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Two Colorado State University Engineering Professors on DOE Fact-Finding Committee for Particle Accelerator Science and Technology

Note to Reporters: The 2010 DOE "Accelerators for America's Future" report is available at http://www.acceleratorsamerica.org/.

FORT COLLINS - Colorado State University has contributed two of the 15 scientists and engineers handpicked to collect facts for a U.S. Department of Energy report to Congress about the future of accelerator science and technology for everything from security and medical equipment to cleaner water and air.

Sandra Biedron and Stephen Milton, professors in the Electrical and Computer Engineering department, are charged with talking to other scientists in their fields, the users of particle accelerators, program managers in other services and federal agencies, and industry about accelerator technology and advancements that could be made in the next 10 years.

The two are the only Colorado scientists on the team; Biedron previously served as Security and Defense Working Group co-chair for a DOE report titled “Accelerators for America’s Future” submitted to Congress in 2010.

“Accelerators already help solve national challenges in industry, medicine, discovery science, energy and the environment and defense and security,” Biedron said. “However, there is significant margin for improvement, especially in reference to better, more compact, and more efficient accelerators.”

“The Department of Energy is also trying to motivate technology transfer,” Biedron said. “You see a lot of work done in discovery science, but questions remain about how to transfer it so that it gets into medicine, industry, the environment and defense.”

Accelerators are, in essence, more compact, brighter light sources. According to the DOE report, tens of thousands are in use every day producing particle beams in medical facilities, manufacturing plants, industrial laboratories, printing plants and on ships.

In thinking about the future of accelerators, Biedron and Milton ask their colleagues to dream big and consider reaching across federal agencies to find solutions.

“It goes back to a statement once made by Henry Ford – ‘If I ask the customers what they wanted, they would have told me they wanted a faster horse,’” Milton said. “We want to know from scientists the problems they’re facing and what technologies are appropriate to bridge that gap.”

A blog has been set up to help the committee members collect information from the community connected with particle accelerators and their uses: https://slacportal.slac.stanford.edu/sites/ad_public/committees/Acc_RandD_TF_Blog/default.aspx.

Biedron and Milton joined CSU from Argonne National Laboratory and Sincrotrone Trieste, Italy, where they developed accelerators and peripherals for basic research as well as security and defense. They

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complement ongoing laser, light source, high-energy physics, radiation physics and plasma/propulsion activities at CSU.

Before joining CSU, Biedron most recently served as the DOD Project Office director and as associate director of the Accelerator Institute at Argonne. Last month, she was named a 2012 Fellow of SPIE – the international society for optics and photonics. Milton was a key member of the delivery team of the two brightest x-ray sources in North America. At Argonne most recently, he was Argonne Project Office director for the Argonne components for the Linac Coherent Light Source now operational at the SLAC National Accelerator Laboratory in California.

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