



Sumo Robots Spur Educational Interest at DOE Expo

On October 14, U.S. Department of Energy Secretary Spencer Abraham hosted the “What’s Next Expo” at downtown Chicago’s Navy Pier. The event to inspire young people to pursue mathematical and scientific careers was attended by 500 Chicago-area seventh- and eighth-grade students.

EMSL’s mission involves multidisciplinary education of next-generation scientists and engineers. Furthering this mission and heeding Secretary Abraham’s call to cultivate “the stars of DOE years down the road,” EMSL Instrument Development Laboratory (IDL) research scientist Eric Choi attended the inaugural expo to introduce engineering in a form that young teenagers understand—sumo robots.

Sumo robots tangle like their human counterparts, but “fight” to push each other off the robotic version of a wrestling mat—a circular black wooden board with a white line around the perimeter. These compact and lightweight robots are engineered by their developer with a programmable circuit board that operates a motor within desired parameters and optical sensors that “see” the white line and keep the robot from driving itself off the board.

Groups of expo attendees, including Secretary Abraham himself, watched Choi’s four sumo robots—code-named Omega, Blockhead, The Borg, and Bob—grapple and asked questions about how they work.

“The kids really loved the robots; many wanted to know if they could build the robots themselves,” says Choi, who encouraged his audience in the engineering principles during the three-hour event.

Choi is extensively involved with the effort of IDL staff to bring sumo robots and an interest in engineering to local high schools and statewide colleges. Researchers from several national laboratories, including two from the Pacific Northwest National Laboratory—on whose campus EMSL resides—presented in their areas of expertise. Next year’s expo will be held in Albuquerque, New Mexico.

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