

Army and Tufts study how people think, respond under stress

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The U.S. Army and Tufts University are working together to learn more about how people think and respond under stress.

Their new cognitive sciences center officially opened Tuesday in Medford, Massachusetts. The research aims to help soldiers and civilian first responders, such as firefighters.

Scientists and engineers are figuring out how to measure, predict and enhance people's cognitive capabilities, so they can better solve problems and remember information in high-stakes environments.

The Center for Applied Brain and Cognitive Sciences was jointly founded by the Army's Natick Soldier Research, Development and Engineering Center and Tufts. It's part of the Tufts School of Engineering.

The center features an immersive virtual reality lab where an individual's or a team's neurological, psychological and behavioral responses can be monitored.

A team of soldiers can be placed in a large city environment and told to navigate their way to a meeting point while researchers track how they communicate with one another and distinguish between friends and foes, for example, said Caroline Mahoney, a cognitive science expert for the Army and co-director of the center. Firefighters and SWAT teams will use the lab too.

Mahoney said the center is an innovative collaboration because it brings together military and academic researchers from many different disciplines, from engineering and neuroscience to psychology and robotics.

"People are coming to the table with different backgrounds and expertise to drive innovation," she said.

Researchers are working with paratroopers from the 82nd Airborne Division to improve their memory and learning under stress. Holly Taylor, of Tufts, is looking at developing wearable devices that help people learn how they're oriented in the world, so they'll navigate better when they take the device off. Taylor, also a co-director of the center, said some people are over-reliant on GPS devices, which can fail or send them into a lake.

Both Taylor and Mahoney said the center's research could influence the design of equipment and technologies for soldiers and first responders.

Taylor sees broad applications since the work could potentially be useful for anyone in a stressful situation.

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