

ARMY FLYER

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PHOTO BY SPC. JENSEN GULLORY

Soldiers with Alpha Troop, 1st Battalion, 6th Infantry Regiment, 2nd Armored Brigade Combat Team, 1st Armored Division stand near an M2 Bradley Infantry Fighting Vehicle as AH-64 Apaches take off in the Central Command area of responsibility late last year. The Combined Joint Task Force-Operation Inherent Resolve and its partners remain united in a long-term, international mission to create enduring security in Iraq and northeast Syria to enable stabilization activities and humanitarian assistance, according to task force officials.

PROTECTION

Lyster clinic begins COVID-19 vaccinations

PAGE 2

MAKE VOICE HEARD

Housing residents have until Jan. 30 to respond to survey

PAGE 3

ABOVE THE BEST

USAACE names top instructors of Fiscal Year 2020

PAGE 4

UNDER PRESSURE

CYS overcomes challenges to care for Fort Rucker youth

PAGE 5

MONEY MATTERS

ACS program helps people navigate rough financial waters

PAGE 7

TRICARE
COVID-19 VACCINATION
GET THE FACTS
As of 30 DEC 2020

Who Gets a COVID-19 Vaccination FIRST?

PHASE 1
We Are Here

Health Care Providers, Health Care Support, Emergency and Safety Personnel

PHASE 1A

- Emergency room, urgent care centers, and first responders (i.e., police, search and rescue, and fire personnel, other inpatient and outpatient health care and support personnel as identified by their institution)

Sub-tier 1

PHASE 1B

- Health care and support personnel at military treatment facilities and clinics, along with other non-clinical staff authorized to receive vaccine from DoD, who support patient care with a high risk of exposure or potential to interface with COVID-19 positive cases

Sub-tier 2

- National Guard and Reserve personnel and active duty service members supporting COVID-19 response operations

Sub-tier 3

PHASE 1B.1

- National critical capabilities (strategic and nuclear deterrence forces, homeland defense)

PHASE 1B.2

- Personnel preparing to deploy to locations outside of the continental U.S. (OCONUS)
- Personnel preparing to deploy within the next three months, including: military civilian and contractors authorized to receive immunization from the DoD

PHASE 1B.3

- Critical and essential support personnel and other hospital non-clinical staff authorized to receive vaccine with a high risk of exposure and potential to interface with COVID-19 positive cases
- DoD education activity child and youth services personnel and food handlers on installations

PHASE 2

High Risk TRICARE Beneficiaries

- High risk beneficiaries are defined by the Centers for Disease Control and Prevention (CDC) and nursing homes and others in congregate settings to be prioritized concurrently with Phase 1B
- This category includes beneficiaries who are over 65 years of age, and/or who may have:
 - Cancer
 - Chronic kidney disease
 - COPD
 - Heart condition such as heart failure, coronary artery disease, or cardiomyopathies
 - Immunocompromised state from solid organ transplant
 - Obesity or severe obesity (BMI greater or equal to 30kgs)
 - Pregnancy
 - Sickle cell disease
 - Trouble quitting smoking
 - Type 2 diabetes

PHASE 3

The Healthy Population

- Healthy uniform personnel, other TRICARE beneficiaries, and those not otherwise mentioned above

Source: DoD Population Schema
<https://www.defense.gov/portals/1/spotlight/2020/coronavirus/vaccine-availability/SCHEMA.pdf>

TRICARE

Clinic vaccinates medical personnel, 1st responders, essential staff members

By Janice Erdlitz

Lyster Army Health Clinic Public Affairs

The Moderna COVID-19 vaccine continues to roll out at Lyster Army Health Clinic as part of the Department of Defense Phase 1 distribution plan.

The team has been implementing the vaccination plan to inoculate identified critical medical staff, first responders, and other critical and essential support staff.

Marcetta Chancey, a clinical nurse practitioner in Lyster Behavioral Health, was among the first to roll up her sleeve. Chancey was diagnosed with breast cancer Feb. 25. She battled through 2020 concerned about contracting COVID-19 in her immunocompromised state.

"I picked a fine time for cancer during a global pandemic," remarked Chancey. From March till November, Chancey went to "doctors' appointments, had chemotherapy, went bald, and had several surgeries". She had not been to a single store, restaurant, or visited friends or family since the pandemic began as she practiced social distancing in her fight against COVID.

Chancey continued to explain why she choose to get vaccinated, "I am still in active treatment for cancer with a compromised immune system. I will do everything I can to protect myself from this deadly virus. I did not let cancer keep me down or from doing my job. I will not let the COVID-19 virus either!"

The Army remains committed to supporting the acting Secretary of Defense's priorities during the COVID-19 pandemic to protect its people, maintain readiness and support the national COVID-19 response. Receiving the vaccine protects yourself, your community and the nation.

Lt. Col. Danielle Rodondi, Lyster commander, explained, "Vaccines are one of the most effective tools to protect your health and prevent disease."

The CDC recommends a combination of getting vaccinated and following safety recommendations – face coverings, handwashing, and physical distancing – to achieve the best protection from COVID-19 and to help lower the pub-



PHOTO BY JANICE ERDLITZ

Maj. Gen. David J. Francis, U.S. Army Aviation Center of Excellence and Fort Rucker commanding general, receives a COVID-19 vaccine at Lyster Army Health Clinic recently.

lic health risks associated with the pandemic. Community members should maintain safety procedures to prevent complacency in COVID-19 mitigation efforts.

"We are dedicated to providing the latest information about the vaccines available, as it is released, including the benefits and risks of a vaccine so that you can make an informed decision for yourself and your loved ones," continued Rodondi.

Chancey concluded by encouraging personnel to, "Get vaccinated."

LAHC's medical team encourages those who are hesitant about getting the vaccine to discuss their concerns with medical professionals or find out more information on the CDC and other government websites. For more resources to learn about COVID19, visit the following websites.

* <https://www.health.mil/Coronavirus>

* <https://www.cdc.gov/coronavirus/2019-ncov/cdcre-sponse/about-COVID-19.html>

* <https://www.cdc.gov/coronavirus/2019-ncov/vac-cines/faq.html>

Fort Rucker residents have until Jan. 30 to make voices heard in housing satisfaction survey

By Jim Hughes

Fort Rucker Public Affairs

WASHINGTON – Fort Rucker housing residents have until Jan. 30 to complete the Department of Defense's annual housing satisfaction survey via the link emailed to them in December.

So far, just over 25% of local housing residents have completed the survey, a number local leadership and housing officials would like to see climb higher, according to Van Danford, Directorate of Public Works chief of housing.

Col. Whitney B. Gardner, Fort Rucker garrison commander, said last month when the survey started that it is critical for leadership to get the valuable feedback surveys such as this one provide.

"Fort Rucker leadership and its housing partner, Corvias, are dedicated to providing Soldiers and families a quality living environment on post," he said. "With all of the improvements and renovations we've been working on in the past few years, we feel we're doing really well here, but we are never satisfied – we want to do even better.

"We need to hear from our residents," the colonel added. "This survey offers a golden opportunity for our residents to tell us where we're measuring up and where we need to focus more attention in on-post housing. I highly encourage all residents to take part in the survey and give us feedback – positive

or negative. We want our on-post housing to be places Soldiers and family members are proud to call home."

Each year, DOD, working through the military departments, surveys current residents of government-owned, government-leased, or privatized family housing and current residents of privatized unaccompanied housing. The goal is to obtain feedback regarding their living experience, Gillis said.

Survey participation is voluntary, and Gillis encourages residents to share their views about their current housing, resident services and community amenities. "Resident feedback is important to help the department improve the quality of housing and customer care available to residents."

A link to the survey* will be sent via email to each household by one of the two third-party consulting firms administering the feedback collection, tabulation and analysis on the department's behalf. Only one person per address will receive the invitation email. All respondent information will be kept confidential. It will not be linked to the overall feedback results shared with DOD or the results that DOD shares with privatized housing companies or other stakeholders.

The survey results will help inform plans for near-term and future improvements to



GRAPHIC BY DAVID AGAN

housing, resident services and community amenities. Gillis emphasized the importance of getting the perspectives of service members and families so the department can provide them with a better quality of life through improved housing and community services.

Fort Rucker residents of DOD government-owned, government-leased or privat-

ized housing should call housing at 334-255-9230 if they have questions, need technical support, or if their household has not received an email containing a survey link.

*** Survey's OMB Control Number: 0704-0553; OMB Exp. Date: 03/31/2022**

USAACE honors Fiscal Year 2020 Instructors of the Year

By Kelly Morris
USAACE Public Affairs

The U.S. Army Aviation Center of Excellence honored its Instructors of the Year for Fiscal Year 2020 in a ceremony at the U.S. Army Aviation Museum Dec. 14.

Each quarter, academic instructors, instructor pilots and noncommissioned officer flight instructors from USAACE and Fort Rucker are nominated by their supervisors for the honor of competing for Instructor of the Quarter.

Organizations included the 1st Aviation Brigade, 110th Aviation Brigade, 128th Aviation Brigade, Warrant Officer Career College, School of Army Aviation Medicine, NCO Academy- Fort Rucker, NCO Academy- Fort Eustis, and U.S. Army Combat Readiness/ Safety Center.

They are evaluated on quality of instruction, quality of materials developed and used, and quality of their presentation. After all evaluations are completed, scores are compiled and winners of the quarterly competitions are selected. The Instructors of the Year are determined from these quarterly winners.

The winners for Fiscal Year 2020 are:

- The Officer Academic Instructor of the Year is Capt. Roger M. Willett, A Co., 1-145th Aviation Regiment, 1st Aviation Brigade.

- The Officer Flight Instructor of the Year is Chief Warrant Officer 3 Kenneth S. Hay, C Co., 1-212th Aviation Regiment, 110th Aviation Brigade.

- The Warrant Officer Academic Instructor of the Year is Chief Warrant Officer 2 Brandon M. Pankuch, B Co., 1-145th Aviation Regiment, 1st Aviation Brigade.

- The Noncommissioned Officer Flight Instructor of the Year is Sgt. 1st Class Ryan L. Cheek, A Co., 1-223d Aviation Regiment, 110th Aviation Brigade.

- The Noncommissioned Officer Academic Instructor of the Year is Staff Sgt. Michael A. Arnett, USAACE Noncommissioned Officer Academy, Fort Eustis, Va.

- The Civilian Academic Instructor of the Year is Christopher L. Crews, C Co., 1-13th Aviation Regiment, 1st Aviation Brigade.

- The Civilian Instructor Pilot of the Year is Vincent A. Holbrook, A Co., 1-223d Aviation Regiment, 110th Aviation Brigade.

In his remarks, Brig. Gen. Stanley E. Budraitis, deputy commanding general, USAACE and Fort Rucker congratulated the winners.

The USAACE trains and develops agile and adaptive Aviation leaders and professionals to maintain a shared understanding and trust with commanders and Soldiers on the ground, Budraitis explained.

"We accomplish this mission through our talented and passionate instructors," Budraitis said.

"We're here to acknowledge the greatest of our great instructors, or as we refer to them here at the home of Army aviation, those instructors that are truly 'Above the Best.'"

Budraitis noted the phrase in the Army Song, "and the Army goes rolling along." The Army continues to move forward and develop, he explained.

"As we move forward focused on new challenges based on emerging threats and near-peer adversaries, we must remain focused on our core mission to train and develop aviation leaders," he said.

Budraitis explained the Army must remain the greatest, most lethal land fighting force on earth because Soldiers protect and defend America.



PHOTO BY KELLY MORRIS

USAACE Instructors of the Year for FY 2020: The NCO Flight Instructor of the Year is Sgt. 1st Class Ryan L. Cheek, A Co., 1-223d Aviation Regiment, 110th Aviation Brigade. The Officer Flight Instructor of the Year is CW3 Kenneth S. Hay, C Co., 1-212th Avn. Regt., 110th Avn. Bde. The Warrant Officer Academic Instructor of the Year is CW2 Brandon M. Pankuch, B Co., 1-145th Avn. Regt., 1st Avn. Bde. The Civilian Instructor Pilot of the Year is Vincent A. Holbrook, A Co., 1-223d Avn. Regt., 110th Avn. Bde. The Civilian Academic Instructor of the Year is Christopher L. Crews, C Co., 1-13th Avn. Regt., 1st Avn. Bde. The Officer Academic Instructor of the Year is Capt. Roger M. Willett, A Co., 1-145th Avn. Regt., 1st Avn. Bde. The NCO Academic Instructor of the Year is Staff Sgt. Michael A. Arnett, USAACE NNCO Academy, Fort Eustis, Va.

America promotes peace, freedom and democracy around the globe, he explained.

"Though not perfect, America is without a doubt the greatest nation that has ever existed," he said.

Every Aviation leader and Soldier is trained within the USAACE, which also carries out the motto of the U.S. Army Training and Doctrine Command, "Victory Starts Here." Whether they are in a command post, a control tower, a maintenance hangar or flying in a cockpit, Aviation warfighters must be trained proficiently.

"It is due to our world class, professional and passionate instructors that enable our Army and our branch to remain the absolute best in the world," Budraitis said.

Instructors teach Soldiers to be technically and tactically proficient, and develop people from diverse backgrounds to embrace the Army's values and a culture built on trust,

training them how to build cohesive teams when they depart USAACE and enter the operational Army, Budraitis explained.

"You are inspiring the future leaders of the Aviation branch and our Army, and for that we applaud you," he said.

The ceremony was conducted with limited in person attendees and broadcast virtually via social media.

During the event, each instructor took center stage to be recognized. A prerecorded video highlighting the individual instructors was also shown.

Each winner received a Certificate of Achievement for excellence in training while serving as an instructor at USAACE, for their professionalism, dedication to duty and technical expertise that contributed to the success of their unit and USAACE. The winners also received gifts from sponsoring organizations.

UNDER PRESSURE

CYS overcomes challenges to care for, develop Fort Rucker's youth

By Jim Hughes

Fort Rucker Public Affairs

Taking care of and developing the youth of Fort Rucker while their parents serve the country is a challenging mission even under normal circumstances. Add to it the COVID-19 pandemic, and the pressure levels amp up immeasurably.

WHAT YOU GET FOR YOUR CHILD CARE DOLLAR

Your CDC fees provide a safe and secure learning environment for your child.

- * Staff are trained to protect, nurture and teach
- * Activities promote early learning and school readiness
- * Facilities have:
 - ** Regular fire, safety, health and program inspections;
 - ** Security surveillance equipment to monitor activities; and
 - ** Force protection safeguards

Your CDC fees go further because the Army covers much of the cost.

- * You pay your share and the Army funds the difference
- * Fee discounts are available when more than one child enrolls in CYS programs
- * Off-post centers usually charge more for infants, supplies, food and field trips

Your CDC fees buy:

- * 220-240 hours of full-day care each month;

But the people at CYS came through with flying colors, according to Toni Hampton, Fort Rucker CYS coordinator.

"The past year has been difficult for all of Fort Rucker, and CYS was not immune to the challenges that COVID-19 presented," she said. "Since the pandemic began, neither the child development center nor the school age center closed its doors to customers. The CYS team has adapted to ever-changing guidance by creating relevant and timely solutions to the problems we have faced."

Hampton said she's proud of the entire CYS staff, whose members responded to the increased challenge with their usual professionalism, dedication and creativity.

"The secret to our employees' success has been resiliency, professionalism, teamwork and their commitment to the families of Fort Rucker," Hampton said. "The people at Fort Rucker should rest easy knowing their children are in good hands when they're in CYS programs."

"Our child development center remains the only nationally accredited program (accredited by The National Association for the Education of Young Children) within 50 miles of Fort Rucker through 2025," she continued. "The school age center is also the only accredited program in the area, and they are currently working towards re-accreditation through the Council on Accreditation."

That secret is still being put to the test by the pandemic, bringing about the need to make a number of changes in the way CYS' mission



PHOTOS BY KRISTINA DELUCA

A Fort Rucker Child Development Center employee welcomes children at the facility recently.

is carried out, Hampton said. The staff have rearranged learning environments to accommodate for smaller group sizes, implemented additional cleaning and sanitizing procedures, adapted illness control policies to lower the risk of transmission, moved staff between the various CYS programs to cover staffing shortages because of illnesses or exposure, and developed alternative ways to communicate with parents.

"Every aspect of our staff's and our children's days are affected by the many changes

that have occurred," she added.

"In addition, the school age center provided full day care during regular school hours while area schools were doing virtual learning," Hampton said. "This entailed rearranging learning areas to provide space for virtual learning environments, arranging for all students to access CYS Wi-Fi and ensuring all students were on-line at the specified class times."

The CYS staff got a big assist from local post leadership, as well, Hampton added.

CYS cont.

“Leadership did a great job from the start of the crisis by lowering our capacity to life, health and safety patrons only,” she said. “This allowed the CYS Team to make necessary adjustments and begin to implement the mitigation plan. In

CHILD CARE DOLLAR CONT.

- * 10-12 hours a day Mondays-Fridays, typically less than \$2 an hour;
- * 44 nutritious meals and UP to 22 snacks;
- * Field trips and skills development; and
- * Two weeks of “child care leave” every year.

Your CDC fees help make the military lifestyle a little easier.

- * Operating hours at convenient locations are geared to the duty day.
- * Single facilities offer one-stop care for ages 6 weeks to 5 years.
- * Hourly care is available for respite and wellbeing.
- * Services and standards are predictable wherever you’re stationed.

CDC fees are a great value because your child receives the best care.

- * Army centers are inspected more frequently than those licensed off post.
- * Most Army centers are nationally accredited.
- * Military child care is cited as a “model for the nation” by Congress and national experts.

For more information, visit <https://rucker.armymwr.com/>.

*** Information provided by the Fort Rucker Directorate of Family, and Morale, Welfare and Recreation.**

addition, Lyster Army Health Clinic has been a great source of support, providing guidance on methods to decrease transmission, recommendations for children’s illness exclusion measures, and guidance on quarantine and isolation requirements.”

In June, CYS began expanding its services back towards more normal levels by increasing its capacity at the CDC and SAC. “Any patron that qualifies to use CYS facilities can now enroll into the CDC and SAC programs – both programs have available childcare spaces. In addition, we have opened the youth center back to normal operating hours for our middle school youth and teens, and youth sports and fitness has opened its youth fitness center and has begun to offer sports clinics,” Hampton said.

People with questions regarding registration or enrollment can call parent central services at 334-255-9638.

Although capacity levels have increased closer to the norm, the pandemic continues and CYS staff members are handling it in the



A Fort Rucker CDC caregiver spends time with a child staying at the facility.

best way they can with the safety and wellbeing of their young charges in the forefront of each of their minds, she added.

But more change is on the way – good change.

“An important part of the CYS program is nutrition. While we already provide healthy meals and snacks at the CDC, much of the

kitchen equipment and the design of the kitchen is old,” Hampton said. “In order to continue to provide nutritious meals and allow for a more efficient work area for the kitchen staff, the CDC kitchen will begin being renovated in February. This will include a space redesign and new equipment, including sinks, dish washer, ovens, cooler and more.

“The work will be self-contained and will not affect our ability to provide child care,” she added. “During this time, food will be prepared in the youth center kitchen and transported to the CDC. The CDC kitchen team will continue to follow the standard menus, and will be careful to maintain sanitation and food temperature requirements.”

While many of the challenges of 2020 continue into 2021, the CYS staff remains committed to the Soldiers and families of Fort Rucker.

“CYS plans to continue providing quality programs while also putting measures in place to continue to lower the chance of transmission among our youth,” Hampton said. “We at CYS take great pride in taking care of the children of our nation’s Soldiers – we are truly grateful for the chance to serve those who serve our nation.”



A Fort Rucker youth works on an art project while at the CDC.

MONEY MATTERS

ACS helps people navigate through rough financial waters

By Jim Hughes

Fort Rucker Public Affairs

Regardless of the type of year 2021 turns out to be, it is likely most people are going to be concerned with their financial situations now and in the future.

The good news for Soldiers and family members at Fort Rucker is that Army Community Service stands ready to help with its financial readiness program, according to Beth Gunter, a financial counselor with the program.

"The financial readiness program is a prime resource for information on personal financial management," she said. "The program provides certified financial counselors at no cost to help with an array of services: investment information, credit analysis to provide insight for improving credit scores, facilitating the development of a debt management plan, providing strategies to monitor spending and create a spending plan, and tips to successfully navigate the path to buying a home."

The program provides its services to active-duty and retired Soldiers, family members and Department of the Army civilian employees, Gunter added.

As if a pandemic and numerous other unfortunate events weren't enough for people to navigate through in 2020, the aftereffects have also left many Americans' financial status in disarray, but the ACS program's staff can help those at Fort Rucker who may be experiencing difficulty.

"ACS financial counselors are objective certified counselors, with the goal of helping clients' meet their financial targets," Gunter

said, adding that setting financial goals is vital to success.

"Setting financial goals helps provide the incentive to stick with an established plan," she said. "Starting the year with not only a monthly plan, but also a plan for larger upcoming expenses, broken down into smaller increments across the year, establishes a game plan for financial success."

One thing people need to plan for is the bill coming due for last year's presidential memorandum that was issued in August, providing the opportunity to defer Social Security Old Age, Survivors and Disability Insurance and Social Security tax withholdings, Gunter said.

"The deferral was automatic for service-members and government civilian employees, providing increased funds in September through December 2020's paychecks," she said. "However, this was a deferral, meaning not only will those funds (6.2% of wages) resume

being collected, but those deferred will have to be paid back."

The 2021 Consolidated Appropriations Act extended the period of collection to throughout 2021, Gunter added. The repayments for government employees will be over 24 installments. For active-duty military, repayment will be from mid-month and end-of-month pay between Jan. 1 and Dec. 31. For government civilian employees, it will be collected beginning with the pay-period ending Jan. 16 through the Dec. 4 pay period.

Visiting with a financial readiness program counselor can help Fort Rucker personnel navigate through these rough waters, she said.

"A written spending plan can calculate expenditures to help ensure your take home pay will be able to cover your monthly expenses, as financial changes occur," Gunter added. "Why not make this year the year your money is working for you? Having the incentive to pay down debt provides funds from the interest you have been paying to others to invest and compound interest to your benefit."

For those who find they are in need of more help than just financial counseling can provide, Gunter can also help them plug into the Army Emergency Relief program.

"Having an emergency savings account

provides a safety net for unexpected hardships, but when it is not enough to cover the expense, Soldiers may be eligible for an AER no-interest loan or grant to assist with overcoming the situation," she said, adding that vehicle repairs, emergency leave, home schooling expenses, and security deposits and initial rent are a just a few of the categories of assistance within the AER program.

The financial readiness program can also help people plan for the future, as well, she said, including helping people navigate the Thrift Savings Plan, which is not only a large component of the Blended Retirement System, but also a means for Soldiers and DA civilians to save for retirement.

"If you think someone is talking about alphabet soup when they mention the G, F, C, S, I, and L Fund, it may be beneficial to meet with an ACS financial counselor," she said. "ACS counselors provide insight and tools that can assist you with your investment decisions."

The Fort Rucker Financial Readiness Program is located in Bldg. 5700, Rm. 350. For more information on how the program or to schedule an appointment call 334-255-3765 or 334-255-9631.



Financial Readiness Program Build Your Success!

Army scientists pick Top 10 coolest advances of 2020

By U.S. Army DEVCOM Army Research Laboratory

Public Affairs

ADELPHI, Md. – Last year had its share of science and technology advances from Army researchers. The U.S. Army Combat Capabilities Development Command, now known as DEVCOM, Army Research Laboratory, the Army's corporate research laboratory, has the mission to operationalize science for transformational overmatch.

"The COVID-19 pandemic challenged us all this year," said the lab's chief scientist, Dr. Alexander Kott. "Despite that, our scientists and researchers made groundbreaking discoveries in 2020 that will strengthen and protect our future Soldiers."

The lab's leading scientists picked the coolest advances to showcase how Army scientists and researchers are supporting the Soldier of the future with a Top 10 list from 2020.

NO. 10: X-RAY-LIKE IMAGING SYSTEM TO SEE THROUGH BARRIERS

How about Superman-like X-ray vision in the form of goggles for Soldiers? New Army-funded research is looking at how to make this a reality.

Researchers created an imaging system to see objects through environmental barriers, like sand. They shine an ultra-fast laser through a barrier and read back the reflected photons, assembling an image of what was behind the barrier in just fractions of a second.

Existing capabilities are limited to relaying back objects in two dimensions, but this new research will show objects in three dimensions, giving Soldiers more accurate situational and threat awareness in degraded visual environments. This could help future pilots fly through sandstorms, and robots navigate through fog.

"Previous efforts were at very small distances, and with very heavy and complex method-

ology," said Army researcher Dr. Hamid Krim. "This is more of a macro scale, and it could be used on large or small moving platforms."

NO. 9: LEVITATING, FREEZING ATOMS TO FURTHER QUANTUM NETWORKING

Using laser beams, Army researchers levitate atoms and freeze them to the coldest temperatures on earth, nearly absolute zero. Patterns of quantum information are stored in the frozen atoms, creating quantum holograms that can be retrieved. From this, researchers developed a new way to solve a critical challenge in quantum entanglement.

The resulting holographic quantum memory is a building block for future quantum networks with exponentially more powerful capabilities in computing, sensing and communications.

"Quantum networks are completely different than anything that currently exists," said Army researcher Kevin Cox. "The internet is the network right now, and it possesses certain capabilities. Quantum networks will have completely different capabilities and will access a piece of the universe that we have not been able to access before. It will lead to computing power that will be orders of magnitude more powerful than anything that currently exists."

NO. 8: AN ULTRA-THIN, FLEXIBLE SWITCH TO ACCESS HIGHEST 5G FREQUENCIES

A new ultra-thin radio-frequency switch could provide access to the highest 5G frequencies and enable 6G connectivity and beyond.

Building off a material the Army discovered 10 years ago, research partners developed an atomic switch that is capable of connecting to the best available frequencies. It is more than 100 times more energy-efficient than what is used today and can transmit data at speeds up to 100 gigabits per second—speeding up



ARMY GRAPHICS

how quickly users can do things like stream high-definition media and increasing average battery life substantially.

"This switches between frequencies, similar to tuning frequencies on a radio," said Army researcher Dr. Chakrapani Varanasi. "The increased bandwidth and frequency range are unmatched—yet it consumes a fraction of the energy than what is currently used."

The one-atom-thick switch is a fraction of a nanometer, and flexible, so it is easily integrated onto wearable systems as a laminate on Soldiers' uniforms with negligible extra weight. This could revolutionize the way the Army communicates, and could be integrated into satellite systems, smart radios and across the Internet of Things.

NO. 7: AUTONOMOUS SENSORS CONFIGURING MESH RADIO NETWORK

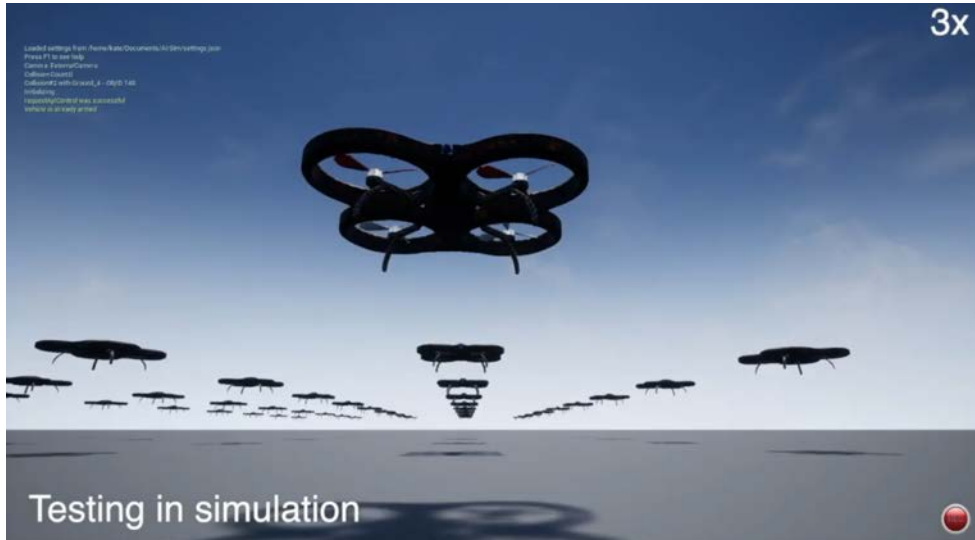
Imagine autonomous, independent sensors

could create their own radio network in a remote location. Army scientists are working on technology that will provide Soldiers with situational awareness through a unique autonomous mesh networking solution. Dropped sensors on a battlefield autonomously form their own network to route communications back to a place of interest, whether it is a command post or a lone Soldier.

This radio network created on-the-fly requires little to no user intervention, adapts to local conditions and is more than 20 times more energy efficient than conventional Army radios—meaning Soldiers can carry less and communicate better.

"Soldiers carry so much weight, and radio and batteries comprise a significant amount of that load," said Army researcher Ron Tobin. "A capability like this could be much more energy-efficient, which could improve communica-

Top 10 *cont.*



tions for longer durations but also lighten the load for Soldiers.”

NO. 6: REAL-TIME OBJECT DETECTION MODEL

Like autonomous cars are able to detect their surroundings, Soldiers need real-time scene understanding at the tactical edge. Using artificial intelligence and machine learning, Army researchers developed a novel object recognition model to immediately detect objects of interest.

Sensors deployed on platforms such as drones or ground vehicles capture images and video. The model locates and identifies these objects, processing information on the spot—even where computational processing is limited. Soldiers are then alerted to suspicious activities in the surrounding area.

“Our model can process five to six frames per second, which is comparable to the current state-of-the-art,” said Army researcher Dr. Heesung Kwon. “But we use multiple classifiers that can detect objects better than existing models.”

This capability enables rapid decision-making, reducing mission risk, and could be inte-

grated into future Soldier eyewear.

NO. 5: ELECTRICAL NUDGE TO HELP BRAIN

Sometimes we could all use a little stimulation to kick-start our brains. Army and academic researchers found how a subtle electrical nudge helps the brain reorganize its activity to rapidly adapt and better make decisions. Inspired by dynamic network techniques, researchers used this nudge to bypass the normal human sensory and cognitive pathways.

“This is changing the information flow through connections in the brain and can help us understand how the brain operates, especially in groups,” said Army researcher Dr. Javier Garcia.

This research lays the groundwork for improved teaming with intelligent agents—with possible future neuro-technologies that could prevent or predict behavioral mistakes or assess individual cognitive performance to keep our Soldiers sharp.

NO. 4: AI TO PREDICT AIRCRAFT DAMAGE AND FAILURE

Army helicopters perform some of the most daring maneuvers in some of the most

dangerous places in the world. Keeping the fleet in peak performing condition is critical.

Army researchers studied 15 years of flight patterns—more than 1.3 million flights from 4,000 UH-60 Black Hawk helicopters—and identified more than 100 different types of maneuvers.

They connect which specific aircraft parts undergo the most wear and tear during these maneuvers. The result is a robust AI model predicting with nearly 100% accuracy which critical parts will fail, how and when.

“We know critical parts on an aircraft have finite life,” said Army researcher Dr. Mulugeta Haile. “We can use this data to effectively predict the best time to maintain an aircraft—by looking at how it has been flown rather than how much it has been flown.”

This significantly reduces costs to sustain the existing fleet—and most importantly, also identifies catastrophic damage before failure, improving mission outcomes and protecting our pilots.

NO. 3: INTELLIGENT SWARMING DRONES

Researchers look to nature to emulate the perfect dynamic flying formation.

Army and academic researchers develop autonomous, omniscient-like, swarming drones that can reason and make the best decisions without human interference.

Equipped with cameras, these drones look around and see each other, and independently reason about each other’s size, distance and motion.

The agents then communicate with each other. Through a form of machine learning, they imitate each other and decide how to reach the ideal collective goal.

“The agents have to learn how to process what they see, how to talk to each other and how to move, all through imitation,” said Army Senior Research Scientist Dr. Brian Sadler.

This could lead to completely autonomous cohesion and decision-making to assist our

Soldiers in the most critical situations.

NO. 2: 3D PRINTED MUNITIONS

3D printing revolutionized the convenience and speed at which everyday people create everyday objects.

Army scientists pioneer the 3D printing frontier with first-of-its-kind polymers for energetics and metals—including the highest-strength steel ever made—to develop the next generation of munitions.

They were first in the world to demonstrate 3D structural circuit manufacturing that will revolutionize munition fusing and sensing, while also saving weight and space.

“We are printing materials no one else has ever printed, and new geometric designs that open up the trade space for munitions,” said Army researcher Dr. Jason Robinette.

But how durable are they? These 3D printed munitions have high-G survivability—withstanding the most extreme accelerations that even current munitions can’t match.

This will help soldiers in extreme environments and tomorrow’s battlefield.

NO. 1: INTELLIGENT, NAVIGATING MUNITIONS

Army researchers use the latest technologies to create the most intelligent munitions that navigate to and hit moving targets.

With onboard sensors, actuators, and an imager, a munition runs an algorithm on the tip of the artillery piece as it flies to its target.

Current systems rely on GPS to navigate to a specified coordinate.

This munition enables moving the flight path—both in initial guidance and mid-flight—improving the munition’s range and speed to hit a moving target.

“This research will enable us to penetrate faster and have more maneuverability so that we can evade threat systems and reach the target,” said Army researcher Dr. Frank Fresconi.

This will be a crucial element to ensure the Army’s dominance on land, on sea, and in the air.

TRADOC CG talks ethical leadership during webinar

By Jim Hoeft

TRADOC Communication Directorate

FORT EUSTIS, Va. – Ethical leadership was the topic of discussion Jan. 13 as retired Army Gen. Carter F. Ham, president and CEO, Association of the United States Army, visited U.S. Army Training and Doctrine Command during its monthly leader professional development webinar.

Ham and TRADOC Commanding General Gen. Paul E. Funk II took a hard look at how the Army builds trust in its leaders, develops its ethics, trains its personnel to make difficult decisions, and instills values in all its professionals.

“It’s important for Army professionals, uniformed and civilian, to every now and then take pause and think seriously about the profession of arms. Think about what it is you have committed yourself to. And have a serious conversation about what that Army ethic is,” Ham said about why he wanted to participate in the webinar.

Funk felt Ham was an ideal guest to bring clarity to the topic.

“Professionals study their profession. Ethical leadership is the bedrock of our Army Profession. There is no guy better to do that than Carter Ham,” Funk said.

He also said that the Army is based on values and trust. “We get the privilege to wear the cloth of our nation. Every day we have to lead. And this is the jersey of the greatest team on earth.”

With more than 1,400 people watching live, the generals shared how ethics has played a role in their careers as well as improving the Army, including developing organizational transparency, and highlighting the importance of diversity in creating an organizational ethic.

In explaining how a diverse force can have a common ethic, Funk said, “You have doctrine to start with. And then from there you do training and try to discuss some of these [ethical] dilemmas before you have them.” He also mentioned the importance of training exercises, simulations, and the after action review.

“We have to build on these diverse experiences to show the richness and depth of the expertise we have in our force,” Funk said.

Ham added that there is an institutional recognition that “the backgrounds, experiences, cultures, beliefs, practices of a very diverse Army brings tremendous strength to that Army.”

But he also added that doctrine can only take the profession so far in terms of understanding Army values.

“It is important for Army professionals, uniformed and civilian, to understand doctrine; the doctrinal underpinning for what the Army does, what the Army is, and for particular aspects of Army operations. But that’s not enough. That’s the baseline of what each Army professional must possess,” he said.

“When you combine that doctrinal knowledge and understanding, which is facilitated by small group discussions, and then you combine it with the examples like [Medal of Honor recipient Staff Sergeant] David Bellavia...when you combine that doctrinal understanding with personal examples of the Army values, that’s when you really start to get something.”

Ham also added that creating a culture within units to have open and respectful conversations is important.



PHOTO BY CAPT. JONATHON LEWIS

Gen. Paul E. Funk II, commanding general, U.S. Army Training and Doctrine Command, hosted retired Army Gen. Carter F. Ham, president and chief executive officer, Association of the United States Army (right), during a virtual leader professional development webinar, which was moderated by James Hoeft, TRADOC command information chief, that took place at Fort Eustis, Va., Jan. 13.

“The senior leader has to make it clear by actions and by words that it is OK to have this open and free dialogue,” he said.

The two also discussed several important initiatives changing the Army over the course of the webinar, including the “first 100 yards” at Basic Combat Training and the Integrated Personnel and Pay System-Army. They explained how each of those programs are intended to improve the development of Soldiers, which adds to the lethality and effectiveness of the Army.

Both generals also agreed that ethical leadership requires personal presence.

“If you don’t find time – if you don’t pur-

posely make time to be with those that you lead – then the transparency isn’t there,” Ham said. “Leaders have to be engaged.”

“Leadership is a contact sport,” Funk added. “You’ve got to be there every day!

“And you’re not going to get it right every day, but you have to get in the game.”

To watch the full webinar, all previous LPDs, and supplemental videos, visit <https://vimeo.com/showcase/usarmytradoc-lpd>.

TRADOC’s next scheduled LPD is on resiliency – “Adapt and Overcome” – with J.P. Lane, Feb. 17, 11 a.m. EST. The LPD can be viewed through the TRADOC website, DVIDS, LinkedIn, or Facebook.

Military tax services available through Military OneSource

By Terri Moon Cronk
DOD News

WASHINGTON – Filing taxes can be a daunting task every year, but the Defense Department has helpful resources for active-duty service members and their families, and it's all free through Military OneSource.

Tax services for the military – also known as MilTax – is DOD's approved tax-filing and tax-support service – including tax preparation and e-filing software and personalized support to deal with issues such as deployments, combat and training pay, housing and rentals, multistate filings, and living overseas.

"They can connect with a [tax] consultant during the tax season, and even past [it], through October, but in addition to having that live support walking through the filing process and asking questions that are specific to the military around taxes, they're able to

access the MilTax software," said Kelly Smith, program analyst with the DOD's Military Community and Family Policy. MilTax consultants are available virtually.

An advantage to the MilTax software, Smith noted, is it's designed and tailored for the military community.

E-filing allows service members to file their federal returns along with up to three state returns at no cost.

That's huge in the military community, because our families are moving multiple times," she noted.

Overall, the MilTax services are designed to be stress-free, Smith said.

"[People] can rest assured that they are working with tax professionals who know and are familiar with military tax situations,"

she said, adding that many MilTax consultants return to offer their services every year in high numbers, which provides continuity and knowledge of the armed forces' needs.

At this point, this year's tax deadline for filing 2020 taxes is April 15, although last year it was extended to July 15 because of COVID-19. If there is an extension this year, Smith said MilTax is prepared for it.

"Our staff and our consultants are positioned to fill in the gaps where there may be additional need for that support online and over the phone," she said.

MilTax availability runs until mid-October for service members who need extensions.

"That's simply because we know that the tax season usually ends in April, but for our military community, sometimes people are overseas or they are in a combat zone, and so, they're able to file those extensions, and

[we are] there to help them file their taxes at a later time," Smith said.

Smith said she is not tracking any significant changes in tax law for the 2020 filing year that would affect service members and their families.

"But the 2020 Social Security tax deferral is a big thing at this time," she noted. "We are referring and connecting filers with [the Defense Finance Accounting Service] and with the IRS regarding questions and concerns they have outside of the tax deferral.

"I want to ensure that our service members and families know they can turn to Military OneSource and the tax service as a trusted source, and [MilTax services] understand taxes as it relates to the military community," Smith said.

Call Military One Source at 800-342-9647, or visit: <https://www.militaryonesource.mil/all-the-ways/>.

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