

# Students Hone Engineering Skills in Robotics

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Wendy Holforty, outreach chair of the Women's Influence Network at NASA's Ames Research Center, high fives students at the competition. Image Credit: Girl Scouts of Northern California / Vera Dadok

(PhysOrg.com) -- Robots have fascinated future engineers for generations. Recently, a group of young students had an opportunity to design and build their own robots using LEGOs, the popular plastic pieces used to assemble models of everything from trains to airplanes, at NASA's Ames Research Center, Moffett Field, Calif.

Hosted by NASA Ames, in conjunction with the Girl Scouts of Northern California, the first annual FIRST LEGO League (FLL) tournament drew 139 [students](#) ages nine to 14.

For Inspiration and Recognition of Science and Technology (FIRST), an organization dedicated to inspiring students in science, technology, engineering and math, has collaborated with NASA for robotics

competitions since 1998. This year was the first time NASA Ames and the Girl Scouts partnered to produce a LEGO competition.

During the tournament, students were introduced to engineering challenges by building LEGO-based robots to complete tasks in a competition. Every year, the theme of the tournament changes. This year's theme, titled "Smart Move," focused on transportation alternatives. Constructing the robot with LEGOs allows students to practice hands-on critical thinking and applying real-world math and science concepts to help solve engineering challenges.

"The kids are just awesome and having so much fun," said Mark León, project manager of the NASA Robotics Alliance Project at NASA Ames. León was the master of ceremonies during the rounds of the competition, sporting his signature blue hair that he dyes for every robotics competition.

Awards were presented in four equally weighted areas: robot performance, robot design, teamwork and project. The Xbots team from San Jose won first place in robot performance. The Pranksterbots team from Fremont, Calif. won first place in robot design. The Creative Movers team from Sunnyvale, Calif. won first place in "Smart Move Project," on how their team used creative thinking to solve the problem of transportation. The Ductbotz team from Los Altos, Calif. won first place in teamwork.

The highest award achieved, the Champions award, is given to the team strongest in all four areas. This year that award was won by 4EverGreen, a team from Cupertino, Calif.

Shoba Krishnan, a mentor from the 4EverGreen team, said that two of the girls from the team plan on earning their Girl Scout Silver Award by planning workshops on programming and robot design for the Girl Scout

organization. "This coming summer they will be running these programs and starting to build a new team that can continue their efforts for the 2010 challenge," said Krishnan.

The Golden Surfers, a team from East Palo Alto, Calif. won the judge's award, which is an award given by the judges to recognize teams that are worthy of recognition but didn't win one of the other awards.

Ellin Klor, coach for the Golden Surfers, said "Going to college is far from a given in these children's lives but we really feel that we have hooked a couple of the kids into a passion for engineering in a real way."

Because the competition was a collaboration with the Girl Scouts, there were more girls at this competition than are typically at one of the FIRST robotics competitions. More than half of the teams were comprised entirely of girls. Nine teams from this tournament received invitations to participate in regional FIRST LEGO League tournaments. These teams advanced based on overall performance equally weighted in the four award areas.

Wendy Holforty, outreach chair of the Women's Influence Network at NASA Ames, was the master of ceremonies for the opening and closing ceremonies. "It was truly a treat to see the enthusiasm and watch the teamwork and gracious professionalism at play in the tournament. These kids are learning valuable life lessons."

Provided by JPL/NASA ([news](#) : [web](#))

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