

COE CST Third Annual Technical Meeting:

Task 193: Role of COE CST in EFP

PI: George H. Born

October 30th 2013



Overview

- 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** – Graduate Research Assistant, CU Boulder, Aerospace Engineering Sciences
- **Juliana Feldhacker** – Graduate Research Assistant, CU Boulder, Aerospace Engineering Sciences

Recently Added Industry Partners



Purpose of the Task

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 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:
 - 62 participants and counting
 - 2 publications complete (1 in progress)

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



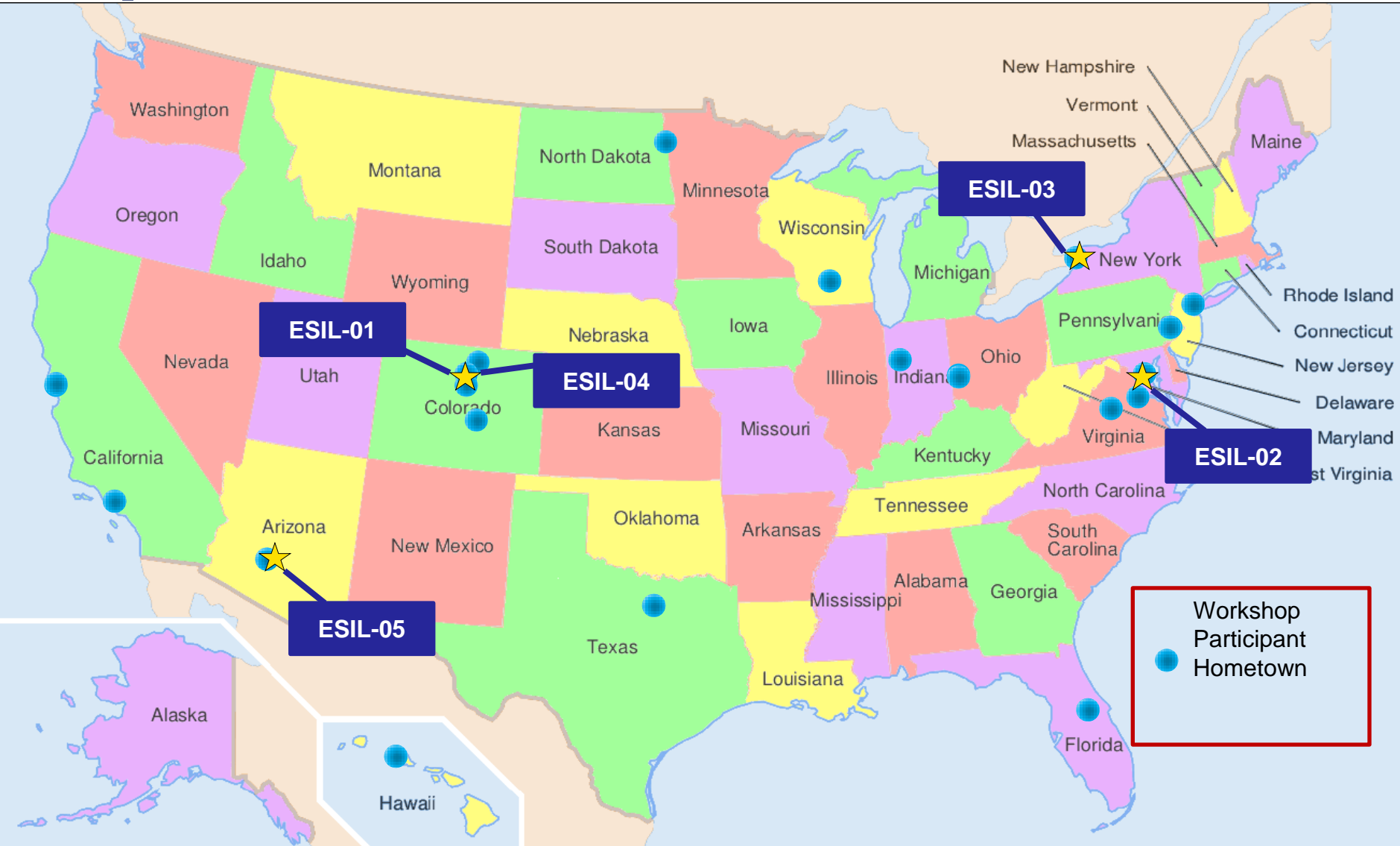
Pictured (L to R): Nathan Wong, John Stark, Ken Davidian, Brad Cheetham, Kaizad Raimalwala, Matt Cannella, Brienna Henwood, Liz Kennick, Sirisha Bandla, Jules Feldhacker, Jim Crowell.

ESIL-04 – June 2013

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



Impact



COE CST Third Annual Technical Meeting (ATM3)
October 28-30, 2013

Support Other Events

- SpaceVision Conference (2011 & 2012)
 - Logistics/planning/speaker support
- Space Generation Fusion Forum (2012 & 2013)
 - Logistics/planning/speaker support
 - Video recording support
 - Badge lanyards

Publications/Presentations

- **Microgravity Utilization** (paper in progress, venue TBD)
- Henwood, Brienna, Nathan Wong, John Stark, Ken Davidian, Bradley Cheetham, Kaizad Raimalwala, Matt Cannella, Liz Kennick, Sirisha Bandla, Jules Feldhacker, 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, 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.
- Cheetham, B.W., “**Theory Based Analysis of the Commercial Crew to Orbit Transportation Industry Structure and Evolution,**” IAC-12-E6.1.6, 63rd International Astronautical Congress, Naples, Italy, October 1-5, 2012.
- Cheetham, B.W., “**Strategic Evaluation of Commercial Crew to Orbit Transportation Industry Structure and Status,**” IAC-11-D4.2.1, 62nd International Astronautical Congress, Cape Town, South Africa, October 3-7, 2011.
- Cheetham, B.W., “**Industry Structural Analysis of Commercial Crew to Orbit Sector,**” IAC-10-E6.3.1, 61st International Astronautical Congress, Prague, Czech Republic, September 27 – October 1, 2010.

Next Steps

- ESIL-05 - Tempe Arizona - November 6th-7th
- Topic: Small spacecraft transportation to orbit (as hosted payload, secondary payload, or dedicated launch)
- Virtual forum
 - During workshop discussion
 - Post-workshop virtual sessions with industry members
- Future workshops
 - Silicon Valley, Boston, International, others?

Contact Information

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Bit.ly/ESIL_Home