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News Release

University of Pennsylvania Engineering Team Designs Titan Arm, Wins Intel-Sponsored Cornell Cup USA

Team Awarded \$10,000 for its Low-cost, Streamlined Solution for Augmented Strength

NEWS HIGHLIGHTS

- Elizabeth Beattie, Nick McGill, Nick Parrotta, and Niko Vladimirov received the first-place award of \$10,000 at the Cornell Cup USA presented by Intel.
- The engineering team developed the innovative Titan Arm prototype to provide an affordable, streamlined and wireless option for rehabilitation and therapeutic application. Other teams from Worcester Polytechnic Institute and University of Colorado, Denver captured awards for their inventive applications of embedded technology.
- The Cornell Cup USA is a college-level embedded engineering competition created to empower student teams to become the inventors of the newest innovative applications for intelligent systems.

ORLANDO, Fla., May 8, 2013 – Augmented strength may seem like something out of a comic book, but exoskeleton systems are often used in physical therapy, search and rescue operations, as well as physically intensive occupations requiring heavy lifting. Many of today’s exoskeleton systems, however, are bulky, expensive and invasive. With the Titan Arm, the embedded engineering team at the University of Pennsylvania sought to deliver a low-cost, wireless and ergonomic upper-body exoskeleton solution with on-board sensing to provide rich data.

The [Titan Arm](#) team took first place at the 2nd annual Cornell Cup USA presented by Intel Corporation. The Cornell Cup is an embedded engineering competition that challenges student design teams from universities across the country to create innovative embedded device prototypes that feature Intel technology. The projects must address real-world needs and provide business-ready solutions.

Second-place honors at the competition and \$5,000 went to Ross Desmond, Matthew Dickerman and James Fleming of Worcester Polytechnic Institute for their [Cyber Physical Systems](#) semi-autonomous wheelchair. The wheelchair is combined with a body-brain interface and uses cost-effective, modular sensor packages that can be easily mounted to a variety of commercially available wheelchairs.

Third-place honors and \$2,500 went to Kyle Dunn, Ben Larkin, Rich McLean, Monte Smith, and Jeff Wiencrot of the University of Colorado, Denver for their [Intracell](#) project. The Intracell is comprised of networked cell phone transceiver nodes that function together as a local extension to the global cellular network to provide coverage to areas normally blocked by geographical and architectural constraints. All teams were judged by a panel of experts from Intel and Cornell Engineering.

“Cornell Cup USA is shining a spotlight on the brilliant embedded engineering work these young people can do,” said Jim Robinson, general manager, Intelligent Systems Group Segments and Broad Market Division, Intel. “Embedded technologies and intelligent systems can solve big problems facing consumers, businesses and even the government today, and we believe it’s critical to foster and encourage this kind of innovation.”

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This year's Cornell Cup USA featured 30 teams from 18 universities, and the students dedicated 6 months to the projects – from conception and design to construction and iterations – all while juggling school work and, in some cases, graduation preparation and job interviews. Throughout the process, the teams had access to Intel Atom[®] boards and input from Intel technical leaders with experience in designing and developing embedded hardware and applications.

“Students today are hungry for the opportunity to showcase what they can really do. They have tremendous innovative spirit – they don't know if something can be done, but find a way to do it anyway,” said David Schneider, lecturer, Systems Engineering at Cornell University. “Thanks to Intel this competition is an opportunity for the students to demonstrate their capabilities on a national stage.”

To learn more about the Cornell Cup USA and all of this year's finalists, visit www.systemseng.cornell.edu/engineering2/se/intel/. For more about Intel's embedded technologies and intelligent systems, visit <http://newsroom.intel.com/docs/DOC-1964>.

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