

**3rd NASA GRC Propulsion Control and Diagnostics (PCD) Workshop  
February 28 - March 1, 2012, Cleveland, Ohio**

**Agenda**

**February 28, 2012**

- 7:30-8:00 Registration
- 8:00-8:30 Welcome, Introductions, Agenda and Logistics - Sanjay Garg (GRC)
- 8:30-9:45 Overview of Government PCD Research
  - 8:30-9:00 NASA Aeronautics Programs - Sanjay Garg (GRC)
  - 9:00-9:30 Air Force VAATE and Technology Programs - Al Behabhani (AFRL)
  - 9:30-9:45 Army AATE and Technology Programs - Bert Smith (AATD)
- 9:45-10:00 Break - Coffee Service
- 10:00-12:00 Session 1: Enhanced Engine Control
  - 10:00 Overview - Ten-Huei Guo
  - 10:10 C-MAPSS40k Overview and Update - James Liu
  - 10:30 Fast Engine Response Research - Ryan May
  - 10:50 Piloted Evaluation of Fast Engine Response Mode - Jonathan Litt
  - 11:10 Engine Icing Effects Simulation and Detection - Ryan May
  - 11:30 Integrated Flight Propulsion Control Applications - James Urnes, SR. (Boeing)
  - 11:50 Discussion - All
- 12:00-1:30 Lunch & Plenary Speaker
  - NASA Subsonic Fixed Wing Project – Bill Haller (GRC)
- 1:30-3:30 Session 2: Model-Based Control and Diagnostics
  - 1:30 Overview - Don Simon
  - 1:40 Model-Base Aircraft Engine Performance Estimation - Don Simon
  - 2:10 Model-Based Diagnostic Architecture - Jeff Armstrong
  - 2:35 Vehicle Integrated Propulsion Research - Don Simon
  - 2:55 Model-Based Engine Control – Sanjay Garg
  - 3:15 Discussion - All
- 3:30-3:45 Break - Coffee Service with Snack
- 3:45-5:30 Session 3: Distributed Engine Control
  - 3:45 Tools and Technology Development for Distributed Engine Control - Dennis Culley
  - 4:05 Distributed Engine Control Simulation System (DECSS) - Oran (Bud) Watts, (Rolls Royce LibertyWorks)
  - 4:30 Working with High Temperature Electronics: Rediscovering a Lost Art - Mike Krasowski
  - 4:50 Silicon Carbide Electronics Update and Outlook - Glenn Beheim
  - 5:10 Discussion - All
- 5:30-7:30 Reception & Poster Session - Software and Industry/Academia Partners
  - Aircraft Engine Controls and Diagnostics Technology Needs - Grace Balut Ostrom and Gene Iverson (Boeing)

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**Draft Agenda (Continued)**

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- 8:00-10:00 Industry perspective on PCD Research
  - 8:00 General Electric Aviation - Bill Mailander
  - 8:30 Pratt & Whitney - Bruce Wood
  - 9:00 Rolls Royce/Liberty Works - Keith Calhoun
  - 9:30 Honeywell - Dewey Benson
  
- 10:00-10:15 Break - Coffee Service
- 10:15-12:00 Session 4: Active Combustion Control
  - 10:15 Overview - John DeLaat
  - 10:30 Low-Emissions Combustors Development and Testing - Clarence Chang
  - 10:50 Recent Combustion Control Test Results - John DeLaat
  - 11:10 Fuel Actuator Development and Testing - Joe Saus
  - 11:30 Sensors for Intelligent Engines - Gary Hunter
  - 11:50 Discussion - All
  
- 12:00-1:30 Lunch & Plenary Speaker
  - Engine Monitoring and Control Technology Development at MTU - Wolfgang Horn
  
- 1:30-3:15 Session 5: High Speed Propulsion Modeling and Control
  - Supersonics: Aero-Propulso-Servo-Elasticity
    - 1:30 Overview - George Kopasakis
    - 1:40 Modeling of Concept Propulsion System - George Kopasakis
  - Hypersonics: Combined Cycle Engine (CCE) Mode Transition
    - 2:15 Overview - Tom Stueber
    - 2:30 Hypersonic Propulsion System Simulation Development - Jeff Csank
    - 2:45 CCE Inlet Wind Tunnel Experiments - Tom Stueber
    - 3:00 Discussion - All
  
- 3:15-3:30 Break - Coffee Service with Snack
- 3:30-5:00 Review & Discussion - All

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**March 01, 2012**

- 8:00-10:00 One-on-One Meetings with Task Leads
- 10:00-10:20 Break - Coffee Service
- 10:20-12:00 One-on-One Meetings with Task Leads - Continued

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