Science & Technology

Flying the Eco-Friendly Skies

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An artist's rendering of the award-winning design (Nick Barclay)

A team of Columbia undergraduates recently took first place in NASA’s Aeronautics University Design Challenge, an annual design contest that calls on college students to come up with ideas for environmentally responsible airplanes. The Columbia team, led by engineering students Elon Gordon and Leon Kim, submitted plans for a two-hundred-seat commercial airliner whose distinct structure — a saucer-like body with a row of jet engines mounted on its tail — would make it extremely energy-efficient.

Called the Gryphon, the plane would be nearly the size of a Boeing 747 but much more aerodynamic. Partly as a result, it would consume 50 to 60 percent less fuel and emit far less exhaust.

The students’ design calls for the aircraft to be built from a number of new, ultra-lightweight synthetic materials and to be powered by engines that incorporate superconducting generators and a novel fuel-injection system. These investments, they say, would pay for themselves in improved fuel efficiency.

The twelve-person Columbia team, whose members are a part of the engineering school’s Columbia Space Initiative, formally presented their design at an engineering symposium that NASA hosted at its Langley Research Center in Virginia on September 26.

“We’re hopeful that in the coming years people in the aviation industry will draw on our proposal for inspiration about what is possible,” says Kim. “Building greener airplanes will have a tremendous impact on the health of our planet.”

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