



A Message from the SpaceTEC® PI...

Dear SpaceTEC® colleagues and newsletter readers:

The time has come to announce my retirement as PI effective the end of this month. As some of you know, this is my second attempt at stepping down, but the differences this time are the level of maturity of the program, the preparations by the SpaceTEC® team, and my advancing age!

As I depart this truly wonderful experience, I leave with great admiration for all of you and enormous pride for what we have done over the last 11 years. Our achievements are a testament to everyone who has had a part in making our program a rousing success.

Beginning in 2002 - when all we had were some ideas, some curriculum, and a lot of really great people from academia, business and industry, and government agencies - we built a national consortium that helped professionalize the aerospace technician career field. If that were not already enough, we've grown a very close-knit group that is without peer in the United States' aerospace industry. Our people step up whenever needed, and they have never failed to deliver when action or help is required. For that and all your tolerance and patience, I will be forever and sincerely grateful.

Were I to try to name everyone who has contributed to our efforts, the list would fill two or three editions of SpaceTEC® Talk. Rather than do that, I'd like thank our Co-PIs who champion our program nationwide; our college partners who carry the load in their communities as our "points of contact" with students and staff; our industry representatives who provide our subject matter experts, define our curriculum, and hire our program graduates; and our agency contacts who provide the essential insights and links to regulatory requirements, funding, and the operational programs for which all of this is intended.

When all is said and done, SpaceTEC® is about two primary elements that define our success: (1) our ability to partner with diverse and powerful groups that pursue a common, compelling goal of championing tomorrow's technical workforce; and (2) a focus on performance-based education and training that developed this nation's only Certified Aerospace Technician® credentialing process that is approved by the [FAA](#), endorsed by the [American Council on Education](#), and accredited to ISO-17024 standards by the [International Certification Accreditation Council](#).

At the risk of offending anyone who has worked with us, I'd like to leave you with the names of a few people from our past, our present, and our future who deserve to be remembered, to wit:

FROM OUR PAST: We began with two people who, in December of 2000, created the curriculum framework and competencies listing for a two-year aerospace technology degree program at Brevard Community College that underpins much of our work to date. They are: Juanita Curtis, who retired this past September, and David Brotemarkle, who retired in 2007 and passed away on August 8, 2009. No one ever had more dedicated people than those two.

Dr. Thomas E. Gamble, the president of Brevard Community College, assigned me the task of heading the BCC aerospace program and supported our first SpaceTEC® initiatives in 2001. Dr. Gamble passed away on November 7, 2006, and I owe him a deep and lasting debt of gratitude.

Now retired are Dr. Tom Steffen from Palm Beach Community College, who single-handedly set up our first shops and labs in 2001; Jim Swindell from Calhoun Community College, who hosted our first NVC meeting in 2002; Pat Cunniff from Prince George's Community College, who edited our monograph, "Championing Tomorrow's U. S. Technical Workforce" in 2004; and Pat Taylor Harris from Thomas Nelson Community College and Stu Harris from NASA Langley Research Center, who established our Core certification as a formal requirement for entry into the NASA paid internship program at Langley in 2007 and hosted our NVC meeting in 2012.

IN THE PRESENT: There are so many people who qualify as "key personnel" today that it's almost impossible to pick just a few. In addition to the current SpaceTEC® HQ staff, the most prominent in our leadership activities are: Marshall Heard, retired Boeing VP and Chair of the SpaceTEC® Partners, Inc. Board of Directors; Richard Beagley, retired USA VP and Chair of our National Visiting Committee; Kevin Gulliver, President of Nida Corporation and Chair of our Commercial Industry Technology Advisory Committee. They are all unpaid volunteers who are the best in the business!

FOR OUR FUTURE: Perhaps most difficult of all is the list of those who will make the biggest contributions to our future success. Since I'm already up to my ears in trouble, I'll name just four that I think will have the greatest influence on where we go next. Leading the list is Dr. Gerhard Salinger, our Program Officer at the National Science Foundation's Advanced Technological Education (ATE) Program. Dr. Salinger has been a constant mentor, encouraging new initiatives and providing guidance and counseling during some of the most trying economic times any of us has seen. Second is Al Schwabenbauer - our external evaluator and a retired Sikorski executive - for his work in providing incisive assessments, advice, and support in developing metrics and helping make sense of the many areas of evaluation needed to judge and improve our plans and programs. Third is Richard Laird, our supervisor and primary sponsor at Eastern Florida State College, our fiscal agent for the NSF grant. Finally - and most importantly from our local perspective - Steve Kane, the SpaceTEC® Program Manager and Managing Director, will become the SpaceTEC® PI when I leave. Steve's talent and commitment will be essential to carry forward the momentum of our credentialing efforts as the consortium moves into its second decade.

We owe all these folks, and many others, kudos and thanks for putting us on the right track.

To all of them and to all of you, please know how much I appreciate every minute we spent together and every challenge we faced from the beginning until now. Somehow we have come through the many trials and activities a stronger, more vibrant, and more experienced group that is ready to take on new opportunities and initiatives with even greater confidence and expertise.

I leave our beloved SpaceTEC® in good hands and wish each of you the very best in the years to come. Farewell, and Godspeed.

Al Koller, SpaceTEC® PI.

Recertification of the Aerospace Core Certification

During the self-audit of the SpaceTEC® Program in preparation for ISO 17024 assessment, it was discovered that in order to comply with ISO 17024 standards, the Aerospace Core Certification and Concentrations could not be life time certifications as was initially intended. As a result, SpaceTEC® instituted a requirement that anyone who has received an Aerospace Core Certification will have to recertify every three years. The process to be followed for the initial recertification effort will be that certified individuals will only need to update their contact information and provide evidence they are working in technician capacity to stay current. An e-mail containing more information will be coming out in January.

FAA Office of Commercial Space Safety Inspection

On Dec. 10th, Ms. Erin Moll of the FAA Office of Commercial Space conducted a safety audit of SpaceTEC's records related to Safety Approval SA 11-003. In a report issued by Mark A. Wright, Manager, Safety Inspection Division, it was noted "No issues with compliance were found." This successful outcome continues the Certified Aerospace Technician® credentialing process as approved by the FAA Office of Commercial Space Safety Inspection Division, for technicians supporting commercial space activities, for another year.

CertTEC® Basic Electricity & Electronics Certification Update

Candidates from military, education and industry are adapting the CertTEC® Basic Electricity and Electronics certification as an "end of course" independent performance based certification.

Fort Gordon's Ordnance Electronic Maintenance Training Department (OEMTD) located in Georgia began certifying instructors this month in preparation of rolling the program out to all soldiers completing training. Several pilot programs have been completed prior to the program becoming fully operational.

Tennessee Colleges of Applied Technology Center-Hohenwald conducted their second round of certification testing on students that have completed requirements in their program. 13 students tested with a very favorable pass rate of 77%.

Noble Corporation, which specializes in offshore drilling has conducted two-week long training classes for Electronics technicians. Currently, on completion of the training all students sit for the DC certification.



Figure 1-Basic Electricity & Electronics certification testing at Fort Gordon

CertTEC Aviation Structures and Assembly Certification

Under the CertTEC® umbrella of SpaceTEC® Partners Inc. efforts are under way to develop two new performance based certifications. The two new certifications will be Aviation Structures and Aviation Assembly. A DACUM (**D**evelop **A** **C**urriculum) was hosted in October by Tulsa Technology Center in Tulsa, Oklahoma. Representatives from Tulsa Technology Center, Francis Tuttle Technology Center, Tulsa Community College along with industry representatives from Spirit AeroSystems, American Airlines, AAR Corp and Embraer were present. Developed was a list of competencies needed to perform each job along with Knowledge & Skills, Tools & Equipment and Traits & Attitudes. A curriculum plan for each job was also developed.

The next step is to have a team of Subject Matter Experts (SME's) begin writing Written and Oral exam questions and develop the "Hands On" practicals that will be used to test each candidate. Target date for completion is March 2014 at which point a beta test will be conducted. More to follow on these two new certifications.



Figure 1-DACUM is underway in Tulsa, OK

SpaceTEC® Interns

SpaceTEC® began a program in the fall of 2013 with student interns from Eastern Florida State College. The interns volunteer 3 hours per week and get credit through the Service Learning Program at the college. Michael Tang, James Francisco and Conner Horvath are all students in the Aerospace program. Activities involved fabrication of composite test panels and electronics testing components. It is a win/win situation for both parties involved as the students are able to gain real life experience relating to their course work and SpaceTEC® is able to have assistance in building certification test kits. All three interns have expressed an interest in returning next semester.



Figure 1 James Francisco prepare a vacuum bag lay up for a composite test kit sample

ETA-I Education Forum

Dave Fricton represented CertTEC® at the ETA-I's education forum with a presentation

on the Basic Electricity & Electronics certification. This year's event was hosted by ETA-I and was held in Greencastle, IN on October 14-18. Representatives from industry and education participated in the week-long event which consisted of technical seminars, workshop and certification activities. To learn more about ETA-I, visit their [website](#).



Figure 1 -ETA-I president, Teresa Maher leads discussion at annual membership meeting

Career Fair

SpaceTEC® joined forces with middle schools, high schools and private schools in Brevard County, Florida to hold a one-stop Career Fair at Eastern Florida State College. The Career Fair saved time for everyone: the schools didn't have to individually schedule their own event and local business, educational institutes, city, county and government partners did not have to try and attend events at EIGHT different schools. The goal was to give the student access to the many different career paths that was represented at the event.



Annual Audit of Certification Test Kits and Sites

In January of 2014, SpaceTEC® will be requesting audits of the certification test kits and sites. Periodic audits are a component of good stewardship of assets, support accreditation and are required by the SpaceTEC®/CertTEC® Quality Manual. The audit procedure applies to property assets contained in Certification Test Kits and the Certification Test Sites which are located throughout the United States. For the purposes of this procedure an Auditor will be the person who has physical control of the Certification Test Kit and is designated by the SpaceTEC®/CertTEC® Certification

Manager as the property custodian of the kit. The audit deals with not only the physical counting of items but, is also used to record the item's physical location and condition. The audit also deals with the documentation, facilities/equipment of the physical test site. Additionally the certification test site must be capable of supporting the certification testing. Further information will be sent out after the first of the year.

SpaceTEC® featured on MatEd's Website

SpaceTEC® was featured as the [Partner of the Month](#) on the National Resource Center for Materials Technology Education ([MatEd](#)) website.

Good Things Are Happening in Our Space Programs by Al Koller, SpaceTEC® PI

As the nation grapples with major budget and employment challenges, some of the information about our aerospace programs has become garbled, resulting in myths, half-truths, and general misunderstandings that have hurt the very programs that can help solve those problems. A lot of people think the Kennedy Space Center is closed, and that NASA has gone out of business!

As incredible as that may sound to those who work in or with aerospace companies and programs, the public believes what they read and hear. Even some of our congressional representatives have been deluded by a press that is fixated on reporting the negatives and the costs of space missions, highlighting those aspects instead of the very positive things happening nearly every day. To address those issues, NASA has begun a very aggressive communication initiative and now releases information daily.

For example, you can spot the Space Station from your own back yard by signing up for "[Spot the Station](#)", and you can find information that is tailored to educators, business people, etc. on the NASA [website](#). NASA news releases and other information are available automatically by sending an e-mail message with the subject line **subscribe** to this [address](#). Realistically, how many folks are likely to do that? Not very many, and by the looks of the current NASA budget, not enough.

To help tell a more complete and accurate story, SpaceTEC® sponsored a video interview featuring Florida Congressman Bill Posey (Florida's 8th District) and Frank DiBello, president of Space Florida, and we have posted it on our websites and our [YouTube channel](#). If you'd like to know what is REALLY happening, visit this [site](#), and please share it with your students, faculty, staff, industry colleagues, and agency representatives.

We hope to do more of this kind of dissemination as the National Resource Center

continues to grow and mature. Visit our web sites: [SpaceTEC](#), [CertTEC](#), and [Best-in-us](#) for more information.

Holiday Message from SpaceTEC®

As we approach the end of another eventful year, we here at SpaceTEC® headquarters would like to pause a moment and thank all of our technicians, examiners, contributors, contacts, partners and friends for your continued support of our work. There is much to do in the days ahead as we pursue initiatives to add value to STEM technicians in many fields all around the country.

This is a time for enjoying the company of family and friends but it is also a time for sharing, so anyone who can, please take a moment and touch the lives of those less fortunate.

We sincerely wish everyone a wonderful Holiday Season!

Steve, Dave, Mark, and Carolyn

To learn more about SpaceTEC® activities, contact us:

By Email: Information@SpaceTEC.org

By Telephone: (321)730-1020

By Mail: 7099 N. Atlantic Ave., Suite 300, Cape Canaveral, FL. 32920

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SpaceTEC® | 7099 N. Atlantic Ave. | Suite 300 | Cape Canaveral | FL | 32920