

LMAG lunch MEETING MINUTES



DATE: Thursday Jan 16th, 2024

TIME: 11:30 AM

LOCATION: La Fonda

Call to Order Scott Atkinson

Warren Conner Introduced the Guest Speaker:

Ben R Jurewicz Adjunct Engineering Professor at St. Mary's University

▪ **ExCom Members Attending**

- Warren Conner, Chair
- Clif Denny, Webmaster (Not able to attend this month)
- Scott Atkinson, Treasurer and Vice Chair
- Curtis Cryer, Vice Chair
- John Lyons, Secretary

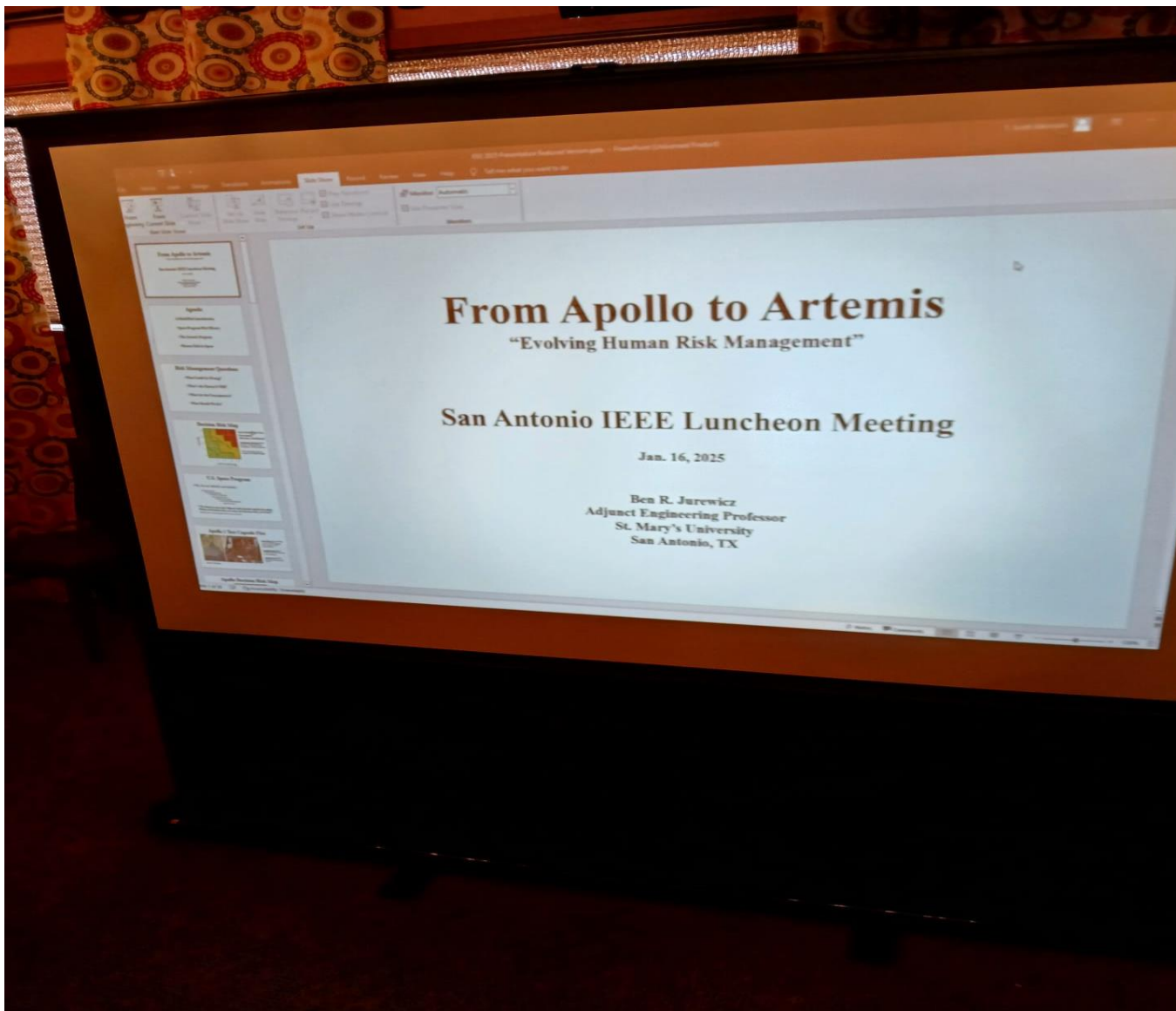
▪ **Financials**

- 18 attendee, 13 LMAG IEEE members, 4 guests and the guest speaker
- Collected \$15 per member and \$20 for Each Guest with exception of the Speaker

▪ **Meeting topic**

- The main content of the presentation was risk assessment, management and Mitigation in the Space Program using mathematical modeling techniques
- Slides from the Morton Thiokol booster failure in 1986 in Florida were shown and explained
- the cause of the disaster was the failure of the primary and secondary [O-ring](#) seals in a joint in the right [Space Shuttle Solid Rocket Booster](#) (SRB). The record-low temperatures on the morning of the launch had stiffened the rubber O-rings, reducing their ability to seal the joints.
- The commission criticized [NASA's](#) organizational culture and decision-making processes that had contributed to the accident. Test data since 1977 demonstrated a potentially catastrophic flaw in the SRBs' O-rings, but neither NASA nor SRB manufacturer [Morton Thiokol](#) had addressed this known defect. NASA managers also disregarded engineers' warnings about the dangers of launching in cold temperatures and did not report these technical concerns to their superiors.

- Information regards the opposite opinions of Launch vice wait between management and engineering was described and explained. Engineering was against launch because of cold weather
- Ultimate decision to launch resulted in tragedy and in depth analysis of causes of the failure with resultant modification of future risk assessment techniques
- Additional slides depicted and explained the loss of the, [Space Shuttle Columbia](#) disintegrated as it [re-entered the atmosphere](#) over [Texas](#) and [Louisiana](#), On Saturday, February 1, 2003
- The mission, designated [STS-107](#), was the twenty-eighth flight for the orbiter, the 113th flight of the Space Shuttle fleet and the 88th after the *Challenger* disaster.
- During launch, a piece of the [insulating foam](#) broke off from the [Space Shuttle external tank](#) and struck the [thermal protection system](#) tiles on the [orbiter](#)'s left wing. Similar foam shedding had occurred during previous Space Shuttle launches, causing damage that ranged from minor to near-catastrophic, but some engineers suspected that the damage to *Columbia* was more serious. Before reentry, [NASA](#) managers limited the investigation, reasoning that the crew could not have fixed the problem if it had been confirmed. When *Columbia* reentered the [atmosphere of Earth](#), the damage allowed hot atmospheric gases to penetrate the [heat shield](#) and destroy the internal wing structure, which caused the orbiter to become unstable. Break apart. Many stayed after for additional Q&A.



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- Scott awarded Professor Jurewicz the traditional Yeti cup.



▪ **Meeting Discussions**

- Next LMAG lunch meeting is in February 20th, Thursday.

SECRETARY APPROVAL: *John A. Lyons 1/18/2025*
(Signature & Date)
