Robotics wizards to descend on Georgia Tech for global tourney

By Greg Bluestein
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Georgia Tech announced Thursday that it will be host of the next global RoboCup competition, an international contest that pits robotic creations against each other in a range of technical challenges.

The 10-day event in July will draw hundreds of robotics teams to the Atlanta school to compete in soccer games, obstacle courses and dance-offs. And it will debut a contest between robots so tiny they can be viewed only through a microscope.

Some 140 junior teams culled from middle schools and high schools will also head to Atlanta this July. They'll bring with them robots that can play soccer, negotiate an obstacle course or bust a move to the sound of music.

The tournament's goal is to develop a team of autonomous humanoid robots that can defeat the world's championship soccer team by 2050. To do so, engineers must design robots that can run, cooperate, change direction, perceive teammates and develop strategies.

"The real objective isn't just soccer," said Tucker Balch, a Georgia Tech associate computing professor who is chairman of the competition. "If we can accomplish this, we will have solved many, many problems in robotics. And it can serve as a concrete way for the rest of the world to understand what we've done."

The tournament goes beyond sport, though.

In other competitions, teams design gadgets to search a disaster site for victims and then create a map of the area to show where each is located. Another contest forces a team of robots to cooperate while negotiating a virtual disaster area marred by hazards too difficult to duplicate in a real environment. A third requires the gizmos to complete a series of everyday tasks.

The most intriguing event may be the debut of the Nanoleague, which pits microscopic robots against each other to see which miniature gadget can knock a tiny puck through a goal. Like the other contests, the small-scale game can lead to sweeping advances.

Scientists have figured out how to pack more computing power into ever smaller chips, but only recently have they figured out a way for the gizmos to

move physically, Balch said.

"If we want to make small mechanical devices, we need a way to assemble them," he said.

Georgia Tech has some experience as host of the event. In 2005 and 2006, it was host of the U.S. tournament, one of several qualifying tournaments designed to filter out the top competitors.