating Independence Day. With these two occasions in mind I thought you might enjoy a clip from a 1970 John Wayne variety show that celebrated America's history. Take a couple of minutes and go to https://www.youtube.com/watch?v=UFv-fqQ9D_Y and observe the genuine love for the country in the eyes of those helping John Wayne with the singing of, "God Bless America".

Passing the Torch - With June brings the end of my term as the Chapter President. I was fortunate to have been afforded the opportunity to lead the Chapter and feel the Planning Team made significant improvements to the Chapter, building upon the foundation set by previous Presidents and their Planning Teams. Some of the notable improvements include; advanced scheduling of monthly meetings, regular monthly newsletters, improved financial accountability, improved the website, implemented an automated election process, initiated awarding certificates of appreciation, and increased assistance to local community engineering related events. Our members can be very proud of their efforts and accomplishments. I hope the chapter will continually refine its' processes, get more involvement, and broaden the activities with the ultimate goal of increasing membership and community value with each following year. I thank all of the members and the Planning Team for their support over the previous year.

News

May 18th we were fortunate to have Charles Fulks (Intuitive Research and Technology) provide a presentation regarding Field-Programmable Gate Array (FPGA) Safety. Many within the manufacturing industry today are turning to FPGA devices in systems that are critical for safety to mitigate risks, control cost and ensure speed and the presentation was very well received. Those who want additional details should contact Charles at (fpga@irtc-hq.com) Intuitive Research and Technology.

Lauren Fisher, a University of Alabama Huntsville (UAH) Chemical Engineering student provided a brief presentation of the results of the Chem-E car competition which the chemical engineering students competed in at the State level. The ISSS-TVC provided some financial support for the team and the ISSS-TVC members can take pride in knowing the success of the UAH team's design earned them a position to compete in the National level competition this fall.

The meeting was attended by 23 people (19 members and 4 guests).

The Chapter of the Year award is currently residing at APT Research. We have been very fortunate to be able to possess the Chapter of the Year Award and share it with the local businesses who helped us attain the honor. If you haven't seen it yet and want to, you should do so soon because we will be returning it to the ISSS so they can award it to the next winner. Perhaps lightning will strike twice and we will get it back this year, keep your fingers crossed. I feel our members are truly deserving of such recognition.

Upcoming Meetings

15 June 2016 APT Research will be hosting the meeting. We are very pleased to have Dr. David Folk of the United States Army Materiel Command (AMC) Industrial Safety Directorate. He will be providing a briefing on Machine Guarding Safety. Amputations are some of the most serious and debilitating workplace injuries. They are widespread and involve a variety of activities and equipment. Amputations occur most often when workers operate unguarded or inadequately safeguarded mechanical power presses, power press brakes, powered and non-powered conveyors, printing presses, roll-forming and roll bending machines, food slicers, meat grinders, meat-cutting band saws, drill presses, and milling machines as well as shears, grinders, and slitters. These injuries also happen during materials handling activities and when using forklifts and doors as well as trash compactors and powered and non-powered hand tools. Having machine guarding knowledge can reap enormous workplace returns on investment. This is a briefing you can't afford to miss.

18 July 2016 University of Alabama Huntsville (UAH) will be hosting the meeting. We are looking for a speaker for this meeting. If you have suggestions please contact the

ISSS-TVC Vice President, Melissa Waters (melissa.c.waters2.ctr@mail.mil) she will be happy to hear from you.

August 2016 the meeting is typically held during the International System Safety Conference (ISSC). If attending the ISSC, you should contact the ISSS-TVC Vice President, Melissa Waters (melissa.c.waters2.ctr@mail.mil) for a point of contact and for meeting details.

Sept 2016 Eric Bale, System Safety Engineer at Bastion Technologies, working with NASA Marshall Space Flight Center as part of the SLS integrated hazard team, is tentatively scheduled to provide a presentation on Experimental Amateur Built (EAB) aircraft vs Federal Aviation Administration (FAA) part 23 aircraft. Our members who are involved with manned and unmanned aviation systems will have a particular interest in this presentation but all are encouraged to attend.

October 2016 we are looking for a host and a speaker for this meeting. If you have suggestions please contact the ISSS-TVC Vice President, Melissa Waters (melissa.c.waters2.ctr@mail.mil) she will be happy to hear from you.

Special Events

The 34th International System Safety Conference (ISSC) is rapidly approaching and should be on everyone's radar. August 8-12 is right around the corner so you need to start making plans to attend and participate. This year the conference will be held at the Renaissance Orlando at SeaWorld, Orlando, Florida. The theme for ISSC 2016 is "Developing System Safety Engineers for the Future." The conference technical program is based on training and educating new System Safety Engineers with the focus on tutorials. A separate tutorial track has been established providing approximately 20 hours of basic system safety engineering and management (SSEM) training focused on the new System Safety Engineer. For further information see http://issc2016.system-safety.org/.

Orlando has many great hotels to stay at but hopefully you will support the host hotel and stay in close proximity with colleagues so you can maximize your opportunities for networking. An important point of contact is John Hewitt. He is the Technical Program Chair and can be reached at jhewitt@sikorsky.com. Additionally, the Orlando area has a great deal to offer after conference hours to include; Magic Kingdom with six theme parks, Disney's Hollywood Studios (Movie theme park), Disney's Animal Kingdom, EPCOT (Future World and World Showcase themed park), SeaWorld Orlando, Universal Orlando (Movie themed amusement park), and many world class restaurants.

Awards 2017

The 2016-17 year is about to begin and it's time to start thinking about who you are going to submit for an Award and get them the recognition they have earned. Demonstrate your pride in them and let their family and friends share some of that pride by nominating them for an award. It's the right thing to do.

Fun stuff

Emerging technology is not only fun and interesting to read about but is often of value to many of the ISSS-TVC membership within the Huntsville, AL research park region/Lower Tennessee valley. Here is a brief overview of 'Galileo', the global navigation satellite system (GNSS) that is currently being created by the European Union (EU) and European Space Agency (ESA). From the ESA website (http://www.esa.int/Our_Activities/Navigation/Galileo/What_is_Galileo):

What is Galileo?

Galileo is Europe's own global navigation satellite system, providing a highly accurate, guaranteed global positioning service under civilian control. It is interoperable with GPS and Glonass, the US and Russian global satellite navigation systems. By offering dual frequencies as standard, Galileo is set to deliver real-time positioning accuracy down to the metre range.

First launches

On 21 October 2011 came the first two of four operational satellites designed to validate the Galileo concept in both space and on Earth. Two more followed on 12 October 2012.

This 'In-Orbit Validation' (IOV) phase has been followed by additional 'Full Operational Capability' (FOC) satellite launches.

Four pairs of FOC satellites have so far been launched by Soyuz from French Guiana, on 22 August 2014, 27 March 2015, 11 September 2015 and 17 December 2015.

Galileo services

The fully deployed Galileo system will consist of 24 operational satellites plus six in-orbit spares, positioned in three circular Medium Earth Orbit (MEO) planes at 23 222 km altitude above the Earth, and at an inclination of the orbital planes of 56 degrees to the equator.

Initial services will be made available by the end of 2016. Then as the constellation is built-up beyond that, new services will be tested and made available, with system completion scheduled for 2020.

Once this is achieved, the Galileo navigation signals will provide good coverage even at latitudes up to 75 degrees north, which corresponds to Norway's North Cape - the most northerly tip of Europe - and beyond. The large number of satellites together with the carefully-optimised constellation design, plus the availability of the three active spare satellites per orbital plane, will ensure that the loss of one satellite should have no discernible effect on the user.

Ground infrastructure

Two Galileo Control Centres (GCCs) have been implemented on European ground to provide for the control of the satellites and to perform the navigation mission management. The data provided by a global network of Galileo Sensor Stations (GSSs) are sent to the Galileo Control Centres through a redundant communications network. The GCCs use the data from the Sensor Stations to compute the integrity information and to synchronise the time signal of all satellites with the ground station clocks. The exchange of the data between the Control Centres and the satellites is performed through up-link stations.

As a further feature, Galileo is providing a global Search and Rescue (SAR) function, based on the operational Cospas-Sarsat system. Satellites are therefore equipped with a transponder, which is able to transfer the distress signals from the user transmitters to regional rescue co-ordination centres, which will then initiate the rescue operation.

At the same time, the system will send a response signal to the user, informing him that his situation has been detected and that help is on the way. This latter feature is new and is considered a major upgrade compared to the existing system, which does not provide user feedback.

Preparation for Galileo

Experimental satellites GIOVE-A and GIOVE-B were launched in 2005 and 2008 respectively, serving to test critical Galileo technologies, while also the securing of the Galileo frequencies within the International Telecommunications Union.

Over the course of the test period, scientific instruments also measured various aspects of the space environment around the orbital plane, in particular the level of radiation, which is greater than in low Earth or geostationary orbits.

The four operational Galileo satellites launched in 2011 and 2012 built upon this effort to become the operational nucleus of the full Galileo constellation, followed by the first four Galileo FOC satellites.

To the chapter's membership, keep expanding your knowledge and thanks for all that you do!