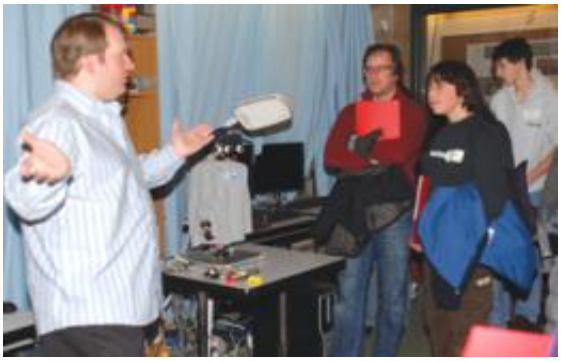
Yale Robots Dance, Gesture and, Hopefully, Spark Interest in Science

April 2 2010, By Suzanne Taylor Muzzin



Justin Hart (left), a doctoral student in the Social Robotics Lab, introduces the students and their parents to Nico (center), a robot that plays rock-paper-scissors.

(PhysOrg.com) -- There were robotic dinosaurs, a robot that danced and one that played rock-paper-scissors. But all of the robots on display at the robotics workshop at Johns Hopkins University on March 28 had something to teach us about ourselves.

The robotics workshop — organized by the Center for Talented Youth at Johns Hopkins University in partnership with Yale — brought to campus 250 students in grades 7 through 10 and their parents from Connecticut, Massachusetts, New York and New Jersey to witness firsthand some of the different ways that Yale's engineers and computer scientists use robots in their research.

"We want the kids to get the idea that science is approachable, that it's something exciting and that it can make a difference in their lives," said Brian Scassellati, an associate professor of computer science at Yale who helped organize the event.

Scassellati gave a presentation about how he uses robots to study human behavior. Using robots that include a small humanoid, a toy dinosaur and a flexible snowman, Scassellati and his students study how people develop social skills and how these skills impact human-machine interactions.

John Morrell, assistant professor of mechanical engineering, gave a talk about his research on human-machine interfaces, while another assistant professor in that department, Aaron Dollar, spoke about his research on designing and developing a robotic hand that can grasp and manipulate objects.

The students and their parents also toured some of Yale's robotic labs, where they met Keepon, a little yellow puffball robot with some serious dance moves, and Nico, a humanoid robot who plays rock-paper-scissors. Researchers use Nico to understand how infants become self-aware, as well as how humans respond to and interact with robots.

For Nisha Ghayalod of Long Island, "The coolest thing was seeing a robot open a door. I never realized how complicated opening a door is." The 9th-grader was curious about robots in general and was thrilled with the chance to interact with ones being used for real research. "She's interested in bioengineering, and of course everyone's interested in Yale," said her father, Manoj, who woke up early Saturday morning in order to make the trip.

The students and parents also had an opportunity to ask the graduate students and postdoctoral fellows giving the tours about the different

routes to robotic research and what sort of courses they would need to take at the University if they wanted to follow in their footsteps.

While Scassellati was happy to see that level of interest, "If they leave here today having seen some interesting things and feeling excited, we've done our job," he said.

Provided by Yale University