Time	Event	Room	Attending
6:30 AM to 5:00 PM	Registration Desk Open	Mezzanine Level Atrium	
7:45 AM to 5:15 PM	Workshop #2 — Professional Airborne Digital Mapping Systems – An Overview	102 AB	
7:45 AM to 5:15 PM	Workshop #3 — Introductory Digital Image Enhancement	201 B	
7:45 AM to 12:15 PM	Workshop #4 — Looking Above the Terrain: Lidar for Vegetation Assessment	101 A	
8:00 AM to 4:30 PM	DACUM Job Analysis Workshop	201 D	
12:45 PM to 5:15 PM	Workshop #6 — Making SAR Accessible	101 A	
12:45 PM to 5:15 PM	Workshop #7 — Image Management and Dissemination – Best Practices for Storing, Managing, and Disseminating Imagery to a Wide Range of Applications	101 B	
8:00 AM to 12:00 Noon	User Group — ASD, Inc.	202 D	
8:00 AM to 12:00 Noon	User Group — BAE Systems (GXP)	202 C	
1:00 PM to 5:00 PM	User Group — New Tech Services, Inc.	202 E	
9:00 AM to 10:00 AM	ASPRS Committee Meeting — Division Directors	203 A	
9:00 AM to 10:00 AM	ASPRS Committee Meeting — Committee Chairs	203 B	
10:00 AM to 11:00 AM	ASPRS Committee Meeting — Electronic Communications Committee	203 A	
11:00 AM to 12:00 Noon	ASPRS Committee Meeting — Photogrammetric Applications Division (PAD)	203 B	
1:00 PM to 2:00 PM	ASPRS Committee Meeting — Memorial Address Committee	203 A	
2:00 PM to 4:00 PM	ASPRS Committee Meeting — Evaluation for Certification Committee	203 B	
4:00 PM to 5:00 PM	ASPRS Committee Meeting — Defense and Intelligence Committee	203 A	
4:00 PM to 5:00 PM	ASPRS Committee Meeting — Region Officers	203 B	
6:30 PM	Student & Young Professionals Event	Offsite	

Registration Desk Open

6:30 AM to 5:00 PM
Mezzanine Level Atrium, near the Hyatt Regency Hotel Skywalk

Continuing Education Credits (CEU's)

ASPRS is pleased to announce that Continuing Education Units (CEUs) are awarded for the ASPRS workshops. This program is being offered in conjunction with George Mason University.

The Continuing Education Unit (CEU) is a nationally recognized unit of measurement for participation in non-credit continuing education programs. Adults who successfully complete George Mason University's approved programs will be awarded continuing education units. A permanent record of CEUs awarded will be maintained in the university database and will be easily accessible for certification and verification purposes.

The objective of the CEU is to:

- Provide a nationally established record of professional development learning activity
- Encourage adult students to utilize educational resources to meet their personal and educational needs
- Recognize individuals who continue their education and keep themselves current in their chosen professions
- Enable individuals to have an accurate source of their current CEU activity
- Provide a system to document continuing education experiences in meeting certification requirements.

NATIONAL REGISTRY OF CPE SPONSORS

George Mason University, Office of Continuing Professional Education is registered with the National Association of State Boards of Accountancy (NASBA), as a sponsor of continuing professional education on the National Registry of CPE Sponsors. State boards of accountancy have final authority on the acceptance of individual courses for CPE credit.

Workshops

Workshop #2

Professional Airborne Digital Mapping Systems – An Overview

Dave Fuhr, *Airborne Data Systems*
7:45 AM to 5:15 PM, CEU .8, Room: 102 AB

The primary objective of this tutorial is to review professional airborne digital mapping camera systems. We will discuss all advantages and disadvantages of these new, dynamic systems - technical, costs, feasibility, calibration and applications. Participants will leave with a better understanding of what it takes to map their projects by either contracting or acquiring airborne digital mapping camera systems.

Workshop #3

Introductory Digital Image Enhancement

Dr. Larry Fox, *Humboldt State University*
7:45 AM to 5:15 PM, CEU .8, Room: 201 B

This full-day, introductory workshop addressing digital image enhancement will incorporate presentations of fundamental concepts and hands-on exercises exploring methods and techniques. Participants will understand the basic measures of image quality, the fundamental concepts of image interpretability and gain skill in manipulating image parameters both globally and locally, to improve the quality of digital images. Participants will also gain understanding of image transformation methods and results. We will focus on two-dimensional, multispectral images with some extension to pseudo-color renditions of three-dimensional data clouds produced by lidar systems. We begin with the histogram as a measure of global radiometric condition and continue with manipulation of the histogram to enhance image contrast and brightness. Numerous ramping functions will be discussed including the min-max, standard deviation, and equalized histogram stretches. Presentation of concepts will be followed by hands-on image enhancement exercises using a free software package available from the internet. (Participants must bring a laptop to the workshop, preloaded with the software and images to be used for the exercises, detailed instructions to be made available to each participant before the conference). Single band global enhancement will be followed by multiband enhancement including tristimulus color theory and various assignments of spectral bands to the additive primary colors: red, green and blue. We will then address edge enhancements and edge detection with spatial filters including image smoothing. Finally we will explore image transforms including principal components, tasseled cap, de-correlation, IHS and various indices including NDVI. The topic of transforms will not include hands-on exercises due to the limitation of free software used for this workshop.

Workshop #4

Looking Above the Terrain: Lidar for Vegetation Assessment

Dr. Sorin C. Popescu, *Texas A&M University*
7:45 AM to 12:15 PM, CEU .4, Room: 101 A

The participants are expected to have a basic understanding of remote sensing techniques and image processing. The overall goal of this half-day workshop is to introduce participants to lidar concepts, processing techniques, and applications for deriving information on forest vegetation resources and canopy parameters. More specific objectives are to: (1) familiarize participants with basic laser ranging concepts and lidar data structure; (2) introduce types of lidar sensors for forest vegetation assessment – discrete-return, waveform encoding, flash lidar, etc., on ground-based, airborne, and satellite platforms; (3) the LAS lidar data format; (4) review algorithms for deriving information on terrain elevation and canopy height models; (5) introduce the concept of "multi-band" lidar height bins generated using lidar point cloud data; (6) review processing techniques for analyzing forest structure and deriving vegetation information at individual tree, plot, and stand level; (7) introduce participants to TreeVaW, a lidar processing software for identifying and measuring individual trees on lidar-derived canopy height models, and other software resources; and (8) present a comparison of forest structure metrics obtained by processing ICESat waveform data and spatially coincident discrete-return airborne lidar and ground-based laser scanner data of forest vegetation.

DACUM Job Analysis Workshop

8:00 AM to 4:30 PM, Room: 201 D

In association with ASPRS, the National Geospatial Technology Center is holding a Job Analysis panel for Remote Sensing Technicians on Sunday and Monday, May 1 & 2 prior to the Conference. Participation in the study has been pre-determined and is not open to the public.

Results will be reported at a Special Session entitled "Geospatial Workforce Needs Coming into Focus". This Special Session will be taking place on Thursday, May 5th from 9 am until 10:30 am in room 202 C. Findings will also be used by the GeoTech Center to help develop and update college and university introductory GIS and Remote Sensing curriculum.

Participants must be pre-registered and approved by DACUM to attend this workshop.

Workshop #6

Making SAR Accessible

Don Atwood, PhD, Chief Scientist, A*laska Satellite Facility, University of Alaska Fairbanks*
12:45 PM to 5:15 PM, CEU .4, Room: 101 A

This course will introduce Remote Sensing professionals to Synthetic Aperture Radar (SAR). At the conclusion of the course, the student will understand the fundamentals of SAR as well as how SAR data is acquired, processed, and used in a wide variety of scientific applications. Historically, SAR data has been used by a small group of experts, with specialized knowledge and processing tools. However, as more commercial sensors become available, there is an increasing demand to use SAR as a complementary data source for remote sensing and GIS applications. This short course will enable the student to process SAR data into terrain-corrected, geocoded images that can be combined with other kinds of sensor data. The fundamental concepts introduced will be reinforced through practical demonstrations and exercises. Lastly, the students will learn how data can be acquired in support of their own projects.

Workshop #7

Image Management and Dissemination – Best Practices for Storing, Managing, and Disseminating Imagery to a Wide Range of Applications

Peter Becker, *ESRI*
Steven Lambert, *ESRI*
12:45 PM to 5:15 PM, CEU .4, Room: 101 B

This workshop will review recommended methodologies for storing and managing imagery, metadata and processing parameters associated with the imagery. Different workflows for processing imagery and elevation data into multiple products and disseminating them to a wide range of applications will be covered. Methods for integrating photogrammetric and remote sensing project data with GIS systems will be reviewed so that participants can quickly implement them to obtain higher efficiencies. Most of the examples shown will make use of ArcGIS.

User Groups

ASD, Inc.
8:00 AM to 12:00 Noon, Room: 202 D

Learn how hyperspectral measurements can help solve your most challenging environmental measurement problems at the ASD User Group. Come by to discuss your applications, get an up-close view of the industry-standard FieldSpec 3 and the recently introduced FieldSpec HandHeld2, and talk with an ASD product expert. The FieldSpec® line of spectroradiometers is unparalleled in providing high-quality field results. ASD is the top choice for remote sensing and environmental sciences researchers. ASD Inc. • 303-444-6522 • 303-444-6825 (fax) • www.asdi.com.

BAE Systems (GXP)
8:00 AM to 12:00 Noon, Room: 202 C

BAE Systems welcomes SOCET SET® and SOCET GXP® users. SOCET GXP v3.2 implements the highly anticipated Advanced-Frame sensor model — with streamlined setup, processing, and no project file required. Images are read using the preferred coordinate system. Additional demonstrations include the new GXP Xplorer™ enterprise data management system with federated search and collaboration capabilities; video dashboard and editor; and enhanced visualization functionality: Height Measurement tool, Grid Reference graphic, and Simple Building tool for 3-D visualization.

New Tech Services, Inc.
1:00 PM to 5:00 PM, Room: 202 E

New Tech Services, Inc. specializes in the Sales, Service and Support of pre-owned Aerial Survey/Mapping equipment and markets a powerful, stand-alone 3D Flight Planning tool to calculate the amount of images needed anywhere in the world, accurately and cost efficient, streamlined with emphasis on Quality Control. All data can be exported to most Flight Management Systems. TopoFlight Navigator and WebViewer are new Products. Visit: www.nts-info.com and www.TopoFlight.com for more info. Please contact: nts@nts-info.com 1-281-573-8029. Llámenos, hablamos español!

ASPRS Committee and Board of Directors Meetings

Division Directors
9:00 AM to 10:00 AM, Room: 203 A

Committee Chairs
9:00 AM to 10:00 AM, Room: 203 B

Electronic Communications Committee
10:00 AM to 11:00 AM, Room: 203 A

Photogrammetric Applications Division (PAD)
11:00 AM to 12:00 Noon, Room: 203 B

Evaluation for Certification Committee
2:00 PM to 4:00 PM, Room: 203 B

Defense and Intelligence Committee
4:00 PM to 5:00 PM, Room: 203 A

Region Officers
4:00 PM to 5:00 PM, Room: 203 B

Student & Young Professionals Event
Courtesy of the ASPRS Student Advisory Committee (SAC)

Once you have arrived and found your accommodation we can start exploring Milwaukee together. We will meet in the lobby of the Hyatt Regency Milwaukee Hotel at 6:30 pm and walk straight to the nearby **Rock Bottom Restaurant and Brewery**. This is a good place to start the week by getting to know first time student and young professional attendees as well as remembering some of the good times we shared at previous ASPRS conferences. For those wanting to stay out later and experience a more modern Milwaukee downtown nightspot, **Zenden Bar and Lounge** is minutes away.