

AMOS CONFERENCE ADDS TECHNICAL SHORT COURSES TO CONFERENCE LINE UP!

The AMOS Conference is pleased to announce the addition of technical short courses prior to this year's Conference selected for their relevance to the technical community.

The courses will be taught by highly regarded industry experts on a number of subjects. The small size of each class gives you an excellent opportunity for personalized instruction and provides opportunities for working professionals to upgrade their technical job skills and remain abreast of recent developments in their respective fields of interest.

- Learn from subject-matter experts with proven track records in their fields of expertise.
- Certificates of Attendance are available for those who register and attend a course.
- The courses will take place on Sunday, September 7; each course will be four (4) hours in length.
- A minimum of 10 registered participants is needed to hold each course.
- The cost for each course is \$50.00 and registration details are available at www.amostech.com.

COURSE LISTINGS

1 | Beam Control

8:00 a.m. to 12:00 p.m. | Puakenikeni Ballroom

Presented by	Dr. Jim Riker, Senior Scientist, the Optical Sciences Company
Audience	Scientists and Engineers interested in laser weapon systems, acquisition and tracking, and imaging. <u>This course is restricted to US Government and Contractor participants only.</u>
Prerequisite	None, but familiarity with System Engineering principles helps. Some basic mathematics is also useful.
Synopsis	In the Beam Control course, we will start by explaining the role of a Beam Control System (BCS) in any laser weapon system. The BCS is generally under-appreciated, compared to the laser device, but it frequently takes the bulk of the system engineering, integration, and testing before the weapon system can be prototyped or fielded. We will discuss a Systems Engineering approach to defining beam control system requirements, and then review beam control components and technology development that can be used to satisfy those requirements. In particular, the High Energy Laser Joint Technology Office (HEL JTO) has a group dedicated to developing such components and technologies, and we will summarize some of those developments. Finally, since tracking and pointing frequently dominate the error budget for laser weapon systems, we will devote a considerable amount of time to the theory of both passive and active tracking, including radiometry, atmospheric compensation, and high bandwidth control systems. In the end, attendees should have a good feel for how to work in the field of laser weapon system beam control, or at least that is the goal.

2 | Principles of Adaptive Optics for Space Situational Awareness

1:00 p.m. to 5:00 p.m. | Puakenikeni Ballroom

Presented by	Dr. Robert Fugate, Senior Advisor to USRA on Adaptive Optics and SSA
Audience	Persons involved in planning, design, execution, data collection, analysis, and post processing of high resolution space situational awareness imagery and data from ground based telescopes using adaptive optics. <u>This course is restricted to US Government and Contractor participants only.</u>
Prerequisite	Basic engineering background. Basic understanding of optics, lasers, electro-optical sensors, and real time data processing highly desirable. No specific experience in adaptive optics required.
Synopsis	Statement of the problem; characteristics of atmospheric turbulence and effects on electromagnetic propagation, AO principles and a short history, AO subsystems description, system level performance analysis and design approaches, design examples. There is a possibility of conducting class exercises, problems, and group discussions if time permits. <i>This course is presented through a sponsorship from Universities Space Research Association.</i>

3 | Ground and Airborne Infrared Astronomy for Space Situational Awareness

8:00 a.m. to 12:00 p.m. | Ilima Ballroom

Presented By	Dr. Eric Becklin, USRA's Chief Science Advisor, Stratospheric Observatory for Infrared Astronomy (SOFIA) Professor Emeritus, UCLA
Audience	Persons involved in planning, design, execution, data collection, analysis and post processing of space situational awareness infrared imagery.
Prerequisite	Basic engineering and/or physics background. Basic understanding of optics, telescopes, infrared and optical sensors, and data processing highly desirable. No specific experience with infrared techniques is required.
Synopsis	Review ground based and airborne astronomy observations relevant to space situational awareness (SSA). This will include the thermal 3 to 20 microns region and the near infrared 1 to 3-micron region. The advantages of using adaptive optics (AO) in the 1 to 4.0 micron region will be covered. Finally, a discussion of the advantages of using infrared imaging with AO for daytime SSA observations will be covered. If time permits, an open discussion of how to best use ground based astronomy techniques for SSA observations will occur. <i>This course is presented through a sponsorship from Universities Space Research Association.</i>

4 | Space Trash

1:00 p.m. to 5:00 p.m. | Ilima Ballroom

Presented By	Mr. Gene Stansbery, Program Manager, Orbital Debris Program Office, NASA/JSC
Audience	Anyone with an interest in Earth-orbiting satellites, who observes satellites, or who operates satellites. Orbital debris has an impact on anyone with any interest in man-made objects in space.
Prerequisite	None
Synopsis	Sources and short history of OD; the current OD environment; mitigation; counter measures; future OD environment; potential for OD removal.