

**ASTR 2010 SCHEDULE AT A GLANCE**

	Wednesday, Oct 6	Thursday, Oct 7	Friday, Oct 8			
7:00 AM	Breakfast (7-8:30)	Breakfast (7-8)	Breakfast (7-8)	7:00 AM		
7:10 AM						7:10 AM
7:20 AM						7:20 AM
7:30 AM						7:30 AM
7:40 AM						7:40 AM
7:50 AM				7:50 AM		
8:00 AM		Announcements (10 min)	Announcements (10 min)	8:00 AM		
8:10 AM				8:10 AM		
8:20 AM		Reliability 1 (8:10 - 9:10)	Technology Applications 2 (8:10 - 9:10)	8:20 AM		
8:30 AM	Opening Remarks (10 min)				8:30 AM	
8:40 AM	Keynote (8:40 - 9:40)			8:40 AM		
8:50 AM				8:50 AM		
9:00 AM				9:00 AM		
9:10 AM		Physics of Failure 1 (10:30 - 11:30)	Topical Keynote (9:10 - 10:10)	9:10 AM		
9:20 AM					9:20 AM	
9:30 AM				9:30 AM		
9:40 AM	Break (9:40 - 10)			9:40 AM		
9:50 AM				9:50 AM		
10:00 AM	Panel Discussion "Bridging the Gap Between Lab and Field" (10 - 11:30)	Break (10:10 - 10:30)	Break (10:10 - 10:30)	10:00 AM		
10:10 AM				10:10 AM		
10:20 AM				10:20 AM		
10:30 AM				10:30 AM		
10:40 AM		Physics of Failure 2 (10:30 - 11:30)	Reliability 2 (10:30 - 11:30)	10:40 AM		
10:50 AM					10:50 AM	
11:00 AM				11:00 AM		
11:10 AM				11:10 AM		
11:20 AM				11:20 AM		
11:30 AM	Lunch (11:30 - 12:30) <i>in Honor of Gregg Hobbs</i>	Lunch (11:30 - 1)	Light Lunch + ASTR 2011 (11:30 - 12:10)	11:30 AM		
11:40 AM					11:40 AM	
11:50 AM				11:50 AM		
12:00 PM		Lunch Speaker (11:50 - 1)	Physics of Failure and Reliability 3 (12:10 - 1:40)	12:00 PM		
12:10 PM					12:10 PM	
12:20 PM				12:20 PM		
12:30 PM				12:30 PM		
12:40 PM				12:40 PM		
12:50 PM				12:50 PM		
1:00 PM	Tutorial 1 (12:30 - 2:10)	Technology Applications 1 (1 - 2)	Surveys and Closing Remarks	1:00 PM		
1:10 PM						1:10 PM
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1:30 PM					1:30 PM	
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2:00 PM	Break (2:10 - 2:20)	Break (2 - 2:20)		2:00 PM		
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3:00 PM	Tutorial 2 (2:20 - 4)	Case Studies 1 (2:20 - 3:50)		3:00 PM		
3:10 PM						3:10 PM
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3:30 PM					3:30 PM	
3:40 PM				3:40 PM		
3:50 PM		Break (3:50 - 4:10)		3:50 PM		
4:00 PM	Break (4 - 4:10)			4:00 PM		
4:10 PM				4:10 PM		
4:20 PM		Case Studies 2 (4:10 - 5:40)		4:20 PM		
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6:00 PM	ASTR 2011 Strategic Planning (5:40 - 7:00)	Free Time (5:40 - 6:30)		6:00 PM		
6:10 PM				6:10 PM		
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7:00 PM	Mixer (7:00 - 9:00)	Group Dinner ( <i>self pay</i> ) (6:30 - 9:00)		7:00 PM		
7:10 PM						7:10 PM
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A Detailed Schedule Appears on the Following Pages

# ASTR 2010 Schedule

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## Wednesday, October 6

TIME	EVENT
07:00 - 08:30	Breakfast
08:30 - 08:40	Opening Remarks, Michael O'Keefe, NREL, ASTR 2010 General Chair
08:40 - 09:40	Keynote: "Managing the Engineering/Management Gap - Stress levels vs Cost/Benefits" by Glen Griffiths, Hewlett-Packard (introduced by Andy Drenick, Qualmark)
09:40 - 10:00	Break
10:00 - 11:30	Panel Discussion: "Bridging the Gap between Lab Testing and Field Failures" moderated by Andy Drenick, Qualmark (introduced by Don Gerstle, Murata Power Solutions, Inc.)
11:30 - 12:30	Lunch in Honor of Gregg Hobbs
12:30 - 02:10	Tutorial 1: "How to Design Accelerated Reliability Demonstration and Assurance Tests and Analyze Test Data Using Physics of Failure Principles" by Milena Krasich, Raytheon
02:10 - 02:20	Break
02:20 - 04:00	Tutorial 2: "Damage Mechanisms and On-Chip Interconnect Reliability: Current Practice, Recent Research on Accelerated Stress Testing, and Future Needs" by Dr. David Read, National Institute of Standards and Technology
04:00 - 04:10	Break
04:10 - 05:40	Tutorial 3: "Accelerated Life Testing and Its Role in the Probabilistic Design for Reliability of Electronic Systems" by Dr. Ephraim Suhir, University of California at Santa Cruz
05:40 - 07:00	ASTR 2011 Strategic Planning Session: All are welcome! Get involved in ASTR planning.
07:00 - 09:00	Mixer

## Thursday, October 7

TIME	EVENT
07:00 - 08:00	Breakfast
08:00 - 08:10	Announcements, Michael O'Keefe, ASTR 2010 General Chair

- 08:10 - 09:10 Reliability 1, moderated by Michael O’Keefe, National Renewable Energy Laboratory
- “New Army and DoD Reliability Scorecard” by Marguerite Shepler, U.S. Army Materiel Systems Analysis Activity
  - “What is HALT and what is NOT HALT?” by Mike Silverman, Ops A La Carte
- 09:10 - 10:10 Physics of Failure 1, moderated by Sambit Saha, BAE Systems
- “How Modular Designs for Fixturing and Test Equipment Can Reduce Cost and Increase Speed to Market” by Larry Choate, Ensign Power Systems, Inc.
  - “Advanced Modeling for Photovoltaic Durability” by Dirk Jordan, National Renewable Energy Laboratory
- 10:10 - 10:30 Break
- 10:30 – 11:30 Physics of Failure 2, moderated by Sambit Saha, BAE Systems
- “Electrothermal-mechanical Modeling of Multi-chip Power Modules” by Dr. F. Patrick McCluskey, University of Maryland
  - “Engineering Design Analysis” by Gary S. Drake, U.S. Army
- 11:30 - 01:00 Lunch
- Lunchtime Speaker: “System Health Management: Predicting Failure in Fielded Products” by Dr. Kai Goebel, NASA-Ames Center (introduced by Ephraim Suhir)
- 01:00 - 02:00 Technology Applications 1, moderated by Kirk Gray, Accelerated Reliability Solutions, L.L.C.
- “A Methodology for Comparing Efficacy of Burn-In with HASA” by Tom Peters, Qualmark
  - “High Temperature Stress Management during HALT” by David Rahe, DLI Labs
- 02:00 – 02:20 Break
- 02:20 – 03:50 Case Studies 1, moderated by Amar Thiraviam, Teledyne-ODI
- “Reliability Testing of Sn-3.5Ag Solder Joints for High Temperature Packaging Applications” by Govindarajan Muralidharan, Oak Ridge National Laboratory
  - “Achieving World Class LCD TV Reliability in a Low Cost Manufacturing Environment” by Martin Shaw, Reliability Solutions Consulting Company
- 03:50 – 04:10 Break
- 04:10 – 05:40 Case Studies 2, moderated by Amar Thiraviam, Teledyne-ODI

- “Accelerated Testing and On-Sun Failure of CPV Die-Attach” by Nick Bosco, National Renewable Energy Laboratory
- “Acceleration Factors for Neutron Beam Soft Error Testing in Commercial and Avionic Environments” by Charlie Slayman, Ops A La Carte

05:40 – 06:30 Free Time

06:30 – 09:00 Group Dinner (self-pay)

## Friday, October 8

TIME	EVENT
07:00 - 08:00	Breakfast
08:00 - 08:10	Announcements, Michael O’Keefe, ASTR 2010 General Chair
08:10 - 09:10	Technology Applications 2, moderated by Kirk Gray, Accelerated Reliability Solutions, L.L.C. <ul style="list-style-type: none"> <li>• “Improving Production Screening by Moving From Mil Std 2164A ESS to HASS” by Neill Doertenbach, Qualmark</li> <li>• “Accelerated Stress Testing of Grid-Tied Photovoltaic Inverters” by Mike Fife, PV Powered</li> </ul>
09:10 - 10:10	Topical Keynote: “Telecom Requirements for the Validation of Pb-Free Solder” by Gary Hazard, Tellabs, Inc., (introduced by Don Gerstle, Murata Power Systems)
10:10 - 10:30	Break
10:30 – 11:30	Reliability 2, moderated by Michael O’Keefe, National Renewable Energy Laboratory <ul style="list-style-type: none"> <li>• “Bridging the Gap: Accelerated Degradation Testing of Engineering Plastics and their use in Predicting Reliability of Components under Subsea Pressure” by Amar Thiraviam, Teledyne ODI</li> <li>• “Accelerated Environmental Stress Testing in the PV World” by David Dumbleton, Atlas Material Testing</li> </ul>
11:30 - 12:10	Short Lunch and ASTR 2011 Preview
12:10 - 01:40	Physics of Failure and Reliability 3, moderated by Sambit Saha, BAE Systems and Michael O’Keefe, National Renewable Energy Laboratory <ul style="list-style-type: none"> <li>• “Design of Electric-Drive Vehicle Batteries for Long Life and Low Cost: Robustness to Geographic and Consumer-Usage Variation” by Kandler Smith, National Renewable Energy Laboratory</li> </ul>

- “Step-Stress Accelerated Degradation Testing for Photovoltaic Devices and Cells” by Jinsuk Lee, National Renewable Energy Laboratory
- “Field Return Rate Estimation in R&D Stage with an Indicator” by Gürmen Kahramanoğlu, Vestel Electronics

01:40 – 02:00 Surveys and Closing Remarks