

COE CST Sixth Annual Technical Meeting

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

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Agenda

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

Team Members

- Principal Investigator: Charles Mathers, MD, MPH
- Co-Investigators: James Vanderploeg, MD, MPH; Rebecca Blue, MD, MPH; Tarah Castleberry, DO, MPH
- Resident: Alejandro Garbino, MD, PhD

Task Description

- This project will evaluate methods to enhance the safety of the cabin environment
- Focusing on crew extraction

Schedule

- Complete literature review and analysis in 2016 – *in progress*
- Submit abstract for Aerospace Medical Association 2017 Annual Scientific Meeting in Denver, CO
 - Build a model of "best practices" for commercial space operations support
 - Reference NTSB recommendations from Scaled Composites crash investigation report
- Extraction Workshop – *tentative Spring 2017*
 - IndyCar
 - USAF 17th Test Squadron
 - NASA
 - Commercial Space Operators

Goals

- Dedicated efforts towards the enhanced safety of crew extraction in spaceflight vehicles will improve the success of commercial space endeavors.
- Direct applicability demonstrated by NTSB safety recommendations from Scaled Composites crash investigation
 - A-15-027 → Emergency response procedures and planning
 - A-15-028 → Human factors guidance throughout design and operation of crewed vehicle

Results

- Pending

Conclusions and Future Work

- Literature review in progress
- AsMA 2017 abstract
- Extrication Workshop planned for Spring 2017

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PROJECT AT-A-GLANCE

- UNIVERSITY: University of Texas Medical Branch
- PRINCIPAL INVESTIGATOR(S): Charles Mathers, M.D., M.P.H
- STUDENT(S): Alejandro Garbino, M.D., Ph.D.

RELEVANCE TO COMMERCIAL SPACE INDUSTRY

- Dedicated efforts towards the enhanced safety of crew extraction in spaceflight vehicles will improve the success of commercial space endeavors.
- Direct applicability demonstrated by NTSB safety recommendations from Scaled Composites crash investigation

STATEMENT OF WORK

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STATUS

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FUTURE WORK

- Extraction Workshop – *tentative Spring 2017*
 - IndyCar
 - USAF 17th Test Squadron
 - NASA
 - Commercial Space Operators

Publications, Presentations & Awards

PUBLICATIONS

Menon AS, Jourdan D, Nusbaum DM, Garbino A, Buckland DM, Norton S, Clark JB, Antonsen EL. Crew Recovery and Contingency Planning for a Manned Stratospheric Balloon Flight - the StratEx Program. Prehosp Disaster Med. 2016 Aug 30:1-8. [Epub ahead of print] PMID: 27573155.

Garbino A, Nusbaum DM, Buckland DM, Menon AS, Clark JB, Antonsen EL. Emergency Medical Considerations in a Space-Suited Patient. Aerosp Med Hum Perform. 2016 (in press)