

# The Vertical Flight Society Announces the Winners of the 41st Annual Student Design Competition

*University of Maryland and Georgia Institute of Technology take top honors*

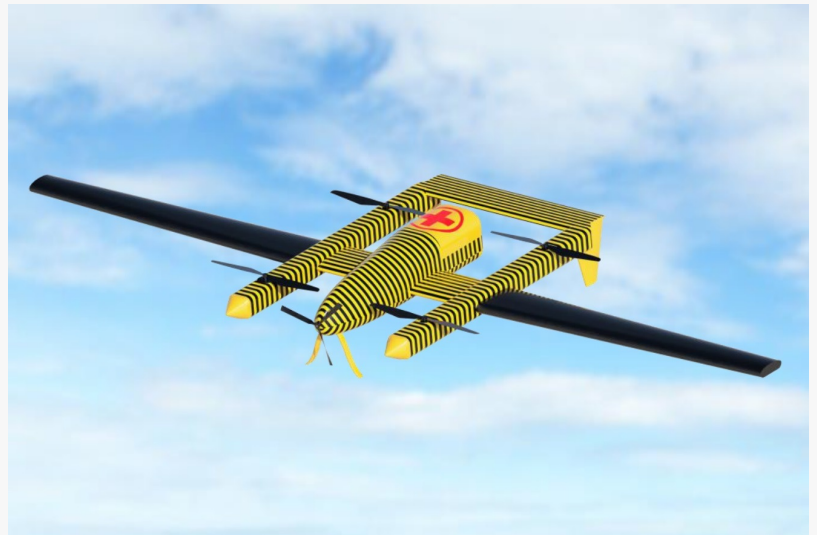
FAIRFAX, VA, UNITED STATES, September 12, 2024 / EINPresswire.com/ -- The Vertical Flight Society (VFS) today announces the winners of its 41st Annual Student Design Competition. The team of University of Maryland took first place in the graduate category and Georgia Institute of Technology in the undergraduate category.

In addition, Seoul National University took Best New Graduate Entrant honors and Bangabandhu Sheikh Mujibur Rahman Aviation and Aerospace University was the Best New Undergraduate Entrant. The US Army's DEVCOM Army Research Lab was the sponsor of this year's competition, supporting a total of \$12,500 in prize money.

Each year, the VFS competition challenges students to design a vertical takeoff and landing (VTOL) aircraft that meets specified requirements, providing a practical exercise for engineering students at colleges and universities to promote student interest in VTOL engineering and



University of Maryland won first place in the Graduate Category with its "Huma" winged helicopter. (UMD image courtesy of VFS)



Georgia Tech won first place in the Undergraduate Category with its "AeroLay" VTOL drone. (GaTech image courtesy of VFS)

technology.

Academic teams from around the world submitted entries in this year's competition, with a total of 20 proposals — eight graduate teams and twelve undergraduate teams — submitted by 16 different schools from seven different countries and six different US states. Executive summaries for the top-winning entries from the 41st Student Design Competition are available at [www.vtol.org/sdc](http://www.vtol.org/sdc), along with [past winners](#).



The 41st Annual Student Design Competition (2023-2024) was entitled, “Multi-Mission Modular UAS for Disaster Relief.” The goal of this year's request for proposal (RFP) was to design a multi-mission, modular, VTOL uncrewed aircraft system (UAS). Teams had to design an aircraft that was required to take-off and land vertically from the deck of ship in high-wings and gusty conditions, cruise to and from the site of disaster, and serve as a long-endurance communications relay, or land vertically to deliver relief supplies.

The winning teams for the graduate category are as follows:

- 1st Place: “University of Maryland, College Park, Maryland, USA — Huma” design
- 2nd Place: “Georgia Institute of Technology, Atlanta, Georgia, USA — “Horus” design
- 3rd Place: “Politenico di Milano, Milan, Italy — “Heron” design
- Best New Entrant: Seoul National University, Seoul, Korea — Nahbi” design

The winning entry in the graduate category was University of Maryland's “Huma” — named after the mythical bird that provides aid to all in need and never has to land. The design was a reconfigurable lift-compounded single main rotor helicopter, offering unprecedented multi-mission capability in long endurance flight and heavy payload delivery for a VTOL UAS.

The design philosophy focused on superior performance for both the RFP missions, enabled by a reconfigurable mid-section with special attachments for wings, fuel tank and payload bay. This gave the 160-kg (353-lb) Huma long endurance loiter missions of up to 13 hours or the ability to ferry supplies of up to 58 kg (128 lb).

The winning teams for the undergraduate category are as follows:

- 1st Place: Georgia Institute of Technology, Atlanta, Georgia, USA — “AeroLay” design
- 2nd Place: Technical University Delft, The Netherlands — “PterUAS” design
- 3rd Place: University of Maryland, College Park, Maryland, USA — “IBIS” design
- Best New Entrant: Bangabandhu Sheikh Mujibur Rahman Aviation and Aerospace University, Dhaka, Bangladesh — “Airborne Phoenix” design

The Georgia Institute of Technology entry was the winning undergraduate team with its “AeroLay” concept. The 160-kg (353-lb) gross weight UAS was specifically designed for disaster relief, capable of delivering payloads up to 54 kg (119 lb) and loitering in an area for more than 17 hours. Time is of the essence in such missions, so the AeroLay was engineered for minimal downtime between missions, limited to under 10 minutes. It features easily swappable battery packs and a quickly accessible fuel tank, enabling rapid redeployment for various mission objectives.

Two members of each of the first-place winning teams are invited to the 81st Annual Forum & Technology Display ([www.vtol.org/forum](http://www.vtol.org/forum)) — scheduled for May 20–22, 2025 in Virginia Beach, Virginia — to present the details of their designs.

The Annual Student Design Competition sponsorship rotates between Airbus, Bell, The Boeing Co., Bell, Leonardo, Sikorsky, a Lockheed Martin Co., and the DEVCOM Army Research Lab. As announced previously, the 2024–2025 RFP for the 42nd Annual Student Design Competition, sponsored by Airbus, is also now available at [www.vtol.org/sdc](http://www.vtol.org/sdc). A total of \$12,500 in cash prizes is again available to the winning student teams. University teams must submit a letter of intent to participate no later than Feb. 1, 2025.

This new RFP, entitled “Pioneering Hydrogen-Electric VTOL,” is to conceptually design an electric VTOL aircraft using gaseous hydrogen fuel-cell propulsion, while meeting several requirement constraints. The RFP is a unique opportunity for university teams to understand and overcome the specific challenges and requirements of a passenger-carrying hydrogen-electric VTOL aircraft.

The Vertical Flight Society is the world’s premier vertical flight technical society. Since it was founded as the American Helicopter Society in 1943, the Society has been a major force in the advancement of vertical flight. VFS is the global resource for information on vertical flight technology. For more than 80 years, it has provided global leadership for scientific, technical, educational and legislative initiatives that advance the state of the art of vertical flight.

VFS is @VTOLsociety on social media: Facebook, Instagram, LinkedIn, Twitter, Vimeo and

YouTube, and has @ElectricVTOL channels on Facebook and Twitter.

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