
	<p><b>Technical committee (TC8)</b></p> <p>for</p> <p><b>Aeronautics and Space Electromagnetic Compatibility</b></p>	
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## Symposium Meeting Minutes

**Place:** Ernest N. Morial Convention Center, New Orleans, LA  
**Date:** Wednesday, July 24 2019  
**Time:** 1200 – 1300 hrs  
**Room:** 201A

**Chair:** Jim Lukash  
**Vice Chair:** Pablo Narvaez  
**Secretary:** Paul Edwards (outgoing), Jen Dimov (incoming)  
**GOLD Officers:** Jen Dimov (outgoing), Ed Gonzales, Manny Soriano

- Welcome - 50 Years Ago Today – Apollo 11 Splashdown
  - One hour ago was the conclusion of Apollo 11 mission.
- Welcome - Introductions (Chair)
  - Jim Lukash welcomed all participants and invited them to enjoy the provided lunch buffet.
  - Personal Introductions – Individuals introduced themselves and the organization they represented.
  - Sign-in sheet was circulated. **Recorded 49 attendees!!**
  - Each received Commemorative Coin
  - TC8 membership list has been updated
- Review of Meeting Agenda (Chair)
  - Jim presented a review of the agenda – No additional agenda items were noted at that time.
- Review and approval of the August 1, 2018 meeting minutes (Secretary)
  - 2018 meeting minutes were sent to the Chair for post on TC8 EMC Society Web Page
- Review of TC8 Charter and Membership Criteria (Chair) (10:00)
  - Jim described the Charter our committee:
    - Concerned with EMI/EMC issues in aircraft, spacecraft & space launch vehicles, both robotic and crewed.
    - Aerospace Environment presents unique challenges that influences the design, development, test and operation of aerospace systems, in order to avoid EMI and achieve EMC.

- Aerospace & Space EMC covers broad range of topics from the part level (part, board, box, system, multi-system, & platform) through planetary and interplanetary environment levels.
    - Harshness of the environments (atmospheric, launch and space) generally necessitates a broader view of EMC issues than most terrestrial practitioner's face that leads to creative methods for solving problems that readily translate to applications on Earth.
  - What does this committee actually do? Why do we exist?
    - We serve to:
      - Be a resource to EMC Society Board of Directors on all matters associated with Aeronautics and Space EMC.
      - Organize Special Sessions of invited papers and workshops for annual Symposium
      - Help recruit authors for papers, poster papers at annual symposium and articles for society's journal /newsletter.
        - For those that have interest in authorship feel free to contact us any time and we will help you to get it done.
      - Provide SME's to peer review papers in order to ensure high quality of papers submitted for publication at annual symposium
      - Initiate and/or contribute to standards activity in our technical area.
      - Monitor and inform the larger membership of new developments in our technical area.
- Review of the Committee Membership (Secretary & Chair) (11:30)
  - Normal to have periodic elections for officers – TC8 officers are elected for a two-year term, and may stand for re-election multiple times.
  - Any newly elected officers will take over their roles at the end of this meeting.
  - Three individuals in the role of “Officer at Large”, but we are open to multiple persons for the position. Attend Officers meetings in Non-Voting capacity.
  - Election of Officers held at 2018 Symposium – Existing officers have one year remaining.
    - Unfortunately – Secretary needs to resign for personal reasons
      - Paul Edwards to leave secretary position
    - Elect a new secretary for one year term to keep elections aligned
    - Chair invited nominations for new secretary
      - Jennifer Dimov – nominated by Vice Chair(Pablo)/seconded
      - No other nominations ... No opposition to nominee
      - Congratulations Jen – you have a new job. (Applause) (14:00)
  - Any new interest for “Officers at Large” – self-nominate/nominate others?
    - Benefit from GOLD Officers help -
  - Chair Thanked

- Subcommittees of TC8 (15:30)
  - TC8 has no sub-committees currently
    - Aeronautics and Space EMC - broad work area to envision sub-committee creation. Eg: Drones had been discussed previously
  - TC8 Officers are open to sub-committee formation if meet basic criteria
    - Sufficient interest within a topic area for a sub-committee – measured by papers, sessions/workshops held.
    - Leadership committed to leading sub-committee
    - Subs will report to TC8 leadership
    - Subs will exist while there is interest and leadership support
  - TC8 Officers welcome any and all sub-committee proposals
    - At TC8 Meetings
    - *Ohura is monitoring all sub-space frequencies* (Phone/ Email..)
    - Sub-committee in Cube-Sats (Vice-Chair)
    - Sub-committee on Aerospace Standards (from floor – Randy Jost)
      - 1. Review Standards & Best Practices
      - 2. Detailed Appendix material/Tailoring Guidelines
      - Contact Randy if you have interest in working this SC
    - Any other ideas?
  
- Summary of Work Accomplished 2018-2019 (Chair) (21:00)
  - Symposia
    - TC8 supported
      - Long Beach Symposium (2018)
        - 12 papers submitted / 6 accepted
        - Quality over Quantity
        - Ask Experts Panel /2 Workshops/2 demonstrations
        - Sponsored tour of JPL
      - New Orleans Symposium (2019)
        - 5 papers submitted, 3 accepted
        - Ask experts / 2 workshops / 2 demonstrations
        - Tour NASA Stennis facility
        - Supported Global University
        - Co-sponsored G46 Committee
  
  - Standards Activity (22:25)
    - Many things going On:
      - AIAA-S-121-2017 – Tailoring of MIL-STD 461 is on its Review, Revise, Replace schedule. Hiatus for two years.
      - April 2019 – Aerospace released Technical Operating Document (TOR) detailing how to tailor for procurements from Space and Missile Center (SMC). Public review and comments. Aerospace will disposition findings and release later this year.
    - ISO TC20/SC 14 – International Space Standards committee

- TC8 (Pablo Narvaez) supported meeting in London, UK
  - Acknowledge Noel Sargent for initiating these standards in 2002, working with international partners from Europe (ESA, Airbus...) & Asia – Japan, China
  - Updating:
    - ISO14032-2002 – Space EMC Standard (Noel)
      - Document in revision
    - DC Magnetic field measurement
    - Compact Range Testing of Spacecraft
  - Pablo Supported meeting: Washington DC – Nov 6-8 2018
    - Productive meeting – convergence on requirements
  - Next ISO meetings:
    - ESTEC, Netherlands: (ISO 14302)
    - St. Petersburg: DC Magnetic Requirements
    -
- HANDBOOK of Aerospace EMC Published
  - Founding member of SC7 committee, Ray Perez was the editor
    - Other Members contributed Chapters
    - Very good Volume – Great technical content written in language that is easy to comprehend. (Chair)
    - Available Wiley/IEEE Press.
    - Ray Perez – Facilitator for New authors with Wiley/Publish through IEEE Press
- TC8 - Five Year Plan (31:25)
  - Chair showed TC8 5 yr Plan Matrix showing future Symposiums and committee activities:
    - IEEE2020 – Reno
    - Need member support for Special sessions – topic ideas for invited papers: Lightning? Configuring Payloads for Launch? Aircraft wing mitigation P-Static? Or whatever? Approach Officers and will help you get special session together.
    - Additonal – Ideas for workshops, demos – Please let us know.
    - Open for Student Opportunities
    - Many Opportunities for technical participation.
  - Big Sky – IEEE Aerospace Conference
    - Outreach to other Technical Communities about EMC
      - Importance of EMC to Avionics, System Engineers, Mission Planners.
      - Dr. Bob Scully had idea to go to Big Sky and help educate the Avionics design community.
      - New organizer: Pablo Narvaez
        - Session in Avionics Track

- Invite abstracts/papers
  - Well-organized conference - Open to any and all potential participants
  - Widely Attended conference – important opportunity for EMC outreach to many technical disciplines.
- **Special Recognition(Chair)**
  - Recognize Jen Dimov just moved from Officer at Large to Secretary
  - She was trailblazer for Officer at Large position and what a success story she has been. Having co-chaired paper sessions, organized workshops, performed experiments/demonstrations and personally organized the Stennis Tour
  - She has blazed the trail, defined the role “Officer at large” and leaves a roadmap for others to follow and a tremendous legacy of achievement
  - Thank you and Congratulations Jen!
  - Accolades from John McClosky & Pablo Narvaez
- **Old Business (40:25)**
  - University Outreach – In past we have talked about:
    - Student Paper Recruitment
    - CubeSats
    - Recruiting Young people into the business
      - Introducing: Nika Amralah
      - Student at Carlton University, Ottawa, Canada
      - Major in Space Systems
      - Engineering intern at Raymond EMC
      - Interested in future intern opportunities or advice to getting into Aerospace EMC
      - Nika’s Contact details:
  - New society – Society of Women in Space (Exploration) (SWISE) (Pablo)
    - <https://www.swise.org/>
    - Started in Southern California – spread like WildFlowers / Fires throughout US, and has just gone International.
    - University Outreach to one of their Chapters and is now Pablo is part of their advisory board.
  - Any other ideas – please email Jim/Pablo
    - Anyone going to SmallSat conference – suggest a booth
    - Members going to other conferences and there is overlap with what we’re doing then contact one of the officers and we’ll help make things happen.
    - Need young blood into the business and pass the torch forward.
- **New Business (44:15)**
  - Chair challenged floor for any new business
  - Any Concerns, Complaints (does that include whining !)
  - Nothing heard.

- Closing Remarks (44:15)
  - Chair – Thanked everybody for showing up and participating
  - We are open, wide-open – Anybody who has ideas this committee is listening and will help you make it happen
  - We've been very successful – Thanks to the volunteers and their hard-work.
  - This Society, this committee is what you want it to be, so you decide what you would like and we'll figure out how to make it happen.
  - Next General Meeting – in Reno, Nevada
  
- Adjournment (44:15)

See you all @ 2020 IEEE in Reno

Post Meeting Suggestion from: ???

Need IEEE Lightning Qualification Standard

- Purpose: To provide a standard Qualification of aircraft parts for Lightning Strikes – Direct effects (Indirect effects?)
- Provide Test Levels for Qualification
- Provide Test methods
- Provide Test Plan and Reporting
- Based on SAE/DO Test Methods but must be original IEEE work
- Applicable to Civil/Military Aircraft

