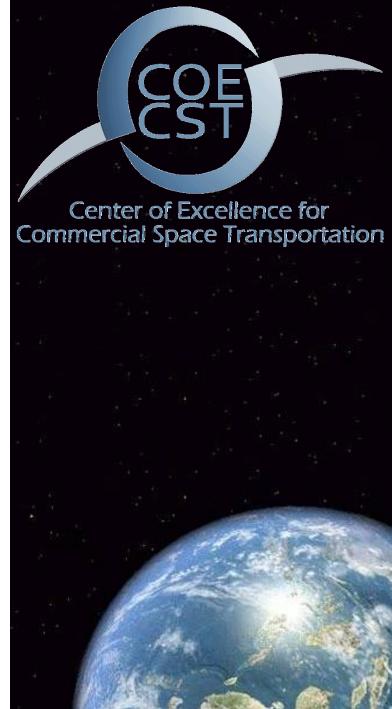
# COE CST Fifth Annual Technical Meeting

Insurers as Regulators of Space Safety and Sustainability

Dr. Ram Jakhu Andrea Harrington





October 27-28, 2015 Arlington, VA

# **Agenda**

- Team Members
- Task Description
- Schedule
- Goals
- Results
- Conclusions and Future Work



### **Team Members**



Dr. Ram Jakhu

October 27-28, 2015



**Andrea Harrington** 

Center of Excellence for



# **Task Description & Context**

- Lack of political will for new binding international requirements, national or agency requirements are not necessarily harmonized
- Technology is changing and advancing; Need exists to balance safety and sustainability with commercial viability
- Insurance is the 3rd greatest cost
- Space insurance industry needs to evolve
- Insurers can set requirements to obtain insurance or premium levels for levels of compliance
- Precedent for insurer-led regulation exists

## Schedule

- Area of research was proposed by Andrea Harrington for supervision by Ram Jakhu in 2013
  - Since then, presentations have been made at a half dozen conferences with papers produced on the topic, significant progress has been made
- Discussed and accepted as a topic for CoE CST attention in early 2015 following completion of last year's CoE CST research goals

#### Goals:

- Explore issues inherent in the offering, procurement, and handling of traditional areas of space insurance
- Provide public policy and regulatory explanations and recommendations
- Compare aviation and space insurance in the context of reusable craft
- Analyze the role of informed consent and liability waivers / insurance for spaceflight participants

## Goals: Evaulate possibility of insurers:

#### Setting standards for debris mitigation:

- Limitations on mission-related debris
- End-of-life requirements to meet or exceed other guidelines
- Technical capability evaluation: evasion, graveyarding, shielding

#### Providing collision avoidance services:

- Purchase situational awareness services, act as point of contact for all insureds
- Provide technical guidance re: possible maneuvers

## **Results** (Presentations with Papers)

- Spaceflight Participant Liability and Insurance, DCL Research Series (Montreal) November 2014
- Risk Management in the Intermediate Frontier, 3rd Manfred Lachs International Conference on NewSpace Commercialization and the Law (Montreal) March 2015
- Leveraging Insurance for Commercial Space: Managing Legal and Regulatory Challenges, 31st Space Symposium (Colorado Springs) April 2015
- Debris Mitigation as an Insurance Imperative, IAC (Jerusalem) October 2015
- Innovations for Insurers in Space Traffic Management and Weather Forecasting, Space Traffic Management (Daytona Beach, FL) November 2015

# Results (Related Publications)

- Legal Considerations for Commercial Space: An Overview in New Space Volume 3: Issue 2 (2015)
- State Spaceflight Liability and Immunity Acts in Context in Emerging Space Activities, Leuven Global Governance Series, Edward Elgar Publishers (accepted and awaiting publication)
- Legal And Regulatory Challenges To Leveraging Insurance For Commercial Space, submitted and under review by Journal of Space Law

## **Conclusions and Future Work**

• <u>Final Remarks</u>: Important not to underestimate the role of insurance in the development of the commercial space industry

 Next steps: Completion of Andrea's Thesis & Thesis Defense (1st half of 2016), Risk Management in Space: Insurance and Legal Issues in the Growth of Commercial Space Activities; publication of comprehensive volume