



University Design Competition for  
Addressing Airport Needs  
Airport Cooperative Research Program  
2014-2015

# University Design Competition for Addressing Airport Needs

- The former FAA Design Competition: Now sponsored by the FAA through the Airport Cooperative Research Program (ACRP) continues to be managed by the Virginia Space Grant Consortium
- ACRP, a program of the Transportation Research Board of the National Academies, is charged with researching problems shared by airport operating agencies
- New website for design competition is [vsgc.odu.edu/ACRPDesignCompetition](http://vsgc.odu.edu/ACRPDesignCompetition)
- Previous FAA Competition was managed by the Virginia Space Grant Consortium for 8 years and engaged 1354 students and 95 faculty members from 66 universities

# University Design Competition for Addressing Airport Needs Partners

- **The American Association of Airport Executives**
- **The Airport Consultants Council**
- **The Airports Council International**
- **The National Association of State Aviation Officials**
- **University Aviation Association**

All are providing advice, expert links for teams, assistance in dissemination of the Competition opportunity to its members, and participation in design reviews.

**Space Grants for marketing!**



# University Design Competition for Addressing Airport Needs Competition Goals

- **Raise awareness of the benefits of the Airport Cooperative Research Program and the importance of airports to the National Airspace System Infrastructure.**
- **Increase the involvement of the academic community in addressing airport operations and infrastructure issues and needs.**
- **Engage students at U.S. colleges and universities in the conceptualization of applications, systems and equipment capable of addressing related challenges in a robust reliable and comprehensive manner.**
- **Encourage undergraduate and graduate students at U.S. colleges and universities to contribute innovative ideas and solutions to issues facing airports and the National Airspace System.**
- **Provide the framework and incentives for quality educational experiences for university students.**
- **Develop an awareness of and an interest in airports as a vital and interesting area for engineering and technology careers.**

# University Design Competition for Addressing Airport Needs Competition Elements

- **Individuals or teams**
- **Undergraduates and Graduates eligible**
- **Multidisciplinary, multi-departmental or multi institutional teams an option**
- **Good vehicle for collaboration among institutions though infrequently done this way**
- **A worthwhile aeronautics project for design courses or independent study**
- **Allows for interdisciplinary approach and solutions**
- **Real world applications**
- **Many faculty use the guidelines even if designs are not submitted**

# University Design Competition for Addressing Airport Needs Key Dates



- **Competition announcement - August 2014**
- **Notice of Intent (strongly encouraged but not required) fall semester - September 30, 2014; spring semester - January 30, 2015**
- **Winners will be announced in June 2015**
- **Award Ceremony and presentations by first place winners - summer 2015**

# University Design Competition for Addressing Airport Needs Technical Design Challenge Broad Areas

- **Airport Operation and Maintenance**
- **Runway Safety/Runway Incursions/Runway Excursions**
- **Airport Environmental Interactions**
- **Airport Management and Planning**



# ACRP Graduate Research Awards

- Graduate Research Awards program on research related to airport issues
- Sponsored by U.S.DOT Federal Aviation Administration, administered by the Transportation Research Board's Airport Cooperative Research Program (ACRP)
- Managed by Virginia Space Grant Consortium
- Counting on Space Grant network to get the word out



# ACRP Graduate Research Awards

- **Up to 10 awards of \$10,000 each for one year**
- **Mentorship by two expert national advisors; students have faculty advisor**
- **Topics are interdisciplinary**
- **Potential applicants should review topics of interest to ACRP on the program web site**
- **Open to U.S., Canadian, and other foreign students attending U.S. universities**

# ACRP Graduate Research Awards

## Key Dates

- Anticipate early 2015 call for applications due May 15,2015
- Winners Selected - August 15,2015
- Research conducted - September 2015 - May 2016
- Research report due August 31, 2016
- Student presentations at the Transportation Research Board's Annual Meeting - January 2017



# ACRP Graduate Research Awards 2014 Award Winners

- Jacob Avery - **Massachusetts Institute of Technology**, Predictive Modeling of Runway Configuration Selection, **Aeronautical Engineering**
- Benjamin Bacon - **Auburn University**, Competitiveness and Relative Role of Air Travel Within Individuals' Annual Collection of Intercity Trips, **Civil Engineering**
- Lauren Bowers - **Purdue University**, System of Systems Cost-Benefit Analysis of Autonomy and Automation in the Air Transportation System, **Aerospace Engineering**
- Kanthasamy Chelliah - **Illinois Institute of Technology**, Next Generation Airport Noise Monitoring System, Mechanical and **Aerospace Engineering**
- Heng Chen - **University of Massachusetts**, Optimal Metering Configurations at Airports, **Management Science**

# ACRP Graduate Research Awards 2014 Award Winners continued

- Elizabeth Connelly - **University of Virginia**, Systems Engineering of Future Aviation Biofuels in US Commercial Aviation, **Systems and Information Engineering**
- Jonathan Keeney - **University of North Carolina at Chapel Hill**, Perceptions of Risk and Operational Safety Decision-Making in Airports, **Business Administration-Organizational Behavior**
- Carey Nadeau - **Massachusetts Institute of Technology**, Affordability of Public Transportation for Employees of Airports, **City Planning**
- Stephanie Sherman - **Virginia Tech**, Quantifying the Effects of Uncertainty in a Decentralized Model of the National Airspace System, **Aerospace Engineering**
- Navaneethan Sivagnanasundaram - **Wichita State University**, Glyphs in Air Traffic Control Displays, **Human Factors Psychology**

# ACRP Graduate Research Awards Contact Information

ACRP Graduate Research Awards Website:

<http://www.trb.org/ACRP/ACRPgraduateAwardProgram.aspx>

Questions can be emailed to: [ACRP@odu.edu](mailto:ACRP@odu.edu)

Mary Sandy

ACRP Project Manager

Virginia Space Grant Consortium

Phone: 757/766-5210

Fax: 757/766-5205

Email: [msandy@odu.edu](mailto:msandy@odu.edu)

Sarah Pauls

Program Assistant

Virginia Space Grant Consortium

Phone: 757/766-5210

Fax: 757/766-5205

Email: [spauls@odu.edu](mailto:spauls@odu.edu)