



News Release

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ECBC Microbiologist Helps Bring Science to Life for Aberdeen High School Seniors

Aberdeen Proving Ground, Md. — Looking to bring Advanced Placement (AP) biology textbook concepts to life for more than 30 seniors at Aberdeen High School (AHS), U.S. Army Edgewood Chemical Biological Center (ECBC) Research Microbiologist Lauren McNew opened the doors to the world of genetics, DNA sampling and genome sequencing during her March 16 visit to the school.

“The research we do at ECBC helps develop detection technologies that can, for example, test particles in the air,” McNew said. “Our main focus is to unburden the warfighters in their environment and protect them from injuries the best we can.”

During her presentation, McNew gave students a historical overview of significant research findings in the genetics field and discussed scientific processes such as pulling DNA from cells, transforming non-virulent into virulent bacteria and replicating DNA.

“You guys are learning a lot of advanced concepts that I studied in graduate school,” she said.

In addition to teaching the AP biology class students about the rapid changes in the science of biology, McNew focused on the enormous advancements in her area of expertise at ECBC, genomics.

“I run a [DNA] sequencing center, where we sequence samples of many different organisms in a very short period of time,” she said. “Today’s technology has made it possible to characterize the DNA of agents like anthrax in less than 10 hours.”

As an expert in her field, one of McNew’s highest goals is to share her enthusiasm for DNA-sequencing with potential future science, technology, engineering and mathematics (STEM) professionals.

Sponsored by the National Defense Education Program, her guest lecture also used an interactive science quiz, similar to “Jeopardy,” to reinforce the understanding of biology concepts AHS seniors discussed during their AP biology class and McNew’s educational briefing.

"I really enjoyed the presentation. I've always enjoyed learning about genetics and about how to retrieve DNA," said AHS senior Taylore Greico. "She went into depth on how DNA separates and mingles, and I'm actually going to thank her for this valuable experience."

According to AHS Science Department Chair and AP Biology Teacher Christine Zatalava, this educational outreach initiative afforded her class the opportunity to learn about the real-world connection between genetics taught as a part of AP biology and genomics research conducted as a scientific discipline to help protect the warfighter and homeland against potential chemical and biological threats.

"This experience allowed my students to see science in action and to see a community connection that allows them to stay in the local area [while pursuing an exciting and rewarding STEM career pathway]," Zatalava said. "I can definitely say that they all had fun."

Invited to participate in this STEM enhancement opportunity, students from AHS's Science and Math Academy (SMA) commended the value of this inquiry-based activity and engaged in the questions and answers after the presentation.

"I thought this presentation was very interesting," SMA student Kalliopi Drakos said. "I love learning more about DNA structure, function and replication."

For more information about ECBC, visit <http://www.ecbc.army.mil/>.

ECBC is the Army's principal research and development center for chemical and biological defense technology, engineering and field operations. ECBC has achieved major technological advances for the warfighter and for our national defense, with a long and distinguished history of providing the Armed Forces with quality systems and outstanding customer service. Located at the Edgewood Area of Aberdeen Proving Ground, Md., ECBC is a U.S. Army Research, Development and Engineering Command laboratory. For more information about the Edgewood Chemical Biological Center, please visit our web site at <http://www.ecbc.army.mil/> or call (410) 436-7718.