

Time	Event	Room	Attending
7:00 AM to 11:00 AM	Registration Desk Open	Mezzanine Level Atrium	
8:00 AM to 5:00 PM	ASPRS Board of Directors Meeting	201 A	
8:00 AM to 11:00 AM	Exhibit Hall Opens	Exhibit Hall 301 C	
9:00 AM to 10:30 AM	Technical Sessions — 68 to 77	varies, see description	
11:00 AM to 12:30 PM	Technical Sessions — 78 to 68	varies, see description	

## Registration Desk Open

7:00 AM to 11:00 AM

Mezzanine Level Atrium, near the Hyatt Regency Hotel Skywalk

## ASPRS Board of Directors Meeting

8:00 AM to 5:00 PM, Room: 201 A

## Exhibit Hall Open — Breakfast with Exhibitors

8:00 AM to 11:00 AM, Exhibit Hall 301 C

A special continental breakfast, open to all conference attendees, is being held in the Exhibit Hall. Before the Technical Sessions begin, take some time to leisurely view the exhibits and continue discussions with the exhibitors. Be sure to include this event on your calendar!

## Technical Sessions

9:00 AM to 10:30 AM

-68-

### PDAD Special Session 4 — Modernization Program for the North American Reference Frame

Moderator: Qassim Abdullah, *Fugro EarthData, Inc.*

Room: 201 B

The North American Datum of 1983 (NAD 83) witnessed over the past few decades major transformation in order to satisfy users need in terms of accuracy and reliability. Such transformation evolved in multi-phase modernization program that left users anxious about tools and procedures that they needed to implement in order to catch up with such changes. Today, users of NAD83 have to deal with different versions of the datum such as NAD83/86, NAD83/HARN, NAD83/CORS(96), and the latest adjustment of NAD83/NSRS2007. The subsequent versions added confusion and discrepancies in the product delivered over the years. The North American Vertical Datum of 1988 (NAVD88) went through similar evolution each time a new geoid model is published. The panel addresses users concerns and shed the light on the latest efforts lead by the National Geodetic Survey (NGS) to modernize the datums to coincide with the more reliable and globally maintained, the International Terrestrial Reference System (ITRS) realized by a set of reference points coordinates denoted by the International Terrestrial Reference Frame (ITRF).

### Panelists:

David Doyle, *National Geodetic Survey*

Qassim Abdullah, *Fugro EarthData Inc.*

Larry Hothem, *U.S. Geological Survey*

-69-

### Use of SAR, MIS Spectrometer, and Line Scanners

Moderator: Frank Taylor, *Continental Mapping Consultants, Inc.*

Room: 202 A

### NASA SIERRA Microspectrometer Instrument Suite Preliminary Results

Gabirel Ladd, *Enegis, LLC*

Geoffery Bland and Matthew Fladeland

### Detection and Monitoring of Invasive Phragmites in the Coastal Great Lakes using ALOS PALSAR

Richard Powell, *Michigan Tech Research Institute*

Laura Bourgeau-Chavez and Colin Brooks

### Quantification of Turbulence for Airborne Line-scanner Images

Stephan Gehrke, *North West Geomatics*

Robert Uebbing

### Using SAR to Characterize the Winter State of Ponds and Lakes in Arctic Alaska

Donald Atwood, *Geophysical Institute*

Jess Grunblatt

-70-

### Oil Spill and Flood Disasters

Moderator: Arron Lee, *The Sidwell Company*

Room: 203 D

### USGS Emergency Operations (EO) Support for the Gulf of Mexico Oil Spill Response

Rynn Lamb, *U.S. Geological Survey/EROS*

Brenda K. Jones

### Lessons Learned in Emergency Remote Sensing and BP Response During Deepwater Horizon

Eatay Shechter, *Icaros, Inc.*

### Oil Spill Detection by Satellite Image using Sequential Detection of Change

Ehab Etellisi, *University of Colorado Denver*

### Mapping Pakistan 2010 Floods using Remote Sensing Data

Jie Shan, *Purdue University*

Ejaz Hussain, Ural Serkan, and Malik Abrar

-71-

**Remote Sensing Applications**

Moderator: Karen Gehri, *Wisconsin Department of Transportation*

Room: 202 B

**Unmanned Aircraft Systems (UAS) for Vegetation Mapping: Very High Resolution Multispectral Imagery and Terrain Extraction**

Andrea Laliberte, *USDA ARS Jornada Experimental Range*

Albert Rango

**Improving Small-area Housing Unit and Population Estimation using Remote Sensing and GIS**

Chengbin Deng, *University of Wisconsin - Madison*

Changshan Wu

**Near Real-time Change Detection for Border Monitoring**

Lloyd Coulter, *San Diego State University*

Douglas Stow

**Assessing Relationships Between Lidar-derived Vegetation Structure and Butterfly Density to Improve Butterfly Habitat Mapping Distribution**

Anna Hess, *Michigan Technological*

Michael J. Falkowski, Christopher Webster, and Amy Pocewicz

-72-

**Special Session — U.S. Geospatial Workforce Needs Come Into Focus**

Moderator: David DiBiase, *Pennsylvania State University*

Room: 202 C

This special session is for employers, educators, and current and future practitioners interested in efforts to define what expert geospatial professionals need to know and be able to do. The session will bring together up-to-the-minute reports on:

- The UCGIS GIScience Knowledge Web, including a planned 2nd edition of the *GIS&T Body of Knowledge*;
- The U.S. Department of Labor's Geospatial Technology Competency Model and new geospatial occupations; and
- The GeoTech Center's DACUM analyses of GIS and remote sensing occupations.

The session will conclude with discussion about how these efforts might influence ASPRS' and GISCI's professional certification programs, as well as geospatial curricula in higher education.

**Panelists:**

David DiBiase, *Pennsylvania State University*

John Johnson, *GeoTech Center*

Brandon Plewe, *Brigham Young University*

-73-

**Special Session — Career Planning & Professional Development for Graduate Students**

*Sponsored by the ASPRS Student Advisory Council*

Moderator: Sinan Abood, *Michigan Technological University* and Anna Patterson

Room: 203 C

This session addresses opportunities for undergraduate and graduate students leading up to and following graduation. Topics to be covered include: Working with your Academic Advisor, Continuing Your Education or Entering the Job Market, What You Can Really Do With Your Degree, among others.

**Panelists:**

Stewart Walker, *BAE Systems*

Marguerite Madden, *University of Georgia*

Mark Stanton, *Pixxures Inc.*

-74-

**Land Cover Assessment II**

Moderator: Cindy McCallum, *Wisconsin Department of Transportation*

Room: 202 D

**Simulating the Future Impacts of Urban Land Use/Land Cover Change on Surface Water Quality within the Chicago Metropolitan Statistical Area, Illinois**

Cyril Wilson, *Indiana State University*

Qihao Weng

**Spatial and Temporal Dynamics of Inner Mongolian Grasslands from MODIS NDVI Time Series**

Li Zhang, *Chinese Academy of Sciences, China*

Linlin Lu and Huadong Guo

**Mosaics of Change: Forest Cover Change and Institutional Variability in Mountainous Southwest China**

Jamon Van Den Hoek, *University of Wisconsin-Madison*

**Reading Between the Lines: Land Cover Change in Three Rapidly Expanding Cities in Western China using Landsat Dense Time Stacks and a Data Mining Approach**

Annemarie Schneider, *University of Wisconsin-Madison*

-75-

## Image Registration

Moderator: Ahmed Elaksher, *St. Cloud State University*  
Room: 203 B

### Object-based Classification of an Urban Area Through a Combination of Aerial Image and Airborne Lidar Data

Youkyung Han, *Seoul National University, Korea*  
Yongmin Kim, Younggi Byun, Jaewan Choi, Dongyeob Han, and Yongil Kim

### Symmetric Image Ratio as a New Similarity Metric for Image Registration

Zhengwei Yang, *USDA National Agricultural Statistics Service*

### Potential of Using Automatically Extracted Straight Lines in Rectifying High Resolution Satellite Images

Ahmed Elaksher, *St. Cloud State University*

### Dynamic Models in Support of Kalman Filter Based Registration of Video Imagery

John Dolloff, *Integrity Applications Incorporated*

-76-

## Object-based Classification

Moderator: Imdad Rizvi, *Indian Institute of Technology Bombay, India*  
Room: 203 A

### Combination of Object-based and Pixel-based Image Analysis for Classification of VHR Imagery Over Urban Areas

Bahram Salehi, *University of New Brunswick, Canada*  
Yun Zhang and Ming Zhong

### An Enhanced Wetlands Classification using Object-oriented Classification Methodology: An Example from British Columbia, Canada

Chad Delany, *Ducks Unlimited, Inc.*  
Dan Fehringer, Frederic Reid, Kevin Smith, Ruth Spell, Clarissa Theriault, Al Richard, and Eric Butterworth

### Accuracy Enhancement of Object-based Image Classification using Relaxation Labeling Process for High Resolution Satellite Images

Imdad Rizvi, *Indian Institute of Technology Bombay, India*  
Buddhiraju Krishna Mohan and Eeti Laxmi Narayana

### Consequences of the Hughes Phenomenon on Some Classification Techniques

Maria Alonso, *Alcala University, Spain*  
Jose Malpica

-77-

## Advancements in Sensor Calibration and Modeling

Moderator: Xutong Niu, *Troy University*  
Room: 202 E

### Assessment of Mapping Capability of a Commercial 3D Camera

Xutong Niu, *Troy University*

### Analytical Methods to Assess the Geometric Fidelity of a Sensor Model

Henry Theiss, *National Geospatial-Intelligence Agency*  
Scott Lee

### Pre-analysis of Camera Calibration Effectiveness

Henry Theiss, *National Geospatial-Intelligence Agency*  
Gene Rose and Chris O'Neill

### Triangulation of Spaceborne Three-line Array Imagery with Different Sensor Models

YongJun Zhang, *Wuhan University, China*  
MaoTeng Zheng

## Beverage Break

10:30 AM to 11:00 AM, Exhibit Hall 301 C

## Technical Sessions

11:00 AM to 12:30 PM

-78-

## Remote Sensing Applications for Wetland Mapping

Moderator: Jason Vande Hey, *Continental Mapping Consultants, Inc.*  
Room: 202 A

### Data Integration of Fully Polarimetric Synthetic Aperture Radar (SAR), Optical Imagery and Topographic Data for Wetland Mapping

Jennifer Corcoran, *University of Minnesota*

### Prototype Application of NASA Missions to Identify Patterns of Wetland Vegetation Development within the South San Francisco Bay Salt Ponds

Wei-Chen Hsu, *DEVELOP*  
Michelle Newcomer and Erin Justice

### Interpreting Wetlands and Deepwater Habitats from Aerial Imagery

Robert Goodwin, *Remote Sensing & GIS Research and Outreach Services*

**Using Lidar and High Resolution Imagery for Object-oriented Wetland Mapping in Minnesota**

Lian Rampi, *University of Minnesota*  
Joseph Knight

-79-

**Special Session: Preparing Competitive Scholarship and Grant Proposals**

*Sponsored by the ASPRS Student Advisory Council*

Moderators: Sinan Abood, *Michigan Technological University*  
and Anna Patterson

Room: 201 B

This session will provide graduate students with relevant information on organizing and preparing a successful grant or scholarship proposal. Topics covered will include finding prospective grants, developing a general proposal, securing letters of reference and the formal application process. A panel of experts will provide advice and insight from their professional grant writing experiences.

**Panelists:**

Jesse Winch, *ASPRS*

-80-

**Remote Sensing for Land Cover Mapping**

Moderator: Jose Malpica, *Alcala University, Spain*  
Room: 203 A

**Visualization of Layered Sensor Data on Motion Imagery**

Dennis Ward, *Army Research Laboratory*  
Dennis DuBois

**Some Techniques for Anomaly Detection in Hyperspectral Imageries**

Jose Malpica, *Alcala University, Spain*  
Maria Alonso

**A Comparative Study of City Environment in Tianjin Area, China and the Greater Toronto Area, Canada Based on Multi-factors of the Urban Ecosystem**

Qingni Huang, *Chinese Academy of Sciences, China*  
Huadong Guo, Ying Zhang, Xinwu Li, Zhongchang Sun,  
Yixing Ding, and Nathan Moore

**Evaporation Estimation with Landsat Thematic Mapper 5 in Lower Colorado River Basin**

Xiaofang Wei, *Central State University*  
Subramania I. Sritharan, John Osterberg, Christopher Neale,  
Keith Farrow, and John Davenport

-81-

**Extraterrestrial Spatial Sensors and Applications**

Moderator: Ben Redding, *Continental Mapping Consultants, Inc.*

Room: 202 E

**OSU OrbiterMapper and 3D Topographic Mapping using Lunar Reconnaissance Orbiter Narrow-angle Camera Stereo Imagery**

Wei Wang, *The Ohio State University*

Rongxing Li, Shaojun He, Juwon Hwangbo, Yunhang Chen,  
Pingbo Tang, Xuelian Meng, Yunjae Choung, Jordan Lawer,  
Archinal Brent, Robinson Mark, and The LRO Science Team

**ExoMars Rover PanCam: Pre-launch Modeling and Quantifying Uncertainty in Localization and Topographic Mapping**

Rongxing Li, *The Ohio State University*

Ding Li, Xuelian Meng, Onur Karahayit, Andrew Coates,  
Jan-Peter Muller, Andrew Griffiths, Gerhard Paar, and Jurgen  
Oberst

**Integrated Spatial Data Processing and Navigation Information Delivery for Lunar Astronaut Situational Awareness**

Rongxing Li, *The Ohio State University*

Shaojun He, Boris Skopljak, Xuelian Meng, Alper Yilmaz,  
Jinwei Jiang, Marty Banks, and Charles Oman

**Photogrammetry and the Mapping of the Space Shuttle**

Mike Kitaif, *Cardinal Systems*

-82-

**Remote Sensing of Disaster Sites**

Moderator: Donglie Liu, *Institute of Geodesy and  
Photogrammetry, Switzerland*

Room: 203 B

**AHAP: Transitioning Alaska's Legacy Data into the GIS Age**

Kerri Crowder, *University of Alaska-Fairbanks*

**Resolution Requirements for Post-disaster Imagery: A Cognitive Evaluation**

Sarah Battersby, *University of South Carolina*

Michael E. Hodgson and Jiayu Wang

**Cloud Based Map Data, Hosting, and Tools Changing Geospatial**

Mike Tully, *Aerial Services, Inc./SpatialCloud*

**Ground-based SAR for Disaster Prevention: A Case Study in Slope Monitoring**

Donglie Liu, *Institute of Geodesy and Photogrammetry,  
Switzerland*

Bjorn Riedel and Wolfgang Niemeier

-83-

## Web Based Applications and Accuracy Analysis

Moderator: Jim Lacy, *Wisconsin State Cartographer's Office*  
Room: 202 D

### Wetland Classification Image Gallery

Catherine Lockwood, *CNL World*

Nathan Handley

### Multi-scale Visualization of Water Stress/Scarcity Assessment

Bandana Kar, *University of Southern Mississippi*

Shama Perveen

### The Design and Implementation of an Accuracy Assessment to Test Two Different Maps of the Same Area based on the Lassen Volcanic National Park Comparative Mapping Project

Kenneth Stumpf, *Geographic Resource Solutions*

-84-

## Lidar Applications for Forestry II

Moderator: Pete Jenkins, *Minnesota Department of Transportation*

Room: 203 C

### Deriving Canopy Fuel Parameters using *In-situ* and Lidar Data

Nian-Wei (Tony) Ku, *Texas A&M University*

Muge Mutlu and Sorin C. Popescu

### Towards Scale-invariant Aboveground Biomass Estimation in Savanna Ecosystems using Small-footprint Waveform Lidar

David Kelbe, *Rochester Institute of Technology*

Jan van Aardt, Barend Erasmus, Renaud Mathieu, Konrad Wessels, and Greg Asner

### Integration of Airborne Lidar and Multispectral Image Data for LAI Estimation

Neal Pilger, *Queen's University, Canada*

Paul Treitz and Benoit St-Onge

### Assessing Forest Biomass for use as Biofuel using Airborne Lidar

Colin Gleason, *SUNY College of Environmental Science and Forestry*

Jungho Im

-85-

## Special Session — Photogrammetry and Next-Generation UAS Platforms

*Sponsored by the ASPRS Defense and Intelligence Subcommittee*

Moderator: Todd E. Johanesen, Senior Scientist, *National*

*Geospatial-Intelligence Agency*

Room: 202 C

This is the third of three sessions that will focus on the development and integration of key photogrammetric-based technologies and their application in supporting improved geospatial capabilities. This session will be a panel discussion led by the National Geospatial-Intelligence Agency with representation from academia, U.S. Government organizations to include the Services, DoD and DHS, as well as industry experts in the field of UAS.

### Panelists:

Todd E. Johanesen, Senior Scientist, *National Geospatial-Intelligence Agency*

Michael Perry, Vice President, *General Atomics (Photonics)*

William Casey, Senior Scientist, *Raytheon*

Col. Sean Cook, *U.S. Air Force, Intelligence Directorate*

Robert Thomas, Vice President, *Analytical Services, Integrity Applications Inc.*

-86-

## Remote Sensing and GIS Applications

Moderator: Candice Kasprzak, *Continental Mapping Consultants, Inc.*

Room: 202 B

### Transfer of Satellite Rainfall Uncertainty from Gauged to Ungauged Regions at Regional and Seasonal Timescales

Ling Tang, *Tennessee Tech University*

### Faisal Hossain Lidar Assist in Providing Future Security and Development in the Land of Ten Thousand Lakes

James Young, *Aero-Metric, Inc.*

Rob Merry

### Atmospheric Correction of Landsat Thermal Infrared Data: A Calculator Based on North American Regional Reanalysis (NARR) Data

Dennis McCarville