SAFE News

Dedicated to Ensuring Personal Safety and Protection in Land, Sea, Air, and Space Environments

SAFE Association – Our 62nd Year | **Volume 22** | **Number 1** | **Winter 2019**

President's Message *By Edgar "Ted" Poe, 2019 President*

Dear SAFE family,

On behalf of the 2019 SAFE Board of Directors I wish you a Happy New Year! We did it! Last year is in the books and a successful transition has taken place between the 2018 and 2019 Board members. I would like to thank all the 2018 Board members for their hard and challenging work that was accomplished as well as support in continuing to make our organization better. It was not an easy start for sure, but with a lot of work, the team became stronger and worked through every issue and step together.

I am very happy to report that our finances are all in good order, our symposium was profitable, and it was tremendously successful! SAFE – OUR organization – is moving forward! The 2019 Board is actively planning and organizing the 57th Symposium for all of us, along with numerous other projects.

In October after our 56th very successful symposium the new board met and started the transition as well as started establishing the goals for our 2019 calendar. During 2019 we are looking to formalize our new Chapters in the Middle East as well as in Australia. We will also be formalizing the process in which we will use electronic and paper voting ballets.

Besides a new team taking on the symposium, led by Nicole Stefanoni and Al Loving, we have John Plaga, our President Elect, working to establish our venues for the 2021-2024 time period. This year my focused effort will be to look at the operations and documents defining SAFE as an organization. Last year, Stacy, our administrator, took on the means of transitioning as many of our accounts and records to a digital process and that will continue again this year. Our new website will be up and running in the next few weeks and we look forward to the continued process of improvement in our day to day operations.

This past December, I spent a week in the Middle East meeting with the organizers who are starting to develop the Kickoff Meeting of the Chapter during the February 2019 IDEX Global Military Show in Abu Dhabi. While in the UAE, I met with senior military members of the Joint Special Operations as well as UAE Air Force. I met with contractors as well as vendors and future corporate members to understand how a chapter would be received. Simply stated, the importance of our organization has been recognized as a networking and change agent to help provide information and support to members in the region as well as within these two military organizations. There are a lot of nuances and discussions still needing to be finalized before we can announce for certain the date and time of the event. Once it is fully coordinated, we will push a message to all of our global and chapter members.

I would like to shout out a hardy congratulations to our Wright Brothers Chapter members for another great year as well as the election of the new executive committee led by the Chapter President, Mark Gruber.

As we bring on this new year of challenges, opportunities, and work, I must pause and say THANK YOU for the support this past year in helping make SAFE a better organization. The year 2019 will be known as the Year of Operations! Our October goal, when we pass the gavel to the 2020 President and Board of Directors, is that our operational and business processes are well understood, updated, and meet the needs of our membership. I wish I could say it will be easy, but it will require hard work and dedication. When we relook and make updates with passionate members who want to make the organization better there will always be numerous views and ways of doing things better. I look forward to the work, the discussion, and the process. Because of the importance of that work, we are going to set up several different venues of opportunities over the next six months for members to review, offer comment, and help drive the organization into 2020 and beyond. We will make notifications via our Website and through our social media accounts.

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2019 SAFE ASSOCIATION – BOARD OF DIRECTORS

ELECTED BOARD MEMBERS:

PRESIDENT,
& FINANCE COMMITTEE MEMBER
Edgar "Ted" Poe

IMMEDIATE PAST PRESIDENT,
AWARDS COMMITTEE CHAIR,
FINANCE COMMITTEE MEMBER
& NOMINATIONS COMMITTEE MEMBER
Vacant

PRESIDENT-ELECT & FINANCE
COMMITTEE MEMBER
John Plaga

VICE PRESIDENT & FINANCE
COMMITTEE MEMBER
Jerry Reid

SECRETARY
Mark Jones

TREASURER &
FINANCE COMMITTEE MEMBER
Steve Bromley

APPOINTED BOARD MEMBERS:

EXECUTIVE ADVISOR
John Fair

SYMPOSIUM COMMITTEE CHAIR
Nicole Stefanoni

SYMPOSIUM COMMITTEE CO-CHAIR
Allen "Al" Loving

PUBLICATIONS COMMITTEE CHAIR
Richard Johnson

PUBLICATIONS COMMITTEE CO-CHAIR
Stephen C. Merriman

SCIENCE & TECHNOLOGY
COMMITTEE CHAIR
Glenn Paskoff

CHAPTERS COMMITTEE CHAIR
Allen "Al" Loving

AWARDS COMMITTEE CHAIR,
NOMINATIONS COMMITTEE MEMBER &
FINANCE COMMITTEE MEMBER
Joe Spinosa

ASSOCIATION DEVELOPMENT
COMMITTEE CHAIR
Alex McGill

MEMBERSHIP COMMITTEE CHAIR
Joshua Minton

CHAPTER PRESIDENTS:

Chapter One - Southern California
Kirsten Larsen

East Coast Chapter
John Marcaccio

Great Lakes Chapter
Michael (Mike) S. Beebe

Grand Canyon Chapter
Jim Lemister

Pacific Rim Chapter
Dr. Robert Yonover

SAFE Europe - Chairman
Sarah Day

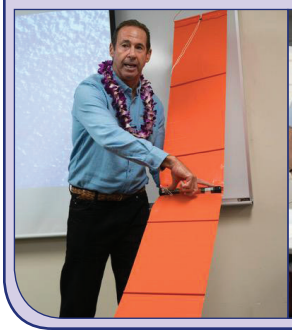
Wright Brothers Chapter
Mark Gruber

Pacific Rim Chapter Continues Educational Outreach at Hawaii Universities

The Pacific Rim Chapter of the SAFE Association continued their educational outreach efforts in the Fall of 2018, including interactive briefings with 1) University of Hawaii at Manoa (Freshman Honors Class); 2) Chaminade University (Hogan Entrepreneurs Program); and 3) Hawaii Pacific University (Undergraduates).

Dr. Rob Yonover presented an overview of the professional survival field (military and civilian) and specifically touched on the SEE/RESCUE Corporation survival technologies, including: SeeRescueStreamer, LIFE/FLOAT RescueBoard, Pocket DeSalinator, Pocket Floatation Device, and Video Search and Rescue (vSAR) camera/software system. The patent, trademark, and overall intellectual property fields were examined relative to consumer, commercial, and military markets. Paths to market for new and emerging technologies were discussed.

Students were given a chance to examine the SEE/RESCUE survival technologies and explore specific technical and business issues in detail during the extended question/answer period. The Pacific Rim Chapter plans once again to be part of the Girls in Science Middle School program upcoming in the Spring of 2019.



Reminder to All SAFE Members:

It is important that the SAFE Association has your current contact information so we can contact you and distribute SAFE products, such as the Newsletter. Periodically, please go to the "Member Login" at the top, right corner of the SAFE Association web page. When the SAFE Directory appears, click on **"Update Your Profile"** at the top, left. Please review your personal information and, update anything needs to be changed, and click on **"Save Profile"** at the bottom of the page. Your efforts are much appreciated!!

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Speaking of Social media and public relations, this year we brought on Richard Johnson as an appointed member of the team to handle our message for our organization as well as our newsletters and public relations process. Over the next quarter, all of our social media will be revamped as well as updated and broadened. We will be using various programs to get the message out and to Highlight our members and the great work and support our Corporate members do each and every day.

In this newsletter you will find a lot of great information on our Symposium, our Annual Awards, The General Membership Meeting as well as on Chapters, Finance, and Operations. I hope you find it informative and useful. I look forward to seeing many members at IDEX as well as at the SAFE Europe Event in Stockholm in March. Until our next newsletter, Happy New Year!

Be SAFE!

Edgar A. "Ted" Poe, President

SAFE Europe Symposium 2019

The venue and dates are now set for the 26th annual SAFE Europe symposium.

The symposium will be held on 8th to 10th of April, 2019 and we are going back to Stockholm, Sweden. The exhibition and lectures will return to the Elite Marina Tower Hotel, which is located at the Stockholm waterfront. The hotel is located in a historical mill only a few minutes from central Stockholm.

The outline schedule for the meeting is as follows:

Monday 8th April 2019:
- 1300hrs Exhibits Set-Up
- 1900hrs Welcome Drinks and Buffet

Tuesday 9th April 2019:
- 0900hrs Opening Sessions and Key Note
- 1900hrs Gala Dinner (Offsite venue to be confirmed)

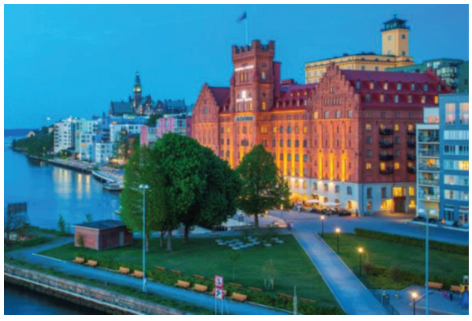
Wednesday 10th April 2019:
- 0900hrs Opening Session and Key Note
- 1700hrs Closing Remarks

Thursday 11th April 2019:
- Options for an Industry Visit are being explored – details to follow.

Preferential room rates have been negotiated with the hotel, including breakfast and Wi-Fi. These are available until 8th March 2019, please quote **"SAFE Europe"** when you contact Elite Hotel Marina Tower (https://www.elite.se/en/hotels/stockholm/hotel-marina-tower) to secure this rate.

The SAFE Europe committee is now working hard to get the programme finalized, so please let us know as soon as possible if you intend to present a paper or exhibit (info@safeeurope.co.uk).

Registration is now open and we encourage delegates and exhibitors to register early. All Delegates and Exhibitors are invited to register online at http://www.safeeurope.co.uk.



The SAFE Europe symposiums previously held in Stockholm have been very well attended, and the SAFE Europe committee expects to welcome old and new acquaintances to the beautiful capitol of Sweden again this spring.

Reminder: SAFE Association Benefits!

INDIVIDUALS:

- Quarterly SAFE Newsletter
- Proceedings from the SAFE Annual Symposium
- All Symposium-related Mailings
- Reduced Symposium registration cost.
- Access to members only area of the SAFE Association website
- Voting privileges for your SAFE Board of Directors
- Submission information for our Annual Awards Program

CORPORATE MEMBERS:

- Quarterly SAFE Newsletter
- Proceedings from the SAFE Annual Symposium
- All Symposium-related mailings
- Reduced Symposium registration cost.
- Access to members only area of the SAFE Association website
- Voting privileges for the SAFE Board of Directors
- Submission information for our Annual Awards Program
- Corporate listing and description of products and services on SAFE Association website with link to company website.
- Reduced registration and exhibit space fees for the SAFE Annual Symposium
- Free use of the SAFE Newsletter to deliver news releases- such as personnel changes, new products, new office locations, and contact information
- Corporate Membership includes a Primary and Secondary Corporate Representative

2018 Symposium in Review – Success

From the desk of Edgar A. "Ted" Poe, SAFE President:

Our 56th Symposium is now history and it was an event that once again met expectations as well as helped the organization to show that change had taken place and that we were meeting the needs of the organization. Before we go through all the highlights of the event, I would like to thank Ebby Bryce for leading our Golf Tournament program, Marcia Baldwin and team for a 5K-run event, and to Glenn Paskoff for an outstanding technical program. Their efforts showcased numerous topics and provided the core of our symposium.

This year we had 76 papers, five panels, two special professional workshops as well as hosted 14 different meetings and venues for all of our participants. This year our numbers were up as well as our revenue stream showed an increase to ensure our organization is financially solvent and continuing to save for the future.

Sunday Highlights: The event started on the Sunday with the Golf Tournament and afternoon 5K-run. As members of the community were participating in these events, many of our attendees were arriving as well as setting up our Exhibit Hall. On Sunday evening, we opened the Exhibit Hall for our Hotel Sponsored Social Event. Based on the feedback from all who participated, the event was a nice change to be able to meet with attendees as well as the exhibitors to get the symposium off to a good start.

Monday Highlights: Our day started with administrative comments by our Host and Emcee for the morning, Dr. Demelza Poe, and followed by yours truly on the journey our organization has traveled and where we are going as an organization.

Our morning's first keynote speaker was Brigadier General Edward L. Vaughan. General Vaughan is the Air National Guard's Assistant to the Director of Training and Readiness, Deputy Chief of Staff for Operations, Headquarters United States Air Force, Washington, D.C. In addition, he is the lead investigator for the Air Force's Physiological Episodes Action Team. Brig. Gen. Vaughn's briefing was on the related hypoxia investigation within the USAF as well as looking at how innovation was driving change in how the service was looking at the issue.

Following the General's fantastic briefing, our next key note took us down the path of professional development and how decisions can affect even the smallest details in an organization. As a Chief Master Sergeant in the United States Air Force, with over 30 years of service, Mike Lightner led and managed over 5,000 people stationed all around the globe. It was during his service that he discovered a passion for the professional growth and development of others. Now retired from the Air Force, Mike has dedicated his life to helping others grow and develop professionally so that they can reach their full potential. His presentation was titled, "Overcoming Today's Success For A Better Tomorrow." In this presentation, Mike discussed how many once-great companies find themselves developing perfect products that they can't sell and end up fighting to stay alive in a world that no longer needs them. Mike explained how leaders' beliefs can, and often times do, determine the decisions they are making and ultimately determine the future of the entire company.

Following these very dynamic speakers our 2018 Awards ceremony took place (see story on this event in more detail later in the news article.) Our second session for the morning started with a topic about Aircrew Flight Equipment and the need for consideration for today's female and male aircrew members.

Our keynote speaker was Colonel Samantha Weeks. Colonel Weeks is the Commander, 14th Flying Training Wing at Columbus Air Force Base, Mississippi. The 14th Flying Training Wing conducts specialized undergraduate pilot training for U.S. Air Force and allied forces officers, as well as tactical training for Afghan and Lebanese pilots and aircraft maintainers in the A-29 Super Tucano at Moody Air Force Base, Georgia. The wing comprises of 244 aircraft flying more than 55,000 sorties and 77,000 hours per year, while training over 400 pilots and combat system operators annually. Colonel Weeks manages an operations and maintenance budget of 106 million dollars with capital assets exceeding 2.3 billion dollars.

In her briefing, Colonel Weeks used her experiences from her pilot training days, flying the F-15C to be a demonstration pilot in the United States Air Force Aerial Demonstration Squadron, the Thunderbirds, and Commander of the 57th Adversary Tactics Group at Nellis AFB, Nevada. Colonel Weeks brought a very unique story of what problems she had faced with Aircrew Flight Equipment fitting and being available for her while accumulating 2,200 flying hours including 105 combat-hours in support of Operations Northern Watch and Southern Watch and in support of Operation Noble Eagle.

Our last presentation for the morning was more of a discussion and a story on how to take a look at how safety can be taken to the next level. In this discussion, our speakers used a real-world accident to look at how each one of us can improve our fingerprint on the error and thus predict, correct, and mentor others. This presentation provided the audience a look into the worst possible condition and see how a level of professionalism shines. This section was moderated by the SAFE President and the President of Convergent

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Performance, Lieutenant Colonel (Ret), Doug Downey. Doug is a graduate of the U.S. Air Force Academy and served over 24 years as a college instructor, combat logistician, commander, and as a fighter pilot qualified in the F-16 Viper and F-117 stealth aircraft. He served as an instructor pilot, functional check pilot, and air show demonstration pilot. Doug joined the Convergent Performance team in 2014 and brought with him a breadth of experience in leadership, training, risk mitigation, safety management systems, and process improvement. This discussion and presentation demonstrated the levels of professionalism as well as a look into a 2015 accident in Colorado.

In the afternoon sessions we were able to learn from the USAF Safety Center regarding the past year's mishaps. Our speaker, Mr. Mark Ruddell has worked for 13 years as an Aerospace Engineer at the Headquarters, United States Air Force Safety Center, investigating mishaps for all types of aircraft flown by the United States Air Force. Mark focuses on the areas of structural and mechanical systems, with particular emphasis on escape systems, crashworthiness, and survivability. Before working for the Air Force, for 17 years, Mark worked for the US Navy providing engineering support for depot-level aircraft maintenance and sustainment. Mr. Ruddell holds a Bachelor of Science degree in aircraft maintenance engineering from Parks College of St. Louis University.

After our Safety Center Briefing, we hosted a Q & A panel titled Female Pilot Flight Equipment (PFE) challenges.

Historically, pilot flight equipment has been designed solely for male aircrew. This sex bias has resulted in an issue that remains largely unresolved. Ill-fitting equipment that ignores basic physical differences leads to degraded performance, such as fatigue and G-tolerance, decreased performance of equipment, such as that seen with the O2 mask and helmet, and potentially life-threatening conditions, represented by ill-fitting torso harnesses. In addition, cultural challenges, inefficient processes, poor communication, monetary restrictions, education shortfalls, and the simple reality that women are a minority in a world that develops requirements based on the needs of the majority, have all contributed to the ongoing problem. If the U.S. Air Force fails to address these concerns, not only is the safety of our current aircrew at risk, but recruitment will continue to be an overwhelming obstacle for a pilot-poor Air Force.

This panel discussed the challenges that female aircrew have faced in addressing this issue and what additional progress needed to be made.

Our panelists were Major Heather M. Tevebaugh, from the Air Force Safety Center, Lieutenant Rebekah M. Alford from the Naval Aviation Warfighting Development Center, and Chief Master Sergeant Dana L. Capaldi, who is the Command Chief Master Sergeant for the 514th Air Mobility Wing.

In closing out our day of briefings, Mr. Glenn Paskoff chaired this year's Tri-Service S&T Panel. This panel provided an overview of Human Performance and Protection science and technology efforts and focus areas in the United States Air Force, Navy, and Army. A question and answer session followed each Service presentation. This year's panelist and presenters were Lloyd Tripp, Ph.D. for the USAF who's current position is Program Manager, Aerospace Physiology & Toxicology. His expertise is in the area of Aerospace Physiology & Human Factors Psychology. Our USN panelist was Mr. Barry S. Shender, Ph.D., SSTM. Barry is the Lead Technologist for the Naval Air Systems Command (NAVAIR) Human Systems Department (AIR 4.6) in Patuxent River, MD, USA. Our US Army representative was Dr. John S. Crowley MD, MPH. Dr. Crowley is the Science Program Director for the U.S. Army Aeromedical Research Laboratory, Fort Rucker, Alabama, USA.

Our Monday closed with the 50 year in Business Celebration by our Host – East/West Industries.

Tuesday Highlights: Our second day of the symposium started with our Association General Membership Meeting and adoption of changes to the By-laws of allowing Electronic Voting to be used by the Organization. This well attended event looked at the past year as well as to 2019.

After the general meeting the fires were lit and for the next eight hours, 64 outstanding presentations were provided to all attending as well as several training and professional development workshops. A list of all the presentations can be found on our association website. To close out the day the association hosted another end of day reception and closing event.

Wednesday Highlights: Our Day started like Tuesday ended with more professional papers, workshops, and meeting's taking place. That day's lunch was sponsored by our great Industry Supporter Capewell Aerial Systems. At the end of the day the final session was hosted to provide the awards for Large and Small Outstanding Exhibitor Award. In this session the U.S. Navy, PMA-202 and the USAF Acquisitions office presented program updates as well as where they were looking for industries help in 2019. After the last session of the day, the Navy and Air Force hosted for the next two days a Specific Brief to Government Industry day with 32 corporate and industry partners providing them information on their programs as well as how they can meet the challenges of these important programs.

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Lessons Learned: Overall, we had very positive feedback to many of the scheduled events as well as some great open feedback on how we can make the next event better. This year we had very positive comments and support on having free WIFI throughout the event locations, the symposium app was downloaded 389 times and the feedback was positive and will be back next year. The Sunday reception, and lunch on all three days was a smashing hit. Our after-work hour events on the Monday and Tuesday were well received and enjoyed. Our audio-visual support and changes met everyone's expectations as well as all the rooms and technical events met or exceeded expectations. Meeting space was used to its maximum effort and side-bar meetings were plentiful. Our general membership meeting had the highest turn out in years, and we had comments to ask how more information can be shared on what is being done within the organization for the future.

"From the "we can do it better process" - pricing of the event as well as understanding what the pricing for exhibit space was the number one area that we will work on in 2019". As much as we had thought we had communicated our intentions, the message still did not reach every member, or was not fully understood. Our second area to look at to improve was that we had packed too much in the technical program for members to see all the outstanding papers and attend areas of interest better. Our third is defining the balance of time from SAFE organizational discussions & meetings, to symposium papers and technical programs to Industry day activities so that all the benefits of the events can be maximized.

In summary the lessons learned have all been scrubbed. Our internal board processes have been tweaked and we look forward to an even better 2019 symposium.

What's Next: The planning has started for the 57th Symposium to take place in Reno, Nevada the week of October 14, 2019.

Sponsorship: This year our sponsors once again provided the means to make this symposium even better than the last. Thank you to the following sponsors for making this event truly outstanding: Capewell Aerial Systems, East/West Industries, Cobham, Nammo Talley, PACSci EMC, Dayton T. Brown, SSK Industries and Switlik.

Essex Industries Names Evan Waldman New CEO

ESSEX™ INDUSTRIES

Saint Louis, Missouri – Essex Industries is pleased to announce that Evan Waldman has assumed the role of Chief Executive Officer effective January 1, 2019. A third-generation member of the company's founding Guller family, Mr. Waldman is just the third CEO in the company's 70-year history.

Evan Waldman joined Essex in 2004 as a Sales and Marketing Associate. He has served as Operations Manager for the Manufacturing Division, Director of Commercial Sales, Director of Strategy and most recently as Sr. Vice President of Business Development. Evan has a B.A. degree from Indiana University and an M.B.A. from Washington University.

Evan Waldman succeeds Keith Guller as CEO. Both Mr. Guller and Mickey Waldman, President, have retired from their leadership roles in the organization, but remain active as family members on the company's Board of Directors.

Essex Industries is a family-owned and operated manufacturer focused on the aerospace and defense market. Providing platform controls and aircraft components, Essex has been a part of virtually every major military and commercial aerospace program since the company began in 1947.

Other Essex product lines include liquid oxygen equipment, emergency breathing equipment and gas regulators. Essex employs over 300 people at its four locations in St. Louis, Missouri.

For more information on Essex, visit www.essexindustries.com

For More Information Contact: Tina Masters, Director of Marketing, Essex Industries, Inc.
314.832.4500 ext. 8753 • tmasters@essexind.com

UP-COMING MEETINGS

MEETING	DATE	LOCATION
SAFE Europe 26th ANNUAL Symposium & Exhibition	April 8 - 10, 2019	Stockholm, Sweden
SAFE ASSOCIATION 57th ANNUAL Symposium	October 14 - 16, 2019	Grand Sierra Resort, Reno, NV

A. V. "Tony" Haastert

With a heavy heart I would must pass on the news that A. V. "Tony" van Haastert passed away on January 2nd. Tony was the General Manager at Gentex West for many years and an exceptional gentleman. As a past president of SAFE we would like to pass on a tribute to Tony that was written by U.S. Air Force CMSgt (Ret) Tommy Tompkins and Mrs. Linda Percival, both former Gentex employees. This letter was published for a USAF Aircrew Life Support and Aircrew Flight Equipment Retirees organization several years ago. Our deep thanks for allowing us to reprint this article at this time.

A. V. "Tony" van Haastert is a special friend and special person. We have known, worked with and respected Tony since we first met and actually worked with him for a few years at GENTEX before his retirement. Tony has devoted his entire life and career to Aircrew Flight Equipment and Safety.

Tony's early life was very hard, as he was separated from his family and interred by the Japanese in a West Indies POW Camp during WW II. Returning to Europe after the war, Tony's career covered quite a span of time and a multitude of technological areas. Tony has been involved in some form of flight safety all of his adult life. For over forty-eight (48) years, beginning in 1951, Tony served as an Air Force Fighter Pilot, flying Tactical Fighters and Reconnaissance A/C for USAF, RNAF and NATO. He was assigned to the 2nd ATAF in Germany during the Hungary/USSR Crisis. From 1959 to 1961 he was a commercial pilot flying in the Middle East and the North Coast of Africa. This meant that many times he was his own safety and maintenance officer.

From 1962 until 1999 Tony was actively employed in the Aircrew Life Support Industry. His employers of the past included Sierra Engineering Company, Scott Aviation, Synergetics Company, ILC Dover and GENTEX Western Operations in Rancho Cucamonga, California.

Highlights of Tony's Management/Engineering experience includes General Manager of R & D Programs developing aircrew chemical defense masks (XM-29, XM-40, MCU-2P, M-43) and General Manager of Program Development and Production of the COMBAT EDGE (MBU-20/P) Anti-G Oxygen Breathing Mask. Tony also designed and patented specific items such as a "Low Lift Helmet" and "Valve Adapter for the Folding, Hanging, and Quick Don Mask."

The past years have seen one product in particular, which has consumed his interest and efforts, and that is chemical defense masks for the flying community.

Tony served faithfully on the SAFE Board of Directors and as SAFE National President. In 1999 Tony was awarded the very Prestigious SAFE Award for Career Achievement. He is also a Life Member of SAFE!

Tony's career exemplifies that he's an individual dedicated to safety/survival and flight equipment.

After his retirement Tony and his bride Sissy have remained in Sunny Southern California where Tony has served as a Deputy Sheriff in the city of San Dimas, California. Tony and Sissy also attended the Aircrew Life Support Reunion held in Mesquite NV September 2004.

Submissions for 2020 Journal

The SAFE Association is currently soliciting submissions for the 2020 SAFE Journal. If you are interested in having your work appear in our peer-reviewed journal, please send your technical paper in Microsoft Word to the SAFE Science & Technology Chair at S_T_Chair@safeassociation.com.

However, please note, submission of a paper does not guarantee final acceptance into the SAFE Journal. The SAFE S&T Committee and Editors reserve the right to decline papers that they feel do not meet the technical qualifications for professional publishing or that fall outside the scope of the SAFE Association's mission statement.

Welcome

NEW MEMBERS

New Corporate Members

First-Light USA
Seymour, IL

Hoffman Engineering, LLC
Stamford, CT

Aqua Innovations, Ltd.
Columbus, OH

SAFE Recognizes Industry Leaders at 2019 Annual Awards

It was an amazing year for members of SAFE, and it was our pleasure to recognize the winners of our awards at the SAFE Symposium.

Each of the winners showcased their works of excellence. Excellence, according to Ronnie Oldham, is the result of caring more than others think is wise, risking more than others think is safe, dreaming more than others think is practical, and expecting more than others think is possible.

This year, the awards board received 19 nominations for individuals who have developed new technologies, increased capabilities, and demonstrated exceptional leadership. Not only that, but these individuals saved lives!

SAFE Association's Meritorious Service Award

Our first award is the SAFE Association's Meritorious Service Award. This award is presented to a person or persons who have demonstrated a recent outstanding contribution to the preservation of human life through courage or bravery. The last time this award was given was in 2015 and this year we have two very worthy recipients. Our first recipient is U.S. Air Force Senior Master Sergeant Ginther.

Senior Master Sergeant Jeffrey A. Ginther – Meritorious Service Award. Presented by Brig. Gen. Edward L. Vaughan and David DeSimone

SMSgt. Ginther distinguished himself by performing a heroic act, at significant risk to his own life, near the Fresno Air National Guard Station in California on July 29th, 2015. On that date, Sergeant Ginther witnessed an automobile swerve off the road and crash into an irrigation canal. Sergeant Ginther immediately abandoned his own vehicle and rushed to the aid of the driver whose car was slowly sinking. A bicyclist traveling along the road had also jumped into the canal to aid the driver and, as Sergeant Ginther swam towards them, the driver, who was unable to swim, desperately clung to the cyclist. Both men struggled to stay above the surface of the frigid waters and once Sergeant Ginther reached them he was able to pull the men above the surface of the water. The driver, who was frantic and suffering from extreme fatigue, let go of the vehicle, which had been anchoring the group, causing all three men to be violently swept downstream. In his panic, the driver climbed on top of Sergeant Ginther and the cyclist, forcing both men beneath the water. Sergeant Ginther attempted to swim the group to shore, but the strong current and frantic flailing of the driver were too powerful. As the trio was being pushed downstream, the driver inadvertently pushed Sergeant Ginther below the surface of the water again. Sergeant Ginther realized that he could touch the base of the canal and quickly devised another strategy to bring them all to safety. Plunging himself down at an angle into the ditch and pushing off from the bottom, he was able to project himself and the two men above the water and toward the canal bank. Continuing this method, he was able to slowly move himself and the two men he was rescuing to the side of the canal and safety. As a result of Sergeant Ginther's heroic actions, lives were saved. Ladies and gentlemen, Senior Master Sergeant Jeffrey A. Ginther.

Our second award goes to Captain Tammie Jo Shults and the crew of Southwest Flight 1380.

On April 17th, 2018, Southwest Airlines Flight 1380 was enroute from New York to Dallas, Texas. The plane was at cruising altitude when the left engine cowling disintegrated as a result of an uncontained engine failure. Captain Shults and First Officer Darren Ellisor faced an immediate threat to the safety of the Boeing 737 aircraft and its 144 passengers and 5 crew members. As a result of the engine cowling and other engine parts striking the fuselage, a window was blown out, oxygen masks deployed in the cabin, and a passenger was partially sucked out of the stricken aircraft. Captain Shults, relying on her Navy training and subsequent professional airline pilot training at Southwest Airlines, took immediate action to stabilize Flight 1380 and made an emergency descent of more than 20,000 feet in less than 6 minutes. As Flight 1380 diverted to Philadelphia, Captain Shults calmly communicated with air traffic control and made a perfect, safe landing. That day, Captain Shults, her First Officer and cabin crew, saved 148 of the 149 lives on board.

Michael R. Grost Career Achievement Award

The Michael R. Grost Career Achievement Award. This award is presented to a person or persons who, throughout his or her career, has made significant contributions in the field of safety or survival. The 2018 Michael R. Grost Career Achievement Award goes to James and John Martin of Martin Baker Aircraft Company.

James and John Martin are the managing directors for Martin-Baker Aircraft Company and for the last 49 years have been using innovative solutions to save lives. Since they began work at the company in 1969, both James and John have implemented numerous technical and design achievements. In the early years, and under the guidance of Sir James Martin, John and James worked on the development and testing of the mark-10 ejection

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seat which was specially developed for the Hawk and Tornado aircraft. Their work included the manufacture, development, and testing of rocket motors, gas generators, and all pyrotechnic items. The development work also included new drogues and parachutes, as well as the development and testing of new canopy jettison systems for the Royal Air Force Phantom and Tornado aircraft. From that project to the design of the McDonnell-Douglas F-18, James and John have never looked back. With numerous achievements in design for the Mirage F1, Mirage 2000, the Casa 101, Macchi 339, and Lavi, engineering excellence has been demonstrated and proven.

From 1983 to 1995, James and John were responsible for the development and qualification of the Navy Aircrew Common Ejection Seat, also known as NACES, for the F-18, F-14, and T-45 aircraft. Also, since that time frame James and John have been joint managing directors of the Martin-Baker Aircraft Company.

By continually innovating and pioneering ejection seat development, James and John have dedicated their working lives to the business of saving aircrew lives. As the world's leading manufacturer of ejection seats and related equipment, Martin-Baker is the only company to offer a fully integrated escape system that satisfies the very latest in pilot operational capability and safety standards. Since 1995, the Martin Baker company has delivered over 25,000 ejection seats to 93 air forces around the world. In addition, the company developed a range of individual crashworthy seats for helicopters and fixed-wing aircraft, which currently equips over 60 helicopter variants. Altogether, this family business has, to date, saved over 7,593 lives.

General Spruance Individual Achievement Award

This award is presented to a person who has made a recent outstanding contribution in the field of safety or survival. This contribution may have been through demonstrating exceptional leadership skills or through their advancement in education, knowledge, science, the application of investigative techniques, or engineering, associated with a significant improvement in safety or survival.

The 2018 General Spruance Individual Achievement Award goes to Lieutenant Commander David M. McEttrick, the Director for the Aviation Survival Training Center at Whidbey Island in Washington where he leads a diverse staff of 22 aviation survival training experts serving a unique population of joint service, Allied nation, and civilian contract aircrew. His progressive, forward-leaning approach to curricula improvement, coupled with his extensive knowledge of aircraft and aviation life support systems, ensured the delivery of Fleet-relevant, high-risk human performance, and water survival training.

LCDR David M. McEttrick - General Spruance Individual Achievement Award. Presented by Brig. Gen. Edward L. Vaughan and David DeSimone

In the past year, Lieutenant Commander McEttrick's cadre of healthcare scientists, water survival experts, aviation physiology technicians, divers, and civilian engineers educated and trained over 1,200 warfighters with particular emphasis on the EA-18G Growler electronic warfare and P-8A Poseidon maritime, patrol, and reconnaissance platforms. He astutely identified and defined critical survival training elements required to better educate aircrew at the Naval Electronic Attack Wing, US Pacific Fleet, on the nature and severity of physiologic events in the F-18 and EA18-G platforms.

LTCDR McEttrick and his staff serve as a front-line defense for future physiologic events by providing medically-relevant education and training on respiratory physiology dynamics, decompression illness in flight, and hands-on, dynamic training on the effects of hypoxia using the latest technology in reduced oxygen breathing device assets. His efforts have contributed significantly to the EA-18G platform having the lowest rate of physiologic events across the naval fleet.

His leadership, commitment to his staff, and dedication to improving the quality and efficiency of all aspects of the Naval Aviation Survival Training Program will have a lasting and hugely positive impact and will benefit all future Naval Survival Training Institute programs and staffs.

Murray P. Koch Industry Award

This award is presented to those members of the industry who have made significant contributions to the advancement of technology or hardware for safety and survival applications. Mr. L. Peter Frieder, President & CEO of GENTEX Corporation, is the winner of this award. He has been visionary of both past, present, and future pilot flight equipment (PFE). Over his 40-year career, Peter has been a leader in flight helmet innovation. In 1982, he merged new designs and graphite material with advanced anthropometric data to create the HGU-55/P helmet for the United States Air Force. Over 280,000 of these highly successful helmets were pro-

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duced and which led to the development of next-generation oxygen masks for high-performance aircraft worldwide, thereby increasing military capabilities and safety during high-speed flight maneuvers.

Under Peter's guidance, GENTEX created new chemical, biological, radiologic, and nuclear protective materials (also known as SEE BURN), which included the development of the first carbon-based permeable chemical protective suit for the United States Army, and later the development of spherical carbon absorbents for lightweight chemical protective liners for both United States Air Force and NATO allies. Further technical breakthroughs in CBRN (SEE BURN) protection led to the fielding of the F-35 Joint Service Aircrew Mask, known as J-SAM, providing head, eye, and respiratory CBRN protection for F-35 pilots. These materials are vital in allowing combat forces to safely operate in any threat environment.

L. Peter Frieder - Murray P. Koch Industry Award. Presented by Brig. Gen. Edward L. Vaughan and David DeSimone

Peter Frieder was the driving force behind the worlds' first full-color aircrew Helmet Mounted Display system. This unique system, which came to be known as Scorpion, was fielded on the United States Air Force F-16 and A-10 aircraft in the Helmet Mounted Integrated Targeting Program. This system provides pilots with important aircraft flight data to enable them to maintain situational awareness thereby increasing combat effectiveness and flight safety.

Peter continues to push the boundaries with GENTEX performance materials, which includes a range of high radiant heat-thermal protective textiles, known as aluminized fabrics. These highly specialized products provide flame and splash protection to firefighters, volcano researchers, and steel foundry workers around the world, allowing them to safely perform their jobs under the most extreme heat conditions.

2018 Team Achievement Award

This award is presented to a team which has made a recent outstanding contribution in the field of safety through advancement in the knowledge, science, or engineering associated with a significant improvement in safety or survival.

The 2018 Team Achievement Award goes to the PMA-202 T-45 Return-to-Flight Team.

On March 31, 2017, roughly 40 percent of all T-45 Goshawk Training Command flights were canceled due to operational risk management decisions made by instructor pilots following an uptick in physiological events allegedly caused by contamination within aircraft oxygen systems. On April 5th 2017, after meeting with affected pilots, the Commander of Naval Air Forces directed a Chief of Naval Air Training Goshawk-wide safety stand down, and ultimately halted flight operations until mitigations were in place to quote "monitor, alert, and protect" close quote every aviator operating the T-45 aircraft. Any slowdown in pilot production negatively impacts the United States Navy and the United States Marine Corps' operational readiness, but an extended gap would have been crippling to their missions. In July of 2017, the Chief of Naval Air Training Goshawk was able to resume pilot training and, by November, had renewed pre-stand-down student production rates. Through multiple lines of effort, the PMA-202 T-45 Return-to-Flight Team improved the overall material condition of the T-45 fleet, introduced modifications to aviation life support systems, emergency backup systems, and aircraft systems, and produced sufficient aircraft data to guide analytical efforts to address naval aviation's top safety priority. With a focus on meeting operational readiness, the team worked diligently to re-initiate pilot production after an operational pause attributed to physiological events.

SAFE Life Membership

Each year, SAFE bestows life membership status on up to two individuals for outstanding achievements on or on behalf of our association. This year we have two individuals who truly deserved this honor. Both were instrumental in getting the SAFE Journal back on track and both have been members for numerous years and have held positions at the chapter and national board level. These two professionals should be considered game changers within their particular sphere of operations. This year the SAFE Association board of directors would like to honor Glenn Paskoff and Dr. Joseph Pellettiere.

Glenn Paskoff and Joseph Pellettiere – Honorary Life Member Award. Presented by Edgar Poe

President's Award

Each year the Association's president gives an award to a deserving member who has worked extremely hard to move the association forward. This year we broke protocol and gave the award to a very dynamic and hardworking couple. Many of the behind the scenes events have been accomplished by this dynamic duo.

They have cut organizational costs, reduced physical inventory of 50 plus years of records placing them into a digital format, as well as completely moved the office of our organization to a better location. With the untimely death of the then association's president in Dec 2017, the business of SAFE never skipped a beat. This year's president's award (members category) goes to Stacy and Rick Stuber.

Rick & Stacy Stuber – President's Award. Presented by Edgar Poe

President's Award for Exemplary Corporation

This year, the board of directors added a second award that recognizes a deserving corporate organization for their exemplary support.

Cobham, the organization selected by the board has increased their footprint as well as their sponsorship towards the SAFE association. Over the past five years, they have expanded their numbers at our symposium, encouraged their engineering and sales team to become members of the association, sought out the association's board members to visit their organization, and requested briefings for their senior leadership and management teams.

Following the untimely death of Chris Motta, they helped our organization in numerous ways as well as helped Chris' family.

Cobham Mission Systems – President's Award - SAFE Corporate Sustaining Member. Presented by Edgar Poe

FOR IMMEDIATE RELEASE:

Essex Industries Acquires Momeni Engineering

Saint Louis, Missouri – Essex Industries is pleased to announce the acquisition of Momeni Engineering LLC, a manufacturing company located in Huntington Beach, California, effective January 1, 2019.

Founded in 1947, Essex Industries is a leading supplier to the Aerospace and Defense market, providing platform controls, aircraft components, emergency breathing and liquid oxygen equipment. The company employs over 300 people in its four St. Louis facilities.

Momeni Engineering provides precision machined OEM parts and assemblies to aerospace and medical companies. Originally founded in the late 1980's, the company as currently structured was established in 2010. Momeni operates from two co-located facilities with 45 employees.

The acquisition of Momeni supports Essex' business strategy of further expanding its commercial aircraft product portfolio. With Momeni's location, it will also provide improved service for Essex customers on the West Coast.

According to Evan Waldman, Essex CEO, "Essex and Momeni Engineering share common markets, manufacturing expertise and values. Working together, we will be able to offer a broader range of products and enhanced customer service."

The company will continue to operate as Momeni Engineering in Huntington Beach, California.

For additional information about the companies, please visit www.essexindustries.com and www.momenieng.com

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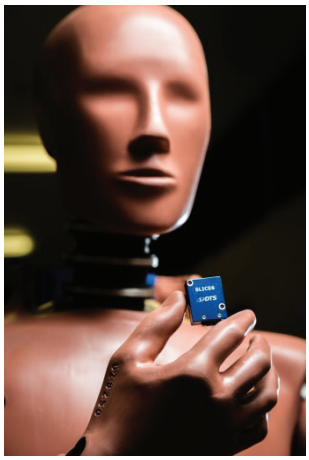
DTS Awarded SBIR Contracts to Advance US Air Force and NASA Flight Crew Safety

Seal Beach, CA - (Jan. 2019) – Diversified Technical Systems, Inc. (DTS) has been awarded two Small Business Innovation Research (SBIR)* Phase I contracts to develop miniature data acquisition systems for flight crew safety testing by both the US Air Force Research Lab and NASA. DTS was selected for each project based on their expertise in test and measurement solutions for crash, blast and injury biomechanics testing.



DTS's data acquisition systems and sensors are used for dynamic product and safety testing in a variety of industries. These systems embed directly in or on test articles near the point of interest, without long cable runs, slip rings or altering test dynamics.

The DTS 'blue boxes' will be engineered to collect physical measurements including triaxial linear and angular acceleration for two very different applications. NASA's focus is on low-level accelerations over extended time periods, while USAF testing is centered on short duration events. NASA's Dynamic Kinematic Recorder (DKR), as it's being called, will be used to measure vibration data that spaceflight crews may experience during launch and re-entry periods. The USAF Dynamic Impact Recorder (DIR) will measure more intense head and neck accelerations that pilots may be subjected to during ejection seat events.

How and where each unit will be mounted and powered are critical to the development process. With the goal of positioning the recorder as close as possible to the point of interest, which could be on or in a helmet, the real challenge for DTS design engineers becomes size, mass and center-of-gravity (CoG). DTS' ultra-low power designs are significantly smaller and lighter than similar systems on the market. Each unit will feature six degree of freedom (6DOF) sensing and onboard memory, which means all data will be stored in place to non-volatile memory.

Phase 1 deliveries include working prototypes, which will be evaluated against key metrics to assess performance and accuracy of the units. The NASA DKR is scheduled to be complete in January 2019 and the USAF DIR is scheduled for April 2019. One or both may be followed by a Phase II SBIR, in which the concept design is then refined into a finished product.

DTS brings nearly 30 years of experience in developing sophisticated data recorders and sensors used in crash, blast and injury biomechanics testing by top auto makers, aerospace and leading researchers. A recent earmark achievement was the successful development and delivery of the US Army Warrior Injury Assessment Manikin (WIAMan) prototypes, a vertical load test manikin for underbody blast testing. DTS has also developed an ultra-small helmet-mounted shock recorder under contract to BAE Systems as a tool for the US Army to gather data in the ongoing study of combat-related mTBI. DTS has been awarded several SBIR projects, which have resulted in the development of numerous commercial data acquisition systems and sensors that are being used for dynamic testing in a variety of industries. Visit www.dtsweb.com for more information.

*The Small Business Innovation Research (SBIR) program is a United States Government program coordinated by the Small Business Administration that helps certain small businesses conduct research and development (R&D). Funding takes the form of contracts or grants. The recipient projects must have the potential for commercialization and must meet specific U.S. government R&D needs.

SOME ESCAPE SYSTEM PROJECTS THAT WORKED – AND SOME THAT DIDN'T!

David De Simone

Some things remembered 1959 to 1990 with regard to **Escape Systems**. Most of the old programs can be found in the SAFE archives. There was the Yankee Extraction system which used a rocket motor to extract an individual from an aircraft at the end of a tether - useful for small cockpits and lighter weight than an ejection seat. It was even suggested for a rotary wing attack aircraft with the addition of explosive blade removal. Explosive blade removal was frowned upon for this application and also helicopter descent under parachutes which was also demonstrated. The objection was not reliability but fear that this violent event could not be in the vicinity of other aircraft. Again a good idea not pursued because of a particular situation that is easily avoided. Perfection is the enemy of good! Naysaying is an American past time!

Then there was the Maximum Performance Escape System (MPES). This was a program with a consortium of Navy Labs contributing their particular expertise. Naval Air Development Center, Naval weapons Center, and Indianhead were the participants. The objective was to make a composite lightweight seat that had thrust vector control for steering to the vertical from any attitude. There would be no out of envelope ejections and the new Vertical Takeoff and Landing fighter (VSTOL) would present no unpleasant attitude problems for escape. A spherical rocket motor gimballed in the seat bucket would do the steering. A demonstration was conducted at NWC with a cockpit suspended from pylons upside down 100 feet in the air. The seat fired and turned within thirty five (35) feet to the vertical and safely descended under a chute. A great movie of this shot exists somewhere in somebodies desk drawer or attic. The program was canceled when VSTOL was canceled. An important lesson was learned. Do not tie your program to a larger aircraft program if you can help it. This was when we had all different colors of money in our own program elements and not dependent on specific aircraft managers largesse. We thought we had the answer to seat stabilization, adverse attitude, restraint at high speed and a host of things that plague escape system designers. We had an inflatable restraint for high speed ejection, control surfaces and thrust Vector control for stabilization at any speed. Ballistic deployment of parachutes and glide chute integration to assist in escape and evasion.

Very early on in the 70's there was a project called "Fly Away Escape". This is one of my favorites. After ejection why do we have to subject the survivor to a fate determined by the luck of the draw and an unknown landing zone. Very simply he can fly if under a glide chute or parasail plus simple propulsion. This exists in the unlicensed civilian lightweight personal flying devices. The trick is packaging in the confines of a cockpit but certainly with no such limitations in a capsule.

Remember the Goblin fighter attached to the B-36 long range bomber that had to carry it's own fighter escort slung under its belly. The goblin was the size of a cockpit as we know it with a jet engine for propulsion. A cockpit that flies! The later Advanced Technology Cockpit program suggested an insertable, removable cockpit module which was capable of fly away. Another program killed in its infancy. The days of imaginative prototyping and out of the box thinking seems to be no longer possible. Maybe it is because there used to be a lot more aircraft companies with resident Crew Systems divisions. Again, look up some of this stuff in the SAFE archives or wherever you can find it and share with your friends and co-workers. This really is a fun business. More to come!

David De Simone was the Former DPM to NAVAIR R&D, Acquisition, and Fleet Support and Block program Manager for Air Vehicles, Materials and Human Factors Engineering for ONR. Three times Past President of SAFE.

https://www.facebook.com/pages/SAFE-Association/182879935059392

FOR IMMEDIATE RELEASE:

Essex Industries HOTAS Grips on F-35 Joint Strike Fighter

Saint Louis, Missouri – Essex Industries and Lockheed Martin have reached agreement on the next round of HOTAS (Hands-on Throttle and Stick) grip deliveries for the F-35 Joint Strike Fighter program. Production will extend through December 2022, with quantities expected to exceed 570 shipsets.

The F-35 is a 5th Generation fighter, combining aircraft characteristics of advanced stealth, integrated avionics, sensor fusion and superior logistics support with the most powerful and comprehensive integrated sensor package of any fighter aircraft in history. Variants of the F-35 will replace fighters for the U.S. Air Force, the U.S. Navy, the U.S. Marine Corps, and ten other countries around the world.

In addition to supplying the HOTAS grips, Essex also provides a series of valves for the F-35 fuel system.

Founded in 1947, Essex Industries is a leading supplier to the Aerospace and Defense market, providing platform controls, aircraft components, emergency breathing and liquid oxygen equipment.
www.essexindustries.com

For more information contact: Robert Geisz, Global Account Executive, Essex Industries, Inc.
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MEMBERSHIP

Welcome to 2019! The return of the SAFE Symposium to Reno, NV, was a huge success in both substance and attendance … and it was great to see the continued passion of the attendees for the primary goal of SAFE, the preservation of human life.

As individuals and corporations become and continue as members of SAFE, we remain a successful organization. In 2018, we welcomed 114 new members, 70 of whom took advantage of the free membership offer at the symposium. It was also important to note that a large number of new 2017 members (also free memberships) returned to us this year!

This continued growth makes it important that we continue striving to meet our membership goals. We ask all members to provide input often and keep SAFE's leadership accountable for these membership actions.

SAFE membership should provide that:

- a member can gain both personally and professionally
- a member can gain visibility into his or her industry and its technologies
- a member must have the option to both teach as well as learn
- a member should have access to industry history

As always, our membership includes a robust and diverse population that is passionate about what they do, what they develop, what they test, and what they deliver.

We were also encouraged to see a substantial increase in the number of members of the Armed Services (both domestic and international) in attendance at the Symposium as well as becoming members.

Thank you for helping grow our SAFE Organization! We look forward to hearing from every one of the members, as well as non-members, for input on how we can improve the value of your membership. So, please feel free to offer ideas and suggestions to help this organization continue to be the cornerstone for all members, and for those who are soon to join this great organization.

Sincerely,
Joshua Minton, Membership Committee Chair