



April 2011
Volume 1, Issue 13

The Real World of STEM

It is no secret that, our country is producing too few technical specialists such as scientists, technicians, engineers and mathematicians. What may be a secret to many, is the number of individuals in our military services, (as well as industry, government and academia), who are focusing a great deal of time to changing this phenomenon.

Within the Department of Defense (DoD), STEM (Science, Technology, Engineering, Mathematics) is the educational outreach initiative to inspire, develop and attract the talent necessary to deliver innovative solutions for the Nation's current and future challenges. Toward this end, many of the DoD Labs have focused STEM outreach programs that bring professionals - be it engineers, technologists or scientists - into the classroom to increase the awareness of students and teachers of the STEM professions and to bring their practical experiences to the classroom to enrich their understanding of science and math so that it comes to life for them. These programs are coordinated among the government, industry, academia and school system partners to help students realize how their daily school science and math lessons apply to real world technology needs and solutions.



Bob Seltzer, Deputy Director, Research and Technology Program Office, along with co-worker Sunny Simmonds, Technology Transfer Program Manager, Naval Air Warfare Center Training Systems Division (NAWCTSD), serve as coordinators for the command's STEM education outreach. Implementing a program originating from the Department of Defense's STEM Education and Outreach Strategic Plan, both spend time, as part of their jobs, developing NAWCTSD's STEM program.

"STEM is our educational outreach to the community, in Science, Technology, Engineering and Math, to impart the importance of doing well in school in these areas," explained Seltzer. "We're trying to attach a face with the product of the educational skill sets they're going to need to pursue a STEM career that the DoD desperately needs."

With educational partnerships established with Orange and Seminole county school boards, NAWCTSD has developed STEM relationships with local schools in an effort to align with the DoD's National Defense Education Program (NDEP), www.ndep.us. "The program has a K thru 12 component, with the object of connecting with and funding labs like us, whether Air Force, Navy or Army, across the nation," said Seltzer. "Command STEM science and engineering (or S&E) volunteers then get involved with the middle and high schools and take part in these programs, like robotics, and others like it."

(continued on page 6)

INSIDE	
STEM	1
Special Feature: GameTech Speaker Series	2
What to Expect at the 2011 MT3 Conference	3
GT Speaker cont'd	3
Operation Giveback 5/10K	4
Game After Next	5
NCS Member Night	6
STEM cont'd	6
Spotlight Person	7
Did You Know? Team Orlando	8
Events Listing	8

Congratulations:
Team Orlando for a highly successful Defense GameTech Users' Conference. The 4th annual conference, including Army Games for Training drew 968 attendees in person and in virtual world.
www.teamorlando.org/gametech

Game Tech 2011 Exclusive: Five Part Series A Highlight of Our Speakers

Part One: Discussions are an Essential Piece of the Pie by Dolly Glass

Brigadier General Harry Greene, Deputy to the Commander, RDECOM, spoke to attendees at the 4th Annual Defense Users' GameTech Conference on March 23, about the importance of opportunities like GameTech, which bring people together to dialogue and enable them to see a much broader view outside their special interest.

"We need to have discussions," Greene stated. "It's incumbent upon the government to set forums like these and others where we can have that interchange, so that we can leverage what industry is doing."

Why gaming? Gaming prepares soldiers for a broader, hugely complex environment. Unlike the disciplined chain of command during the cold war, today things are much more decentralized, where educating lower down the chain of command is important. It's no longer the battlefield of the past where soldiers could ask the guy one up what to do. Today's soldiers need to adapt to where they are in this era of persistent conflict.

Gaming produces the effects the military is after. "We have to come into an environment and a method they (our soldiers) understand, but it also allows us to challenge them," said Greene. "It allows us to do it in a way that's fun and engaging, so let's give them what they need."

This is the generation of network learning and it is critical to adapt so they have the environments they need for training. BG Greene described an adaptable soldier as one who is culturally aware, a critical thinker and adept at interpersonal skills. "We're putting lives and platoons out there and they have to interact with the local populous," he added. "We want them to send a positive message about our nation and there isn't a commander there to micro-manage them."

The challenge, according to Greene, is getting into the frame of reference of the soldiers that are being recruited. Many of them are serious gamers and are used to operating in that environment, so it's easier to train them in an environment in which they are familiar. This generation is different - they think different, they learn differently. And if they're serious gamers, they developed a certain set of skillsets to operate in these environments. It's important to take advantage of that environment and leverage it rather than trying to fight it.

"So if we don't give them things they're comfortable with and challenge them, they're going to walk, and we don't have an Army," said Greene. "If we're going to defend this nation, it's incumbent upon those in leadership to work on bringing in the next generation." And the message? If the things they're comfortable with are gaming, with an X-box interface or with a virtual world, that's the leverage needed to train and educate the soldiers.

BG Greene was one of the featured keynote speakers at the annual conference, an initiative of Team Orlando, which hosts more than 500 attendees from government, industry and academia.

"The most important thing about Team Orlando is that we've put in place tremendous synergy between the simulation and training community, the research and development community and the sustainment community," Greene said. "Together with a university community and industry, to get us, what I believe is recognized around the world, as the leader in modeling and simulation, virtual world and training technologies.

One consistent message throughout Greene's presentation was the necessity to talk more with industry and make sure they understand what is wanted. Thorough understanding of these needs guides their own internal research and development where they are actually targeted to the needs of the military. "We can't possibly expect them to line up with our goals and objectives if we don't dialogue with them," said Greene. "For industry to really give us what we need and what we want, and for us to leverage their good ideas, because they do have a ton of good ideas, we need to dialogue. Conferences like GameTech give us the opportunity to dialogue."

Greene has some personal philosophies about the need for change and the challenges that accompany it. "I think one of the things we all need to work on is that we all need to be bigger than our parochial interest," he said. "I tell people, and it's going to be really important in the coming years, that we take this environment that we have - two customers and two systems - and make smart decisions."

What to Expect at 2011 MT3



Medical Conference - Bridging Civilian and Military Medicine - Ties to Team Orlando Medical Simulation & Training

Orlando plays host to the number one simulation industry in the world. Team Orlando, located in Central Florida Research Park, includes all four military services, the joint community, the University of Central Florida (UCF), local, state and federal government offices, and the National Center for Simulation representing private industry. Lake Nona lies 10 miles Southwest of Orlando and Southeast of Research Park and includes a unique and innovative Medical City, new to Central Florida and home to the Sanford-Burnham Institute for Medical Research, UCF's Medical School, Veterans

Affairs Hospital, Nemours Children's Hospital and more. Already the developing medical city is being referred to as a Center of Excellence for Medical Simulation, and the ties between Team Orlando and the Medical City offer many collaboration opportunities.

The Medical Technology, Training and Treatment (MT3) Conference, now in its fourth year, as one of its founding principles, aims to bridge the two communities - to foster collaboration among the military healthcare system and civilian medicine. This year's conference focuses on emerging medical technologies to support and enhance the continuum of healthcare from point of injury through treatment, to the restoration of health and return to service (military) or civilian life.

From very complicated issues, such as how to detect and treat traumatic brain injuries and post traumatic stress disorder; to first responder treatment at point of injury through the evolving evacuation chain; and how to develop a medical simulation center (including training the trainers) - the conference speakers and participants will see the similarities between military and civilian medicine as the lines of commonality are drawn for conference attendees. The conference will begin with a motivational speaker, singer and song writer, Theresa Sareo, who personally experienced the loss of her right leg after a drunk driver hit her on the streets of New York. Sareo found her new mission in life while visiting Walter Reed and giving back to our Nation's wounded warriors. She will recount her experience from the emotional aspects, to treatment and re-training as she continues to learn to use evolving prosthetic technologies.

Topics Include:

- Augmented Reality
- Developing Medical Simulation Standards
- Disaster Medicine, Point of Injury
- Therapy and Recovery
- Translational Research
- Medical Simulation Centers
- Understanding BioMarkers/Traumatic Brain Injury/Post Traumatic Stress Disorder

The conference takes place June 1-4, 2011 at the Renaissance Hotel at SeaWorld in Orlando. Visit the event website for more information and registration information: www.mt3.bz.

(GT Speaker Series continued from Page 2)

During the last few years of conflict, the American public has been generous to the military services. But now in an environment with tremendous budget deficits and the commitment made by the political leadership to wrestle those deficits down, there will be sacrifices across the government, including in defense, and much less in the way of resources. This will force us to make more well-informed decisions and to work smarter to support the warfighter and the tax payer. "It's incumbent upon us to be an informed buyer," Greene stressed.

The second part is the ability to take a broader view. "We're not just thinking about the best decision for your particular program, but the best decision for the enterprise - for both the warfighter and the taxpayer," Greene said. "We're going to have plenty of resources to do what we need to do and we're going to have to make smart use of it. And that requires that we all take a broader view than our parochial program."

**OPERATION GIVEBACK
INAUGURAL
5K/10K/KIDS WALK.RUN.ROLL**

BENEFITTING THE WOUNDED WARRIOR PROJECT

**SATURDAY
MAY 14TH**

7AM @ THE UNIVERSITY OF CENTRAL FLORIDA

REGISTER @ WWW.OPERATION-GIVEBACK.COM

**THIS NATION WILL REMAIN THE
LAND OF THE FREE ONLY SO LONG
AS IT IS THE HOME OF THE BRAVE.
ELMER DAVIS**

Proud
Supporter of



QUESTIONS? INFO@OPERATION-GIVEBACK.COM



EVENT HOSTED BY: ECS

Wounded Warrior Project: 501(c)(3) Nonprofit Organization #20-2370934; CFC# 11425



Game After Next

by Jim McCleary

For a small group of University of Central Florida (UCF) and Full Sail University students, the 2011 GameTech conference offered a unique opportunity for them to engage a leader in the gaming and simulation industry. After his keynote speech on March 23rd on *Transmedia*, Mark Long, CEO of Zombie Studios, took some time to speak with aspiring students, sharing his wealth of knowledge and experience in the industry.

Chris Keeling, a professor at Full Sail, attended the session and said Mark Long made a big impression. "He's really interested in helping the students develop, and he was very responsive to what they need...information like how to get into the industry, the best way to create a portfolio, and where to put it," he said.

Robert Aviles, who is studying Digital Media at UCF, was grateful for the experience. "I think it's incredible to have an opportunity to speak with somebody who is in the gaming industry," said Aviles. "But he's not just a person working in the industry, but someone who's influenced it as well." Aviles said that Long put emphasis on innovation and creativity and told the students to become part of the market. "He told us to come up with ideas and help direct the market, as well as being a part of it."

Long also talked about influencers in the market and entrepreneurship. Full Sail student Joseph Leybovich, part of the select group who met with Long said, "He talked about friends in the business and their different philosophies when creating games. He also told us to start our own companies and make mobile games."

Another Full Sail student, Marquis Williamson, who is studying Game Development, added, "As he answered our questions, he really changed my perspective of the gaming industry. It definitely isn't as bleak and scary as I perceived it to be."

Dr. Elaine Raybourn, GameTech Program Committee Chair, also sat in on the session. She talked about Long's passion for sharing time with the students and how that experience could impact the student's future goals. "I think it was really valuable for them to interact with an executive producer, and game studio owner," she said. "He really spent some time putting them at ease and making them understand that now is a great time to do games." Raybourn discussed Long's interaction, describing it as approachable and personable. "I think that the advice they were getting was genuine and came from the heart," she added.

Professor Keeling thought that Long also gave the students a broader perspective of the gaming industry as he discussed simulation. "Most of the students, frankly, are interested in commercial game development. But a lot of them just don't know about simulation, and because he knows about both, I think he was a really good speaker," said Keeling.

The session with Mark Long left the students anxious to be a part of GameTech in the future. His session was slotted for one hour and because the students were so engaging with Mr. Long, the session went over two hours. Keeling said he spoke with his students afterwards and they were excited about the experience and told their classmates they should attend GameTech next year. "Being able to talk to people in the industry and especially Mark Long, was really good for them."

Dr. Raybourn said she expects Full Sail and UCF will have greater participation at GameTech next year as a result of the session with Long. "After we ended with them, they said, 'Now that we're here, we want to learn more... how can we be part of GameTech? Do you have a student registration, how can we come to GameTech next year?'" For Team Orlando, the student experience was a win-win. It expanded the GameTech goals of influencing game technology and use within the Department of Defense, to motivating and inspiring the next generation game developers.



Mayor Dyer and National Center for Simulation Visit Israel

Mayor Buddy Dyer lead a Trade and Investment Mission to Israel from March 16- 22, 2011. Included in the delegation were Lars Houmann, Florida Hospital, Mr. Tony Nicholson, Nicholson Center for Surgical Advancement, and Lt Gen (Ret) Thomas L. Baptiste, President/Executive Director, National Center for Simulation. Lt Gen (Ret) Baptiste's role was to represent the Modeling, Simulation and Training (MS&T) Industry with an eye toward attracting additional Israeli Defense Industry presence and investment in Orlando and across Central Florida.

Israel is well known for the quality of its defense forces and the Industrial base that supports them. Included in Israel's Industrial base is a robust MS&T sector which has natural synergies with the MS&T cluster that spans the entire Florida High Tech Corridor. The benefit of Lt Gen (Ret) Baptiste's participation was to tell the story of Central Florida, and the close cooperation between Academia, Industry and Government that distinguishes the Central Florida region from the other clusters of MS&T spread across the United States. Lt Gen (Ret) Baptiste stated, "Using Simigon, an Israeli firm and successful Member of NCS as an example, I engaged a number of Israeli defense executives and talked about the opportunities available in Orlando and Central Florida. My message was clear, if they are serious about tapping into the U.S. MS&T market, they need to consider investment in some form of presence in Orlando or Central Florida, the recognized epicenter of the MS&T Industry in the U.S."

Florida has long been recognized as the epicenter for MS&T, which provides Orlando and Central Florida a strong platform to encourage additional investment and presence by International Companies interested in tapping into our unique partnerships. Lt Gen (Ret) Baptiste is a strong advocate for our region, its business opportunities and the FHTCC.

("STEM" from Page 1)

Working with partners like the Central Florida STEM Education Council, the National Center for Simulation (NCS) and Florida High Tech Corridor/techPATH, the coordinated and collaborative outreach efforts continue to grow, looking for more visibility, more volunteers and more students developing an interest in STEM.

"Through our program with NDEP, they want us to have our S&Es partnering with the teachers in delivering curriculum and activities in the classroom." Simmonds noted. "But it's still the teacher's responsibility to prepare their class and do the prep work, but we are there to support them."

One upcoming event focusing on Biosensors, and taught in partnership with DoDscientists and engineers, is a three-day training at the Orlando Science Center for Orange County science teachers from Apopka, Ocoee and University high schools. The teachers will be trained, alongside their S&E partners, in biosensors as part of NDEP's Center for the Advancement of STEM Education (CASE) training. Orange County then plans to pilot this program in each of these high schools with support from these S&Es through their presence and hands-on involvement.

As the STEM workforce ages and prepares for retirement, the future workforce is not being trained sufficiently in STEM disciplines (in either quantity or quality), and generally speaking, by many educational metrics, the United States is being surpassed globally as the leader in scientific and engineering education. And for Central Florida, the push for STEM takes on an equally important focus, given the area is widely recognized as the nation's center of excellence for modeling, simulation and training.

That's an important reason why the visibility and programming of STEM continues to grow as a priority. "We love to get with, and in front of, the K thru 5 level, where they're making these decisions and forming an attitude about STEM, whether they like it or don't like it - especially among girls," said Seltzer. "Getting our scientists and engineers involved, either in mentoring or in the hands-on experiential programs, is key to the ultimate success of our STEM efforts. So this (STEM) is something our students don't consider as uncool."

SPOTLIGHT PERSON OF THE MONTH: Col. Marcus Boyd, AFAMS



Col. MARCUS BOYD,
Commander
Air Force Modeling &
Simulation (AFAMS)
Orlando, Florida

Colonel Marcus "Shaka" Boyd is the Commander for the Air Force Agency for Modeling and Simulation (AFAMS), the Air Force's top-level modeling and simulation (M&S) Center of Excellence. As Commander, Col. Boyd is responsible for the implementation, integration, support and transition of high-level M & S concepts and capabilities covering the full-spectrum of the AF mission.

As an active member of Team Orlando representing the US Air Force, Col. Boyd describes the collaborative alliance as a meeting of the minds and of the willing. "It's important for the Air Force to be involved because of the synergies that are gained from participating in the different activities, events, initiatives and programs that are conducted here," said Boyd.

One example Col. Boyd shared about the great work of Team Orlando, was the C-27J program, and the AF's challenge of obtaining simulators for the program when there wasn't a contract to include that particular platform. Because of their interactions through Team Orlando, and the key information shared by members, the AF knew the Army had a contract they could leverage to get the simulators needed.

"There's a noble purpose behind Team Orlando taking care of the warfighter and trying to save the tax payer some money at the same time," added Boyd. "That noble

purpose is a point we can all gather around and that is what brings everybody together."

Col. Boyd also talked about the significance for AFAMS recently changing from the communications area to the operations area in a transfer ceremony held April 1, 2011. He feels this move gives AFAMS more operational credibility, pushing M & S to a higher level to fully operationalize it so it can be a benefit for the warfighter. A self-proclaimed "gym rat," Col. Boyd admits his work is his hobby in some ways because he enjoys it so much. From a very young age, his interests were to fly, and become an astronaut, and that desire has driven him in the direction he is now. And his nickname? "A roommate of mine at the Air Force Academy thought I looked a lot like Shaka Zulu at the time," he chuckled. "We were watching a video and it just kind of grew from there."

Col. Boyd was commissioned in 1988 after earning a Bachelor of Science in Space Physics from the United States Air Force Academy (UFAFA), and is an experienced Airman and warrior in multiple aircraft weapon systems. He is a master navigator with more than 2,500 flying hours, and has combat experience in the B-52. Boyd has received numerous honors, including the Meritorious Service Medal with three oak leaf clusters and the Air Force Achievement Medal with four oak leaf clusters.

Although Team Orlando has sometimes encountered small challenges because of the many different people, interests and agendas, Col. Boyd quickly adds none of those have prevented the group from moving on to bigger and better things.

"Everybody realizes the bigger cause, the noble cause and why we are all here," said Boyd. "And that teamwork helps us resolve any conflicts. For any organization, there is never a truly direct path from here to the solution, and you may be wiggling around that path, but as long as you're headed in the right direction, I think you're good to go."

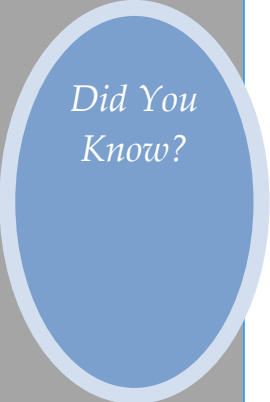
THE VERY FIRST ROBOT.....was invented in 1400 B.C when Babylonians developed a water clock named the "clepsydra." This water clock is considered one of the first "robotic" devices in the history of mankind. (The water is recycled through a kind of siphoning system.)

THE TERM ROBOT.....comes from a play written by K. Capek, RUR 1921, Czech novelist and playwright.

In 1495.....Leonardo da Vinci designs a "robot" and is considered the very first robot.

The First "arm"..... that can be programmed to perform tasks was developed by George Devol in 1954.

Generally speaking.....there are two classes of robots: Stationary (manufacturing) and Mobile (surveillance) Robots are in use in applications too dangerous for humans: industrial activities, planetary rovers, locating sunken ships, exploring active volcanoes. Robots are in use for entertainment, commerce, industry, and advanced research. - everything from interactive toys to robots that go down oil wells to animated simulations of humanoids in museum displays.



The 10-4 is a monthly publication that is distributed electronically on behalf of Team Orlando. The information contained herein is intended to inform members of the internal and external community about Team Orlando programs and events. The information contained within the 10-4 does not necessarily represent official views of the U.S. Government, nor should they be perceived as an endorsement by the U.S. Government, the Department of Defense or any of its subordinate organizations.

Team Orlando is established by a Department of Defense Inter-Service Charter that builds upon a partnership established between the Army and Navy over 60 years ago. Today, Team Orlando members from Government, academia, and industry are focused on one common goal: To improve human performance through simulation. www.teamorlando.org.

Please send story ideas for the 10-4 to: media@teamorlando.org

Respectfully submitting for Team Orlando,

Terri M. Bernhardt, Editor
Dolly Glass, Contributing Editor



Team Orlando Representatives

- Program Executive Office Simulation Training and Instrumentation (PEO STRI)
- Naval Air Warfare Center Training Systems Division (NAWCTSD)
- Program Manager Training Systems (PM TRASYS)
- US Air Force Training Systems Product Group (TSPG)
- Air Force Agency for Modeling and Simulation (AFAMS)
- Simulation & Training Technology Center (STTC)
- Army Research Institute (ARI)
- Joint ADL Co-lab
- Defense Acquisition University (DAU)
- Federal Law Enforcement Training Center (FLETC)
- United States Joint Forces Command (USJFCOM J7)
- Veterans Affairs (VA)

Liaisons

- University Central Florida Institute for Simulation Training (UCF IST)
- National Center for Simulation (NCS)
- Metro Orlando Economic Development Commission (EDC)

Upcoming Events:

ITEC 2011

May 10-12, 2011
Koelnmesse
Cologne, Germany

Wounded Warrior 5/10 K

May 14, 2011
7 a.m. UCF Campus
www.operation-giveback.com

MT3 Conference

June 1-4, 2011
Renaissance Sea World Orlando
www.mt3.bz

TSIS

June 15-16
Renaissance Sea World Orlando

Army Ball

June 18, 2011
Renaissance Orlando Resort
www.ausa-sunshine.org

ADL Implementation Fest

August 2-4, 2011
Rosen Center, Orlando FL
www.adlnet.gov

Air Force M&S Conference

postponed from April and TBA
www.afams.af.mil

Navy Ball

October 15, 2011

I/ITSEC

November 28-December 1
Orange County Convention Center, Orlando, Florida
www.iitsec.org



Get the news first!

<http://www.facebook.com/pages/Team-Orlando/120333667999745>