

# Cornell Cup success for Tecan-sponsored team

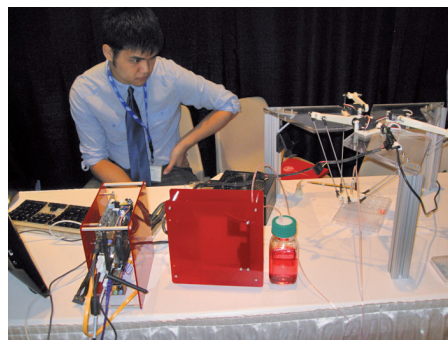
A Tecan-sponsored team of students from the Weiss Laboratory for Synthetic Biology at the Massachusetts Institute of Technology (MIT), USA, recently enjoyed success at the Cornell Cup USA competition in Florida. The team came third in this inaugural running of the competition, taking advantage of the performance of a Cavo® XCalibur Pump on loan from Tecan to develop a novel and innovative liquid handling system.

The Cornell Cup USA is an embedded design competition created to empower student teams to become inventors. Sponsored by Intel, the competition was run for the first time this year, and is based on the success of the Intel China Cup, which attracts entries from over 26,000 students. Held in May at Walt Disney World's Contemporary Resort on Lake Buena Vista, Florida, the MIT's entry in the competition was supported by Tecan. Dr Jonathan Babb, advisor of the MIT team, explained: "Five of our students entered the Cornell Cup USA as 'Team Squirtle', with \$500 sponsorship from Tecan for their expenses. The team's project brief was to design and build a smaller, lower priced and more intelligent liquid handler that would provide individual researchers with a tool for fast, accurate and tailored pipetting to meet their liquid handling needs. The students had considered making their own pump, but identified that this key component of their custom liquid handler would be very challenging to build in the time available. As Tecan was already sponsoring the team, we asked if we could use one of the Company's pumps. We were kindly lent a Cavo XCalibur Pump (XC Pump), and the students were shown how to set up and use it."

Jonathan continued: "Tecan's help was invaluable, making it easy for the students to integrate the pump and connect it to their software. This allowed the team to focus on the innovative aspects and architecture of the robot, creating a system that is quite different from conventional liquid handling instruments. Their solution was a delta parallel robot with three jointed arms coming together into a point. The arms are each controlled by a servo and motor, allowing the user to determine the exact location



The winners were announced at the America Pavilion in Disney's Epcot Center. Left to right: Jonathan Babb, Kevin Linke, Huayu Ding, Agustin Venezuela, Cory Li



Team member Agustin Venezuela demonstrates the prototype to the competition judges

of the pipetting tip. This design, which was inspired by the high-speed, pick and place assembly line robots used in the electronics industry to position chips on circuit boards, came third overall, winning a prize of \$2,500. The project was all about making one tip go faster, rather than adding more tips as in conventional liquid handling systems, and we are grateful to Tecan for its support."



'Team Squirtle' was awarded third place and received a \$2,500 check for the development of a new liquid handling robot using the Cavo XCalibur Pump

To find out more about Tecan's Cavo XCalibur Pump, visit [www.tecan.com/components](http://www.tecan.com/components)

To find out more about the Cornell Cup, visit [www.systemseng.cornell.edu/intel](http://www.systemseng.cornell.edu/intel)

The team would also like to acknowledge the following co-sponsors: BBN Technologies, HighRes Biosolutions, Qiagen, Intel, Tektronix, Cornell, the MIT Department of Biological Engineering and the MIT EECS department.