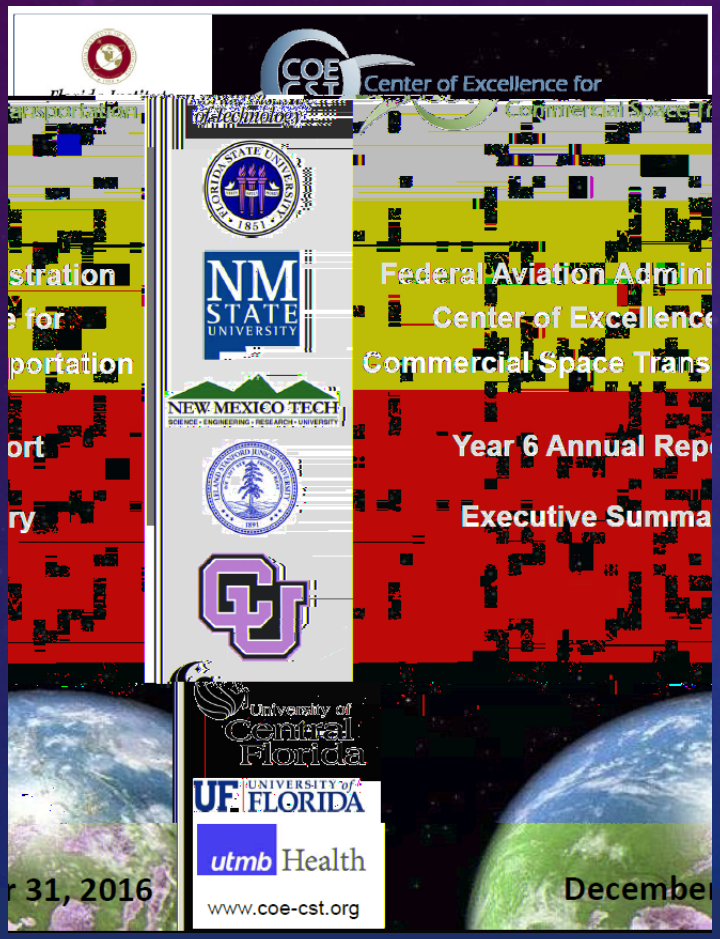
THE FAA CENTER OF EXCELLENCE FOR COMMERCIAL SPACE TRANSPORTATION

ANNUAL TECHNICAL MEETING | OCTOBER 10, 2017



James Vanderploeg, MD, MPH
Executive Director, COE-CST

ATM7 – Las Cruces October 10, 2017

Center of Excellence for Commercial Space Transportation

WELCOME AND LOGISTICS

- Safety Briefing
- Restrooms
- ISPCS on Wednesday & Thursday
- Tour of SPA on Friday morning (closed)
- COE-CST Organization
  - FAA Office of Commercial Space Transportation
  - Ten Core Universities
  - Growing number of Affiliate Universities and Organizations

INTRODUCTION
COE FOR COMMERCIAL SPACE TRANSPORTATION

- Established in August 2010
- Nine Core Universities
- Main goals include
  - research
  - training and education
  - outreach
- Self-sustaining by August 2020

Florida Institute of Technology
Florida State University 1851
NM State University
New Mexico Tech
Science • Engineering • Research • University
Leland Stanford Junior University 1891
University of Central Florida
UF University of Florida
utmb Health

Map of Core Member Universities and Affiliate Members

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COE CST
Center of Excellence for Commercial Space Transportation

AGENDA MORNING

Start	Agenda Item	
7:30 AM	***Meeting Registration and Breakfast*** *Hotel Encanto de Las Cruces, San Rafael Ballroom* *(Group Photo #1 at 8:15 AM)*	
8:30 AM	***ATM7 OPENING*** • Dr. James M. Vanderploeg, COE CST Executive Director ***NEW CORE MEMBER & AFFILIATES OVERVIEW*** • Dr. Jeff Sutton, Baylor College of Medicine • Mr. David Zuniga, Danish Aerospace Company • Dr. Moriba Jah, University of Texas-Austin • Dr. Tristan Fiedler, FIT, Additional Members ***COE CST YEAR 7 STATUS*** • Ms. Evelina Bern and Mr. Ken Davidian, FAA AST	
9:30 AM	***Comments on INDUSTRY VIABILITY Research*** • Mr. Ken Davidian, FAA AST	
9:45 AM	***HUMAN SPACEFLIGHT RESEARCH PANEL – Part 1***	
	Moderator • Dr. Dave Klaus, CU	***Panelists*** • Dr. David Klaus (320-CU, Commercial Spaceflight Risk Assessment) • Dr. Rebecca Blue (308-UTMB, Suborbital SFP Anxiety Assessment) • Dr. Tarah Castleberry (309-UTMB, Suborbital Pilot Training) • Dr. Jim Vanderploeg (310-UTMB, Increasing Cabin Survivability)
10:30 AM	***Sponsored Break***	
11:00 AM	***HUMAN SPACEFLIGHT RESEARCH PANEL – Part 2***	
	Moderator • Dr. Dave Klaus, CU	***Panel Discussion and Future Work*** • Dr. David Klaus (353-CU, Human Factors - Vehicle Design Focus) • Dr. Jim Vanderploeg (353-BCM, Human Factors - Physiological Focus)
12:00 PM	***Sponsored Lunch*** *(Group Photo #2 at 12:45 PM)*	

AGENDA AFTERNOON

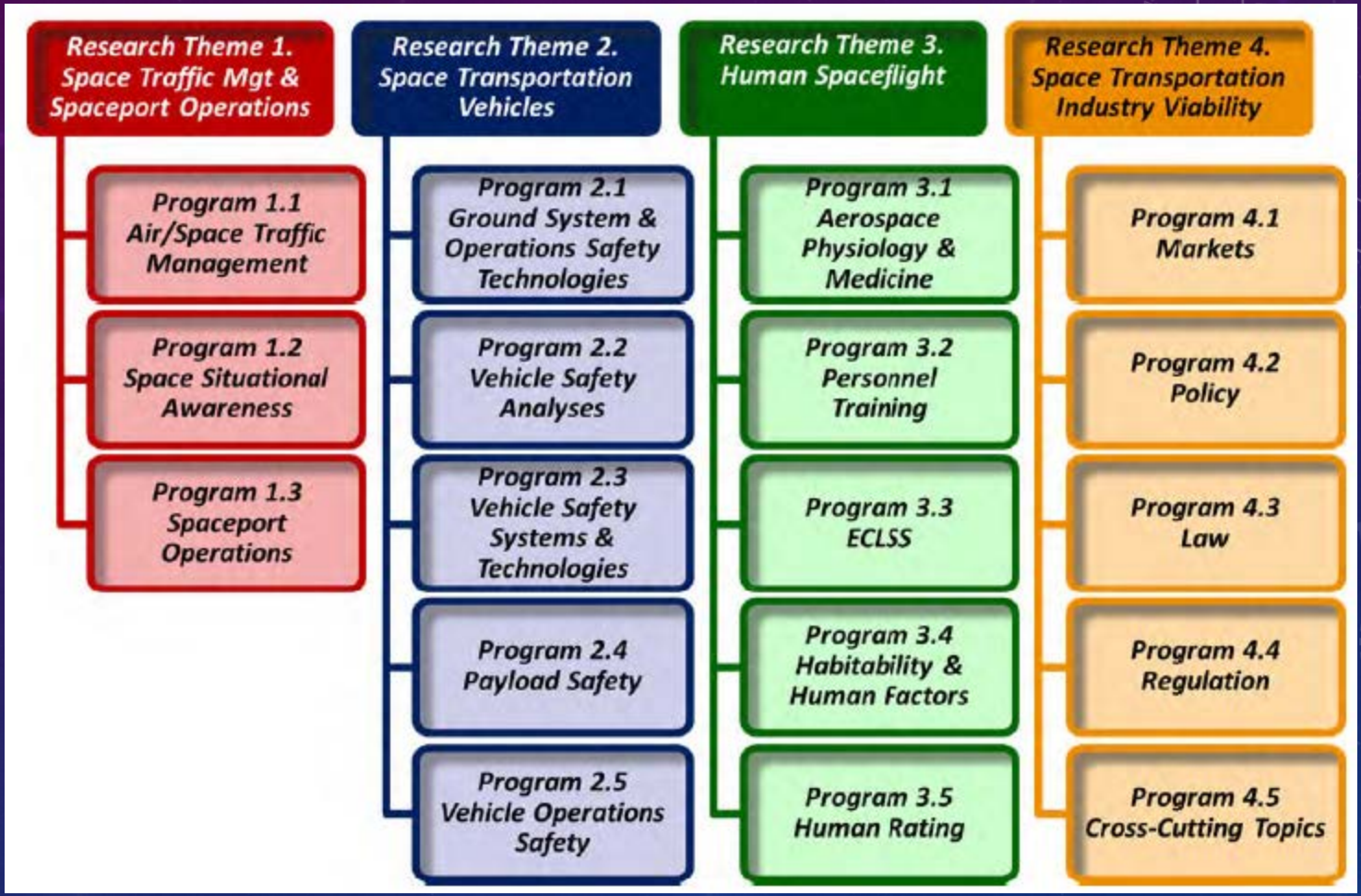
Start	Agenda Item	
1:00PM	***SPACE TRAFFIC MANAGEMENT PANEL***	
	Moderator	***Panelists***
	• Dr. Mykel Kochenderfer, Stanford	• Dr. Sigrid Close (186-SU, Probabilistic Debris Model Development) • Ms. Marielle Pellegrino for Dr. Dan Scheeres (187-CU, Space Situational Awareness) • Dr. Mykel Kochenderfer and Rachel Tompa (331-SU, Advanced 4D Special Use Airspace) • Dr. Joe Kleespies (319-UF, DebriSat) • Dr. Bill Lash (MITRE Associate Task) • Mr. Sven Kaltenhaeuser (Associate DLR-Interoperable Air and Space Traffic Management) ***Future Work*** • Dr. Moriba Jah (371-NMSU/UT Austin Space Object Database) • Dr. Tim Fuller-Rowell (186-CU, Whole Atmosphere Model Development) • Dr. Penina Axelrad, (367-CU, CubeSat Deployment Tracking)
3:00PM	***Sponsored Break***	
3:30PM	***TECHNOLOGY PANEL***	
	Moderator	***Panelists***
	• Dr. Andrei Zagrai, NMT	• Dr. Rajan Kumar (325-FSU, Optical Measurements of Rocket Thrust) • Dr. Bin Lim (299-NMT, Nitrous Oxide Composite Tank Testing) • Dr. Andrei Zagrai (323-NMT, Structural Health Monitoring Framework) • Dr. Subith Vasu (311-UCF, LED Absorption Sensor) • Drs. Jan Gou & Jay Kapat (253-UCF, Composite TPS Material) • Mr. Brian Barnett (Affiliate 307-SSC/NMSU COTS Satellite Comms) ***Future Work*** • Dr. Billy Oates (241-FSU, High Temperature, Optical Sapphire Pressure Sensors)
5:30PM	***CLOSING REMARKS*** • Dr. Jim Vanderploeg, et al.	
5:45PM	***Adjourn***	

OUTPUT OVER THE FIRST SIX YEARS

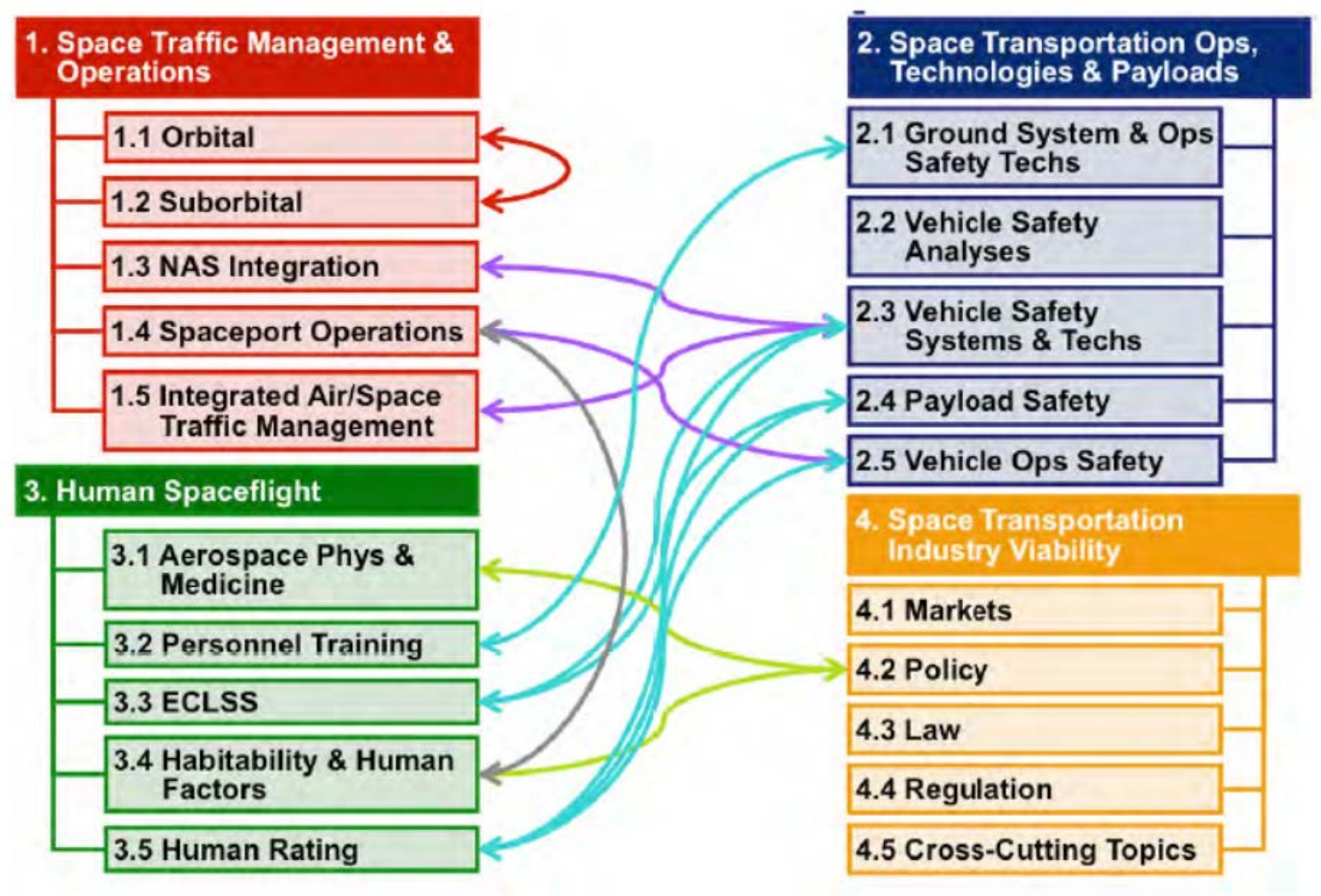
COE CST Year-by-Year Metrics	Year 1 (FY10)	Year 2 (FY11-12)	Year 3 (FY13)	Year 4 (FY14)	Year 5 (FY15)	Year 6 (FY16)
Active Tasks	34	24	28	28	36	22
Unfunded Tasks	34	22	22	11	6	5
Principal Investigators	27	28	29	25	31	22
Students	31	37	55	47	61	28
Publications	10	36	28	22	29	15
Research Partners	-	17	20	27	27	11
Industry Partners	-	29	44	55	57	11
Affiliate Members	0	1	6	6	6	6
Associate Members	-	-	-	3	6	3
Funding Profile	$2M	$2.4M	$1.1M	$1.1M	$1M	$1M
Administrative Overhead	13.6%	20.0%	9.9%	27.0%	19.7%	16.4%

WHERE WE ARE GOING

RESEARCH THEMES



RESEARCH AREA DEPENDENCIES



WEBSITE

- http://www.coe-cst.org
- Commercial Space Transportation Research Roadmap
- COE-CST Year-Six Annual Report