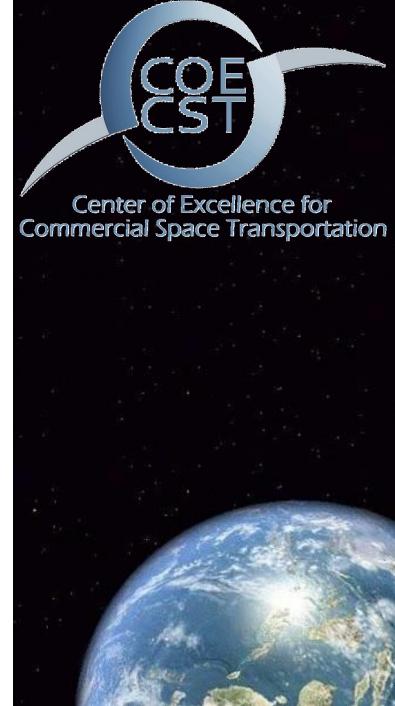
COE CST Fifth Annual Technical Meeting

Task 193:Role of COE CST in EFP

PI: George H. Born Bradley Cheetham

October 27-28, 2015 Washington, DC



Agenda

- Team Members
- Purpose of Task
- ESIL
- Other Support
- Publications
- Next Steps
- Contact Information



Team Members

- George H. Born Director Emeritus, Colorado Center for Astrodynamics Research
- Bradley Cheetham Instructor/Researcher, CU Boulder, Aerospace Engineering Sciences



Team Members – Sponsors









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Team Members – Supporters

- William Pomerantz Virgin Galactic
- Greg Autry UC Irvine
- Scott Hubbard Stanford Univ.
- Dan Lopez Urthecast
- Julian Mann Skybox
- Art Anisimov Dauria Aerospace
- Jordon Croom SSL
- Ward Hanson SIEPR
- Bruce Pittman NASA
- Steve Jurvetson DFJ

- Robert Lightfoot NASA
- George Nield FAA
- David Brandt LMCO
- A.C. Charania Virgin Galactic
- Charles Miller
- Mischa Fisher
- Carissa Christensen Tauri Group
- Richard Dalbello OSTP
- Lori Garver ALPA



Task Purpose

Objectives:

- Identify key industry characteristics to facilitate EFP efforts
- Host targeted workshops to engage students and young professionals
- Support conferences to educate students and young professionals
- Incorporate young professional perspectives in ongoing industry planning efforts



COE Research Objectives

Research

- Products of workshop and ongoing EFP supporting activities
- Training
 - Emerging Space Industry Leaders Workshop Series
- Outreach
 - Disseminating activity results, promoting a broader understanding of commercial space



ESIL Workshops

- Emerging Space Industry Leaders Workshop series
- Objectives:
 - Inform perspective, background, context
 - Perform group analysis
 - Network internal and external to industry
- Impact:
 - 83 participants
 - 3 publications complete



ESIL-01 – October 2011

- 26 participants
- Industry segments:
 - Point-to-point
 - Lunar Mining
 - Hosted Payloads
- Guest Contributors
 - Dennis Stone NASA JSC
 - Max Vozoff mv2space
 - Diane Dimeff eSpace





ESIL-02 – March 2012

- 12 Participants
- Industry focus:
 - Government role in commercial space
- Guest contributors
 - Richard Dunn DoD Acq.
 - Chris Shank dCoS L. Smith
 - Alan Ladwig NASA HQ
 - James Finch OSD
 - Jim Van Laak FAA AST
 - Clay Mowry Arianespace





ESIL-03 – November 2012

- 10 Participants
- Industry focus:
 - Commercial human spaceflight training
- Guest Contributors
 - Brienna Henwood



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ESIL-04 – June 2013

- 14 Participants
- Industry focus:
 - Microgravity utilization
- Guest contributors:
 - Sirisha Bandla CSF
 - Cassie Kloberdanz SNC
 - Dan Durda SwRI
 - Khaki Rodway XCOR





ESIL-05 – November 2013

- 5 Participants
- Industry focus:
 - Smallsat dedicated launcher
- Guest Contributors:
 - William Pomerantz Virgin Galactic



ESIL-06 – May 2014

- 7 Participants
- Industry focus:
 - Commercial remote sensing
- Guest Contributors:
 - Greg Autry UC Irvine
 - Scott Hubbard Stanford Univ.
 - Dan Lopez Urthecast
 - Julian Mann Skybox
 - Art Anisimov Dauria Aerospace
 - Jordon Croom SSL
 - Ward Hanson SIEPR
 - Bruce Pittman NASA
 - Steve Jurvetson DFJ







ESIL-07 – May 2014

- 12 Participants
- Industry focus:
 - Student non-profit strategy
- Guest contributors:
 - Robert Lightfoot NASA
 - George Nield FAA
 - David Brandt LMCO
 - A.C. Charania Virgin Galactic
 - Charles Miller
 - Mischa Fisher
 - Carissa Christensen Tauri Group
 - Richard Dalbello OSTP
 - Lori Garver ALPA





Impact



COE CST Fifth Annual Technical Meeting (ATM5) October 27-28, 2015



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Support Other Events

- SpaceVision Conference (2011, 2012, 2014, 2015)
 - Logistics/planning/speaker support
- Space Generation Fusion Forum (2012, 2013, 2014)
 - Logistics/planning/speaker support
 - Video recording support



Publications/Presentations

- Bandla, Sirisha, Bradley Cheetham, Rachel Hakeem, and Luis Zea, Applying Insights of Game Theory to the Microgravity Utilization Market, 65th International Astronautical Congress, Toronto Canada, IAC-14,E6,3,3,x24346
- Henwood, Brienna, Nathan Wong, John Stark, Ken Davidian, Bradley Cheetham, Kaizad Raimalwala, Matt Cannella, Liz Kennick, Sirisha Bandla, Jules Feldhacker, and Jim Crowell, "The 'Game' of Training Humans for Commercial Suborbital Spaceflight," 64th International Astronautical Congress, Beijing China, IAC-13-E6.2.3
- Cheetham, Bradley, Juliana Feldhacker, Angela Peura, Ashley Chandler, Cassie Kloberdanz, and Lewis Groswald, "Government's Role in Commercial Space from the Perspective of Emerging Industry Leaders," 63rd International Astronautical Congress, Naples Italy, IAC-12-E6.4-D4.2.1.



Next Steps

- Get to ESIL-10
 - Planning stages of 3 more ESIL workshops
 - Considering
 - DC in March
 - NYC, LA, and/or Seattle as destinations
- Seeking partner organizations to continue efforts
 - Multiple expressions of interest
 - Goal is to continue with "franchise model"



Contact Information

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Bit.ly/ESIL_Home

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