



The International System Safety Society

*Tennessee Valley Chapter*  
ALABAMA - MISSISSIPPI - TENNESSEE

<http://www.iss-tvc.org/>

## April 2016 Newsletter

### Tennessee Valley Chapter Officers

**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 Swallow, 256-842-8641

### President's Corner

**Election** - The current Chapter President can see the end of his reign rapidly coming to a close now that the April ballots being sent out for positions in the Chapter. I strongly urge you to throw your name into the hat and run for a position in this respected Society. If you choose not to run for one of the Chapter Officer positions, I remind you of the importance of voting for someone for each of the Chapter Officer positions. Remember that during the Chapter Officer Elections, your vote matters.



**Professionalism and ethics** – It's wise to periodically consider your role as a professional and how your employer, peer members within the ISSS and the public are relying on you to do so. System Safety Engineering is a profession by definition. The Oxford English Dictionary's working definition of the term "profession" is, "*an occupation whose core element is work, based on the mastery of a complex body of knowledge and skills. It is a vocation in which knowledge of some department of science or learning, or the practice of an art founded on it, is used in the service of others. Its members profess a commitment to competence, integrity, morality, altruism, and the promotion of the public good within their domain. These commitments form the basis of a social contract between a profession and society, which in return grants the profession autonomy in practice and the privilege of self-regulation. Professions and their members are accountable to those served and to society*".

Today's societal norms and by extension, many workplaces, often seem to be encouraging ethics as an optional requirement second to organizational or personal

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financial gains or to maintaining schedules. William Sullivan, a prominent medical sociologist stated, "Neither economic incentives nor technology nor administrative control has proved an effective surrogate for the commitment to integrity evoked in the ideal of professionalism." This statement conveys to the reader that being a professional and acting in an ethical manner has value far in excess of anything else.

Our actions affect not only ourselves, but also those around us. Many of our professional decisions involve ethics. If we tell a lie, we can lose someone's trust and undermine our own integrity. If we use substandard materials, fail to properly use quality assurance techniques, take shortcuts on a job, or manipulate/ignore data to skew results to support a desired outcome, we can jeopardize the safety of others and increase operating costs.

Questions of morality and ethics can be found at all levels of society. Ethical behavior is equally important in the workplace as it is in our personal lives. Everywhere that business is conducted, ethics matters. As a member of a professional society, your behavior can influence the perception of all members belonging to the society. If you act in an unprofessional manner it can negatively impact all members of the Professional Society. The public and/or an employer will often associate the entire membership with their experience, good or bad, with a single member of that group.

Professional Societies have an unwritten contract between their members and the public which amounts to a relatively simple expectation. The professions are granted the use of their body of knowledge, some societal prestige, and financial rewards. In return they are expected to guarantee competence, provide altruistic service, and demonstrate integrity during the conduct of their affairs. By regularly conveying yourself as a professional, persistently honing your skills and acting with integrity you will have fulfilled your contract and increased both your value and that of the Profession to which you belong.

The ISSS TVC membership is well respected in both the business world and our local community. We take great pride in this and recognize the value of that respect. I commend the members who regularly endeavor to earn and maintain the trust we are so fortunately have by acting with integrity by being honest and sincere and adhering to this moral code in their everyday decision making.

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### News

***Gone but not forgotten.*** The ISSS TVC family was informed of the passing of long-time TVC member Jim Wiggins. Jim was the ISSS President from 2007-2009. The service for Jim was held at Warrior Creek Missionary Baptist Church in Arab. We were also saddened by the untimely passing of Amy West, wife of long-time member and former TVC president Dave West. Amy has been with Dave at many TVC events including last year's ISSC. The service for Amy was held at St. Matthew's Episcopal Church in Madison and was attended by many of our members. Keep Jim's and Amy's families in your thoughts and prayers.



**March 16<sup>th</sup>** we were fortunate to have Latoya Eggleston and Josh McNeil (left photo) from the US Army [AMRDEC Software Engineering Directorate](#) (SED) and Rhonda Barnes ([APT Research](#)) provide a presentation regarding the US Air Force F-35 aircraft software safety program. Software is being used in almost every system our members are involved with, whether it be a military vehicle or weapon system, a commercial aircraft, automobile, ship, power generation or transmission system, etc. so this presentation was especially applicable to the members. Additionally, we were excited and honored to have coordinated with the local chapter of the Institute of Electrical and Electronic Engineers (IEEE) members to attend and make this a joint meeting. Through this meeting we mutually broadened our professional network and made some new friends. The meeting was attended by 40 people (19 members and 21 guests). The turnout for this meeting was excellent.

The Chapter of the Year award has transferred in March 2016 from the [Quantitech](#) office to [Dynetics](#). [Dynetics](#) is a valued supporter of the Chapter and I'm confident the Award will feel at home while it is gracing one of their walls. In April the award will be moved from [Dynetics](#) to [APT Research](#) during the April meeting. If your business would

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like to display the award at their facility just email a request and we will be happy to try to coordinate a period of time for you to display it.

### Upcoming Meetings

20 April 2016 [APT Research](#) 4950 Research Dr. NW, Huntsville, AL 35805 will be hosting the meeting. Tom Pfitzer from APT Research will be providing a presentation pertaining to explosives safety. Explosives are utilized in many of the systems our membership are involved in. I'm confident our members and guests working in industries such as rockets, missiles, automobile air bags, aircraft fire extinguisher squibs, small arms ammunition and demolitions munitions benefited greatly from this presentation. Many of our membership are familiar with Tom as he has been active in the Society for many years and done a great deal for the chapter. His presentations are well attended and equally well received.

April 2016 ballots for the Chapter Officers are being sent out. Submit your name for a Chapter officer position. The Chapter will need a President and Vice president for the upcoming year.

18 May 2016 [Intuitive Research and Technology](#) 5030 Bradford Blvd NW # 205, Huntsville, AL 35805 will be hosting the meeting. A representative from Intuitive will be providing a presentation. Stay tuned for further details.

### Special Events

The Chapter is looking forward to assisting with the following special event:

[NASA Rover Challenge](#) April 7-9, 2016 awards presented last day of race at 5:00 pm. We have a couple of volunteers but there is room for more to participate.

If you are interested please contact Chris Trumble ([christopher.c.trumble.civ@mail.mil](mailto:christopher.c.trumble.civ@mail.mil)).



### Awards

The opportunity to nominate members for awards is rapidly drawing to a close. The ISSS TVC is accepting submissions. We are excited to announce there have been submissions and very proud that members are recognizing the efforts of their peers. There is no limit on how many submissions so please identify a deserving member and have them recognized.

### Fun stuff

In preparation for Tom Pfitzer's presentation on explosives. Here are some trivia facts related to explosives and the United States laws related to explosives that you may or may not be aware of:

- **What is the “Explosives List”?**  
The Explosives List is a comprehensive (but not all-inclusive) listing of explosive materials which have been determined to be within the coverage of Chapter 40. The list is published annually by ATF (the most recent list can be found in the Explosives Publications section on the ATF website). [18 U.S.C. 841(d); 27 CFR 555.23].
- **Are common or contract carriers required to obtain a Federal explosives license or permit to transport explosive materials?** No. The actual transportation of explosive materials by carriers is subject to Department of Transportation or Department of Homeland Security regulations. [18 U.S.C. 845(a)(1); 27 CFR 555.141(a)(1)].
- **Are binary explosives subject to regulation under Federal explosives laws?**  
Until the compounds are mixed, they are not classified as explosives and, therefore, are not subject to control. However, once mixed, binary explosives are "explosive materials" and are subject to all applicable Federal requirements. A person who mixes or combines compounds of binary explosives for the purpose of sale or distribution or for the person's own business use is a "manufacturer" of explosive materials and must be licensed as a manufacturer under the law. [18 U.S.C. 841(h); 27 CFR 555.11: definition of "manufacturer"].
- **Will the Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF) investigate accidents involving explosive materials?** ATF is authorized to inspect the site of any accident or fire where there is reason to believe that explosive materials were involved. Other Federal agencies, or State or local agencies, may also investigate such incidents, depending on the circumstances. [18 U.S.C. 846(a); 27 CFR 555.31].
- **How is shock tube regulated by the Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF)?** Shock tube contains highly explosive material. However, it may be stored as a low explosive when not attached to a detonator. [27 CFR 555.202(b), 555.213].
- **What is an EX number?** An EX number is a number, preceded by the prefix "EX-", which is issued and used by the Department of Transportation (DOT) to identify an explosive which has been tested and classified by DOT. See U.S. Department of Transportation regulations at 49 CFR 171.8 and 49 CFR 173.56.
- **What is a Bangalore torpedo?** A Bangalore torpedo is an explosive charge placed within one or several connected tubes. It is used by combat engineers to clear obstacles that would otherwise require them to approach directly, possibly under fire. Per United States Army Field Manual 5-250 section 1-14, page 1-12 "b. Use. The primary use of the torpedo is clearing paths through wire obstacles and heavy undergrowth. It will clear a 3- to 4-metre wide path through wire obstacles." It is sometimes colloquially referred to as a "Bangalore mine", "banger" or simply "Bangalore".  
The Bangalore torpedo was first devised by Captain McClintock, of the British Indian Army unit the Madras Sappers and Miners at Bangalore, India, in 1912. He invented it as a means of exploding booby traps and barricades left over from the Boer War and the Russo-Japanese War. The Bangalore torpedo could be exploded over a mine without a sapper having to approach closer than about 3 m

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(10 ft). Bangalore torpedoes are currently manufactured by Mondial Defence Systems of Poole, UK, for the UK and US armed forces. They have been used recently in operations in Afghanistan for actions such as clearing enemy supply dumps within deep cave systems.

- **What is C-4 explosive?** C-4 or Composition C-4 is a common variety of the plastic explosive family known as Composition C. The British version of the explosive is known as PE-4 (Plastic Explosive). C-4 is composed of explosives, plastic binder, plasticizer to make it malleable, and usually a marker or odorizing taggant chemical. C-4 has a texture similar to modeling clay and can be molded into any desired shape. C-4 is stable and an explosion can only be initiated by the combination of extreme heat and shock wave from a detonator.
- **Who invented Dynamite?** Dynamite was invented by the Swedish chemist and engineer Alfred Nobel in Geesthacht, and patented in 1867. Dynamite is an explosive material based on nitroglycerin, using diatomaceous earth (AmE: kieselgur; BrE: kieselguhr), or another adsorbent substance such as powdered shells or clay. Dynamites using organic materials as sorbents such as sawdust are less stable and such use has been generally discontinued.

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