

# CENTERS OF EXCELLENCE

TECHNICAL TRAINING &  
HUMAN PERFORMANCE



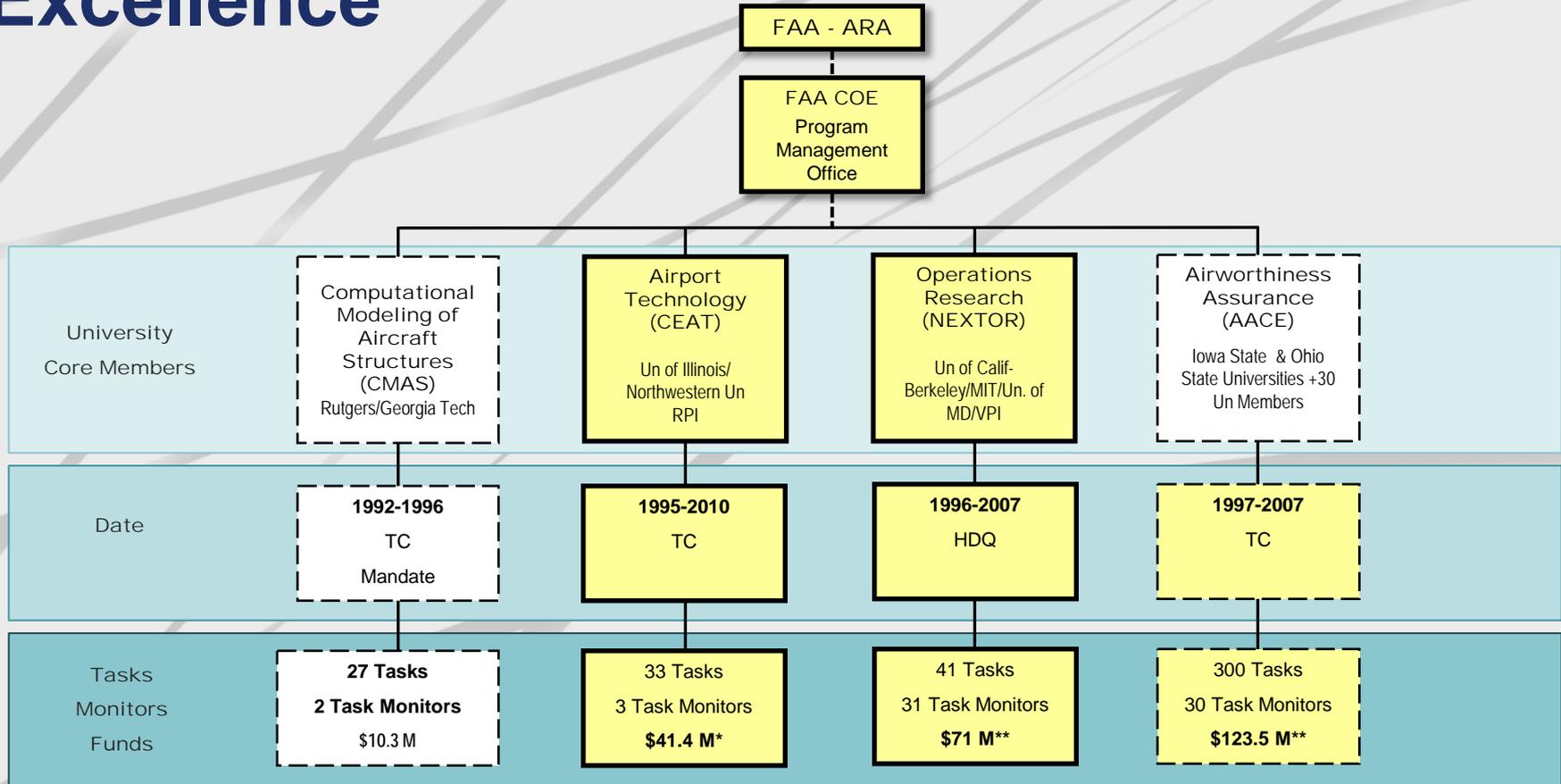
## **COE Organizational Structures** **Government/Academic/Industry Strategic Partnerships**

**Pat Watts, Ph.D.**  
*National Program Director, FAA Centers of Excellence*

Public Meeting | October 21-22  
DoubleTree by Hilton, Crystal City (Arlington), Virginia

[www.faa.gov/go/coe](http://www.faa.gov/go/coe)

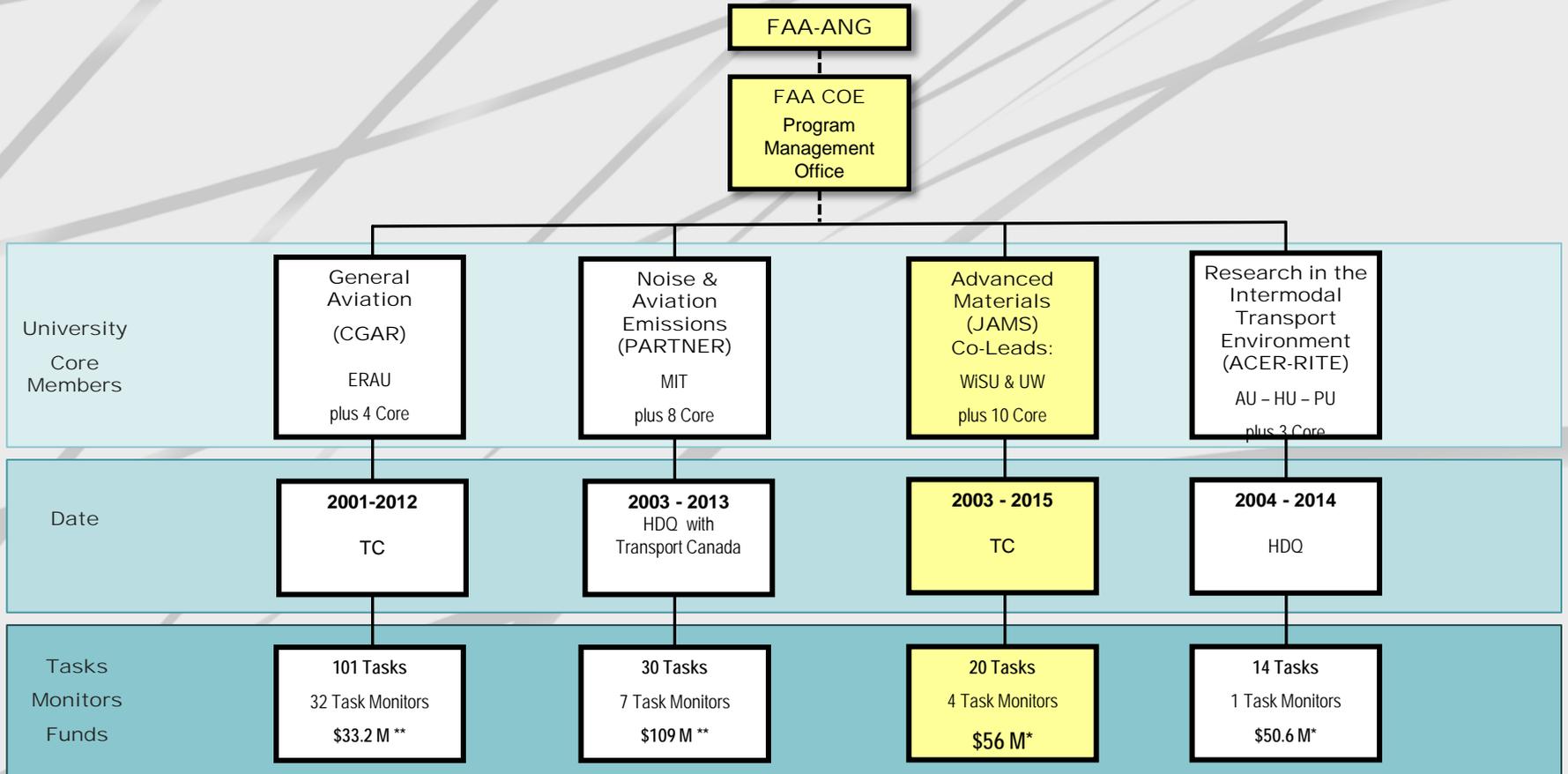
# FAA Air Transportation Centers of Excellence



\* All dollar amounts indicated reflect grant awards and include matching funds.

\*\* All dollar amounts indicated reflect grant awards, matching funds, other funding vehicles, and contracts.

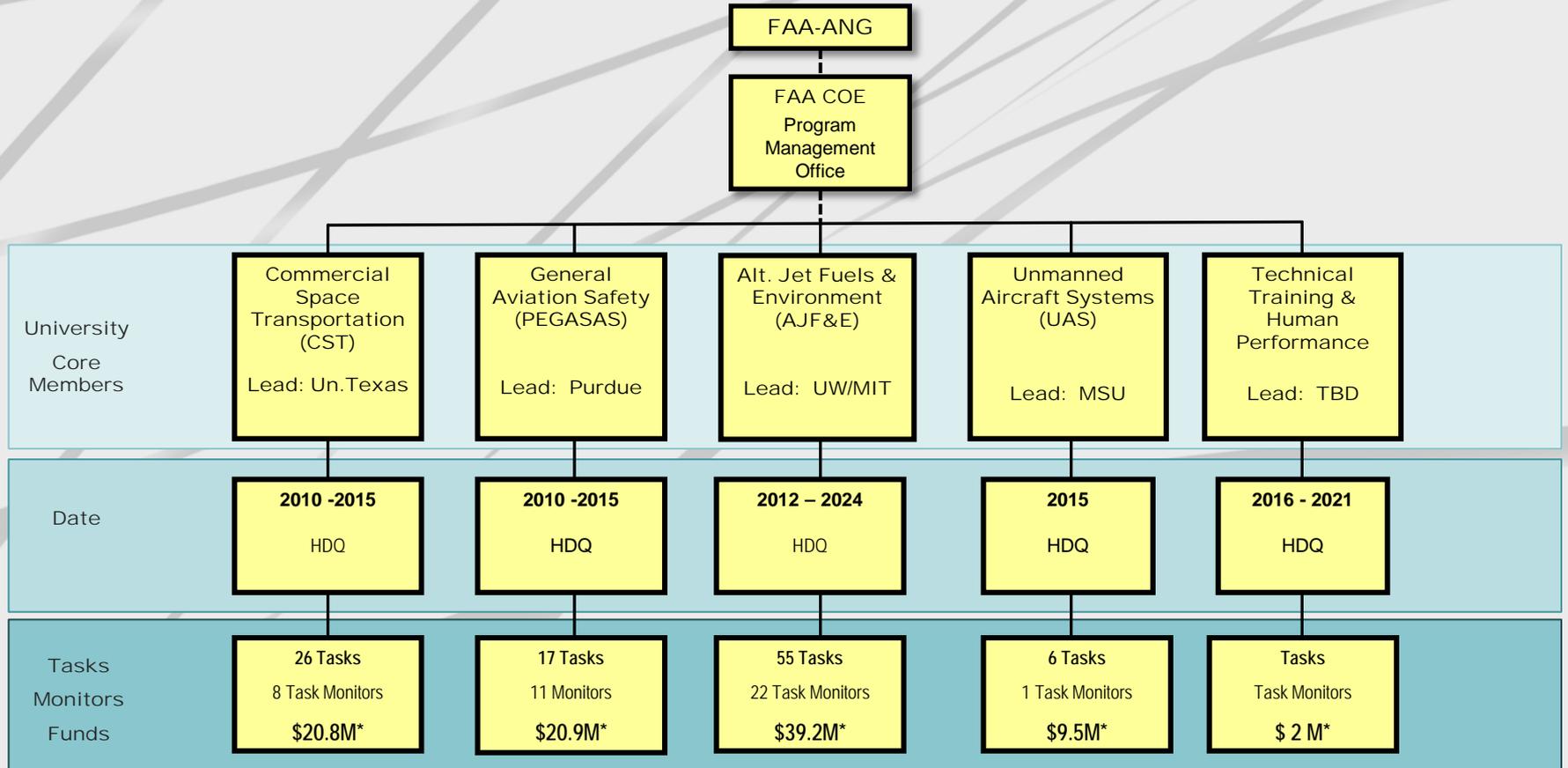
# FAA COEs – Active: In Phase Down



\* All dollar amounts indicated reflect grant awards and include matching funds.

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# FAA COEs – Active: Phase I



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# COE for Unmanned Aircraft Systems



**FAA COE  
Program Manager**

**COE Director**  
Major General (Ret.) James Poss  
Mississippi State University

Drexel University  
Embry Riddle Aeronautical University  
Kansas State University  
Montana State University  
New Mexico State University  
North Carolina State University  
Oregon State University  
The Ohio State University

Wichita State University  
University of Alabama in Huntsville  
University of Alaska Fairbanks  
University of California, Davis  
University of Kansas  
University of North Dakota

Grants \$ 4.7 M  
Matching \$ 4.8 M  
LOE \$ 9.5 M

# COE for Alternative Jet Fuels and Environment (AJF&E)

**FAA COE  
Program Manager**

**COE Director**  
Ralph Cavalieri  
Washington State University

**COE CO-Director**  
R. John Hansman  
Massachusetts Institute of Technology

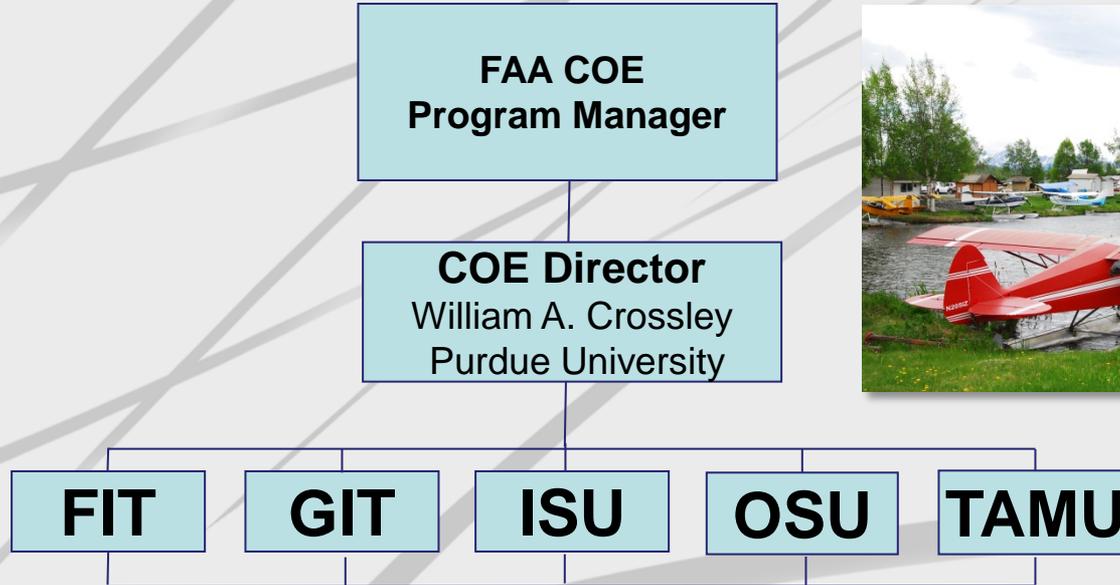
Boston University  
Georgia Institute of Technology  
Massachusetts Institute of Technology  
Missouri University of Science & Technology  
Oregon State University  
Pennsylvania State University  
Purdue University  
Stanford University

University of Dayton  
University of Hawaii  
University of Illinois – UC  
University of North Carolina – CH  
University of Pennsylvania  
University Tennessee  
University Washington  
Washington State University

Grants \$ 19.5 M  
Matching \$ 19.5 M  
LOE \$ 39 M



# COE for General Aviation Safety (PEGASAS)



Purdue University  
Florida Institute of Technology  
Georgia Institute of Technology

Grants: \$ 8.7 M  
Matching: \$ 8.7 M  
Contracts: \$ 3.5 M  
LOE \$ 20.9 M

Iowa State University  
Ohio State University  
Texas A&M  
Plus 10 Affiliates

# COE for Commercial Space Transportation (CST)



**FAA COE  
Program Manager**

**Un of Texas - Galveston  
Administrative Liaison**

**COE CST Industry Advisory  
Committee (CESTAC)**

**FSU**

**NMT**

**NMSU**

**SU**

**UCF**

**CU-B**

**UF**

**UTMB**

Florida Institute of Technology  
Florida State University  
New Mexico Institute of Mining and Technology  
New Mexico State University  
Stanford University

Grants: \$ 7.4 M  
Matching: \$ 13.4 M  
LOE \$ 20.8 M

University of Central Florida  
University of Colorado at Boulder  
University of Florida  
University of Texas - Medical Branch  
at Galveston

# COE CST Industry Advisory Committee (CESTAC)

JHR Consulting  
The Tauri Group  
Florida Institute of Technology  
Space Florida  
Affiliate, Spaceworks Enterprises  
National Aerospace Training and  
Research Center (NASTAR)  
Jacobs Technology, Inc.  
Boeing Space Exploration  
Scitor

Ball Aerospace  
Lockheed Martin Space  
Systems Company  
United Launch Alliance (ULA)  
Commercial Spaceflight  
Federation  
Wyle  
ACTA  
Space Systems Loral  
SATWEST, LLC



# COE for Cabin and Intermodal Transportation (ACERite)



**FAA COE  
Program Manager**

**COE Executive Director**  
Tony Overfelt – Auburn Un.

**Industry Advisory  
Board**

**Auburn**  
Administrative Lead

**KSU**  
Technical Co-Lead

**BSU**

**HU**

**PU**

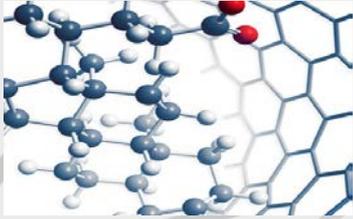
**RU**

Auburn University  
Boise State University  
Harvard University

Grants: \$22.6 M  
Matching: \$28 M  
LOE: \$50.6 M

Kansas State University  
Purdue University  
Rutgers University of New Jersey

# Joint COE for Advanced Materials (JAMS)



**FAA COE  
Program Manager**

**Industry Advisory  
Board**

**Center Co-Director**  
John Tomblin

**WiSU**  
Co-Lead

**NWU**

**PU**

**TU**

**UCLA**

**UCSD**

**UD**

Wichita State University  
Northwestern University  
Purdue University  
Tuskegee University  
University of California, Los Angeles  
University of California, San Diego  
University of Delaware

**Grants: \$ 28 M**  
**Matching: \$ 28 M**  
**LOE: \$ 56 M**

**Center Co-Director**  
Mark Tuttle

**UW**  
Co-Lead

**ECC**

**WSU**

**OSU**

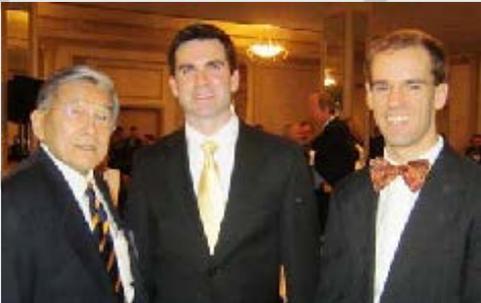
**FIU**

**UU**

University of Washington  
Edmonds Community College  
Washington State University  
Oregon State University  
Florida International University  
University of Utah

**Industry Advisory  
Board**

# COE for Aircraft Noise & Aviation Emissions Mitigation (PARTNER)



Former Secretary of Transportation Norman Mineta & 2014's SOY Matthew Opliger (WSU) and Philip Wolfe (MIT)

**FAA COE Program Manager**  
**COE Center Director**  
 Ian Weitz/Steven Barrett

**MIT**

**Industry Advisory Board**  
 (100+ Members)

**HU**

**PSU**

**PU**

**SU**

**UNC**

**MST**

**GIT**

**UI**

**BU**

**UPENN**

Massachusetts Institute of Technology  
 Harvard University  
 Pennsylvania State University  
 Purdue University  
 Stanford University

Grants: \$ 50 M  
 Matching: \$ 50 M  
 Contract: \$ 9 M  
 LOE: \$ 109 M

University of North Carolina – CH  
 Missouri Science and Technology  
 Georgia Institute of Technology  
 University of Illinois  
 Boston University  
 University of Pennsylvania

# FAA/NASA/Transport Canada COE for Aircraft Noise & Aviation Emissions Mitigation (PARTNER)

Aerodyne Research, Inc.

Aerospace Industries Association

Airbus

Air Line Pilots Association

Air Transport Association of America

Airports Council International - North America

American Institute of Aeronautics and Astronautics

Bay Area Air Quality Management District

Bell Helicopter Textron, Inc.

Boeing Commercial Airplanes Group

Delta Air Lines, Inc.

General Electric Aircraft Engines

Gulfstream Aerospace Corporation

Indiana Department of Transportation

Lockheed Martin Aeronautics Company

Logistics Management Institute

Massachusetts Port Authority

Metron Aviation, Inc.

Metropolitan Washington Airports Authority

National Organization to Insure a Sound-controlled Environment (N.O.I.S.E.)

O'Hare Noise Compatibility Commission

Palisades Citizens Association

Pratt & Whitney

Raisbeck Engineering

Regional Airport Authority of Louisville and Jefferson County

Rolls-Royce, PLC

San Francisco International Airport/Community Roundtable

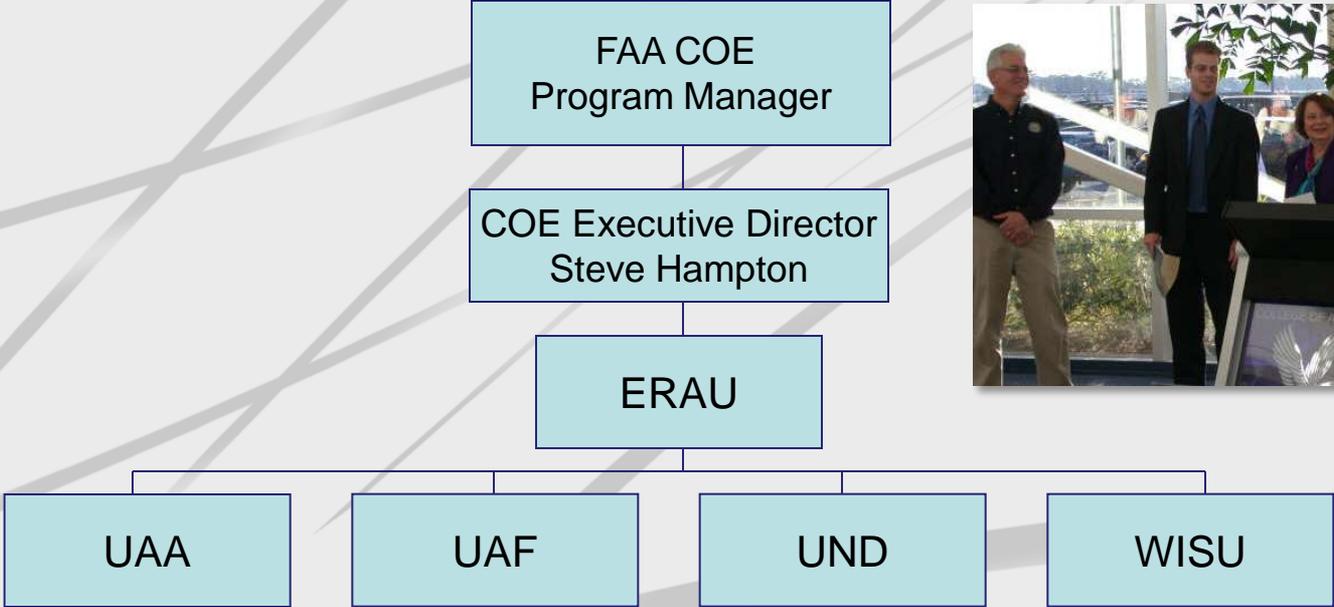
Sikorsky Aircraft Corporation

United Parcel Service Airline

United Technologies Pratt & Whitney

Wyle Laboratories

# COE for General Aviation (CGAR)



Embry-Riddle Aeronautical University  
University of Alaska at Anchorage  
University of Alaska at Fairbanks  
University of North Dakota  
Wichita State University

Grants: \$ 16.6 M  
Matching: \$ 16.6 M  
LOE \$ 33.2 M

# COE for Airworthiness Assurance Phase II – University Members

Arizona State University

Baylor University

Carnegie Mellon University

Embry-Riddle Aeronautical University

Florida International University

George Washington University

Iowa State University

Johns Hopkins University

Lehigh University

Mississippi State University

New Jersey Institute of Technology

North Carolina A&T State University

Northwestern University

Ohio State University

Ohio University

Pennsylvania State University

Purdue University

Rutgers University

Tuskegee University

University of Arizona

University of California at Berkeley

University of California at Los Angeles

University of California at Santa Barbara

University of Dayton

University of Maryland

University of Missouri at Columbia

University of North Dakota

University of Utah

University of Washington

Wayne State University

Wichita State University

# COE for Operations Research (NEXTOR) Partners and Affiliates

## **Core University Members**

University of California-Berkley  
Massachusetts Institute of Technology  
University of Maryland  
Virginia Tech  
George Mason University

## **University Partners**

Air Force Institute of Technology  
Rensselaer  
San Jose State University  
University of Michigan  
University of Minnesota  
University of Rochester  
University of Southern California  
University of Texas at Austin

## **Industry Affiliates**

The Boeing Company

Massachusetts Port Authority  
California Department of Transportation  
Metron Aviation, Inc.  
Draper Laboratory  
Northrop Grumman  
Federal Express  
Sabre  
Honeywell  
San Francisco International Airport  
Leigh Fisher Associates  
Seagull Technology  
Logistics Management Institute  
Southern California Association of Governments  
Maryland Aviation Administration  
Virginia Department of Transportation  
Los Angeles World Airports

# COE for Airport Technology (CEAT)



**FAA COE  
Program Manager**

**COE Executive Director  
David Lange**

**UI**

**RPI**



Secretary of Transportation  
Rodney Slater and University of  
Illinois student Bill Vavrik  
DOT COE Student of the Year

University of Illinois  
Rensselaer Polytechnic Institute  
NCA&T, ERAU

Grants: \$20.7 M  
Matching: \$ 20.7 M  
LOE \$ 41.4M

**PUBLIC PARTNERS**  
**O' Hare Modernization Program**  
**City of Chicago**

# Joint Center for Computational Modeling of Aircraft Structures (RITE)

- Members Designated by Congress:  
\$3M Operational 1993 through 1996
- Technology areas funded through matching grants:
  - Widespread Fatigue-Damage
  - Residual-Life and Residual-Strength Estimations
  - Mechanical and Composite-Patch Repairs
  - Life-Enhancement Methodologies
  - Discrete Source Damage

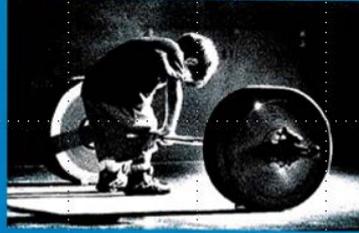


Rutgers University  
and Georgia Institute  
of Technology



First COE University Co-Director,  
Dean Ellis Dill, Rutgers,  
The State University of New Jersey

## Lessons Learned



**Communications and collaboration are key and take time. Lots of time!**  
**Sustainability planning is long term**  
**Evaluation should be done continuously**  
***Surround yourself with “can do” people***

# FAA Air Transportation Centers of Excellence



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Website: <http://www.faa.gov/go/coe>