COE CST Fifth Annual Technical Meeting

Task 310: Assessment of methods, procedures, and technologies available for protection of SFPs in commercial spaceflight vehicles

James Vanderploeg, MD, MPH

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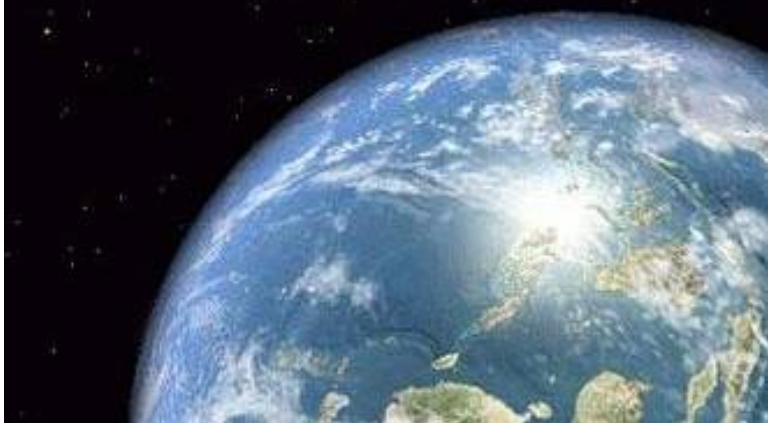
Center of Excellence for Commercial Space Transportation



Agenda

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

Team Members

- Principal Investigator: James Vanderploeg, MD
- Co-Investigators: Charles Mathers, MD; Rebecca Blue, MD; Tarah Castleberry, DO
- Residents: Benjamin Johansen, DO; Robert Mulcahy, MD; Rahul Suresh, MD; James Pavela, MD

- Requesting data from commercial space flight companies

Task Description

- This project will evaluate methods to enhance the safety of the cabin environment and improve space vehicle crashworthiness, individual restraint systems, emergency evacuation systems, and survival equipment.

Schedule

- Complete literature review and analysis in 2015/2016
- Compare current spaceflight operators' interior cabin designs with historical precedents for cabin safety.

Goals

- Optimization of crew and passenger compartments to promote the survival of occupants during human spaceflight operations is a necessary component of vehicle interior fit out.
- Dedicated efforts towards the enhanced safety and advanced crashworthiness of spaceflight vehicles will improve the success of commercial space endeavors.

Results

- Pending

Conclusions and Future Work

- Literature search underway
- Students being trained in conducting and evaluating relevant literature review

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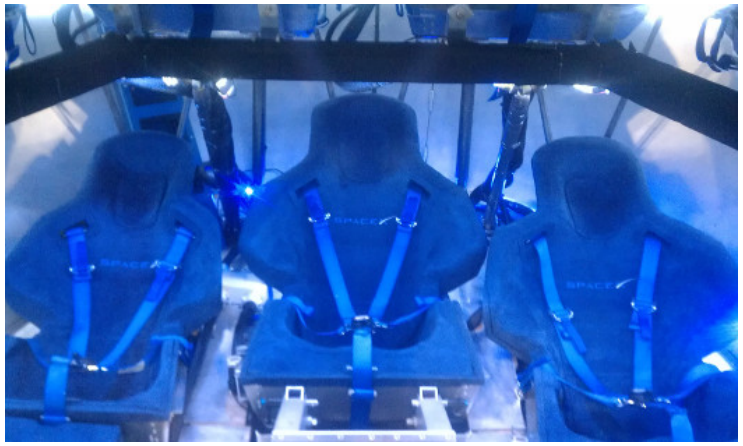
Aerospace Medicine



Project At-A-Glance

- University: The University of Texas Medical Branch
- Principal Investigator: James Vanderploeg, MD
- Co-Investigators: Charles Mathers, MD; Rebecca Blue, MD; Tarah Castleberry, DO
- Residents: Benjamin Johansen, DO; Robert Mulcahy, MD; James Pavela, MD; Rahul Suresh, MD

Relevance to Commercial Spaceflight Industry

- Optimization of crew and passenger compartments to promote the survival of occupants during human spaceflight operations is a necessary component of vehicle interior fit out. Dedicated efforts towards the de-lethalization and advanced crashworthiness of spaceflight vehicles will improve the safety of commercial space endeavors.

Statement of Work

- This project will evaluate methods to enhance the safety of the cabin environment and improve space vehicle crashworthiness, individual restraint systems, emergency evacuation systems, and survival equipment.

Status

- Literature search underway
- Students being trained in conducting and evaluating relevant literature review

Future Work

- Complete literature review and analysis.
- Compare current spaceflight operators' interior cabin designs with historical precedents for cabin safety.