Technical Sessions

9:15 am to 10:45 am

1. Special Session

Training Session on Digital Data Contracting and Quality Assessment
Bryan Christensen, *SAIC/U.S. Geological Survey*
Steve Helterbrand, Geoff Gabott, and David Davis
Room 1

This session will provide training on the USGS Contracting Guidelines, Data Provider Certification, and Data Acceptance Standards. **The entire training package will be presented in each of the 3 sessions.**

2. Panel Discussion

Trends in Digital Aerial Imaging: Part A
Gregory Stensaas, *U.S. Geological Survey*
Room 4

3. Agricultural Applications

Moderator: David Alvarez, *CDM*
Room 5

Evaluating the Accuracy of 2005 Multitemporal TM and AWiFS Imagery for Cropland Classification of Nebraska
Robert Seffrin, *U.S. Department of Agriculture/NASS*

Mike Craig

Using ASTER Data to Detect Crop Residue and to Improve Crop Classification
David Schaub, *Altarum Institute*

Nancy French, Colin Brooks, and Richard Powell

Object-oriented Analysis of Historical and Current Panchromatic Aerial Imagery for Farmland Characterization
Carl Zimmerman, *University of Connecticut*

Daniel Civco and James Hurd

4. Calibration Issues in Photogrammetry

Moderator: Edward Oshel, *Image Science & Analysis Group*
Room 6

IMU and UltraCam D Misalignment Calibration
Khaldoun Qtaishat, *IESSG, Institute of Engineering and Space Geodesy, University of Nottingham*, England

Matrin Smith, David Park, and Jamieson Allan

Comparisons of Interior and Exterior Orientation Parameters of Several Photogrammetric Software Packages in Use at the Johnson Space Center
Edward Oshel, *Image Science & Analysis Group*

Donn Liddle

Specifications and Standards for the Calibration and Stability Analysis of Medium-Format Digital Cameras
Ayman Habib, *Department of Geomatics Engineering, University of Calgary,* Canada

Paul Quackenbush, Gregory Stensaas, and Mohannad Al-Durgham

A Review of Camera Calibration Based on Experience at the Johnson Space Center
Edward Oshel, *Image Science & Analysis Group*

Donn Liddle

5. Change Detection

Moderator: Jeff Liedtke, *eMap International*
Room 7

Bottom Material Change Detection Using Relative Bottom Reflectance
Houzhi Pan, *Optech, Inc.*, Canada

Gunho Sohn, Paul LaRoque, Karen Francis, David Reid, Vincent Tao, and John Miller

Detecting the Topographic Changes of Spatial Features from Satellite Images with the Edge Flow Techniques
Yishuo Huang, *Department of Construction Engineering, University of Technology*. Taiwan

A Sophisticated Optimum Threshold(s) Search Technique for Automated Binary Change Detection
Jungho Im, *University of South Carolina*

John Jensen, Michael Hodgson, and Jinyoung Rhee

Analyzing Multi-Sensor Data Fusion Techniques: A Multi-Temporal Change Detection Approach
C. Shah, *SUNY-ESF*

L. Quackenbush

6. Data Fusion - Automation

Moderator: Vijay Shah, *Mississippi State University*
Room 8

Development of a Blunder Detection Approach for Automated Point Matching During Vector to Image Data Integration
Lawrence Stanislawski, *SAIC/U.S. Geological Survey*

Michael Finn and Lynn Usery

New Methods for Automated Mars Rover Localization
Ron Li, The *Ohio State University*

Kaichang Di, Sanchit Agarwal, Jue Wang, Andrew Howard, and Larry Matthies

A Multiresolution Segmentation Method for Feature Extraction in Image Information Mining
Vijay Shah, *GeoResources Institute, Mississippi State University*

Nicholas Younan, Surya Durbha, and Roger King

7. DEM — Accuracy Assessment I

Moderator: Allen Brock, *Photo Science*
Room 9

Estimation of Accuracy — A Comparison of Lidar and Survey-Based Digital Terrain Models
Yvonne Paul, *SUNY-ESF*

Lindi Quackenbush

Innovative Targets for Lidar Horizontal and Vertical Control
Jim Hogarty, *Integrity Applications Incorporated*

Todd Johanesen and Craig Rodarmel

Multiple DEM Measured Accuracy
Jeff Carpenter, *Integrity Applications Incorporated*

Jim Hogarty, Todd Johanesen, and Jeff Carpenter

8. Digital Photogrammetric Cameras and Photogrammetric Analysis using Video Sensors
Moderator: Michael Shillenn, *Photo Science*
Room 13

A Multi-variant Analysis of Time Synchronization Errors in Motion Imagery
Aaron Braun, *Integrity Applications, Inc*
Kurt Rogers

A Study on Sensor Modeling and Triangulation for an Airborne Three Line Scanner
Wonjo Jung, *Purdue University*
James Bethel

9. Education - College and University Geospatial Curricula
Moderator: Cindy Schmidt,
Room 12

Development of a 4 -Year Geomatics Program with a 2+2 Curriculum
Emmanuel U.Nzewi, *North Caroiina A&T State University*

Increasing Diversity in Geosciences: Promoting Geospatial Technology at North Carolina Central University
Rakesh Malhotra, *North Carolina Central University*
Gordana Vlahovic, Rakesh Malhotra, Mike Renslow, Albert Barnett, and Jasper Harris

Kentucky's Experiment Incorporating IAEGS's Remote Sensing Courseware into the 2-year Kentucky Community and Technology College System Curriculum
Demetrio Zourarakis, *Kentucky Division of Geographic Information*
Vince DiNoto Jr. and Demetrio Zourarakis

Teaching Geoscience through Research
Marguerite Madden, *Center for Remote Sensing and Mapping Science, University of Georgia*

10. Emerging Unmanned Aerial Systems Technology
Moderator: Tom Mace, *NASA*
Room 11

Experience with Science Applications in the National Airspace System
Robert Curry, Chris Jennison, and Brent Cobleigh, *NASA/Dryden Flight Research Center*

Telepresence and Disruption Tolerant Networking over the Horizon
Lawrence Freudinger, *NASA/Dryden Flight Research Center*

The Ground Control Room as an enabling technology in the Unmanned Aerial System
Gary Gear, *Embry Riddle Aeronautical University, Prescott, Az* and
Thomas Mace, *NASA/Dryden Flight Research Center*

NASA ER-2: Flying Laboratory for Earth Science Studies & Remote Sensing
Robert Navarro, *NASA/Dryden Flight Research Center*

11. Feature Extraction Techniques
Moderator: Robert Crawford, *Intermap Technologies, Inc.*
Room 2

Automatic Extraction of Linear Features from Lidar and Imagery
Charalambos Poullis, *IMSC/USC*
Suya You and Ulrich Neumann

Ground-based Aerial Photography to Support Traffic Flow Estimation
Nora Csanyi, *Department of Civil and Environmental Engineering and Geodetic Science, The Ohio State University*
Charles Toth

12. Special Session
Geospatial Solutions at the FWC Fish and Wildlife Research Institute
Moderator: Kathleen O'Keife, *Florida Fish & Wildlife Conservation*
Room 10
Sponsored by the ASPRS GIS Division, Organized by Paula F. Smit, Director GISD, Raytheon Company

Oracle & GIS on Windows (It's Not as Bad as You Think!)
Gail McGarry MacAulay, *Florida Fish & Wildlife Conservation Commission*

Virtual GIS: Web-based GIS Applications at the Fish & Wildlife Research Institute
Kathleen O'Keife, *Florida Fish & Wildlife Conservation Commission*

Exhibit Hall Beverage Break
10:45 am to 11:00 am
Grand Ballroom & Foyer

Interactive Networking – Hot Topics
11:00 am to 12:00 noon
See page 31 for details

The Future of Land Imaging (Room1)

State Licensing of Geospatial Professionals and Related issues (Florida Ballroom Salon I)

Future Commercial Use of Unmanned Aerial Vehicles (UAVs) (Florida Ballroom Salon II)

Challenges and Opportunities in Remote Sensing Education (Florida Ballroom Salon III)

Getting a Job (Room 4)

18th Annual Awards Luncheon and 73rd Installation of Officers
12:15 pm to 1:45 pm
Florida Ballroom VI

The 2007 award recipients will be honored at this luncheon. The annual business meeting of the ASPRS will include installation of Officers and Directors. Kari Craun, outgoing President, will summarize the past year's events and Jim Plasker, Executive Director, will present the annual report of the Society.

Luncheon tickets are required. They may be purchased at the ASPRS Registration Desk on Level Two of the Marriott Waterside Hotel until 5:00 pm on Monday, May 7. All on-site sales are subject to availability. The cost is $45 per person.

Limited seating in the rear of the room is available at no cost to conference registrants wishing to attend the ceremony and business meeting only.

Technical Sessions
1:30 pm to 3:00 pm

13. Panel Discussion
Airborne Digital Mapping Camera Systems: Owners' Perspective
Qassim A. Abdullah, *EarthData International, Inc.*

John Welter, Layton Hobbs, Wolfgang Schickler, Ann Miglarese, Craig Molander, Michael Ritchie, and Raymond Brouillette

Room 4

14. Special Session
Training Session on Digital Data Contracting and Quality Assessment
Bryan Christensen, *SAIC/U.S. Geological Survey*
Steve Helterbrand, Geoff Gabott, and David Davis

Room 1

This session will provide training on the USGS Contracting Guidelines, Data Provider Certification, and Data Acceptance Standards. **The entire training package will be presented in each of the 3 sessions.**

15. Special Session
Training Session on USGS Imagery Specifications
Brian Huberty, *U.S. Fish & Wildlife Service*
Room 2

16. Classification I
Moderator: David Johnson, *USDA*
Room 5

Classifier Shootout: A Quantitative Assessment of Three Popular Image Classification Methodologies
David Johnson, *U.S. Department of Agriculture/National Agricultural Statistics Service*

Classification of Natural vs. Artificial Wetlands using Fractal Dimension with Raster and Vector Data: A Comparative Analysis
Barnali Dixon, *University of South Florida - Geo-Spatial Analytics Lab*

Lydia Prieto and Alvan Karlin

An Accuracy Assessment of Biomass and Forested Area Classifications from MODIS, Landsat TM, and Forest Inventory Plot Data
Dumitru Salajanu, *U.S. Department of Agriculture Forest Service*

Dennis M. Jacobs

Object-based Forest Classification using Spectral and Spatial Information from IKONOS Images
Minho Kim, *Center for Remote Sensing and Mapping Science (CRMS), Department of Geography, University of Georgia*

Marguerite Madden

17. Data Fusion - Imagery and Lidar
Moderator: Clive Fraser, *The University of Melbourne*, Australia
Room 8

Registration of Photogrammetric and Laser Scanner Data for Generation of 3D
Clive Fraser, *The University of Melbourne,* Australia

Khalil Al-Manasir

Using Lidar-derived Fuel Maps with FARSite for Fire Behavior Modeling
Muge Mutlu, *Texas A&M University*

Sorin Popescu

Geometric Registration of Aerial Images with Lidar Data Using Planar Surface Patches as Control Information
Impyeong Lee, Kyoungah Choi, and Yunsoo Choi, *The University of Seoul,* South Korea

Autonomous Non-Linear 3-Dimensional Modeling with Lidar and IFSAR Data for a Production System
Mark Rahmes, *Harris Corporation*

Josef Allen and Harlan Yates

18. Earth Remote Satellite Systems
Moderator: Gregory Stensaas, *USGS*
Room 7

Assessment of Landsat 7 ETM+, AWiFS, and UK-DMC Satellite Imagery in Agriculture Extraction and Illicit Poppy Cultivation Estimates
Wendy Wilson, *MDA Federal Inc.*

Jacqueline Luders and Clay Baros

Discovering the Needs of Landsat Users: Now and in the Future
Ann Krause, *SAIC, U.S. Geological Survey EROS*

Earth Observations from ALOS: The Americas ALOS Data Node perspective
Don Atwood, *Alaska Satellite Facility*

Nettie LaBelle-Hamer, Scott Arko, and Jeremy Nicoll

U.S. and International Satellite Characterization in Support of Global Earth Observation
Gregory Stensaas, *U.S. Geological Survey, EROS*

19. EPA: Geospatial Quality Assurance
Moderator: Demetrio P. Zourarakis, *Kentucky Division of Geographic Information*
Room 6

Geospatial Information Technology and Information Management Quality Assurance
George Brilis, *U.S. Environmental Protection Agency*

US EPA Geospatial Quality Council: Ensuring Quality in Geospatial Solutions
George Brilis, *U.S. Environmental Protection Agency*

Remote Sensing: Quality Assurance and Error Propagation
George Brilis, *U.S. Environmental Protection Agency*

Planning Quality in Geospatial Projects
George Brilis, *U.S. Environmental Protection Agency*

20. Feature Extraction
Moderator: Yuyu Zhou, *University of Rhode Island*
Room 9

Semi-automatic Vehicle Information Extraction From QuickBird Images
Zhen Xiong, *University of New Brunswick,* Canada

Yun Zhang

A MANOVA-based and Object-oriented Statistical Method for Extraction of Impervious Surface Area
Yuyu Zhou, *University of Rhode Island*

YeQiao Wang

An Automated Delineation Tool for Assisted Interpretation of Digital Imagery
Geoffrey J. Hay, *Foothills Facility for Remote Sensing and GIScience,* Canada

Guillermo Castilla

Towards the Development of Next Generation Remote Sensing Technology- ERDAS IMAGINE Incorporates a Higher Order Feature Extraction Technique Based on ICA
C. Shah, *University of California, Los Angeles*

I. Anderson

21. GPS/INS - Navigation and Processing
Moderator: Yaron Felus, *Ferris State University*
Room 11

Comparison of Adjustment Methods for GPS Datum Transformations
Yaron Felus, *Ferris State University*

Brian Romsek and Robert Burtch

Study on UAV Real-time Navigation for 2D Mapping
Guoqing Zhou, *Old Dominion University*

Performance Analysis of a Personal Navigator System
Shahram Moafipoor, *The Ohio State University*

Charles Toth and Dorota A. Grejner-Brzezinska

New Concept of Profile Based Pavement Measurement System
Tamas Lovas, *Budapest University of Technology and Economics,* Hungary

TImre Kertesz, Istvan Fi, and Arpad Barsi

22. Image Analysis Using Geometric Constraints
Moderator: Edward J. Kurtz, _____
Room 12

Feature-based Transformation Models for Satellite Image Registration and Terrain Modeling
Ahmed Shaker, *Institute of Geomatics,* Spain

Ismael Colomina

Aerial and Satellite Image Segmentation Based on Shape-constrained Geodesic Active Contours
Konstantinos Karantzalos, *Remote Sensing Lab, National Technical University of Athens*, Greece

Haris Papasaika and Nikos Paragios

A New Methodology for Line Accuracy Measurement for Spatial Data Quality Management
Joon Heo, *Yonsei University*, South Korea

Ji Sang Park, Jin Woo Kim, and Hong-Gyoo Sohn

Edge Detection of Man Made Objects using Wavelet
Varvara Noutsou, *Remote Sensing Laboratory, Dept. Rural & Surveying Engineering, National University of Athens,* Greece

Demetre Argialas, Pantelis Michalis, and Varvara Noutsou

23. Wildlife Habitat Analysis
Moderator: Greg McDermid, *University of Calgary*, Canada
Room 10

Mapping and Update of Vegetation and Land Cover for Grizzly Bear Research and Conservation
Greg McDermid, *Department of Geography, University of Calgary,* Canada

Predicting Distribution of Hepatica americana; Related to Topography, Vegetation, and Climate
Kyung-Ah Koo, *Institute of Ecology, University of Georgia*

Analysis of Sea Ice Fragmentation Using SAR Imagery to Determine Pacific Walrus and Polar Bear Ecoregions
Cyrus Hiatt, *NASA - DEVELOP*

Charles Brigham, Amber Brooks, Megan Dolson, Jacqueline Rudy, Ilan Kolkowitz, Cindy Schmidt, and J.W.Skiles

Exhibit Hall Guided Tour for Students
Grand Ballroom & Foyer
2:00 pm to 3:00 pm

The ASPRS Sustaining Members Council is hosting a guided tour of the exhibit hall for students. Meet at the Grand Ballroom Foyer entrance to the exhibit area promptly at 2:00 pm. This is your opportunity to meet the exhibitors, up close and personal, when the hall isn't too crowded.

Exhibit Hall Beverage Break
3:00 pm to 3:30 pm
Grand Ballroom & Foyer

Technical Sessions

3:30 pm to 5:00 pm

24. Special Session
Training Session on Digital Data Contracting and Quality Assessment
Bryan Christensen, *SAIC/U.S. Geological Survey*
Steve Helterbrand, Geoff Gabott, and David Davis
Room 1

This session will provide training on the USGS Contracting Guidelines, Data Provider Certification, and Data Acceptance Standards. **The entire training package will be presented in each of the 3 sessions.**

25. Special Session
Update on FLI and LDCM
Kass Green, *Alta Vista*
Room 12

26. Special Session
Airborne GNSS for Photogrammetry
Mohamed Mostafa, *Applanix Corporation*

Richard Snay, Chris Litton, Robert Tuck, and Larry Hothem
Room 4

27. Applications of Lidar to Forestry
Moderator: Jason Tullis, *University of Arkansas*
Room 6

Effects of Laser Pulse Density and Interpolator on the Forest Information Extraction
Qi Chen, *University of California, Berkeley*

Peng Gong, Dennis Baldocchi, and Gregory Biging

Remote Sensing-assisted Decision Support for Red Oak Borer Hazard Response in Upland Oak-hickory Forests
Jason Tullis, *University of Arkansas*

John Wilson, Jason Defibaugh y Chávez, Fred Stephen, Melissa Fierke, and John Riggins

Damage Estimation of Wild Fire using Geo-spatial Information Technology
Joon Heo, *Yonsei University*, South Korea

Yeong Sun Song, Jong Hong Kim, and Jin Woo Kim

Investigating New Advances in Forest Species Classification
Lindi Quackenbush, *SUNY-ESF*

Yinghai Ke and Charles Kroll

28. Aquatic Vegetation Mapping
Moderator: Kimberly A. Bjorgo-Thorne, *West Virginia Wesleyan College*
Room 8

Comparison of Z/I's DMC Imagery vs. Traditional Analogue Film for Mapping Submerged Aquatic Vegetation in Southwest Florida
Gary Florence, *Photo Science, Inc.*

Analysing the Changing Floodplain of the Torsa River, India
Tanushree Biswas, *Department of FRWS, College of Natural Resources, Utah State University*

Douglas R. Ramsey

Spatial Data Modeling of Fish Habitat in a Large River
Kimberly A. Bjorgo-Thorne, *West Virginia Wesleyan College*

Michael P. Strager

Digital Orthophoto Project for Seagrass Assessment, Taylor County, Florida
Bertin Evina-Ze, *Digital Aerial Solutions*

Shane Nelson

29. ASTER Satellite Applications
Moderator: Ruiliang Pu, *University of South Florida*
Room 7

Wetland Delineation using Classification and Regression Tree (CART) and Multinomial Logistic Regression (MLR)
Eva Pantaleoni, *Virginia Tech*

Randolph Wynne

Spectral Mixture Analysis for Mapping Abundance of Urban Surface Components from the Terra/ASTER Data
Ruiliang Pu, *University of South Florida*

Peng Gong and Ryo Michishita

Mapping Small Reservoirs in Semi-arid Region Using Optical and Microwave Remote Sensing
A. K. M Hossain, *University of Mississippi*

Greg Easson

Monitoring Irrigation Areas using ASTER/Terra Images: Diyarbakir
Huseyin Bayraktar, *Yildiz Technical University, Geodesy and Photogrammetry Division, Photogrammetry and Remote Sensing Department,* Turkey

30. Classification II
Moderator: Michael K. McInerney, *ERDC*
Room 5

Discrete Wavelet Transform Effect on Hyperspectral Image Classification Performance using Lossless Compression Algorithms with Color and Quality Scalability under JPEG2000
Vikram Jayaram

David Negrete, Bryan Usevitch, and Vikram Jayaram

Comparison of Methodologies to Derive a Normalized Difference Thermal Index (NDTI) From ATLAS Imagery
Michael K.McInerney, *U.S. Army Engineer Research Development Center (ERDC) Construction Engineering Research Laboratory (CERL)*

Robert Lozar

Proximal Hyperspectral Sensing Applications for Soil Classification and Survey
E. J. Neafsey, *Cornell University*

Stephen DeGloria, Matt Havens, Steve Antes, and Dean Hively

Vegetation Continuous Fields (VCF) for Two Counties of Northern Utah Using LANDSAT Imagery and Ancillary Data
A. Hernandez, *Utah State University – Remote Sensing and GIS Laboratories*

S. Rivera and R. Ramsey

31. GIS - Modelling and Analysis
Moderator: Ibrahim Eden, *Brown University*
Room 10

Extracting 3D Structure and Appearance from Multiple Images with Application to Change Detection
David Cooper, *Brown University*

Ibrahim Eden, Joseph Mundy; Thom Pollard and Ibrahim Eden

Developing an Application for Measuring Accurate Feature Distances at Regional and Global Scales
Jeong Chang Seong, *Department of Sciences, University of West Georgia*

Jinmu Choi

32. GIS - Urban Analysis Methods
Moderator: Louis Manglass, *University of Georgia*
Room 9

GIS the Business Tool of Choice for Public Utilities
James Hunt, *WilsonMiller Inc & Collier County*

Trevor Trinkaus and Michael Coles

Geostatistical Modelling for Assessment of Development at Micro Level
R.D. Gupta, *Civil Engineering Department, Motilal Nehru National Institute of Technology,* India

Space-time Analysis of Urban Heat Islands using MODIS Data
Rajasekar Umamaheshwaran, *Department of Geography, Geology and Antrohoogy, Indiana State University*

Weng Qihao

The Efficient Use of Ancillary Cadastral Data When Mapping Residential Densities Using Photointerpretation Techniques
Michael Broker, *South Florida Water Management District*

Mark Anderson

33. High Resolution Satellite Imagery and 3D Surface Models
Moderator: Jennifer Whitacre, *eMap International*
Room 11

Comparative Analysis of Alternative Methodologies for True Ortho-photo Generation from High Resolution Satellite Imagery
Ayman Habib, *Department of Geomatics Engineering, University of Calgary,* Canada

Ki-In Bang, Changjae Kim and Sung-Woong Shin

Digital Surface Models in Build Up Areas Based on Very High Resolution Space Images
Gurcan Buyuksalih, *Zonguldak Karaelmas University,* Turkey

Karsten Jacobsen

Automatic 3D Building Reconstruction from Stereo Ikonos images
Zhen Xiong, *University of New Brunswick,* Canada

Zhang Yun

Investigation of Geometric Accuracy and Feature Compilation of High Resolution Satellite Imagery
Orhan Altan, *Istanbul Technical University, Faculty of Civil Engineering, Department of Geodesy and Photogrammetry,* Turkey

Veysel Okan Atak

34. Web Services and Data Storage
Moderator: Chris Garrard, *Utah State University*
Room 2

Implementing the Commercial Remote Sensing Space Policy
Elizabeth McCartney, *SAIC, U.S. Geological Survey/EROS*

Julia Deis, Jeff Danielson, and Brenda Ellis

Merging Enterprise Data with Web Portals & Non-GIS Applications
Kenyon Waugh, *Valtus Imagery Services*

Methods and Software for Building Spatially-oriented Web Applications
Chris Garrard, *Utah State University*

R. Douglas Ramsey

Exhibitors' Reception
Grand Ballroom & Foyer
Wednesday, May 9, 5:30 pm to 7:00 pm.

✿ View the many products and services offered by the world wide suppliers and your hosts for the evening.

✿ Meet old friends and make new ones at this great networking event.

✿ Enjoy light hors d' oeuvres and beverages.