

## **GSAW2007 Tutorial C:**

CCSDS Short Course

**Length:** Full Day

### **Overview:**

Avtec's CCSDS Short Course addresses the Consultative Committee for Space Data Systems (CCSDS) recommendations for packet telemetry and command systems. Topics include packet telemetry, telemetry channel coding, packet telecommand, and command operating procedure (COP-1). Case studies are presented exploring current CCSDS satellite and ground system architectures. The course also provides an overview of the newest CCSDS standard, including the Space Communications Protocol Standards (SCPS), Internet Protocol in Space, CCSDS File Delivery Protocol (CFDP), and Space Link Extensions (SLE).

**Instructor:** Rob Ritter, Avtec Systems, Inc.

### **Biography:**

Robert Ritter has 23 years of experience in the Defense and Aerospace industry. He began his career as an RF and Digital Signal Processing engineer, and he founded the commercial products division of Avtec Systems, Inc. in 1989. Since then, he has led many systems engineering and simulation efforts, and has architected processing and communications networks for DoD and civil space programs. Robert was responsible for Avtec's first development of an interoperable gateway between AFSCN and civil space ground assets, and he leads the company's technical relationships with industry and government partners from around the world. He has a BS in Electrical Engineering from the University of Virginia, an MS in Electrical Engineering from Virginia Tech, and an MBA from George Mason University.

### **Who Should Attend:**

Technical persons interested in learning applications, use and formation of the principals of this international standard for telemetry protocols.