

AVIATION

2007 Student Research Colloquium participation:

Nine presentations, 18 students, 1 faculty sponsor

Preventing runway incursion produced three projects: 1) Runway embedded light-emitting diode (LED) stop-and-go lights; 2) A surveillance and warning system using laser motion detectors; 3) An independent surveillance and alert system designed in response to input from pilots, air-traffic controllers and airport operators.

Providing energy to operate existing and much needed new airports produced two projects: 1) A study of the feasibility of using renewable energy sources and geothermal heating and cooling to reduce heating and cooling costs at smaller airports; 2) A study of compliance with Americans with Disabilities Act and the safety and comfort of customers and employees in airports and airplanes.

2007 Award-Winning Student Research

- Andrew Splittstoesser, Toby Sunderland. SCSU Student Research Fund Award (SFRA) \$670 for "Runway Incursion Prevention." Sponsor: Robert Aceves
- Jeremy Fox, Jason Clark. SFRA \$100 for "Renewable Energy for Airports." Sponsor: Robert Aceves

Students assist designers of aviation facility

Students in Airport Planning and Design (AVIT 429) have been engaged in four projects for the Minnesota National Guard's Army Aviation Support Facility to be completed at the St. Cloud Regional Airport in 2009. The class is divided into four teams to study force protection, sound attenuation, environmental controls and hot fueling.

Flight team performs well regionally, nationally

St. Cloud State University placed second in the National Intercollegiate Flying Association Safety and Flight Evaluation Conference (SAFECON) regional competition. The event was hosted Oct. 11 – 13, 2007, by St. Cloud State University. The other competitors finished as follows: First — University of North Dakota; Third — University of Dubuque; Fourth — Minnesota State University, Mankato. SCSU also earned the safety award.

First and second place qualified for the 2008 National SAFECON to be held the first week of May at Middle Tennessee State University. This is the eighth time in the last 11 years that SCSU has qualified for the national competition.

Competing for SCSU in the 2007 National SAFECON, held

May 7 – 12 in Columbus, Ohio, were Paul Borrell, Steven Reese, Brett Teat, Chad Andries, Scot Baumgartner, Kyle Button, Craig Cance, Justin Cummings, Nicholas Hoeschen, Craig Johnson, Merisa Kendall, Merrisa McLoughlin, Robert Naramore and Lisa Wixom.

Notable competitors and their rankings:

- Navigation – Johnson (34/92), Andries (39/92)
- Ground Trainer – Cance (22/62)
- Top Scoring Female – Wixom (13/41)

Aero Club members comprise the flight team. The team's adviser is Professor Steven Anderson, Aviation chair.

MGM effects researched, published

The researchers asked SCSU aviation students about their perception of completed multicultural, gender and minority (MGM) courses. They also asked how students feel about current aviation industry workplace practices regarding gender and minority issues. Then the researchers, Patrick Mattson, professor emeritus, along with Associate Professor Jeffrey Johnson, Assistant Professor Angela Olson and Assistant Professor Michael Ferguson, coauthored "Gender and Multi-Cultural Curriculum Issues for Undergraduate Aviation Students." The article was published in the spring 2007 issue of the Collegiate Aviation Review.

The researchers state that while respondents felt exposed to the MGM components, they did not believe the courses prepared them to work in a diverse organizational environment. A future study comparing aviation industry diversity education efforts with academia efforts is planned.

Instructor takes national leadership role

Beginning in 2006, Assistant Professor Tara Harl was named to a panel of industry experts appointed by the National Academies of Science-Transportation Research Board in Washington, D.C. Their panel's responsibilities include awarding and overseeing a \$500,000 fund to research how the NEXTGEN of aircraft will impact airports in the next few decades. NEXTGEN refers to very light jets (VLJs) and other cutting-edge aircraft with glass flight decks, such as the Cirrus.

Harl also made presentations at two national conferences this year.

Robert I. Aceves, Assistant Professor. Ed.D. 2006, Oklahoma State University.

faculty-student research, aviation education (online), China aviation, Chicanos/Chicanas in aviation

Certification/Licensure

Commercial Pilot (Aircraft, Single Engine Land, Aircraft Single Engine Sea, Aircraft Multi Engine Land), Multi Engine Instrument Flight Instructor, Mechanic (Airframe and Power Plant)

Steven L. Anderson, Associate Professor. Ph.D. 2001, University of Minnesota.

aviation, aviation education, aviation safety, flight training

Certification/Licensure

Airline Transport Pilot, Certified Flight Instructor (Single and Multi-Engine), Land Instruments, Designated Pilot Examiner

Publications

Johnson, J., S. Anderson and T. Harl. Implications of Current Federal Aviation Regulations Governing Low Time Commercial Pilots Who Transition to Single Pilot/ IFR Environments. *Journal of Aviation/Aerospace Education*, in press.

Michael D. Ferguson, Assistant Professor. M.S. 2000, University of Nebraska, Omaha.

aviation safety, airlines, airline management, ethics

Certification/Licensure

Private Pilot, Advanced Ground Instructor, Instrument Ground Instructor

Publications

Ferguson, M. and J. Johnson. Cost and Perceived Value in Obtaining a Bachelor's Degree in Aviation Professional Flight: Will Collegiate Aviation Price Themselves Out of the Market? *Journal of Aviation/Aerospace Education and Research*, 17 (1) 9 – 10.

Mattson, P., J. Johnson, A. Olson, and M. Ferguson. Gender and Multi-Cultural Curriculum Issues for Undergraduate Aviation Students. *Collegiate Aviation Review*, 25 (1) 46 – 56.

Tara Harl, Assistant Professor. Ed. D. Leadership 2007, St. Mary's University of Minnesota.

business aviation, blacks in aviation

Certification/Licensure

Airline Transport Pilot Multi Engine Land and Single Engine Land, Commercial Single Engine Sea, Certified Flight Instructor (Instrument and Multi Engine), Basic and Advanced Ground Instructor

Presentations

Harl, T. Building and Sustaining Links to the Next Generation. National Business Aviation Association (NBAA) Leadership Conference, February 2007 in San Diego and March 2007 in Dallas.

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Publications

Harl, T. Cultivating Tomorrow's Business Aviation Leaders: Regional Groups Show Support for Mentoring Program. *NBAA Journal of Business Aviation*, Fall 2007, 50 – 52.

Johnson, J., S. Anderson and T. Harl. Implications of Current Federal Aviation Regulations Governing Low Time Commercial Pilots Who Transition to Single Pilot/IFR Environments. *Journal of Aviation/Aerospace Education*, in press.

Jeffrey Johnson, Associate Professor. Ph.D. 1997, Bowling Green University.

airlines, aviation education, aviation security

Certification/Licensure

Airline Transport Pilot, Single and Multi Engine Certified Flight Instructor, Airframe and Power Plant Aircraft Maintenance Technician, Advanced and Instrument Ground Instructor

Publications

Ferguson, M. and J. Johnson. Cost and Perceived Value in Obtaining a Bachelor's Degree in Aviation Professional Flight: Will Collegiate Aviation Price Themselves Out of the Market? *Journal of Aviation/Aerospace Education and Research*, 17 (1) 9 – 10.

Mattson, P., J. Johnson, A. Olson, and M. Ferguson. Gender and Multi-Cultural Curriculum Issues for Undergraduate Aviation Students. *Collegiate Aviation Review*, 25 (1) 46 – 56.

Johnson, J., S. Anderson and T. Harl. Implications of Current Federal Aviation Regulations Governing Low Time Commercial Pilots Who Transition to Single Pilot/IFR Environments. *Journal of Aviation/Aerospace Education*, in press.

Angela Olson, Assistant Professor. M.S. 2005, St. Cloud State University.

cosmic radiation, gender issues in the cockpit

Certification/Licensure

Commercial, Instrument, Multi Engine, Certified Flight Instructor.

Publications

Mattson, P., J. Johnson, A. Olson, and M. Ferguson. Gender and Multi-Cultural Curriculum Issues for Undergraduate Aviation Students. *Collegiate Aviation Review*, 25 (1) 46 – 56.

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