Thursday, May 27th
9:30 am to 10:50 am

**Airborne GPS — Part 1: Direct Georeferencing**
Special Session sponsored by the Primary Data Acquisition Division, ASPRS, and organized by Mohamed Mostafa, Applanix Corporation (Canada Invited Presentations)
Moderator: Mohamed M. R. Mostafa, Applanix Corporation

**Data Flow and Performance Analysis of Airborne Positioning and Orientation Systems for Mapping**
Joe Hutton, Applanix Corporation

**Direct Georeferencing Activities in Italy**
Vittorio Casella, DIET – Università di Pavia, Italy
Riccardo Galetto

**Mapping at a Grand Scale**
Mark Meade, Photo Science, Inc.

**Practical Accuracy Analysis of the DSS Test Flights in Japan**
Kikuo Tachibana, PASCO Corporation
Tadashi Sasagawa, Mohamed Mostafa, and Yuzo Tanahashi

### Career Development — Part 1: Current Trends and Activity in the Geospatial Technology Arena – Panel
Special session sponsored by the Education Committee of ASPRS and organized by Michael Hodgson, University of South Carolina.
Moderator: Michael E. Hodgson, University of South Carolina

This session will be composed of a panel of career professionals, prepared to discuss new trends in the industry, the skills they need to find in potential employees, and the kinds of experience and education that make a desirable candidate for employment.

**Is Digital Aerial Photography Admissible?**
Special Session organized by Charles E. Olson, Jr., University of Michigan (Invited Presentations)
Moderator: Charles E. Olson, Jr., University of Michigan

The use of digital photographs and associated computer enhancement technologies brings into question the adage: “photographs don’t lie.” If photographs can lie, should they be admissible in court? When an “unaltered original” is required before a photograph is considered admissible in court, can digital aerial photographs meet this criterion? The answer appears to be “Not Always!” Panel members will explore the possible need for a protocol that, if followed, should make digital photographs admissible.

**Requirements for Admissibility**
Charles E. Olson, Jr., University of Michigan

**Operational Use of Digital Aerial Cameras**
Brian Huberty, U.S. Fish and Wildlife Service

**Detecting Alterations in Digital Images**
William H. Anderson, University of Minnesota
Archiving Requirements for Certifiability
John L. Faundeen, EROS Data Center

Analysis and Applications of Hyperspectral Data — Part 1
Moderator: Glenn Reese, Space Imaging

Automating Data Processing for Hyperion Hyperspectral Data
Srinivas Chappidi, University of Mississippi
Michelle L. Aten and Pamela Lawhead

Evaluation of Factors Affecting Support Vector Machines for Hyperspectral Classification
Pramod K. Varshney, Syracuse University
Manoj K. Arora and Pakorn Watanachaturaporn

The Classification of Hyperspectral Data Using the CART Classification Approach
François G.F. Smith, Earth Satellite Corporation
Chris Jengo

Wavelet-Based Hyperspectral Soil Texture Classification Using Hidden Markov Models
Xudong Zhang, Mississippi State University
Nicolas H. Younan and Charles G. O’Hara

Analysis Techniques for Feature Extraction — Part 1: Effective and Efficient Techniques
Moderator: Donna Haverkamp, Space Imaging

Fully Automated Airfield Feature Extraction and Mapping
James H. Horne, Space Imaging

An Improved Method for Feature Extraction from Aerial Photography Using Stereo Pairs
John M. Marks, University of Wisconsin
Frank L. Scarpace

Linear Feature Extraction from Digital Remote Sensing Data Using Neural Network Analysis
Genong Yu, Indiana State University
Ryan Jensen, Paul Mausel, and Xing Liu

Smart Digitizer — Making Feature Extraction Smart and Fast
Xiangyun Hu, York University, Canada
C. Vincent Tao

Forestry Applications of Remote Sensing and GIS — Part 8: Analysis Techniques for Forest Inventories
Moderator: Dan Civco, University of Connecticut

Effects of Spatial Resolution on Reducing Uncertainty of Forest Inventory Estimates Using Satellite Image-based Stratification Layers
Mark D. Nelson, USDA Forest Service
Ronald E. McRoberts

Patterns of Covariance between Forest Stand and Canopy Structure
Michael Lefsky, Colorado State University
Andrew Hudak, Warren Cohen, and Steve Acker

Improving the Statistical Efficiency of FIA Phase I Estimates Using Spatially-Explicit Measures of Classification Uncertainty
Randolph H. Wynne, Virginia Tech
Christine E. Blinn, David C. Chojnacky, and John A. Scriveri

Use of Regression Tree Classification and Forest Inventory Data to Predict Forest Types
Russ Aicher, State University of New York
Bill Stiteler, Kerry Turek, and Jason Cole

Lidar Sensors and Applications — Part 12: Coastal and Bathymetric Mapping
Special Session sponsored by the Lidar Committee of the Photogrammetric Applications Division, and organized by Martin Flood, 3Sigma Ventures
Moderator: Thomas H. Meyer, University of Connecticut

Airborne Coastal Mapping and Charting
(Invited Presentation)
W. Jeff Lillycrop, U.S. Army Corps of Engineers

Combining Data from Different Lidar Surveys and Photogrammetry to Quantify Short-term Topographic Change on the North Carolina Coast
Helena Mitasova, NCSU, MEAS
Margery Overton and Russell S. Harmon

Robust Characterization of SHOALS Lidar Signals for Bottom Segmentation and Classification: A Combined Parameter-Estimation and Curve-Fitting Approach
Gareth R. Elston, Center for Coastal and Ocean Mapping/Joint Hydrographic Center
Semme J. Dijkstra

Bottom Segmentation and Classification Using Expectation-Maximization Clustering Methods on SHOALS Data
Semme J. Dijkstra, University of New Hampshire
Gareth R. Elston

National (& Global) Spatial Data Infrastructure and its Activities with the National Map Program, the President’s Management Program on E-Gov and the Geospatial One-Stop Portal — Part 8: First Steps Toward Implementing The National Map
Special session sponsored by the Federal Geographic Data Committee, and organized by Kari Craun, U.S. Geological Survey
(Invited Presentations)
Moderator: Kari Craun, U.S. Geological Survey

Implementation Strategy for The National Map
Kenneth J. Boyko, U.S. Geological Survey

A Cost-Benefit Analysis of the USGS The National Map
David Halsing, U.S. Geological Survey
Integrating 2D and 3D Geospatial Technology for Decision Support
Frederick V. Pieper, Institute for the Application of Geospatial Technology (IAGT)
Matthew F. Mercurio

On Demand Provisioning of Raster Data
Mark Hardy, SANZ Corp.
Tom Groom

Web GIS Based CSCW System for SARS Preventing and Reporting
Lu Xiao-lin, Zhejiang University of Finance & Economics, China

11:00 am to 12:00 noon

Moderator: Mary Love Tagert, Mississippi State University

Multispectral Imagery for Weed Species Identification
Cody J. Gray, Mississippi State University
David R. Shaw and Darrin M. Dodds

Texture Analysis of Remotely-sensed Images for Weed Patch Detection in Row-crops
Wade Givens, Mississippi State University
Abhinav Mathur, Ken Hutto, Lori Mann Bruce, and David R. Shaw

Airborne GPS — Part 2: GPS for Aerial Surveys
Special Session sponsored by the Primary Data Acquisition Division, ASPRS, and organized by Mohamed Mostafa, Applanix Corporation, Canada (Invited Presentations)
Moderator: Joe Hutton, Applanix Corporation

Richard Snay, NOAA’s National Geodetic Survey

Precision Airborne GPS Positioning Without Dedicated Base Stations
Mohamed M. R. Mostafa, Applanix Corporation

From Least Squares to Kalman Filtering
Aaron W. Braun, Integrity Applications Inc.
James S. Bethel

Career Development — Part 2: Getting a Job in Today’s Market - The Do’s and Don’t’s of Resume Preparation
Special Session sponsored by the Education Committee of ASPRS and organized by Michael Hodgson, University of South Carolina.
Moderator: Michael E. Hodgson, University of South Carolina
Professionals from different areas of industry will provide insights and advice in resume preparation. Learn how to maximize your potential, express yourself and promote your skills in your main introduction tool, your resume.
Analysis and Applications of Hyperspectral
Data — Part 2
Moderator: Srinivas Chappidi, University of Mississippi

Synthetic Panchromatic and Color Band Generation
Using AVIRIS Hyperspectral Data
Glenn Reese, Space Imaging

Distributed Processing of Hyperspectral Images
Stefan A Robila, Montclair State University

Hyperspectral Data Used in the Assessment of the
Powder River Basin, MT
Joe Zamudio, Earth Search Sciences

Analysis Techniques for Feature Extraction
— Part 2: Comparisons of Feature Extraction
Techniques
Moderator: Genong Yu, Indiana State University

Comparing Spectral and Object Based Approaches for
Classification and Transportation Feature Extraction
from High Resolution Multispectral Imagery
Sunil Reddy Repaka, National Consortium on Remote Sensing in
Transportation & Environmental Assessment
Eric W. Kolstad, Charles G. O’Hara, and Dennis D. Truax

A Performance Analysis on Vehicle Detection from
Remotely Sensed Imagery
Eva Paska, Ohio State University
Charles Toth

Semi-parametric FROC Analysis of Automated Target
Recognition Systems in Satellite Imagery
James H. Horne, Space Imaging

Forestry Applications of Remote Sensing
and GIS — Part 9: Forest Cover Mapping
Moderator: Randolph H. Wynne, Virginia Tech

Forest Fragmentation Due to Land Parcelization and
Subdivision: A Remote Sensing and GIS Analysis
Brian M. Holdt, University of Connecticut
Daniel L. Civco and James D. Hurd

Regionalization of the Land Cover Mapping for a
Southeastern Gap Analysis
Alexa McKerrow, Biodiversity and Spatial Analysis Center
(BaSIC)
Elizabeth Kramer and Amy Silvano

Conservation Planning in the Caribbean Basin Using
GIS-Based Modeling
Steven R. Schill, The Nature Conservancy

GeoCover – Ortho — Part 2: Landsat
Applications on a Global Scale (continued)
Special Session organized by Jon Dykstra, Earth Satellite Corporation
(Invited Presentations)
Moderator: Gregory T. Koeln, Earth Satellite Corporation

Summit-to-sea Mapping and Change Detection Using
GeoCover Ortho
Aurelie C. Shapiro, NOAA – NOS
Steve Rohmann and Chris Jengo

Deriving Products from GeoCover Ortho Imagery:
GeoCover LC, SRTM Water Masks, Global Shoreline
and Near Shore Hazards
David J. Cunningham, Earth Satellite Corporation
Jeannine E. Melican, Eric Wemmelmann, and Gregory T. Koeln

Global, Regional and Local Applications of the
GeoCover Product
Benjamin White, University of Maryland
Paul Davis, J.R.G. Townshend, and Sung-Hee Kim

Lidar Sensors and Applications — Part 13:
Terrestrial Laser Scanning
Special Session sponsored by the Lidar Committee of the Photogrammetric
Applications Division, and organized by Martin Flood, 3Sigma Ventures.
Moderator: Jan A.N. van Aardt, Virginia Polytechnic Institute
and State University

The Role of Terrestrial Laser Scanning in Assessing
Forest Attributes
P.J. Radtke, Virginia Tech
J. G. Henning, S.C. Popescu, and R.H. Wynne

Building Modeling from LIDAR and Aerial Imagery
Ulrich Neumann, University of Southern California
Suya You

Registration of Photogrammetric Imagery to Terrestrial
Laser Scanner Point Cloud Data
Eric Kwabena Forkuo, The Hong Kong Polytechnic University,
China
Bruce Anthony King

National (& Global) Spatial Data
Infrastructure and its Activities with the
National Map Program, the President’s
Management Program on E-Gov and the
Geospatial One-Stop Portal — Part 9: First
Steps Toward Implementing The National
Map (continued)
Special session sponsored by the Federal Geographic Data Committee, and
organized by Kari Craun, U.S. Geological Survey
(Invited Presentations)
Moderator: Kari Craun, U.S. Geological Survey

National Map Partnerships: Lessons Learned in the
Pilots and Early Implementations
Vicki Lukas, U.S. Geological Survey

Graphic Product Generation Using The National Map
Mark Eaton, U.S. Geological Survey

Integration of The National Map: Data Layers and
Features
Michael P. Finn, U.S. Geological Survey
E. Lynn Usey, Bryan Weaver, Gregory M. Jaromack, and
Michael Starbuck
Analysis Techniques for Feature Extraction — Part 3: Feature Extraction of Buildings and Urban Features
Moderator: James H. Horne, Space Imaging

Automatic Building Extraction from IKONOS Imagery
Donna Haverkamp, Space Imaging

Semi-Automatic Extraction of Buildings Outlines from High Resolution Satellite Images
S.D. Mayunga, University of New Brunswick, Canada
David J. Coleman and Yun Zhang

Inferring Missing Road Segments by Context in Automatic Road Extraction
Yandong Wang, Z/I Imaging Corporation

Using Context, Snake and Model as Guides for Building Extraction from Urban Aerial Images
Jing Peng, Shanghai Jiaotong University, China
Yuncui Liu

GIS as a Decision Support System — Part 1: GIS for Environmental and Cultural Decision Making
Moderator: Tyler Jefreey Alumbaugh, University of Illinois at Urbana-Champaign

GIS Applications in Growth Management: The Case of Central Mississippi
Edmund C. Merem, Jackson State University
Yaw A. Twumasi

Wind Farm Siting Using GIS in Western North Carolina
Xingong Li, University of Kansas

Global and National Land Cover Data Bases: Status and Utilization
Moderator: Roger M. Hoffer, Colorado State University, (retired)

Global Land Cover Mapping and Characterization: Present Situation and Future Research
Chandra Prasad Giri, SAIC/EROS Data Center
Zhiliang Zhu and Thomas Loveland

Status of the 2001 National Land Cover Database for the United States
Collin Homer, SAIC/EROS Data Center
Limin Yang, Mike Coan, Jon DeWitz, and Bruce Wylie

Utility of the 2001 National Land Cover Database for Extrapolating Additional Local Land Cover Classes
Jon Dewitz, U.S. Geological Survey
Collin Homer, Limin Yang, Bruce Wylie, and Mike Coan

Strategy for Outsourced Land Cover Product Validation: An Example from the NOAA Coastal Services
Marcia Ruble, NOAA Coastal Services Center
Chris Robinson and Shan Burkhalter
Lidar Sensors and Applications — Part 14: Applications in Forestry (continued)
Special Session sponsored by the Lidar Committee of the Photogrammetric Applications Division, and organized by Martin Flood, 3Sigma Ventures.
Moderator: Bruce A. Davis, NASA Stennis Space Center

Estimating Crown Fire Behavior Variables Using Airborne Laser Scanner Data
Hans-Erik Andersen, University of Washington
Ward Carson, Robert McGaughey, Stephen Reutebuch, and Gerard Schreuder

Using Multi-spectral Imagery and Multi-return Lidar to Estimate Tree and Stand Attributes in a Southern Bottomland Hardwood Stand
Curtis A. Collins, Mississippi State University
Robert C. Parker, David L. Evans, and Keith L. Belli

Using Lidar to Evaluate Forest Characteristics in Louisiana
John C. Craig, 3001, Inc.
Peter Briere

Forest Stand Type Classification Using Airborne Lidar and Landsat Data: Comparison of Supervised Classification and Rule Based Classification Using Logistic Regression
Ikuko Fujisaki, Mississippi State University
David L. Evans

Lidar Sensors and Applications — Part 15: Data Processing (continued)
Special Session sponsored by the Lidar Committee of the Photogrammetric Applications Division, and organized by Martin Flood, 3Sigma Ventures.
Moderator: Aparajithan Sampath, Purdue University

Eliminating Data Redundancy in Lidar Elevation Data
Greg Mauldin, Tallahassee-Leon County GIS
John Marquez

Extraction of Channel Morphology from Lidar Terrain Data
Scott N. Miller, University of Wyoming
Sudhir Raj Shrestha

Filtering “Bare Earth” Lidar Topographic Data
Amar Nayegandhi, ETI Professionals, Inc.
John C. Brock, C. Wayne Wright, Tonya D. Clayton, and Lance A. Mosher

Hierarchical Recovery of Digital Terrain Models from Single and Multiple Returns Lidar Data
Yong Hu, York University, Canada
Vincent Tao

Moderator: Lewis Graham, NIIRS10

Progress in Ground Processing Workflow for Leica ADS40 Imagery
Roger Pacey, Leica Geosystems GIS & Mapping, LLC
Peter Fricker and A. Stewart Walker

From Raw Airborne Pushbroom Data to Fully Corrected and Georeferenced Images: The Leica ADS40 Calibration and Correction Chain
A. Stewart Walker, Leica Geosystems GIS & Mapping, LLC
Peter Fricker, Udo Tempelmann, and Neil Woodhouse

Digital Aerial Mapping Cameras - Workflow and Data Handling
Klaus J. Neumann, Z/I Imaging GmbH, Germany

Sensor Quality Validation and Verification — Part 1: Sensor Radiometric Calibration
Moderator: Fei Ma, Digital Aerial Solutions, LLC

Relative Radiometric Correction of QuickBird Imagery Using the Side-Slither Technique On-orbit
Brad Henderson, Los Alamos National Lab
Keith Krause

On-orbit Image Quality and Radiometric Accuracy Characterization of the OrbView-3 High Resolution Imaging Satellite
Kevin Kohm, ORBIMAGE
Nour Tira

On-Orbit Assessment of the Digital Globe QuickBird Instrument-Panchromatic Band
Paul Scott, DigitalGlobe

Relative, Absolute and Radiometric Performance of QuickBird
Keith Krause, DigitalGlobe

Data Visualization — Tools, Techniques and Applications
Moderator: George R. Hoffman, EarthData Technologies

Visualization: Costly or Cost-Effective at Budget Cut Time?
Bradford Henry, URS Corp.

Virtual 3D Urban: VR and Internet GIS for Urban Planning and Environmental Analysis
Guoqing Zhou, Old Dominion University
Zhenyu Tan, Ming Xie, and Jianfeng Tang

Automatic Image Fusion and Web-based Automatic Color 3D Visualization
Yun Zhang, University of New Brunswick, Canada
Pingping Xie

Modernizing Flight Simulation Applications through High Resolution Imagery and Geo-specific Textures
Kenyon Waugh, DigitalGlobe

Web-Based GIS — Part 3: Web-Enabled Distributed and Mobile Processing

Application of Spatial Web Services for Coastal Decision Making
Xutong Niu, Ohio State University
Ron Li
Design and Implementation of a Map Service System in Mobile Environment
JaeJun Yoo, ETRI (Electronics and Telecommunications Research Institute), Korea
Hea-Ok Choi and Jong-Hun Lee

Remote Sensing and GIS for Mapping and Assessing Wetlands — Part 1
Moderator: Ming Xie, Old Dominion University

The New National Wetland Inventory
Brian Huberty, U.S. Fish & Wildlife Service

An Examination of Multi-Band Multi-Polarization Radar Data for Forested Wetland Identification in New Hampshire
Susan E. Campbell, University of New Hampshire
Mark J. Ducey and William A. Salas

Mangrove Forest Dynamics Study with High Spatial Resolution Imagery
Le Wang, University of California – Berkeley
Wayne Sousa and Peng Gong

2:30 pm to 3:50 pm

Career Development — Part 4: University Opportunities in the Geospatial Sciences
Special session sponsored by the Education Committee of ASPRS and organized by Michael E. Hodgson, University of South Carolina.
Moderator: Michael E. Hodgson, University of South Carolina

University faculty members will be available to discuss their geospatial science programs and will have handout materials about their programs. This session should be of special interest to current college students considering graduate studies in the geospatial sciences.

Multi-source Data Fusion Part 1
Moderator: Gene Dial, Space Imaging

Precision Automatic Co-Registration Procedures for Spacecraft Sensors
Nevin A. Bryant, NASA/JPL
Albert L. Zobrist and Thomas I. Logan

Improvement of Image Fusion Quality by Integrating Wavelet Transform into Band Substitution Fusion Techniques
Yun Zhang, University of New Brunswick, Canada
Gang Hong

Merging Multi-resolution Satellite Data Sets for Seamless Training Environments
Kenyon Waugh, DigitalGlobe

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Planning/Managing/Executing A Statewide Lidar Program
Robert A. Ryan, EarthData International of NC

Sensor Quality Validation and Verification — Part 2: Sensor Geometric Calibration
Moderator: Jolyon D. Thurgood, Vexcel Imaging

On-orbit Geometric Calibration of the OrbView-3 High Resolution Imaging Satellite
David Mulawa, ORBIMAGE

QuickBird Geolocational Accuracy
Will Colwell, DigitalGlobe
Jerry Smith, Chris Comp, and Woodson Bercaw

Georeferencing the DMC Images - Data Flow and Performance Analysis
Mostafa Madani, Z/I Imaging Corporation
Mohamed Mostafa

A Comparison Study on SPOT-5 and ASTER Sensor Modeling
Fei Ma, Digital Aerial Solutions, LLC

Remote Sensing and GIS for Mapping and Assessing Wetlands — Part 2
Moderator: Brian Huberty, U.S. Fish & Wildlife Service

Integrated Remote Sensing and Field Techniques for Predicting, Assessing, and Managing Phragmites Australis in South Carolina Estuaries
Samuel P. Walker, University of South Carolina
Dwayne E. Porter

Remote Sensing of Semi-natural Wetland Vegetation: the Relationship between Species Composition and Spectral Response
Crona J. O’Shea, University of Stirling, Scotland
S.J. Winterbottom and N.J. Willby

ASPRS Committee Meeting Schedule

All meetings will be held within the Adam’s Mark Hotel. Room assignments will be announced in the Final Program

Saturday, May 22nd
Executive Committee Meeting
7:30 am to 5:00 pm

Sunday, May 23rd
Journal Policy Committee
10:00 am to noon
Evaluation for Certification Committee
1:00 pm to 3:00 pm
External Affairs Committee
1:00 pm to 3:00 pm Region Officers
3:00 pm to 5:00 pm
Electronic Communications Committee
3:00 pm to 5:00 pm
By-Laws Committee
3:00 pm to 5:00 pm
Data Preservation and Archiving Committee
4:00 pm to 5:00 pm

Monday, May 24th
Committee Chairs
7:30 am to 8:30 am
Division Directors
7:30 am to 8:30 am
Education & Professional Development Committee
8:30 am to 10:00 am
Primary Data Acquisition Division (PDAD)
8:30 am to 10:00 am
Professional Practice Division (PPD)
Licensure Subcommittee,
Standards Subcommittee
9:00 am to 12 noon
Membership Committee
10:00 am to 12 noon
Convention Planning & Policy Committee
1:00 pm to 3:00 pm
Remote Sensing Applications Division (RSAD)
1:00 pm to 3:00 pm

Awards Committee
1:00 pm to 3:00 pm
Photogrammetric Applications Division (PAD)
Lidar Subcommittee,
Transportation Surveys Subcommittee,
Softcopy Subcommittee
1:00 pm to 5:00 pm
Publications Committee
3:00 pm to 5:00 pm
Geographic Information Systems Division (GISD)
3:00 pm to 5:00 pm
New Board Orientation
3:00 pm to 5:00 pm
Division Directors
5:00 pm to 6:00 pm

Wednesday, May 26th
Sustaining Members Council
8:00 am to 9:00 am

Thursday, May 27th
ASPRS Board Meeting
8:30 am to 5:00 pm