



Ken Gee

PSAM12 Speaker Bio

Physics-based Entry, Descent and Landing Risk Model

Short Statement: Ken Gee is the first author and speaker for this paper.

BIOGRAPHY

Ken Gee is part of the Engineering Risk Assessment (ERA) Team at NASA Ames Research Center. Over the last eight years, Ken has been developing and applying physics-based models to assess the loss-of-crew risk resulting from failures during the ascent and entry, descent and landing (EDL) phases of manned space missions. To evaluate risks associated with aborts during the ascent phase, Ken developed an abort return trajectory risk model and a debris strike risk model. The abort return trajectory risk model computed crew vehicle trajectories to determine the probability of failing to reach designated landing sites. The debris strike risk model generated a launch vehicle debris field, computed the debris field trajectory and predicted the probability of the crew vehicle being struck by the debris during its abort return trajectory. Ken was part of a group that developed a model to assess the risk of thermal protection system (TPS) failure during the EDL phase of a manned space mission. This model is the subject of the paper being presented at PSAM12.



Ken has over 24 years of experience working at NASA Ames as a contractor and civil servant. During his career, he has worked on a variety of research topics, including development of software agents to help solve multidisciplinary optimization problems, development of an aeroelastic analysis capability using an overset grid computational fluid dynamics (CFD) solver and conducting CFD research into high angle of attack aerodynamics and flow control.

Ken received Bachelors and Masters of Science degrees in Aeronautical Engineering from California Polytechnic University, San Luis Obispo and an Engineer degree in Aeronautical Engineering from Stanford University.