JAMS Technical Review Meeting

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May 22-23, 2019
Charlotte, NC
FAA Research Process
Research Programs, Requirements, and Centers of Excellence

• FAA has a number of programs to conduct research about potential safety concerns in various key areas of interest.
  
  • e.g., UAS, Human Factors, Environmental Impact, Structures & Materials, Propulsion, Fuel, Fire, Aircraft Icing, Commercial Space Transportation, General Aviation, etc.

• Each program’s scope and objectives are defined by a set of research requirements

• Some of these research programs sponsor an FAA Center of Excellence (COE)

• FAA’s Advanced Materials and Structural Safety research program sponsors COE JAMS
FAA Research Process
FAA’s Advanced Materials Research Program & Requirements

• Program Scope:
  • Advanced composite materials and structures including hybrid assemblies used in civil aviation
    • Current scope also include additive manufacturing

• Research Requirements: Three years in advance, FAA proposes topics for research
  • Proposed research requirements evaluated by an FAA-wide internal review process and compete for funding
  • FY 2018 research requirements for the advanced materials program
    • Fatigue and Damage Tolerance of Composite Structures
    • Composite Maintenance Practices
    • Crashworthiness Issues Unique to Composites,
    • Structural Integrity of Adhesive Joints,
    • Continued Operational Safety (COS) and Certification Efficiency (CE) for Emerging Composite Technologies

• Year before execution we modify the requirements as necessary, based on what we have learned in the interim
FAA Advanced Materials Research

FAA Team – Collaboration of Two FAA Offices

FAA Administrator (AOA)

5 Lines of Business
- Aviation Safety (AVS)
- Air Certification (AIR)
- Policy & Innovation (AIR-600)
- Structures & Materials (ANG-E281)
- Aviation Research (ANG-E2)

9 Staff Offices
- Next Generation Air Transportation System (ANG)
- William J Hughes Technical Center (ANG-E)
- Air Certification (AIR)
- Policy & Innovation (AIR-600)
- Structures & Materials (ANG-E281)
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Sponsor
- Developing Research Requirements

Performer
- Managing Research Funds & Technical Monitoring of Grants

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FAA Research Team & JAMS Stakeholders

**FAA Team**

**Program Sponsor**
- Sets research scope and objectives
- Develops research requirements
- Primary end user of program output within the FAA

**Aviation Safety (AVS)**
- Larry Ilcewicz, PhD - Chief Scientist and Technical Advisor (CSTA) for Composites
- Cindy Ashforth – Senior Technical Specialist (STS) for Composites

**Performers**
- Supports program sponsor
- Manages research program activities
- Coordinates communication between Sponsor and PI
- Evaluates and awards grants requests and research contracts
- Oversees research progress
- Publishes research output (FAA Tech Reports)

**William J. Hughes Technical Center**
**Aviation Research Division**
**Structures and Materials Section (ANG-E281)**
- Ed Weinstein, PhD – Section Manager
- Ahmet Oztekin, PhD – JAMS Program Manager
- Allan Abramowitz – Technical Monitor (TM)
- Lynn Pham - TM
- Dave Stanley - TM
- Danielle Stephens - TM

**JAMS Member Univ**
Project PIs, Researchers, and Students

**Industry & Cost-Sharing Partners**

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Joint Centers of Excellence for Advanced Materials & Structures – COE JAMS

- JAMS was established by the FAA as a Joint Centers of Excellence in 2003.
- 9 member universities (currently active)
- FY18-19 funding cycle:
  - 24 grants awarded
  - Total federal funding amount: $6.6M
    - Cost matched by non-federal contributions of our partners

Wichita State University*
University of California San Diego
Auburn University
Mississippi State University

University of Washington*
University of Utah
Oregon State University
Washington State University
Florida International University

* JAMS Co-leads
COE JAMS
2018-2019 JAMS Research Portfolio

• 29 ongoing research project
  • Fatigue and Damage Tolerance: 7 Projects
    • JAMS Member Universities: OSU, UCSD, UU, UW, and WiSU
  • Maintenance Practices: 3
    • WiSU
  • Crashworthiness: 2
    • UU and WiSU
  • Bonded Joints: 6
    • FIU, UU, UW, WiSU, and WSU
  • Continued Operational Safety and Certification Efficiency: 11
    • MSU, UW, and WiSU
Thank You For Your Continued Support To COE JAMS!

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Structures and Materials Research, ANG-E281
FAA William J. Hughes Technical Center
Atlantic City International Airport, NJ 08405
FAA/JAMS Only
Session
COE JAMS
Change of Leadership at the FAA Air Transportation Centers of Excellence Program Management

• Karen Davis is our new point of contact for everything related to processing JAMS grant requests

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Future of the COE JAMS

- Past two years we were on life support: Two short term extensions, each limited to a single year.

FAA Reauthorization Act of 2018:

“§ 44518. Advanced Materials Center of Excellence

(a) ... The Administrator of the Federal Aviation Administration shall continue operations of the Advanced Materials Center of Excellence... under its structure as in effect on March 1, 2016...”

- This year, as the sponsoring organization, the FAA Technical Center is requesting a 5-year extension of the JAMS COE agreement.

- I will travel with Karen Davis to attend a meeting at the FAA HQ in Washington, DC on May 29 to finalize the memo that will go to the Administrator.
COE Grant Review & Approval Process

- Individual grant requests are bundled in packages. We are asked to create as few packages as possible.
- Every JAMS grant request package is reviewed and signed by the FAA Administrator and then by the Secretary of Transportation for final approval.
- JAMS submitted two packages last summer. One was approved on 9/24/2018 and the other 3/1/2019.

JAMS Package 1 (11 Grant Requests, $1.46 M)

JAMS Package 2 (15 Grant Requests, $5.2 M)
COE Grant Review & Approval Process

Past Process (up to and including 2017)
- FAA Aviation Research (ANG-E2) reviews and approves grant request
- FAA COE Program Office awards grant request

Current Process (Since 2018)
- Past Process +
- FAA ANG-E Review/Concurrence
- FAA Assistant Administrator
- FAA Chief Financial Officer
- FAA Administrator
- Secretary of Transportation
Processing Times: 13 – 17 weeks
Important Dates for Grant Requests

October 1, 2019: Estimated earliest award date for this years COE grant requests.

Continuation or New Start:

- If additional/new funds are needed in 2019, then
  - coordinate your draft proposals with FAA by June 14, 2019
  - Submit your final proposal package to grants.gov by June 21, 2019
After Execution of Award

• **Detailed Research Plan** (DRPs) due within 30 days of award execution:
  • Tasks, Milestones, Deliverables, and Estimated Completion Dates
• **Kickoff meeting** (or teleconference) with FAA tech monitor, sponsor, and PI
  • DRP will be reviewed
• **Monthly teleconference** with the tech monitor and sponsor to review research status
• **Annul technical report** based on work performed in that year

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Research Reports

Monthly Status Reports

• Monthly reports are very important for the FAA Team to keep track of ongoing research
• We are in the process of revising the template and will set up a teleconference

Annual Technical Reports

• Technical Reports published by the FAA Tech Center are the main tangible output of the JAMS program for FAA.
• We have moved to a system where we request every open JAMS project submit a Technical Report at the end of each fiscal year.
  • Interim technical report for ongoing tasks
  • Final report for ending tasks

• Important Dates:
  • Initial outline with some early draft content due July 30, 2019.
  • Final draft due October 1, 2019
Invoicing

• Spend old money before spending new funds.
• Use correct charge codes.
• Charge against correct award/amendment.
• We may ask additional info to be included with JAMS invoices in the near future.
Roles, Responsibilities, and Expectations

• For research related questions and concerns
  • Your FAA Technical Monitor is the primary point of contact
    • Update your FAA TM about research status on a regular basis by setting up telecoms/meetings. Keep the PM in the loop, too.
    • TM will coordinate with our FAA Program Sponsors
    • Inform your TM and PM about any meeting/telecom that you participate to discuss your FAA-funded research.
      • especially, if there is a potential impact on research direction

FAA Tech Monitors for JAMS Research
Ahmet, Allan, Danielle, Dave, and Lynn
Roles, Responsibilities, and Expectations

• For funding and/or grant request related questions and concerns
  • JAMS Program Manager is your primary point of contact
    • Inform any issues impacting research schedule promptly to the PM and your TM
      • Including personnel change
    • Let the PM know about your No-Cost Extension requests at least 60 days in advance of the end of the current period of performance.

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Thank You!