USDA awards $1 million eor e. coli research by Los Alamos National Laboratory and New Mexico Consortium

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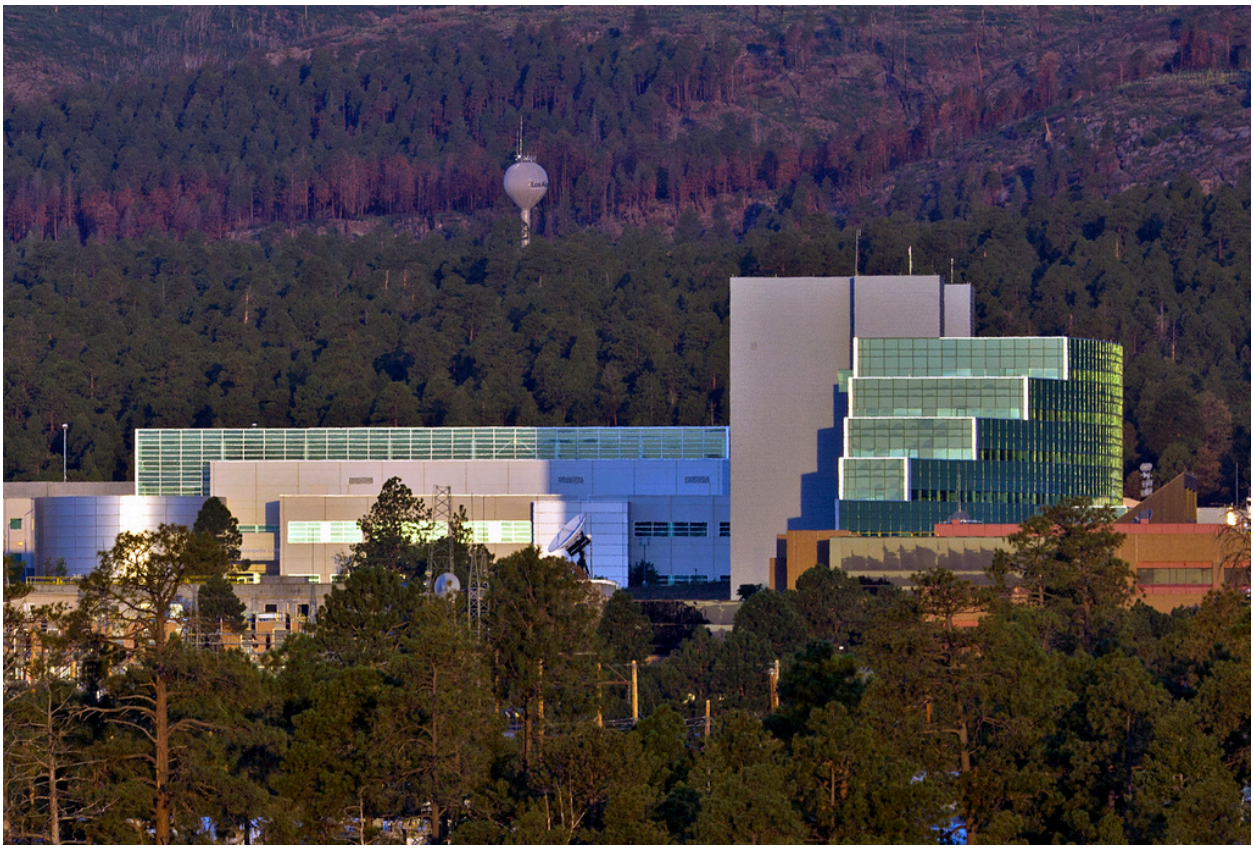

LOS ALAMOS, New Mexico, February 29, 2012—Researchers from Los Alamos National Laboratory and the New Mexico Consortium (NMC) received a portion of a recent $25 million grant from the U.S. Department of Agriculture to study E. coli in the beef industry.The USDA awarded the grant to this team of researchers to help reduce the occurrence and public health risks from Shiga toxin-producing E. coli (STEC) along the entire beef production chain.The University of Nebraska-Lincoln is the principal investigator on the multi-institutional and multi-disciplinary team of researchers, educators and extension specialists. The LANL-NMC portion of the grant totals $1 million for three years."Shiga toxin-producing E. coli are a serious threat to public health and our food supply," said Dr. Harshini Mukundan, a LANL-NMC chemist working on the project."These strains of E. coli are emerging to be a major health concern for not

just the United States, but for the world at large. The cases are typically associated with the consumption of under-cooked beef, but raw milk and under-pasteurized apple juice can also carry the pathogen," Mukundan said.

"The goal of this research is to identify and control STEC within the beef chain and substantially mitigate the risk of STEC infections associated with beef products through cutting-edge research, outreach, and education."

Under this overall goal, Mukundan and Alina Deshpande will focus on the early detection of STEC, using novel, high-throughput technologies developed at LANL to screen beef at all levels of the production chain. In this way, the scientists can screen multiple samples for multiple STEC markers simultaneously, rather , than the current method of one marker at a time, thereby significantly reducing the time it takes to detect, and make decisions about treating, an outbreak.

"We also hope to develop strategies to detect pathogens that are antibiotic-resistant," said Deshpande.

Whereas the majority of the work will involve laboratory characterization of STEC and development of assays to efficiently detect it in a complex background, the team also hopes to work collaboratively with several consumer groups, cattlemen groups and meat processor associations, along with numerous industry partners and technology providers, to improve the safety of the beef supply.

The New Mexico Consortium is a nonprofit partnership of the New Mexico universities that supports scientific research and education in New Mexico.

Los Alamos National Laboratory **www.lanl.gov** **(505) 667-7000** **Los Alamos, NM**

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