

GSAW 2014 Tutorial I:

Introduction to Satellite Communications: Vehicle Telemetry and Command Paths

Length: Half day

Overview:

This half day course provides attendees an introduction to satellite communications with a focus on the telemetry and command paths. Attendees will follow the flow of satellite telemetry and commands between the space--vehicle and the operator. Each step in the path (spacecraft, space link, antenna site, ground network and control center) is described; areas of complexity discussed; criteria for architectural decisions are highlighted; and technology trends are presented.

Instructors: Rob Andzik, Randy Culver, Jeff Papenfuss, AMERGINT Technologies

Biographies:

Rob Andzik loves working in the space industry. He graduated from CU with a BS in Aerospace Engineering and Computer Science. Previous experience at Lockheed Martin and RT Logic. He is co-chair of the OMG Space Domain Task Force and co-author of the Ground Equipment Monitoring Service (GEMS) specification. He enjoys spending time with his family and riding his mountain bike. He also works with a small relief organization in Kenya and Ethiopia called Lalmba. Randy Culver enjoys working with our customers to understand what they need to implement their systems. Systems Architect/Manager for 25+ years. MSEE – Purdue, BS – VA Tech ... Go Hokies! Prior Experience at IBM and RT Logic. Fun Fact: Bike racing, travel, and outdoor activities keep me entertained.

Jeff Papenfuss enjoys solving complex, multidisciplinary problems for our customers. Systems Architect / Engineer for 20 years, MSEE – UCCS, BSEE – UNM. Prior experience at RT Logic, Intel, Xircom, Voicestream, and Omnipoint. Fun Fact: Coaching my 3 kids, travel, and playing guitar fill my spare time.

Description of Intended Students and Prerequisites:

Students should be familiar with the space domain and have a basic understanding of satellite operations.

What can Attendees Expect to Learn:

Upon taking the course, students will have an understanding and appreciation of the ground and space communication links and the complexities involved.