



IDEAS IN FLIGHT

James E. Webb Auditorium

July 24th & 25th, 2012



DAY ONE (MORNING)

Welcome

8:30am-9:00am

Tom Irvine, Deputy Associate Administrator for Aeronautics Research, NASA Headquarters

Scholar presentations (20 min)

9:00am-9:20am

David Hash

University of Michigan

Case Study of Future UAS Mission Profiles to Measure Their Impact on the National Airspace System

Mentor: Eric Mueller

Ames Research Center

Melissa Barnett

Embry Riddle Aeronautical University

Structures

Mentor: Eric Miller

Dryden Flight Research Center

Team presentation (30 min.)

9:20am-9:50am

Aeroacoustic Wind Tunnel Design Team

Ames Research Center

Allison Reinsvold, College of St. Benedict

Ivan Lucatero, California Polytechnic State University, San Louis Obispo

Chelsea Katan, Embry Riddle University

Mentor: Kurt Long

9:50am-10:10am

-Break-

Scholar presentations (30 min.)

10:10am-10:40am

Emily Brandsdorfer

Stevens Institute of Technology

Inflatable Structures

Mentor: Karen Whitley

Langley Research Center

Daniel Martelly

Massachusetts Institute of Technology

Implementing Speech Recognition in an Air Traffic Control Setting

Mentor: Durand Begauld

Ames Research Center

Aditya Kalluri

Massachusetts Institute of Technology

Real-Time Classification of Electroencephalography Signals

Mentor: Angela Harrivel

Glenn Research Center

Team presentation (60 min.)

10:40am-11:40am

Airspace Systems NATIVE Project: Feasibility Study Team

Langley Research Center

Noah Dennis, Johns Hopkins University

Alec Gibson, University of Cambridge

James Grisham, University of Texas

Lana Miller, Mississippi State University

Michael McCormack, University of California, Berkeley

Matthew Underwood, West Virginia University

Mentors: Mark Ballin and Yiannis Papelis

11:40am-12:00pm

Pictures

DAY ONE (AFTERNOON)

12:00pm-1:30pm

Lunch

Team presentation (60 min.)

1:30pm-2:30pm

Team Dryden

Dryden Flight Research Center

Luis Andrade, Cal State Polytechnic University

Kimberly Callan, University of Wisconsin at Madison

Javier Gonzalez-Rocha, Cal State Sacramento

Julianna Plumb, Biola University

Stephanie Reynolds, Cal State Long Beach

Ronaylnn Ramos, Cal State Polytechnic University

Joseph Wagster, Cal State Polytechnic University

Steffi Valkov, Cal State Polytechnic University

Mentors: Al Bowers, Oscar Murillo, and Brian Taylor

Scholar presentations (20 min.)

2:30pm-2:50pm

Elizabeth D'Arienzo

Massachusetts Institute of Technology

Controls

Mentor: Curt Hanson

Dryden Flight Research Center

Jacob Kilver

Ohio State University

Model-Based Engine Control

Mentor: Joseph Connolly

Glenn Research Center

2:50pm-3:10pm

-Break-

Team presentation (40 min.)

3:10pm-3:50pm

Airspace Systems NATIVE Project: Proof of Concept Team

Langley Research Center

Natalie Larson, Vanderbilt University

Justin Nelson, University of Wisconsin, Stout

Joshua Reed, Old Dominion University

Marvin Suggs, Arkansas Technical University

Mentors: Mark Ballin and Yiannis Papelis

DAY TWO (MORNING)

Welcome

8:30am-9:00am

Dr Jaiwon Shin, Associate Administrator for Aeronautics Research, NASA Headquarters

Scholar presentations (30 min.)

9:00am-9:30am

Zachary Goff

Embry Riddle Aeronautical University

Controls

Mentor: Chris Regan

Dryden Flight Research Center

Alexander Angilella

Rensselaer Polytechnic Institute

Development and Testing of an Anechoic Wind Tunnel

Mentor: Rabi Mehta

Ames Research Center

Catherine Patrick

Purdue University

Develop Technologies that Reduce Harmful Emissions from Commercial Aircraft

Mentor: Dr. Yolanda Hicks

Glenn Research Center

Team presentation (45 min.)

9:30am-10:15am

Intelligent Aircraft Engines for Next Generation Air Transportation

Glenn Research Center

Arick Abraham, Rochester Institute of Technology

Melanie Chatham, Embry Riddle Aeronautical University-Prescott

Daniel Kakaley, North Carolina State University at Raleigh

Nathaniel Morris, Central State University

Heath Reising, University of Illinois at Urbana-Champaign

Mentors: John Lekki, Dr. Gary Hunter

10:15am-10:30am

-Break-

Scholar presentations (30 min.)

10:30am-11:00am

Michelle Lynde

University of Texas, Arlington

Battery Health Management for an Electric UAV

Mentor: Patrick Quach

Langley Research Center

Vincent Scotti

Florida Institute of Technology

Enterprise Firewalling with Open Source Tools

Mentor: Ernest Lopez

Ames Research Center

Sanel Horozovic

University of Illinois at Chicago

Aerodynamics/Propulsion

Mentor: Oscar Murillo

Dryden Flight Research Center

Team presentation (40 min.)

11:00am-11:40am

Mapping Overlay of Stratospheric Environments for NextGen Airspace Systems Project

Ames Research Center

Paul Pinkston, Arkansas Technical University

Caleb Rice, West Virginia University

Victoria Lynn Salas, University of Wisconsin-Milwaukee

Micah Spaun, Whitworth College

Mentors: Parimal Kopardekar, Joey Rios

DAY TWO (AFTERNOON)

Scholar presentations (20 min.)

11:40am-12:00pm

Brandon Hull
Virginia Polytechnic Institute and State University
Permeability Testing of Carbon Nanotube Composites
Mentor: Brian Grimsley
Langley Research Center

Stephanie Shevenock
Lawrence Technical University
CFD Analysis of NASA's Hybrid Wing Body Aircraft
Mentor: Dr. Ming-Seng Liou
Glenn Research Center

12:00pm -1:30pm

Lunch

Team presentation (20 min.)

1:30pm-1:50pm

Catalyst Analysis for Green Fuel Production
Taichi Murata, University of California-Los Angeles
Macie Price, Manchester College
Mentors: Dr. Aloysius Hepp, Dr. Ana De La Ree
Glenn Research Center

Scholar presentations (20 min.)

1:50pm-2:10pm

Adam Weber
University of Michigan
Battery Health Management for an Electric UAV
Mentor: Patrick Quach
Langley Research Center

Emma White
Iowa State University
Advanced Battery Materials Development
Mentor: Dr. Richard Baldwin
Glenn Research Center

Team presentation (30 min.)

2:10pm-2:40pm

Large-Scale Civilian Tilt-Rotor Design Project
Ames Research Center
Daniel Wukelic, University of Hawaii at Manoa
Austen Knapp, University of Colorado
Guiillermo Costa, California Polytechnic State University, Pomona
Mentor: William Warmbrodt

Scholar presentations (20 min.)

2:40pm-3:00pm

Khalil Ramadi
Pennsylvania State University
ASCR Thermal Liner Dynamics Evaluation, Revision, and Redesign
Mentor: Dr. Clarence Chang
Glenn Research Center

Jonathan Thompson
University of Colorado at Colorado Springs
Multi-Node LN2 Testbed Model
Mentor: Vadim Smelyanskiy
Ames Research Center

DAY TWO (AFTERNOON)

Team presentation (30 min.)

3:00pm-3:30pm

Fuel Droplet Vaporization Rate Measurement Technique
Glenn Research Center
Steven Carter, University of Portland
Daniel ReMine, University of Virginia-Main Campus
Dennis Siedlak, Case Western Reserve University
Mentors: Dr. Sarah Tedder, Dennis Huff

Closing Remarks (15 min.)

3:30pm-3:45pm



Congratulations to all our Ideas in Flight participants — our 2012 Aeronautics Scholarship interns and our 2012 Aeronautics Academy students — and to their dedicated mentors and coordinators at our NASA centers. All of you represent a bright future for aeronautics research and the meaningful benefits it provides every day to our nation. Good luck on your future endeavors!

*Dr. Jaiwon Shin
Associate Administrator
Aeronautics Research Mission Directorate*

NASA Headquarters Location and the Surrounding Area





NASA Headquarters
Aeronautics Research Mission Directorate
300 E Street, SW
Washington D.C. 20546
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