GSAW 2024 Tutorial C: Half Day

Ground Systems Introduction

Overview:
Course Outline:
- Ground Systems Overview
    - Scope
    - Definitions
        - Within space missions
        - Within ground systems
    - Functionality
    - Modes of operation
    - Allocation of functions to achieve the required capabilities
    - Final Thoughts and Summary
- Architecture and Technology Considerations for Ground
    - Current Ground Environment
    - Networks
    - Amazon Ground Station (AGS)
    - Continuous Integration / Continuous Deployment (CI/CD)
    - Agile Software Development
    - Cloud
    - Big Data and Data Mining
    - Artificial Intelligence / Machine Learning
- Summary

Instructor:
Donald Sather, The Aerospace Corporation

Biography:
Donald Sather has over 38 years of experience working with the United States space community at The Aerospace Corporation. The first 8 years of his career consisted of designing, integrating and testing radiation-hardened embedded processing components and systems for several different spacecraft programs. For the last 30 years, he has been designing, integrating, testing and upgrading individual ground systems as well as entire ground facilities to support various satellite and booster programs. He has served as the Chief Engineer for the US Air Force Satellite Control Network and Launch Ranges. He also has experience as a satellite operator and managed a telemetry processing center. He currently serves as a Technical Fellow of The Aerospace Corporation.

Description of Intended Audience and Recommended Prerequisites:
Personnel responsible for the staffing, management, acquisition, development, and/or maintenance of ground systems. No specific ground system expertise is required. The material is DOD-centric.

What can Attendees Expect to Learn:
Exposure to tutorial material on topics of high current interest in satellite operations ground systems. Increased awareness of ground station functions, COTS, and current/future ground station design trends.