



Tennessee Valley Chapter Officers

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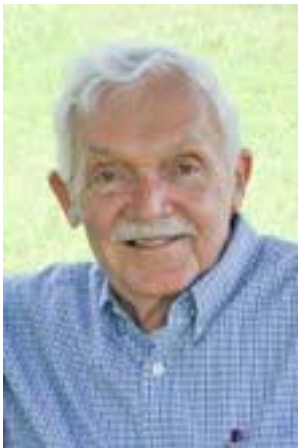
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Special Events Coordinator: Open

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President's Corner



Pat Clemens

The Tennessee Valley Chapter will greatly miss our dear friend and mentor Pat Lee Clemens. Pat, a distinguished aerospace pioneer and educator, died Saturday, May 11, 2013, at his home in Tullahoma, Tennessee, at the age of 84. Born on Jan. 1, 1929, in Columbus, Ohio, he was the son of the late Walter and Hazel Clemens. He is survived by his wife, Patricia Clemens, Tullahoma; son, Matthew Clemens; daughter-in-law, Laura Bolte, and grandson, Joshua Clemens, of Cincinnati, Ohio; son, Daniel Clemens, and daughter-in-law, Bai-Yu Clemens, Los Angeles, Calif.; brother-in-law, Kermit Wolford; sister-in-law, Cathy Wolford, and niece, Deanna Wolford, of Aurora, Ohio. A memorial service was held Saturday, May 18, at First Christian Church in Tullahoma. Memorial donations may be made to First Christian Church. Included among Mr. Clemens' past professional

accomplishments are: chairman of the First International Conference on Instrumentation in Aerospace Simulation Facilities (Paris, 1961); IEEE Centennial Medal (1984), Educator of the Year Award (System Safety Society; 1988); American Institute of Aeronautics and Astronautics System Effectiveness and Safety Award for "Outstanding contributions to the field of system effectiveness and safety" (1997); NASA Safety Training Center "Top Gun" award (1997 and 1998); "Fellow" Grade Distinction (System Safety Society; 2001), and Professional Development Award (System Safety Society; 2002). He attained a special achievement in 1959 at l'Office National d'Études et de Recherches Aérospatiales (Paris) where he conducted the first tests establishing feasibility of using radio telemetry to capture aerodynamic parameter measurements from aircraft models suspended in supersonic wind tunnels by intense magnetic fields. He taught more than 20 short courses for the American Society of Safety Engineers, more than 50 short courses at seven NASA Centers for the NASA Safety Training Center and taught graduate short courses for the University of Cincinnati, Southern Illinois University, and Texas A&M University. He was visiting professor, von Kármán Institute for Fluid Dynamics, Rhode St. Genese, Belgium, 1969-1971. He was a registered professional engineer in Ohio and Tennessee and a Certified Safety Professional. He authored 33 published papers on safety engineering practice, 35 published papers



Pat with his wife Patricia



dealing with topics in aerospace simulation facility instrumentation, co-authored two books dealing with system safety practice and authored 111 monthly columns of advice on sailboat racing published in "Sailor's Gazette" under the pen name "C.B. Trunque." He also published numerous letters to various newspaper editors under such pen names as "Leslie Ward," "Thurgood Peep" and less credible others. He was employed from 1952- 1998 by Sverdrup Technology Inc. at Arnold Engineering Development Center, from 1998-2002 by Sverdrup Technology's Technology Division, and from 2004 to 2011 by APT Research Inc.

Annual Tennessee Valley Chapter Awards

The **Educator of the Year Award** is presented for outstanding achievement in or contribution to system safety education and the advancement of the state of knowledge in system safety.

The TVC Educator of the Year Award for 2013 is Mr. John Livingston.

The **Engineer of the Year Award** is presented to an individual member of the Society who has made significant contributions to system safety through the development of engineering methods, standards or designs that have improved the safety of operation or use of systems of products.

The TVC Engineer of the Year Award for 2013 is Mr. Don Swallow.

The **Manager of the Year Award** is presented to an individual member of the Society who has made significant contributions through the implementation of an effective system safety management program for a major system effort.

The TVC Manager of the Year Award for 2013 is Ms. Pam Kniess.

The 2013-2014 TVC Officers take over responsibilities on 1 July 2013.

President – Don Swallow

Vice President – Ken Rose

Immediate Past President – Greg Turgeon

Secretary – Melissa Allen

Treasurer – Brandon Daugherty

Special Events Coordinator - The Chapter is still looking for someone to perform this job. Could it be you?



New National Officers taking office 1 July 2013

President - Bob Schmedake

Executive VP - Rod Simmons

Treasurer - Pam Kniess*

Executive Secretary - Matt Johnson

Director of Publicity & Media - Saralyn Dwyer*

Director of Mentoring, Research & Development - Steve Mattern

Director of Intersociety & Gov - Debbie Hale

Director of Member Services - Melissa Emery*

***Tennessee Valley Chapter**

Secretary's Meeting Minutes

The **17 April 2013** TVC meeting was held at SAIC. Greg Turgeon opened the meeting by thanking SAIC for providing lunch and drinks. Greg noted that the Society Awards cycle is just starting, please take the time to put in a co-worker for one of the TVC Awards. Awards are presented for Educator of the Year, Engineer of the Year, and Manager of the Year. A Professional of the Year is chosen from these three awards and submitted to the Huntsville Association of Technical Societies as a candidate for their award. New officers are also being sought. If you are interested in serving the TVC as an officer, Vice President, Secretary, and Treasurer are open. The Vice President moves up to President after serving for a year. The Special Events Coordinator Office is still available. The Executive Committee is gathering information for vote to send a student to the ISSS Conference. A vote will be taken prior to expenditure of funds. Dave West announced that the CSP is increasing the size of their Board of Directors by 1 and three Board members are moving out so 4 positions will be open. The BCSP should be announcing this by the end of April. The BCSP will invite new members that will start office in January 2014 to the fall 2013 meeting in Puerto Rico. Greg introduced Mr. Dave West who presented a brief and discussion on the topic "Are We Ready for Driverless Cars" to 14 members and 8 guests. Dave will present this next month at the Australian Conference. With the implementation of driverless cars, drastic changes will occur in the urban scenery. No lane markings, no stop signs and no valet parking attendants will be required. Dave showed a CBS report on automakers' driverless technology. Dave discussed the features creep that is introducing driverless car technology. As early as 1912, Cadillac introduced the self-starter. In 1939, the automatic transmission was introduced by Oldsmobile. In 1951, Chrysler introduced power steering. In 1958, Chrysler introduced cruise control. In 1970, Chrysler introduced anti-lock brakes. GPS technology began in the early 1980s as well as vehicle to vehicle communication. In 1997, Toyota introduced the adaptive cruise control and in 2002, Toyota introduced night view. In 2003, Mercedes introduced "Pre-Safe", a system to get a car ready for a crash. In 2004, Infinity introduced the Lane Departure Warning System. Volvo introduced the Blind Spot Warning System in 2005. Lexus had Parallel Parking Assist in 2006. In 2007, Carnegie Mellon University won the DARPA Grand Challenge. Mercedes introduced Attention Assist in 2008. Volvo introduced Pedestrian Detector in 2009. In 2010, an Audi autonomous car scaled Pikes Peak. All of these steps to driverless cars offer safety benefits because 90% of accidents are caused by driver error. Driverless cars will have quicker reaction time as they are not distracted; however, there are some safety challenges which would include an over reliance on machines, and we



don't have good metrics to measure success. There are a number of legal issues associated with driverless cars. Nevada, California and Florida allow driverless cars. Arizona and Texas were working on allowing them. The societal benefits to driverless cars include that elderly and handicapped people could drive, there would be less capacity required on the roadways, reduced traffic jams, and greatly reduced traffic accidents. Driverless cars could be made lighter and therefore, more cost effective.

The **15 May 2013** meeting was held at APT Research. Twenty members and 13 guests attended. Don Swallow opened the meeting. Introductions were made. Next month, the TVC will be having the dinner meeting. Barry Hendrix agreed to speak. Today is the deadline for submission of TVC awards. All TVC awards submitted will be submitted for national award consideration. The Huntsville Association of Technical Society dinner that recognizes the HATS Professional of the Year will be held 25 Jun 2013. The TVC is purchasing a table for 8 and will have a candidate for the Professional of the Year Award. The Society Conference is in Aug and if you are going, register before the prices go up on 15 Jun 2013. The Conference website has details. National elections deadline is 31 May 13. The TVC has several members running, be sure to vote.

Don introduced speakers for "Understanding and Applying Total Risk Summing" discussion. Tom Pfitzer, Bill Edmonds, Bob Baker, Melissa Emery and Pat Clemens authored this paper for the 2012 ISSS conference. Bill Edmonds spoke first and made it a point to highlight how Mr. Pat Clemens who very recently passed away, will be missed. Bill said that in addition to his academic accomplishments, he was a good friend and he took the time to invest in people. The Risk Summing Guide was produced under an Army Task Force initiative. During the development of the risk summing guidebook, field trials were used with field data and the draft guidebook. It was done with various academia, government, and industry. The major steps in risk summing methodology include defining RAC matrix, performing hazard analysis, putting the hazards on the matrix and then summing risks. Tom Pfitzer then spoke and noted that senior members in the profession are responsible for improving the profession. This method is designed to consistently present the data to decision makers. When defining when we should sum and assessing the risk, the steps include hazard identification is 1, risk assessment is 2, risk acceptance is 3 and risk reduction is the 4th step. Tom asked the opinion of the group as to whether they think risk summing should be done during risk assessment phase. Tom's opinion is that during the risk assessment process is when risk summing should be considered and it should be adjusted at final risk reduction. One of the concepts is that you can reduce total risk by eliminating the most cost effective. Risk acceptance authority should be consulted. Some considerations that need to be addressed are whether risks are "severity rich" or "probability rich", if the enterprise structure can survive a one-time "hit" of the hazard being assessed and what tradeoffs can be considered for the greatest risk decrement per dollar spent. There was discussion that the total system risk would need a different threshold than individual risk. Individual risk over all life cycle of the risk = total risk posed by all identified hazards to all threatened assets during the system's complete life cycle considering the severity of the injury damage, the probability that the consequence described and the partial risk posed by the assumptions for total system risk. There are some assumptions used for totaling system risk subjectively - 1) System hazards are statistically independent, 2) the subjective judgments of severity and probability take on numerical values at mid-spans of designated cells, 3) Mid-span matrix cell values are logarithmic averages of extreme values (not arithmetic averages), 4) all probability declarations are for the same declared exposure interval, and 5) if hazards are not statistically independent, summing of risks may produce a pessimistic. The whole premise of the risk summing is to provide the responsible deci-



sion maker with a clear picture of total system risk. An example was provided in the brief, but not discussed in detail due to time constraints.

Treasurer's Note

Expenditure request forms may be found on the TVC website.

ISSC Conference

The 31st International System Safety Conference will be held in Boston, Massachusetts at the Boston Marriott Copley Place from Aug 12-16, 2013.

<http://issc2013.system-safety.org/>

Final Paper Submission Deadline: June 28, 2013

Technical Paper Presentation Slides: July 26, 2013

Special Events Corner

This year, the Tennessee Valley Chapter once again judged for the best use of system safety in “*The System Safety Challenge*” at the **2013 Great Moonbuggy Race** held April 25-27, 2013. More than 90 teams competed in the race, in which lightweight human-powered buggies race over a simulated lunar surface built at the US Space and Rocket Center in Huntsville, Alabama. The winning times for this grueling three-quarter mile course were 3:24 for the high school division and 3:32 for the college division. *The UAH Huntsville Team* was recognized for the best application of System Safety Engineering.



The UAHuntsville Team



UAHuntsville Team driving over moon craters



Accurate Team submitted a Safety Analysis



Tennessee Technological University submitted a Safety Analysis



Don Swalom and Pam Kniess presented the UAHuntsville Racing Team with the SSS Tennessee Valley Chapter Safety Award



The International System Safety Society

Tennessee Valley Chapter
ALABAMA - MISSISSIPPI - TENNESSEE

**June 2013
Newsletter**

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

Upcoming Events

The 8th International IET System Safety Conference will be held October 15-17, 2013 in Cardiff, UK. More information can be found on the TVC website.