Tweddle named Boeing Engineering Student of the Year

Massachusetts Institute of Technology
Enabling tiny self-propelled satellites to someday autonomously conduct spacecraft inspections, servicing and assembly in space has garnered MIT aeronautics and astronautics doctoral candidate Brent E. Tweddle the 2013 Boeing Engineering Student of the Year Award.

The award, which was presented at the Paris Air Show in June, recognizes Tweddle for his exceptional academic, research and professional skills, and leadership of a program known as SPHERES VERTIGO.

Tweddle's navigation and control algorithm is designed to enable SPHERES self-propelled microsatellites to examine unknown, uncooperative and possibly tumbling objects in space. The algorithm uses SPHERE-mounted stereo cameras and inertial gyroscopes, and is designed to scale down computational requirements without increasing risk of collision with the target object.

The MIT Space Systems Lab developed SPHERES, bowling-ball size space vehicles with self-contained power, propulsion, computers and navigation equipment, for autonomous rendezvous and docking research aboard the International Space Station.

"Brent epitomizes what we are trying to recognize and honor with our Engineering Student of the Year Award," said John Tracy, Boeing's chief technology officer and senior vice president of engineering, operations and technology. "This is noteworthy work, and Brent symbolizes the kind of future engineering professionals who will truly make a difference in the field and will help improve the lives of people worldwide."

The Engineering Student of the Year Award is sponsored by Boeing and the online aerospace news site *Flightglobal*. Recipient's work must be likely to impact the future of aerospace engineering in areas including new or enhanced capabilities; systems, processes or tools; new levels of performance; and improved life cycle costs.

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