49.9-seconds: Gamera II sets new flight duration record for human-powered helicopters

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(Phys.org) -- The National Aeronautic Association has certified the June 21, 2012, flight of Gamera II at 49.9 seconds, a new national record for human-powered helicopter flight duration, and submitted flight information to the Fédération Aéronautique Internationale for approval as a world record. Gamera II was designed, built and piloted by students at the A. James Clark School of Engineering at the University of Maryland, College Park.

The new record far surpasses the students' 2011 world record of 11.4 seconds made with Gamera I and any prior unofficial flights by other teams.

"To prepare for outstanding careers in engineering, our students take on enormously difficult challenges such as human-powered helicopter flight and set records while they're at it," stated Clark School Dean and Farvardin Professor of Engineering Darryll J. Pines. "The knowledge, creativity and determination they exhibit is inspiring—and it's hard to match the excitement of seeing a human-powered helicopter fly!"

Dean Pines, together with faculty advisors Inderjit Chopra and VT Nagaraj, challenged the team to win the American Helicopter Society's Igor I. Sikorsky Human-Powered Helicopter Competition, which requires that a human-powered helicopter fly for 60 seconds, achieve an altitude of three meters at some point during that time, and remain

within a 10 square meter area. The prize for meeting all competition requirements is $250,000, offered by the Sikorsky Aircraft Corporation. With its 49.9-second flight, Gamera II has come closer to the flight duration requirement than any other craft.

The flight occurred on the evening of June 21, 2012, piloted by Kyle Gluesenkamp. Gluesenkamp is a Ph.D. candidate in the Clark School's mechanical engineering department. He was an alternate pilot for Gamera I.

The team will fly again later this month, and continues to refine their craft to achieve the Sikorsky Competition's 60-second flight and the three-meter altitude requirements. Just this week, the team test-flew their craft in the University of Maryland Comcast Center using a tether and stayed aloft for more than 70 seconds.

This weekend, the team will present an exhibit at the Udvar-Hazy Center in Chantilly, Va. as part of the Smithsonian Super Science Saturdays series.

News of the June 21 national record is the latest rotorcraft success for the Clark School this year. Clark School aerospace engineering graduate students this week won the American Helicopter Society Student Design Competition with Dart T690/E550, a lift and thrust compounded vertical take-off and landing aircraft. Earlier, Clark School undergraduate and graduate students were selected for six of the 19 prestigious Vertical Flight Foundation Scholarships awarded by the American Helicopter Society in 2012.

More information:
Gamera Project Home: www.agrc.umd.edu/gamera/index.html 
Gamera II: www.agrc.umd.edu/gamera/gamera2/index.html 
The AHS Sikorsky Prize: www.agrc.umd.edu/gamera/sikorsky-

prize.html
Alfred Gessow Rotorcraft Center: www.agrc.umd.edu/

Provided by University of Maryland

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