Winners Selected for
2013-2014 National FAA Design Competition for Universities

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The Federal Aviation Administration (FAA) recently selected winners for its eighth annual Design Competition for Universities. Top honors went to student teams from the University of Rhode Island, the University of Colorado Boulder and Roger Williams University.

The competition seeks to engage students at U.S. colleges and universities in addressing issues facing airports while providing quality educational experiences and exposure to aviation and airport-related careers. Students were invited to propose in four (4) technical challenge areas: airport operations and maintenance; runway safety; airport environmental interactions, and airport management and planning. The competition requires that students work with a faculty advisor, and that they reach out to airport operators and to industry experts to obtain advice and to assess the practicality of their proposed designs/solutions.

This competition is managed for the FAA by the Virginia Space Grant Consortium based in Hampton, Va. Partnering organizations are: American Association of Airport Executives; Airport Consultants Council; Airports Council International – North America; National Association of State Aviation Officials; and University Aviation Association. Partners assist in developing competition guidelines, providing expert advisors for teams, disseminating competition information to organizational members, and participating in design reviews.

Panels of FAA, industry and academic experts selected the winning proposals. Students from winning teams equally divide cash prizes. First place teams receive their awards and present their work at FAA Headquarters in Washington, DC, on the afternoon of July 29. In addition, they will present their designs as the lunch keynote speakers at the Airport Consultants Council (ACC) Airports Technical Workshop in Arlington, Va. on July 30. They also present at one other national professional meeting during the academic year. Promising designs may also receive FAA funding to take their concepts to the next stage of development.

First, second and third place awards for each challenge area are announced below. Copies of designs receiving first, second or third place awards will be available by June 27 at the competition website: http://FAADesignCompetition.odu.edu

The Competition will be held again for the 2014 – 2015 academic year. It will continue to be managed by the Virginia Space Grant Consortium with FAA sponsorship but under the auspices of the Airport Cooperative Research Program of the Transportation Research Board.

First Place Awardees:

Runway Safety, Runway Incursions, and Runway Excursions: *PAWS – Design of a Low Level, Affordable Wind Shear Detection System for GA Airports* submitted by Roger Williams University. Advisor: Linda Riley, Ph.D.

Airport Environmental Interactions: *Twice Repurposed Crumb Rubber as a Jet Fuel Solidifier* submitted by the University of Colorado Boulder. Advisor: Christopher J. Corwin, Ph.D., P.E.

Airport Management and Planning: *The Wingman – A Portable Wingtip Collision Avoidance System* submitted by the University of Rhode Island. Advisors: Bahram Nassersharif, Ph.D.

Second Place Awardees:

Runway Safety, Runway Incursions, Runway Excursions: *Mitigating Laser Attacks in Critical Flight Zones* submitted by Binghamton University-State University of New York. Advisors: Professors William Ziegler and Chad Nixon.

Airport Environmental Interactions: *Airport Stormwater Data Observation and Collection System* submitted by the University of Nebraska Omaha, Aviation Institute. Advisor: David A. Byers, Ph.D.

Airport Management and Planning: *Mobile Gate Design for Congested Airports* submitted by the University of California at Berkeley. Advisor: Jasenka Rakas, Ph.D.

Third Place Awardees:

Airport Operations and Maintenance (Two teams tied for third place): *Application of Phase Change Materials in Airport Runways* submitted by Worcester Polytechnic Institute. Advisor: Aaron Sakulich, Ph.D. and Dr. Rajib Mallick

iTug: The Next Generation of Ground Support Vehicles submitted by Purdue University / College of Technology. Advisor: Professor Mary Johnson.

Runway Safety, Runway Incursions, Runway Excursions: *Improving Safety by Integrating Changeable LED Message Signage* submitted by The Ohio State University. Advisor: Seth Young, PhD., AAR, CFI.

Airport Environmental Interactions (Two teams tied for third place):
Harvesting Kinetic Energy from Decelerating Aircraft to Improve Airport Energy Efficiency submitted by the Binghamton University-State University of New York. Advisor: Professors William Ziegler and Chad Nixon.

Fuel Containment Channels at Eagle County Regional Airport (EGE) submitted by the University of Colorado Boulder. Advisor: Christopher J. Corwin, Ph.D., P.E.

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