ARMY AVIATION, MEDICINE SCIENCES FIND COCKPIT TRAINING SOLUTIONS – SEE PAGE 11



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USAARI takes annual GEMS outreach program online

Soldiers travel in a CH-47F Chinook helicopter during a multi-ship flight in Hawaii in June.

PHOTO BY SGT. SARAH SANGSTER

CELEBRATING FREEDOM Fort Rucker July 4 celebration a big hit for attendees, officials

By Jim Hughes Fort Rucker Public Affairs

Mother Nature rained on Fort Rucker's Independence Day parade July 4, but other than delaying the start time for a few minutes, she did nothing to dampen the community's spirit.

The event was deemed a success by leadership, organizers and attendees, including Col. Whitney B. Gardner, Fort Rucker garrison commander.

"It was a great time," he said. "Our people took up the challenge of coming up with an alternative for our annual Freedom Fest because of the COVID-19 pandemic and they really knocked it out of the park. I rode in the parade, and throughout the whole 5-mile route, I saw smiling faces and people having a great time celebrating our nation's birthday. It was truly an impressive event.

"We certainly missed our off-post friends from throughout the Wiregrass," Gardner added. "Our partnerships and relationships with our surrounding communities truly make Fort Rucker a gem among the Army's installations worldwide. We hope they had a great July 4th weekend and we look forward to inviting them back on post for Freedom Fest again in the future."

Fort Rucker's 4th of July Celebration Home Town Parade and Fireworks Show was a big hit with the local social media crowd, as well, with the words awesome, wonderful, amazing, great, fun and thanks bandied about amidst numerous positive comments.

Other fans of the event were Miss Alabama, Tiara Pennington, and Miss Alabama Outstanding Teen, Marcelle LeBlanc, who were on hand to take part in the parade and hold a meet-and-greet with local Gold Star Families.

Prior to the parade, the two were treated to a tour of the post, and both thanked the Soldiers, families and employees of Fort Rucker for all they do to keep America free.

"It's been so much fun to be here celebrating America's birthday," Pennington said, adding that she is grateful to the Gold Star Families. "They've sacrificed so much so that we can enjoy the freedoms that we have today. It's just amazing to have the honor to be here today, and to be in their presence and be able to thank them for everything their families have sacrificed."

LeBlanc echoed Pennington's sentiments, adding that she really enjoyed the tour, her first time on a military installation.

"We got to see some really cool helicopters and sit in the cockpit," she said. "It was incredible hearing about all of the history here. We just want all of the Soldiers and families to know that we can't thank them enough for allowing us to be here, for all they've done for us, and also for protecting the freedoms and opportunities we enjoy in this country."

A few hours after the parade, the event climaxed with a fireworks display reminiscent of past Freedom Fest celebrations, which also included a prerecorded statement from Maj. Gen. David J. Francis, U.S. Army Aviation Center of Excellence and Fort Rucker commanding general, that was broadcast over several local radio stations just prior to the



Part of the fireworks show at the July 4 celebration.

start of the show.

"Both (Command Sgt. Maj. Brian N. Hauke, Aviation Branch command sergeant major) and I want to thank everyone again for the sacrifice, cooperation and resiliency that this community here at Fort Rucker and all over the Wiregrass area has shown over the past few months to help us in this fight against the COVID-19 virus," Francis said. "Everyone's efforts and cooperation have been successful in allowing us to open

PHOTO BY JIMMIE CUMMINGS

back up much of the installation the past few weeks, and has led to us being able to do what we are doing today with our 4th of July celebrations.

"Independence Day celebrates America's birth and honors the Army's commitment to defend our Nation," the general continued. "Today, America's sons and daughters carry the same patriotism and ideals of the founders with them as they serve in harm's way around the globe in places like Iraq and

July 4 cont.-





PHOTOS BY JIM HUGHES

Afghanistan.

"The Army thanks its Soldiers, civilians and families for their service, bravery and patriotism. We are one Team in accomplishing the Army mission," he added.

"As we celebrate our Independence Day here in 2020, we continue to train here at Fort Rucker and across the Army despite COVID-19," Francis said. "Units in combat zones require our support to conduct their mission. The Army is ready to respond globally and remains postured to execute our mission.

"Again, thank you for all of your efforts in our fight against this virus. Just like many Army victories of the past, we will defeat this enemy, and be stronger and better for it," he said. "Stay safe, have fun tonight and enjoy the fireworks show. Happy 4th of July! Above the Best!"





Top left: Maj. Gen. David J. Francis, USAACE and Fort Rucker commanding general, and his spouse, Jodie, speak with Gold Star Families who the post hosted at The Commons during the Independence Day celebration July 4. Top right: Fort Rucker's home town parade makes its way through housing July 4 to the delight of Soldiers and family members on hand to celebrate the nation's independence. Left: Families enjoy the parade through housing. Right: Parade participants threw treats to the groups of people along the 5-mile route through housing.

READY AND RESPONSIVE

Emergency response forces exercise active-shooter scenario

By Jim Hughes Fort Rucker Public Affairs

Fort Rucker put its emergency response personnel and operational procedures to the test during a force protection exercise July 1 held in and around the primary school.

All training objectives were met and personnel gained valuable experience in a realistic training environment, said Lt. Col. Phillip R. Lenz, director of the Directorate of Public Safety, adding that the exercise also included Lyster Army Health Clinic and Army Air Ambulance Detachment "Flatiron" personnel and equipment.

Training objectives included assessing dispatch management of the Emergency 911 center by stressing the system with numerous phone calls, assessing law enforcement's tactical response to an active shooter threat, assessing the DPS Rescue Task Force on their medical response and victim triage, and assessing integration of external medical assets into the response, the provost marshal said.

He said this exercise was special for a couple of reasons, including exposing personnel to a realistic environment that included roleplaying victims with simulated injuries, responders operating in an actual school and navigating through the furniture, and working closely with Fort Rucker Schools and principal Dr. Vicki Gilmer.

"A general rule in our profession is that you never want to conduct any type of training like this with real school-aged children, especially younger children," Lenz said. "They may not be able to fully understand and process the event as training and not real world. Based on our exceptional relationship we have with Dr. Gilmer, we know that she and her team take security and emergency action planning very seriously, and we know that the school will execute their requirements perfectly."

While Lenz has no shortage of confidence in his team's ability to handle any emergency response required of it on post, he said regular exercises like this one are critical to keeping everyone's skills finely honed.

"I wanted to train and challenge our first responders and medical community with a realistic active shooter scenario that would allow us to identify gaps and seams within our planning and operations, so that we can be ready for any similar events or mass casualty situations that occur on the installation," he said. "The DPS motto is Ready and Responsive, and, in order to live up to this simple statement, we need to not only train, but to train together with all key organizations and agencies."

Mission accomplished, he added.

"This exercise did exactly what it was intended to do – all participants and organizations gleaned lessons identified that will be quickly turned into lessons learned to support future real-world responses," Lenz said. "The biggest takeaway from this exercise hinged on communication amongst the



PHOTOS BY JIM HUGHES

Maj. Philipp Luckowski, Lyster Army Health Clinic, tends to a simulated victim during a force protection exercise July 1 at the old primary school. Personnel reported to a simulated active shooter inside the school, and the exercise featured simulated casualties with heavy moulage.

various organizations. Everyone needs to have the same common operating picture and must understand how each other's emergency action plans integrate and mutually support each other."

After law enforcement, responding to 911 dispatches, entered the building, assessed the situation, neutralized the assailant and cleared the building, rescue crews and medical personnel proceeded to triaging victims and arranging for aeromedical evacuation. "The culminating event for this exercise was having the LAHC medical professionals respond and establish the casualty collection point to assist with triage medical actions, accountability and, of course, the aeromedical evacuation of two civilian role players with the always-ready Flatiron team," Lenz said. "They physically flew these role playing patients to Flowers Medical Center in Dothan and continued the application of medical support during the flight."

Exercise cont.





Law enforcement personnel engage the assailant during the exercise.

Law enforcement personnel navigate their way through the school and past simulated victims on their way to confront the assailant during the force protection exercise.

The provost marshal was also impressed to see command presence at the exercise, including Col. Whitney B. Gardner, Fort Rucker garrison commander, and Command Sgt. Maj. Brian N. Hauke, Aviation Branch command sergeant major.

"There is never a doubt that the U.S. Army Aviation Center of Excellence command team cares about and is passionate about force protection," he said. "Having the CSM's representation and receiving his valued observations are an investment in future first responder readiness, and solidified the engaged leadership that we have seen from our leaders during the COVID-19 epidemic."

Hauke said he was impressed with the exercise, adding he thought it was "world-class first responder training."

"This type of training is necessary," Hauke

said. "We all hope we never have to execute anything like this for real, but it is good to know that we've prepared for it, we've run through it, we've rehearsed it and that everybody understands it. Thank you to all of the role players and our professionals – thank you for what you do every day."

While this exercise was deemed a success, Lenz and the DPS team realize this is no time to sit on their laurels, as they are already planning future exercises to keep their skills finely honed.

"Based on our lessons learned during this exercise and with several new organizational leaders having assumed their new roles, we will be conducting an installation-level active shooter table top exercise in the fall," he said. "We'll revisit these lessons learned and focus on the larger installation response."



Medical and Flatiron personnel conduct an aeromedical evacuation of a simulated victim during the exercise.

Air Traffic Services Command, 164th TAOG welcome new commander

By Jim Hughes Fort Rucker Public Affairs

Soldiers and civilians of the Air Traffic Services Command and the 164th Theater Airfield Operations Group welcomed their new commander during a change of command ceremony at the U.S. Army Aviation Museum June 25.

Col. Jason T. Cook assumed command of the units from Col. William B. Garber III during the ceremony that was held in the museum to a limited number of attendees and broadcast over Facebook Live.

Lt. Gen. Leopoldo Quintas Jr., U.S. Army Forces Command deputy commanding general, officiated the event where the unit colors were not passed because of COVID-19 concerns, but where the incoming and outgoing commanders just switched positions in the formation.

Quintas thanked Garber for his efforts in leading the unit, and the U.S. Army Aviation Center of Excellence leadership and Fort Rucker community for their support of the two units, and also welcomed Cook to the "unique" ATSCOM and TAOG team.

ATSCOM and the 164th TAOG "are incredibly important organizations for both the Army and our joint partners," the general said. "Both are brigade-level units with significant missions, but they share only one commander. This is unique across the 200,000-Soldier-strong Forces Command that we have only one command within it that has this kind of command relationship.

"Jason is one of our Army's premier aviators and leaders," Quintas continued. "He possesses the right blend of operational and technical experience to lead this unique team for the Army. I have no doubt that Jason is exactly the right leader to take both of these commands through the challenges that await

in our future."

He added that Cook has large footsteps in which to follow in.

"For the past two years, we could not have asked for a better commander than Will Garber," Quintas said. "A consummate professional, and an engaged and energized leader, Will and his team provided critical airfield support to exercises and real-world operations for active and reserve components across this planet."

Quintas listed a number of accomplishment of the unit and then added that "the 164th TAOG also deployed two airfield operations battalions sequentially to the AFRICOM area of responsibility," he said. "These battalions made an immediate impact to numerous airfields by mitigating risk and increasing the capabilities of each airfield to project airpower. Additionally, these battalions provided air traffic control services in congested airspace, assisted in airfield design, protected aircraft from wildlife, aided in runway and taxiway repairs, and removed obstacles enabling the safe operation of all aircraft. For all of these accomplishments and many more, and on behalf of the FORSCOM commanding general, Gen. Mike Garrett, I say 'thank you,' to Will Garber and his team. Congratulations on a job very well done."

Cook also thanked Garber and his team "for a great takeover," he said. "You've really set me up for success.

"I feel very blessed to join and lead the ATSCOM and TAOG team," Cook added. "These are outstanding units whose worldwide support to joint Aviation operations is essential. To General Garrett and General Quintas, thank you both for your trust in me to lead these great Soldiers and civilians. My family and I are thrilled to be back at the Home of Army Aviation. In the past couple of years, I have sorely missed the sound of



PHOTO BY JIM HUGHES

Lt. Gen. Leopoldo Quintas Jr. (center), deputy commanding general of U.S. Army Forces Command, leads Col. William B. Garber III (left), outgoing Air Traffic Services Command and 164th Theater Airfield Operations Group commander, and Col. Jason T. Cook, incoming ATSCOM and 164th TAOG commander, during a change of command ceremony June 25 at the U.S. Army Aviation Museum.

Apaches flying over every day."

He added that he looks forward to the work facing the ATSCOM and TAOG team in the next few years.

"I look forward to working with you all and providing the best air traffic services possible, and helping to advance Army Aviation readiness, capabilities and modernization," Cook said. "To the outstanding ATSCOM and TAOG Soldiers and civilians, those here and particularly those who are deployed and recently redeployed, thank you for your continued honorable service to our nation. I want you to know that I feel very proud to be a part of this unit, and I promise you the best leadership and service I can give you over these coming years."

Garber thanked FORSCOM, USAACE and Fort Rucker leadership, his family, and

the Soldiers and civilians of the ATSCOM and TAOG team for making his time leading the units such a success.

"When tasked to deploy two battalions to Africa, I was inspired by the Soldiers' response, all of them, they said, 'Put me in coach, don't leave me at home," he said. "I know that our American way of life rests in good hands when every Soldier in the formation is ready to move toward the sound of gunfire versus staying at home on the couch – that is motivating.

"We certainly will not forget Spc. Henry "Mitch" Mayfield (TAOG Soldier killed during an attack in January) who imbued the brigade motto, Here Am I, Send Me," Garber said, adding that Mayfield was "a valiant Soldier who tasted death in youth, so that liberty might grow old."

Aviation Center Logistics Command welcomes new commander

By Miles Brown U.S. Army Aviation and Missile Command

Col. Stephen W. Owen assumed command of the Aviation Center Logistics Command from Col. Rich Martin June 23 at Fort Rucker, Alabama, in a virtual ceremony hosted by Commanding General of U.S. Army Aviation and Missile Command, Maj. Gen. Todd Royar. Royar hosted the ceremony from AMCOM headquarters at Redstone Arsenal, Alabama. Commanding General of U.S. Army Aviation Center of Excellence Maj. Gen. David Francis, stood in for Royar locally during the ceremony.

The ceremony also marked the change of responsibility for the ACLC Command Sergeant Major from Sgt. Maj. Jerry Cowart to Sgt. Maj. Nicholas D. Burney.

The requirement to hold a virtual ceremony was a result of continued social distancing and safety measures put in place in response to the Coronavirus pandemic. Royar provided remarks following the passing of the unit colors and thanked the ACLC team for their resilience and hard work during Martin's tenure.

"The team's results have been remarkable," said Royar. "Col. Martin and Sgt. Maj. Cowart were able to change the game at ACLC and move the team forward in providing improved Army readiness. They did all this while assuming even more responsibilities; picking up missions at Fort Sill and Fort Huachuca. Truly an outstanding leadership duo leading an all-star team."

Martin passed the colors to Owen after two years leading ACLC where he provided full spectrum maintenance, supply and contractor oversight in order to ensure availability for all Aviation training mission requirements in support of the U.S. Army Training and Doctrine Command at Fort Rucker and Fort Benning, Georgia.

During his departing speech, Martin reflected on the contributions of people.

"In fact, they (the statistics) aren't what I'm the most proud of after two years....instead I'm going to talk about people," Martin said during his final remarks to the ACLC team. "Two years ago I said 'we are in this together. My, how those words have changed in meaning, but are even more important in today's context. We, collectively, persevered, improved and accomplished what many literally told me we could not do. For two years, I said 'I don't care what shirt you wear' – whether you are in uniform, a DA Civilian or a contractor— if you are on our team and you support our efforts – that's all that mattered."

Martin added, "It is the maintenance personnel – from the mechanic, technical inspector and production control teams, to skilled artisans and supply personnel. These [ACLC] men and women make sure that aircraft are ready to fly. They enable Army readiness."

Owen, a native of Littleton, Colorado, comes to ACLC after serving as the director of the USAACE Directorate of Training and Doctrine at Fort Rucker. His Army aviation career has taken him around the world and included many command and staff positions. Owen is a Senior Army Aviator qualified in the CH-47F Chinook helicopter and is a graduate of the CH-47D Instructor Pilot and Maintenance Test Pilot courses. He is also a graduate of both the Airborne and Air Assault courses. He deployed to both Iraq and Afghanistan multiple times during his 23-year career.

Burney, who hails from Osceola,



PHOTO BY HOLLY STERLING

Col. Stephen Owen, incoming Aviation Center Logistics Command commander, receives the colors from Maj. Gen. David J. Francis, USAACE and Fort Rucker commanding general, during a change of command ceremony June 23 at the U.S. Army Aviation Museum.

Missouri, enlisted in the Army in 1998 as an AH-64 Apache maintainer. During his 22year career, he has supported Army aviation units across the globe and, most recently, he served with the128th Aviation Brigade, Fort Eustis, Virginia. He also deployed multiple times to Iraq and Afghanistan during his career.

Royar had one charge for the incoming commander and sergeant major: Keep winning!

"At the end of the day, this is not a short game," Royar said. "We in the Army are in this for the long haul. Col. Martin and Sgt. Maj. Cowart got us way ahead in the game, but we are not done yet. The game is not over. I have absolute confidence that Col. Owen and Sgt. Maj. Burney will lead ACLC to new heights. Winning does matter, and the Army can't afford not to win. The new leadership team at ACLC is going to make us successful in the future and continue winning. Army Strong!"

Owen concluded the change of command ceremony by addressing his new commander and his unit.

"General Royar, I know that command is a privilege," Owen said. "I will do my best every day to live up the trust you have place in me. To the men and women of ACLC, it has been truly humbling to learn about all that you have accomplished. Though we will celebrate our successes, we will never be entirely satisfied. Our job requires that we continue to treat every aircraft sortie, every vehicle service and part requisition as missions that contribute to Army readiness – because that is exactly what they do. There is no other place I would rather be than here with you. Winning matters – Vigilant Six signing in."

General Order No. 3 requires people to wear face coverings in post facilities

By Jim Hughes Fort Rucker Public Affairs

People who refuse to wear face coverings in Fort Rucker facilities run the risk of receiving a one-year bar from the installation.

The risk to the health of the overall community posed by people who can't follow the directive outlined in General Order No. 3 is just too high to not respond, according to Col. Whitney B. Gardner, Fort Rucker garrison commander.

GO 3 was issued by Maj. Gen. David J. Francis, U.S. Army Aviation Center of Excellence and Fort Rucker commanding general, June 11 to help the installation protect its people, its mission and the surrounding communities.

Paragraph 6.d.3 of the order states that people need to "wear a face covering in any on- or off-post facility which requires a face covering regardless of physical separation from other personnel." GO3 can be viewed at <u>https://home.army.mil/rucker/index.php/</u> go3.

Gardner said people who live and work on post follow the rules almost without fail. The problem arises when a small minority of visitors to Fort Rucker drop by on weekends or evenings to shop at the commissary or U.S. Army and Air Force Exchange Service facilities, or to make use of Directorate of Family, Morale, Welfare and Recreation facilities and then refuse to wear a mask when asked to by employees at those facilities.

"Most people just forget their masks in their cars, and then go get them without a problem when it is mentioned to them," he said. "But there are a few who refuse to follow the rules, and if they refuse to protect themselves and protect others, they are basically forfeiting their right to come onto the installation. We view those people as a risk."

As a military installation, people who

come onto Fort Rucker are required to follow the rules, regulations and directives in place at any given time, whether they agree with them or not, Gardner added.

"They may feel they're entitled to not wear a mask, but, ultimately, if they refuse to follow the directive, they are giving up their entitlement to enter the installation as they are posing a risk to those around them," he said.

Those who refuse to wear a face covering can expect the military police to visit them, and to receive a bar letter, which will be forwarded through the system to Gardner for his final decision on whether or not to issue an official bar for a year.

"Really, if you have to ask, just wear a mask," he said about people questioning if they should wear a face covering in a certain facility. "You should have one anyway if you're coming on post. At this point in time, there are really no facilities or buildings on post where a mask is not required – just generally assume that if you are entering a building you don't normally work in or you aren't familiar with, you should have a mask on."

Additionally, Fort Rucker stood up Soldier courtesy patrols June 15 to roam all over post to remind people of the rules in GO 3 and the need to follow them, along with helping to diffuse any issues or problems that may arise, Gardner said.

"They're patrolling the commissary and post exchange facilities, along with MWR facilities, including the lakes, and that's going to help us take some of the pressure off of our employees," he said. "We also depend on people to police each other up. If Soldiers see someone not doing the right things in a facility, they need to help the employees straighten things out. We don't want people to be jerks about it, but people do need to realize it is a serious risk when people refuse to follow the rules."

POLLING/VOTING PLACE CHANGE

Due to COVID-19 restrictions, a temporary polling/voting place has been established for the July 14 Alabama primary runoff election.

Need assistance? Contact the Installation Voting Assistance Office by email at **usarmy.rucker.usag.mbx.voting-office@mail.mil**



POLLING/VOTING PLACE BOWDEN TERRACE COMMUNITY CENTER CLOSED

POLLING/VOTING PLACE DALEVILLE CULTURAL AND CONVENTION CENTER OPEN

730 S. Daleville Avenue Daleville, AL

REACHING OUT

USAARL makes move to virtual realm for annual GEMS program

By Jim Hughes Fort Rucker Public Affairs

The staff of the U.S. Army Aeromedical Research Laboratory is ready to run the 10th iteration of its annual Gains in the Educational of Mathematics and Science program in July to more than 400 schoolaged youth as part of the Army Educational Outreach program.

Working in the midst of the COVID-19 pandemic creates the need to do just about everything differently this year, said Loraine St. Onge, USAARL research administration manager and GEMS laboratory champion, adding that the program is entirely virtual this year rather than taking place inside the lab.

"Our shift to a virtual setting started back when our local community was hit with the COVID-19 pandemic," she said. "As we received guidance from USAACE and Fort Rucker leadership on what our future was looking like on the installation, we started making adjustments to shift to a virtual, or at-home program.

"The Army Educational Outreach Program has supported that move," St. Onge added. "There are 20 GEMS programs across the country, and of those nine have shifted to a virtual platform for this summer. The other 11 have cancelled their programs because they have different circumstances in their communities."

GEMS is a science, technology, engineering and mathematics outreach program that the Army Educational Outreach Program offers through its research laboratories, St. Onge said. USAARL has hosted a GEMS

This is a great opportunity for us to continue to offer GEMS to the students here in our area and we are so excited to be able to do it virtually. - Amy Baker

USAARL STEM education administrator



PHOTOS BY SCOTT CHILDRESS

Jacob Trimm, USAARL near-peer mentor, films a video in which he teaches nanotechnology to GEMS students – 10th and 11th graders – about an experiment with Bucky Balls they are going to do.

program at Fort Rucker since 2011.

"The goal of the program is to provide hands-on STEM experiments and exposure to the Army laboratory setting for students," she added. "We primarily try to reach students who are underserved and underrepresented in STEM – children from disadvantaged backgrounds, children who are minorities, students who would be first-generation college students in their families, and we also try to reach students who are dependents of active-duty military. We really have a broad spectrum of participants from urban and rural backgrounds, and from different socio-economic statuses and different cultural backgrounds, as well." Following in the footsteps of Fort Rucker Schools, USAARL staff who make GEMS happen will use Google Classroom to make the big shift to at-home learning, said Amy Baker, STEM education administrator and GEMS program coordinator, adding that at-home kits would be issued to each child before the program starts.

While previous iterations of GEMS included making roaches into robots, parents don't need to worry about children carting a box full of the pests home with them, St. Onge said, but added that all materials children need for the assignments and experiments, excepting traditional school supplies, are in the kits.

GEMS cont.

"For the most part, we're able to provide them everything they need to conduct the experiments, so there shouldn't be a major impact on them shifting to a home setting," she said. "We're trying to implement GEMS to as close as normal as possible, with the only difference being the students are at home.

"We see this as a great opportunity for younger siblings, or even older siblings who wouldn't be participating in a certain module to be able to participate with their siblings, which is something we couldn't do in the laboratory," St. Onge added. "It really creates a wonderful opportunity to broaden our reach of who can participate in GEMS, and it sets up a great opportunity for parents to experience firsthand the experiments that the students do in GEMS."

The 24 mentors, who are high school and college students from surrounding areas, and seven teachers, who teach at Wiregrass schools, who teach the students the various GEMS topics, have already pre-recorded videos on the subjects and then will teach from home over Google Classroom, Baker said.

"The modules that we are offering this summer for our rising fourth- and fifth-grade students is our planetary GEMS module, and in that they are going to be exploring many things like solar systems, oceanography and also incorporating pulleys to see how they apply to planetary components," she said. "The neuroscience GEMS is for our sixthand seventh-grade students, and they are going to be exploring in-depth the five senses."

Other modules include biochemistry for rising eighth and ninth graders, and nanotechnology for 10th and 11th graders, she added.

"We'll be providing each student with the items they need in their at-home kits that will give them a really good idea of the topic, just as if they were here," Baker said. "Hopefully the program will give them the opportunity to explore what each of those topics are and perhaps get their interest in pointed that way as a career choice, or a hobby of some sort."

GEMS will be broken up, as usual, into two sessions: July 6-10 and July 13-17, with kit pickups held July 2 for the first session and July 10 for the second, she said.

"This is a great opportunity for us to continue to offer GEMS to the students here in our area and we are so excited to be able to do it virtually," Baker added. "The shift doesn't come without challenges, but I do think there will be more positives that come out of it than negatives. This is an opportunity for our STEM education footprint to be greater in this area. I think we're going to see that as part of our silver lining for this athome program."

But it will be much quieter this year in the halls of USAARL without the students in-house, both Baker and St. Onge said, and the students will be dearly missed.

"I am going to miss seeing the kids – the hustle and bustle of GEMS is spectacular," St. Onge said. "Seeing how excited and enthusiastic they are when they finish one of the experiments, and seeing them challenge themselves and think creatively – it is really fun to watch."

This year's graduation ceremonies will be held at home, as well, featuring a pre-recorded video from William G. Kidd, deputy to the U.S. Army Aviation Center of Excellence commanding general.

"With so many end-of-year school events and summer activities being cancelled across our community, our students are looking forward to being able to participate in GEMS even though it is at home," St. Onge said. "I know that many of them wish it could be in the laboratory, but they're still thrilled to get



Jessa McEntire, USAARL near-peer mentor, films a video in which she teaches biochemistry to GEMS students – eighth and ninth graders – by explaining the elephant toothpaste experiment they are going to do.

to participate.

"It's only fitting that in our 10th year of GEMS we are presented with the challenge thrown at us by COVID 19," she added. "GEMS has challenges every year, and every year we eagerly take on those challenges with enthusiasm and positivity because we know that what we offer to the students helps them grow and develop, and offers them opportunities they might not afforded otherwise. If we can inspire them to pursue a STEM career within the Army or the Department of Defense, then that makes all the effort worthwhile."

People interested in signing up for GEMS for 2021, can send an email to army.rucker. medcom-usaarl.mbx.stem@mail.mil for information and application instructions.

<u>Behind the COVID-19 mask</u> Aviation, medicine sciences find cockpit training solutions

By Kelly Morris USAACE Public Affairs

There's a point on Fort Rucker where the sciences of Aviation and medicine met back in March--the point of need.

With no precedent or warning order, a global pandemic became the focus at the U.S. Army Aeromedical Research Laboratory in early 2020, as suddenly the U.S. Army Aviation Center of Excellence needed special equipment just to go about its routine training in aircraft and simulators.

But the Army's greatest asset, its people, are trained to adapt to and fight in whatever conditions they find themselves; and COVID-19 was no exception.

Lt. Col. Kara M. Cave, deputy, Warfighter Performance Group at USAARL, who serves as an auditory human factors researcher and clinician, typically sees regular patients and generally has time on her side. With the novel coronavirus outbreak, and the need for immediate results, she used her expertise to help ensure Fort Rucker's flight school could safely continue to train Aviation professionals.

"This is completely new territory," Cave said.

The lab was called upon to respond to rapid questions about the use of masks—including about communication while wearing the mask, and whether there were any adverse effects on the aircrew.

"It's actually a really exciting time to be involved with this, just because as a researcher you're always looking for the perfect amount of control with the right amount of validity, or how much it actually applies to the real world, and with a short suspense like this you become very good at making decisions.

"I felt like that's kind of where my training as a clinician took over. You have to have some really good decision making capabilities and a strong background in some of these measures to be able to make those snap judgments," Cave said.

Cave reflected on her prior deployment experience, with its last-minute taskers, and also not knowing much about her patients until they walked through the door.

"It was also the only other time I've really spent a lot of time in an aircraft. That familiarity was really helpful, but I'm always learning new things about aircrew and aviation," she said.

With a PhD in audiology, Cave was part of the USAARL team that tested mask options for aviators who could not observe social distancing while in cockpits and simulators, including the N95 respirator, cloth masks manufactured at Fort Rucker, and a commercial off the shelf solution they were able to test with the help of the 110th Aviation Brigade.

"That was helpful to have such a relevant and immediately accessible group of test participants," Cave said.

The USAARL quickly tested and submitted results, and the fruits of their labor under pressure can be seen across social media platforms in the photos of aviation professionals completing their mission while wearing masks.

For Cave, it's about ensuring safety and people's confidence in the equipment.

"If somebody doesn't think that the equip-



ARMY PHOTOS

Capt. Lance Randles, aeromedical evacuation officer serving as a research pilot at the U.S. Army Aeromedical Research Laboratory, tests masks for use in flight school training during the COVID-19 pandemic.

ment's going to perform well, for example if I put this mask on and someone isn't going to be able to hear me, they aren't going to want to comply with that requirement. This gives that end user a little more confidence in the equipment, that it's OK to use and improves infection control," Cave said.

For Capt. Lance W. Randles, a Black Hawk pilot who serves as an aeromedical evacuation officer, responding quickly when the phone rings is just part of the first-responder nature of the MEDEVAC mission. As a research pilot at USAARL, where he contributes his knowledge of aviation and MEDEVAC, the goal is to optimize human performance and ultimately protect the warfighter.

When the Surgeon General issued guidance for Army aircrews back in March, in the event they would transport any COVID-19 patients, the memo dictated wearing of the N95 mask and other PPE.

"That's where we at USAARL were able to raise our hand and be further tasked to determine if speech intelligibility was affected, if the mask in a crash sequence would be safe to wear, is it fire retardant, is it increasing aviator workload.... So these are questions we now have to answer," Randles said.

They needed results quickly.

"At that point it really takes an all-handson-deck approach," Randles said. "So we take our HH-60M, a Black Hawk that's suited for the MEDEVAC mission, and we're doing this type of N95 testing. So we're strapping it on, we've got our data collectors in the back, our researchers, our scientists, and we're taking measurements in order to effectively write a test plan and submit those results."

"Within flight systems we're all qualified

USAARL cont. -

instructor pilots, so we have the ability to test equipment that may inhibit the performance of my copilot, so if something were to happen I have the ability to control the aircraft in somewhat of a higher risk environment," he explained.

Their efforts directly impacted the USAACE training mission.

"From a scientific standpoint we've given real data, we've given real test plans, and we've submitted all that information for a decision to be made that, yeah, we can perform the mission and here are the restrictions, here is the risk that's accepted," he said.

Randles said he is proud of the fast turnaround time in getting a solution so the crews could protect themselves by wearing cloth masks.

"Part of that, if not the majority of that, is from our work here at USAARL to allow them to continue to train and still abide by the current guidance," he said, adding that being part of the USAARL team has been humbling and rewarding.

"Here I am looking at doctors and scientists with more letters in their name than in mine, and I understand immediately that they're on a completely different level than myself," Randles said. "At the same time I'm getting questions from them such as, 'hey, what does the aircraft do, what are the basic flight profiles', things that maybe a flight school student is either learning or doesn't know yet."

As a MEDEVAC pilot, Randles described himself as the "Uber driver," and whereas he normally has a crew chief and medic in the back, now there are researchers behind him.

"I'm just responsible for controlling the aircraft and working with them and giving them my operational sense. So it really is that team effort that is rewarding here at USAARL knowing that we all rely on one another to perform the mission."



With clipboard in hand, Lt. Col. Kara Cave, auditory human factors researcher and clinician at the U.S. Army Aeromedical Research Laboratory, preps the team for mask testing early in the local response to COVID-19, before masks and social distancing were implemented.

And their mission goes well beyond COVID-19 and routine testing efforts.

"We're also looking ahead at Future Vertical Lift, other Army modernization

priorities... adding in our reports, adding in our studies, our experiments that will help make informed decisions on what the future warfighter looks like."



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