

NEWS



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News Release

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Winners Selected for the 2014-2015 TRB Airport Cooperative Research Program University Design Competition for Addressing Airport Needs

The Transportation Research Board (TRB) Airport Cooperative Research Program (ACRP) recently selected winners for its University Design Competition for Addressing Airport Needs. Top honors went to student teams from the University of Rhode Island, Purdue University, Binghamton University – State University of New York 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 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.

The ACRP is sponsored by the Federal Aviation Administration (FAA) and managed by the National Academies, acting through the TRB. This competition is managed for the ACRP 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.

Volunteer panels of airport industry and academic practitioners and representatives from the FAA selected the winning proposals. Students from winning teams equally divide cash prizes. First place teams receive their awards and will present their work at the National Academies Keck Center in Washington, DC, on the morning of July 17, 2015. In addition, they will present their designs as the keynote luncheon speakers at the Airport Consultants Council (ACC) Airports Technical Workshop in Washington, DC, July 17.

Copies of designs receiving first, second, third place awards are available at the competition website: <http://vsgc.odu.edu/ACRPDesignCompetition/>

THE NATIONAL ACADEMIES
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New guidelines for the 2015–2016 academic year competition will be available by August 1, 2015.

First Place Awardees:

Runway Safety, Runway Incursions, and Runway Excursions:

Eye in the Sky – Drone Detection and Tracking System submitted by the University of Rhode Island. Advisor: Bahram Nassersharif, Ph.D.

Airport Environmental Interactions: *Piezoelectric Carpet System (PECS) - Design of a Self-Sustaining Affordable Energy Generating System for Airports* submitted by Roger Williams University. Advisor: Linda Riley, Ph.D.

Airport Operations and Maintenance (Two teams tied for first place):

Foreign Object Debris Removal Machine (FRM) submitted by Roger Williams University. Advisor: Linda Riley, Ph.D.

An Automated System for Managing Vegetative Obstructions submitted by Binghamton University – State University of New York. Advisors: Professors Chad Nixon and William Ziegler

Airport Management and Planning:

Funding Essential Air Service to Small Community Airports through Data Driven Decisions submitted by the Purdue University. Advisor: Professor Steven Landry

Second Place Awardees:

Runway Safety, Runway Incursions, Runway Excursions: *Preventing Runway Incursions: A Vehicle Monitoring and Alert System Using RFID Technology* submitted by Tufts University. Advisor: Professor Maureen Mulcare.

Airport Environmental Interactions: *Airport Smart Drainage System* submitted by the University of California, Berkeley. Advisor: Jasenka Rakas, Ph.D.

Third Place Awardees:

Runway Safety, Runway Incursions, and Runway Excursions (Two teams tied for third place): *TAXI NAVIGATION - A Runway Safety System* submitted by University of Missouri - Columbia. Advisor: Carlos Sun, Ph.D.

Improving Runway Incursion Safety (IRIS) submitted by Embry-Riddle Aeronautical University. Advisors: Professors Kelly Neville and Marty Lauth.

Airport Environmental Interactions:

Harvesting Energy from Biodegradable Waste submitted by San Jose State University. Advisor: Glynn Falcon.

Honorable Mention Awardees:

Runway Safety, Runway Incursions, and Runway Excursions: *Runway Incursion - Safety Performance Functions* submitted by University of Missouri - Columbia. Advisor: Carlos Sun, Ph.D.

Airport Management and Planning (2 Honorable Mentions awarded):

Grand Forks International Airport Runway 17R-35L Reconstruction submitted by the North Dakota State University. Advisor: Professor Amiy Varma

Savvy Air Mobile App submitted by the Ohio State University. Advisor: Professor Seth Young

Airport Operations and Maintenance: *Design of Solar Tiles as Surface Pavement for Airfields: A Feasibility Study* University of Missouri - Columbia. Advisor: Carlos Sun, Ph.D.