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# **Working Group 11A**

## **Architecture-Centric Evolution (ACE) of Software-Intensive Systems**

### **Chairs**

**John Arcos, The Aerospace Corporation**

**Sergio Alvarado, The Aerospace Corporation**

**Sheri Benator, The Aerospace Corporation**

**Eric Dashofy, The Aerospace Corporation**

**Jeff Estefan, Jet Propulsion Laboratory**

**Scott Hendrickson, The Aerospace Corporation**

**Mark Nixon, The Aerospace Corporation**

**Phil Schmidt, The Aerospace Corporation**

# ACE Working Group Goals

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- **Eighth of a GSAW series**
  - ❖ Forum for software-intensive system experts, users, developers & researchers to collaborate and elucidate high-level recommendations for improving software architectures representation, development, & analysis
- **Topic**
  - ❖ *Innovative Approaches to Software Architecture Development and Analysis*
- **Presentations & panel discussions**
  - ❖ Focus on innovative approaches, both applied (including experiences and lessons learned) and in early / research stages.

# ACE Invited Presenters/Panelists (1)

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- **Evolving Software Architecture for Current Applications**
  - ❖ Evolution of the GPS Control Segment as Related to Software Architecture
    - Alex Polack and Mike Campbell, The Aerospace Corporation
  - ❖ Role of Software Architecture as Part of the NASA Study on Software Complexity
    - Dan Dvorak, NASA JPL
  - ❖ Evolution of a Service-Oriented Architecture (SOA) Command & Control (C2) System
    - Ryan Telcamp, The Boeing Company
  - ❖ Use of New Software Development Tools/Strategies to Enhance Ability to Deploy Ground Systems from Product Lines
    - Chris Newton, Michael Klug, Northrop Grumman
  - ❖ Fault-Tolerant Architectures: Discussion of Techniques Ensuring System Operation during Periods of High Loading and/or Component Failure
    - Stephen Harrington, Booz Allen Hamilton

# ACE Invited Presenters/Panelists (2)

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- **Model-Based Engineering and Analysis Techniques**
  - ❖ Quantitative Architectural Modeling and Analysis using AADL
    - Myron Hecht, The Aerospace Corporation
  - ❖ Lessons Learned in Current Applications of Model-Driven Engineering
    - Stephanie August Loyola Marymount University
  - ❖ Domain-Specific Design Analysis and Code-Generation Frameworks
    - George Edwards and Nenad Medvidović, University of Southern California
  - ❖ Survey on Model-Based Software Development Techniques
    - Yongjie Zheng, University of California, Irvine