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**FOR IMMEDIATE RELEASE**

## 'In the Beam, Science in the Fast Lane,' a Savannah River Site Journey

AIKEN, S.C., June 7, 2021 – Through the world of virtual reality, students can fly with atoms on an electron beam, racing to the point where they witness the molecules' controlled destruction and analysis of the scattering particles within a highly specialized scientific device known as a mass spectrometer. The virtual program created by employees at the [Savannah River Site](#) (SRS) is derived from the site-produced video "In the Beam, Science in the Fast Lane," which presents a peek inside the happenings of a spectrometer.

"We will be replacing the video with a virtual reality program headset for a visual deep dive into and through the spectrometer, as if you were really there," said Kim Mitchell, with the education outreach group at Savannah River Nuclear Solutions (SRNS), the management and operations contractor at SRS. SRS personnel used laser mapping to virtually recreate the computer-generated mass spectrometer featured in the video, which is based on an actual mass spectrometer operated at SRS.

[Savannah River National Laboratory](#) (SRNL) engineers created the virtual program, while the associated educator's guide was written by SRNS experts in the fields of physics and chemistry who work in laboratories that use these high-tech precision instruments.

A mass spectrometer allows laboratory personnel to separate individual components of a substance, resulting in the exact identification of each component and the amount present in the substance being tested, according to Mitchell.

"This virtual mass spectrometer experience effectively demonstrates the need for a variety of professions for real-world operation and use of this resource. Scientists, engineers, lab techs and radiation



*Savannah River Nuclear Solutions First Line Manager Nancy Norris loads material into a mass spectrometer for analysis at the Savannah River Site.*

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control personnel are just some of the career fields touched by this fascinating technology,” Mitchell said. “We will also proactively use this virtual reality program at future career fairs.”

To provide the virtual experience of the atomic world inside mass spectrometers to students, teachers may complete a short form to receive a link to the free video and educator’s guide by [clicking here](#).

David Arrington, the science department chair at Lakeside High School in Evans, Georgia, recalls sharing the “In the Beam, Science in the Fast Lane” video with students in the school’s high-level chemistry spectroscopy unit.

“The video provided an inside look at the workings of a mass spectrometer,” Arrington said. “This is something that students otherwise would not have been able to experience. You could definitely see them making the connection between the gas sample, electron beam and the mass fragments detected while watching the video.”

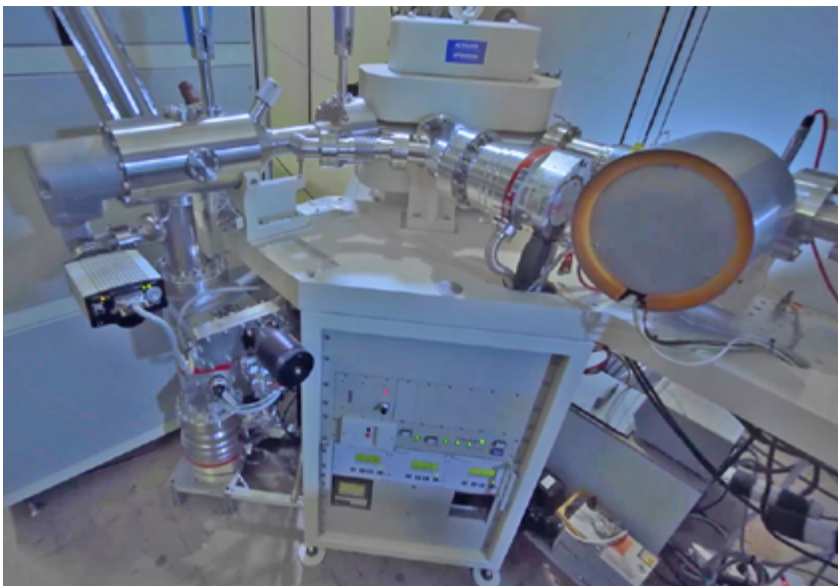
To date, nearly 2,000 students and educators have watched the science, technology, engineering and math (STEM)-based lesson and video.

Since 2009, SRNS has worked with local public and private schools to enhance education. During the month of April 2021 alone, more than 25,000 students and 410 educators used various multi-platform programs offered by the SRNS education outreach division.

*Savannah River Nuclear Solutions, a Fluor-led company with Newport News Nuclear and Honeywell, is responsible for the management and operations of the Department of Energy’s Savannah River Site, including the Savannah River National Laboratory, located near Aiken, South Carolina.*

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*Spectrometers are used at the Savannah River Site to determine the molecular composition of a substance, resulting in the exact identification of each component and the amount of each part present.*