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KANSAS STATE UNIVERSITY | Office of Governmental Relations

University leaders discuss chemical warfare at National World War I Museum and Memorial event

One hundred years after World War I, gas and chemical warfare still threaten the modern world.

Kansas State University President Richard Myers and Ron Trewyn, the university's NBAF liaison, will participate in an important panel discussion of World War I's enduring legacies and the complexities of detecting chemical warfare in the 21st century. Biological warfare will likely be discussed as well.

The panel discussion, "Protection and Detection: Chemical Warfare" is at 6:30 pm on Tuesday, April 10 at the National World War I Museum and Memorial in Kansas City, MO. The event will be streamed live attheworldwar.org/live.

The panel will also include Tom Sack, president and CEO of MRIGlobal. Matthew Naylor, president and CEO of the National World War I Museum and Memorial, will moderate the panel.

Kansas State Polytechnic partners with Piedmont Airlines to provide pilot students career opportunities, financial assistance through cadet program

The Kansas State University Polytechnic Campus is expanding its professional pilot students' career options through a new collaboration with regional carrier Piedmont Airlines.

Kansas State Polytechnic is now a partner in Piedmont Airlines' cadet program, which offers tuition reimbursement and employment opportunities to select students who have earned their certified flight instructor rating. Piedmont Airlines, a wholly-owned subsidiary of American Airlines Group Inc., also provides through its cadet program a guaranteed job path to American Airlines once student pilots are ready to transition in their career.

"Kansas State Polytechnic is excited to be teaming up with an organization that is invested in the long-term success of our students," said Ben Jaffee, senior assistant chief flight instructor. "This partnership gives professional pilot students a direct connection with industry, additional financial support and a define career route even before graduating. We want to provide our students with the best educational experience possible and this new opportunity enriches the value of what our degree program has to offer."

Students who have earned their certified flight instructor rating and have been accepted into Piedmont Airlines'

cadet program, following an interview process, are eligible to receive tuition reimbursement after the completion of 500 hours of flight time. The program provides a financial incentive for every 100 hours achieved there after until completing the Airlines Transport Pilot minimums required. Once a certified flight instructor attains these minimums, he or she will join Piedmont Airlines as a first officer with a guaranteed job at American Airlines in about five years.

"Pilots who fly for Piedmont upgrade very quickly and then transition to American Airlines," said Lyle Hogg, president and CEO of Piedmont Airlines. "Our cadet program is a great opportunity for students who want to purse a commercial flying career. It allows them to gain valuable flying experience before coming to fly for Piedmont and then on to the world's largest airlines."

Kansas State University working with career skills program for veterans

Kansas State University is working with an accelerated training program that assists transitioning service members into rewarding careers in manufacturing.

The Manufacturing Institute in Washington, DC created the Heroes MAKE America program, a full-time 10-week career skills program, in an effort to build a pipeline from military to manufacturing careers for transitioning service members. The program provides veterans with the industry specific skills and certifications they need to succeed in the manufacturing workforce.

The Heroes MAKE America pilot program launched in early 2018 at Fort Riley in partnership with the U.S. Army Soldier for Life office and the USO Pathfinder program. The inaugural class graduated March 16, 2018.

As a part of the program's benefits and certifications, K-State facilitates the CliftonStrengths assessment and partners with KansasWorks to offer assistance in resume and cover letter writing and mock job interviews.

The program gives manufacturers direct access to industry-credentialed and industry-qualified veteran candidates with workplace skills; reduces on-the-job-training expenses; enhances job productivity; and supports our nation's heroes during their transition to civilian employment.

K-State researchers using gene-editing technology to improve wheat

Kansas State University researchers say their work to improve genes in wheat varieties using a gene-editing technology is another positive step toward global food security.

"Food security and the food supply is one of the main issues in the world's future," said Eduard Akhunov,

Compound in red wine, chocolate prevents smallpox virus cousins from replicating

The secret to stopping some viruses from making people sick might be hidden in red wine and chocolate - but that doesn't mean having more bonbons and vino is in order, Kansas State University researchers say.

professor of wheat genetics and pathology. "With the increasing population size and a decline in the amount of land available for growing crops, we really need to intensify agriculture in a sustainable way."

Akhunov and his colleagues are working with gene editing, a technology developed five years ago which can be used to modify with high precision any gene in a living organism. Their work with wheat is featured in the inaugural issue of the CRISPR Journal.

CRISPR-Cas9 technology, introduced in 2012, is a simple yet powerful tool for editing genomes, the complete set of genetic material present in a cell. Akhunov said it allows researchers to easily change DNA sequences, creating new variants of a gene with improved properties, or fix known defects in a gene.

"You can consider CRISPR-Cas9 to be like molecular scissors that can make changes very precisely in a particular place of the genome," Akhunov said. "Using this tool, you can selectively modify and part of a genome to improve genes controlling major agronomic traits."

This same process is done in traditional wheat breeding, he added, but it often takes as many as 7-10 years to effect the improvements that CRISPR technology can enact in a much shorter time.

The researchers' paper can be found in the inaugural issue of CRISPR Journal.

DID YOU KNOW?

Kansas State University's student-run radio station, KSDB, was awarded Best Campus news Coverage and Best Artist/Band Interview at the 2018 Intercollegiate Broadcasting System Conference.

"Resveratrol is a small, natural compound in many plants like grapes, cocoa beans, peanuts and blueberries," said Shuai Cao, postdoctoral researcher studying the effects of resveratrol on viruses. "Our recent study found that high concentrations of resveratrol - higher than anything you may find in food naturally - prevent poxviruses from replicating in human cells."

Cao; Anil Pant, doctoral student in biology; Zhilong Yang, assistant professor of biology; and their collaborators at the Centers for Disease Control and Prevention have published "Suppression of Poxvirus Replication by Resveratrol" in Frontiers in Microbiology.

"Resveratrol can be chemically synthesized or extracted from fruits," Pant said. "Our research may be a steppingstone to using resveratrol as a complementary treatment for viruses during a time of growing concern over drug resistance."

The researchers added resveratrol at varying intensities to human cell cultures infected by vaccinia virus, a cousin to the highly dangerous variola virus that causes smallpox. Used as the vaccine to eradicate smallpox, vaccinia virus provides a good model of how viruses work without the danger, Cao said. The cell cultures with high levels of resveratrol prevented vaccinia from replicating in the early stages of the viral infection, which stops the virus from spreading.

The K-State researchers recorded resveratrol's success with vaccinia and collaborated with researchers at the CDC to perform similar experiments with monkeypox, a contagious and deadly virus to humans that has caused periodic disease outbreaks in Africa. Resveratrol had the same effect with monkeypox, which means that it has a good chance of inhibiting all poxviruses, Cao said.

K-State Governmental Relations Staff
Sue Peterson, Chief Government Relations Officer
Kristin Holt, Government Relations Coordinator
Caleb Hurst, Legislative Assistant

Contact Information
Office of Government Relations
110 Anderson Hall, Manhattan, KS 66506
785-532-6227 www.ksu.edu/govrelations