



Press Release

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The University of Maryland and Georgia Institute of Technology/University of Liverpool Take Top Honors in the 29th Annual AHS/Industry Student Design Competition

ALEXANDRIA, VA – AHS Executive Director Michael J. Hirschberg announced that The University of Maryland came in first-place in the 29th Student Design Competition graduate category with “Dart T690/E550,” a lift and thrust compounded VTOL aircraft, while Georgia Institute of Technology / University of Liverpool’s coaxial helicopter with a counter-rotating auxiliary propeller system titled “Advanced Racing Concept (ARC)” captured second-place honors.

In the undergraduate category, Georgia Institute of Technology/Middle East Technical University’s “Badger,” a single-pilot, highly maneuverable, intermeshing rotorcraft system won first-place, and The Pennsylvania State University came in second with its entrant “Altair,” a coaxial compound.

Sikorsky Aircraft Corporation was the sponsor of the 29th annual competition which rotates among AgustaWestland, Bell Helicopter Textron, The Boeing Company, Sikorsky Aircraft Corp., and Eurocopter.

The AHS Student Design Competition, which challenges students to design a vertical lift aircraft which meets specified requirements, provides a practical exercise for engineering students at accredited colleges and universities around the world. The competition promotes student interest in vertical flight technology. Each of the first- and second-place winning teams is awarded a cash stipend and two members of the first-place winning teams are invited to the AHS Annual Forum and Technology Display to present the details of their proposal. Members of the teams receive complimentary registration to the Forum, the vertical flight industry’s principal professional technical event, promoting vertical flight technology advancement.

With the revitalization of public interest in air racing due to the introduction of the Red Bull Air Races and increased popularity in Reno, it has become apparent there is no equivalent in the rotorcraft world. In order to spark interest in a helicopter sport to rival Reno and the Red Bull series, AHS and sponsor Sikorsky Aircraft Corporation challenged students to design a purpose built helicopter to race on a prescribed pylon course. One of the main challenges faced by the rotorcraft industry is the unprecedented maneuverability required to complete such a course. For instance, Red Bull series pilots regularly pull 9g turns during a race, a load factor unheard of for a rotor system. It was up to the designer to decide what load factor is required to complete the course in as fast of a time as possible while keeping in mind that they must strike a balance between load factor, forward speed, and fuel efficiency, all while maintaining safety for the pilot and spectators. In addition, graduate design teams

(optional for undergrads) were required to create a flight simulation of the aircraft and the course in the X-Plane flight simulator, so that a pilot could fly the simulation and give feedback to the team. A video was then produced to show the team's vehicle completing the course with accompanying plots of altitude, velocity, heading, pitch, and bank on a time scale.

For those interested in more information about the AHS Student Design Competition please visit our website at www.vtol.org/sdc. The top-winning entries from the 29th Student Design Competition are posted on the site, along with previous winners. Later this month, this webpage will also feature the Request for Proposal for the 2013 AHS Student Design Competition, sponsored by Eurocopter.

The American Helicopter Society (AHS) International is the world's premier vertical flight technical society. Since its inception in 1943, AHS has been a major force in the advancement of vertical flight. The Society is the global resource for information on vertical flight technology. It provides global leadership for scientific, technical, educational and legislative initiatives that advance the state-of-the-art of vertical flight.

AHS International – *The Vertical Flight Technical Society*

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