GSAW 2005 Tutorial H:

Software Testing for Mission-Critical Ground Systems

Length: Half day

Overview:
Testing is one of the most critical development activities from a mission assurance perspective. This tutorial will define the various levels of software testing from software unit testing through ground system testing and will describe the characteristics of those levels of testing that are necessary for a robust software test program. Exit criteria for each level of software testing will be described, as will best practices from the field of software testing and requirements of the new “Software Development Standard for Space Systems”. Software and system life cycle models will be described, and how software testing fits into these life cycle models will be highlighted.

Instructor: Suellen Eslinger, The Aerospace Corporation

Biography:
Suellen Eslinger is a Distinguished Engineer at The Aerospace Corporation with over 40 years experience in software engineering and the acquisition of software-intensive systems. During her 23 years at Aerospace, she has supported numerous Air Force and NRO space programs. She is a Principal Investigator for software acquisition research and also leads curriculum development and delivery of software acquisition training courses for The Aerospace Institute. Previously, she worked at Computer Sciences Corporation (CSC) and General Research Corporation (GRC), where she developed software and managed software development projects for DoD and NASA systems. Ms. Eslinger is widely published and has given numerous conference presentations and tutorials in the fields of software engineering and software acquisition. She has B.S. and M.S. degrees in mathematics, from Goucher College and University of Arizona, respectively.

Description of Intended Students and Prerequisites:
Intended participants include (1) software engineers and systems engineers responsible for ground systems development and (2) software acquisition personnel responsible for acquiring or supporting the acquisition of software-intensive ground systems. Some background in software engineering is required.