

Geospatial Power in Our Pockets

ASPRS 2014 Annual Conference
and co-located JACIE Workshop

March 23-28, 2014 Louisville, Kentucky USA

Final Program

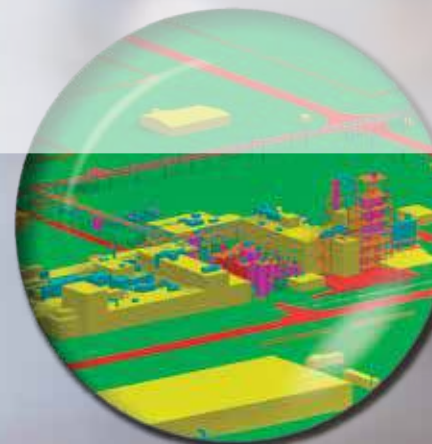


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Chuck Boteler—Professional Surveyor

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Welcome to Louisville

Dear Colleagues:

On behalf of the 2014 Annual Conference Planning Committee of the American Society for Photogrammetry and Remote Sensing (ASPRS) and the ASPRS Mid-South Region, I would like to welcome you to Louisville, home of the Kentucky Derby, and to this year's ASPRS Annual Conference, whose theme is "Geospatial Power in Our Pockets" and co-located with the Joint Agency Commercial Imagery Evaluation (JACIE) Workshop. I would like to take this opportunity to thank the Technical Program Co-Chairs Drs. Marguerite Madden and Thomas Jordan, for developing a fantastic technical program, which has some new style sessions, such as LIGHTNING talks, Hot Topics, Web and Special Sessions/Panels, to name the few, and has hundreds of presentations including Emerging Technologies, Geospatial Power in Our Pockets, Business & Management for the Geospatial Professional, Core Technologies, Interactive Sessions and several application topics. I would like to also thank the Planning/Organizing Committee, student volunteers, exhibitors, professionals, presenters, sponsors, and the Mid-South Region, which contributed generously to the Student Volunteer Program, for making this conference a success. Several workshops have been offered on Sunday, March the 23rd and Monday, the 24th. The ASPRS committee meetings have been scheduled for those days as well. Please feel free to attend some of the events if you could.

We will have several social events at the Annual Conference. The Welcome Reception will be held at the Kentucky Derby Museum, next to Churchill Downs, capturing the traditions of the Kentucky Derby, on Monday the 24th between 6:00 PM and 9:00 PM. Please come and join us to "break the ice" at this wonderful event, which is included with most registrations. Bus transportation will be on a continuous basis from the Galt House Hotel to the Kentucky Derby Museum beginning at 5:30 PM until 9:00 PM. Also, please make every effort to attend the Exhibitors Reception, to be held on Tuesday, March the 25th from 5:30 PM to 7:00 PM, to discuss cutting edge technologies with exhibitors in a relaxed environment and to network with professionals. The JACIE/ASPRS Poster Reception & Live Bluegrass music, to be played by ASPRS Members, will be held by the Poster area, directly across from the Exhibit Hall on Wednesday, March the 26th from 5:00 PM to 6:00 PM. Another event, a special continental breakfast, including Prize Drawing for the winners of the Exhibit Hall Passport Contest, will be held in the Exhibit Hall on Thursday, March the 27th from 8:00 AM until 8:45 AM. We will also have a student event to connect students looking for jobs in geospatial industry and employers looking to hire on Thursday March 27th from 9:00AM until 10:30AM. Also, your Student Advisory Council (SAC) Networking Coordinator will arrange social gatherings after each of the day's conference activities.

Our Keynote Address entitled "Lost Cities, Lasers, and the Vestiges of the Colonial Discourse of Archaeology" will be given by Dr. Christopher Begley, Associate Professor of Anthropology, Transylvania University, at 8:00 AM on Tuesday, March the 25th. Dr. Begley's archaeological research has focused on issues of ethnicity and identity among ancient populations in the remote jungles of the Mosquito Coast of Honduras. Over the last five years, he has focused on developing zero-impact archaeological imaging technology, especially structured light 3D systems. He will discuss the discovery of a lost city in Honduras and the pattern of using differential access to powerful tools to perpetuate vestiges of a colonial discourse, camouflaging privilege, and oppression within the seemingly neutral rhetoric of science, discovery, technology, and exploration.

Thank you for joining us for this exciting ASPRS/JACIE event. Meeting with colleagues and new professionals have been a hallmark of ASPRS conferences throughout ASPRS' history. Let's keep our traditions going! I look forward to a successful and rewarding meeting and to seeing you at this important Conference. Best Wishes.



Dr. Haluk Cetin, *Murray State University*

A handwritten signature in dark ink, appearing to read "Haluk Cetin". The signature is fluid and cursive, written over a light background.

Haluk Cetin, Ph.D.

Conference Chair and National Director of ASPRS Mid-South Region

Media Sponsors

The American Surveyor

www.amerisurv.com



The American Surveyor is made by surveyors for surveyors. Editor Marc Cheves draws on 40+ years of industry experience alongside a stellar team of nationally recognized writers. Sister publications include LIDAR News & GISuser.com.

COORDINATES

www.mycoordinates.org



COORDINATES is an international monthly magazine on positioning, navigation and geospatial technologies and applications. In its 9th year, it is widely circulated in Asia, Australia, New Zealand, Europe, and N. America. Download the complete magazine including the AD's free from www.mycoordinates.org.

Directions Magazine

www.directionsmag.com



Directions Magazine is the leading source of geospatial information technology, news and commentary for "all things location." We keep our readers informed with the latest geospatial technology trends and issues through newsletters, blogs, podcasts, industry Channels and webinars.

Earth Imaging Journal (EIJ)

www.eijournal.com



Earth Imaging Journal is devoted to exploring the world of remote sensing. The bimonthly publication is complemented by its website, www.eijournal.com, and its weekly electronic newsletter, Earth Imaging Express. Subscribe online at www.eijournal.com.

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GIM International – Your Source for Geomatics *GIM International*, the global magazine for geomatics (also available in digital), its related e-newsletter and the website www.gim-international.com focuses on reporting the latest news and communicating new developments and applications in geomatics. *GIM International* addresses both technological and managerial aspects of the industry and profession.

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views, multimedia presentations, press releases, event postings, job placement and more. Subscribe to the daily newsletter at GISCafe.Com.

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A Spatial Media publication. Dr. Gene Roe leads an expert editorial team, bringing insights and commentary to readers via websites, blogs, eNewsletters & the print editions. Spatial Media (Frederick, Maryland) is an advanced internet media provider, operating websites, eNewsletters and interactive magazines. Publications include *The American Surveyor* (www.amerisurv.com), *GISuser.com*, *LBSzone.com*, *Machine Control Magazine* (www.machine-controlonline.com) and others.

LiDARnews.com

www.lidarnews.com



LIDAR News (www.LIDARnews.com), a Spatial Media publication, promotes the adoption of LIDAR and 3D laser scanning technology. Dr. Gene V. Roe, Managing Editor, leads an expert editorial team, bringing insights and commentary to readers via *LIDAR Magazine*, eNewsletters, blogs and social media.

Point of Beginning

www.pobonline.com



Point of Beginning (POB) helps land surveyors and geomatics professionals succeed through our coverage of new technologies and opportunities. We offer practical solutions to surveying and mapping problems, while keeping you up-to-date on business strategies, the law and education.

Professional Surveyor Magazine

www.profsurv.com



Professional Surveyor Magazine. Business and technology information for land and hydrographic surveyors, photogrammetrists, and lidar/GIS professionals. Published with it are annual Aerial Mapping and Red Pages supplements, and e-newsletters *Pangaea* and *Field Notes*, the latest in geospatial technologies.

Sensors & Systems

www.sensorsandsystems.com



Sensors & Systems covers the integrated technologies of GIS, remote sensing, modeling, spatial analysis, surveying and sensor technologies for the better stewardship of our planet. We focus on some of the key challenges that these tools help us address, including: energy, water, food, biodiversity, environment and security.

xyHt

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Positioning and Measurement, Elevated. Brought to you by the publisher of *Professional Surveyor*, and launching in July, *xyHt* will be North America's leading resource for all things precision measurement, positioning and imaging. Today's geospatial professional now sees surveying, GIS, GNSS, BIM, UAS, mapping, remote sensing and photogrammetry as interwoven fields and *xyHt* invites you to stay ahead of the latest trends!

Frequently Asked Questions

How do I get help in an Emergency?

Contact an ASPRS staff person or pick up any house phone in the Galt House Hotel and ask for Security. Give all details of the emergency including the location. **DO NOT CALL 911.**

Where is the Conference Registration Desk?

The Conference Registration Desk is located in the Galt House Hotel on the second floor of the Suite Tower.

What are the Conference Registration Desk Hours?

Saturday, March 22	4:00 PM – 7:00 PM
Sunday, March 23	6:30 AM – 5:00 PM
Monday, March 24	6:30 AM – 5:45 PM
Tuesday, March 25	7:00 AM – 5:45 PM
Wednesday, March 26	7:00 AM – 5:00 PM
Thursday, March 27	7:00 AM – 3:00 PM

Conference Registration materials are available only during the above hours. Once the Conference Registration Desk is closed, materials will not be available until the following morning.

What are the Exhibit Hall Hours?

The exhibit hall is located in the Grand Ballroom on the second floor, Suite Tower of the Galt House Hotel.

Tuesday, March 25 - 10:30 AM – 7:00 PM
<i>Exhibitors' Reception - 5:30 PM – 7:00 PM</i>
Wednesday, March 26 - 9:00 AM – 6:00 PM
<i>Poster Reception - 5:00 PM – 6:00 PM</i>
Thursday, March 27 - 8:00 AM – 11:00 AM
<i>Closing Breakfast - 8:00 AM – 8:45 AM</i>

Are Workshops included with the registration fees?

No. Workshops require individual registration and a separate fee in addition to the general conference registration fees. Conference registration is not required to attend a workshop but early registration is advisable. Availability is based on space.

Is there a charge for the User Group Meetings?

No, the User Group Meetings are free of charge; however, some may require advanced registration.

Are Daily Registrations permitted for all categories?

Yes. Daily registrations are available on-site. If registering for only one day, you may purchase social tickets for that day only.

What does the Daily Registration include?

Daily Registrations include that day's general and technical sessions, exhibits and proceedings. Daily Registration for Tuesday, March 25th includes the Exhibitors' Reception from 5:30 pm until 7:00 pm. Tickets for the Welcome Reception on Monday, March 24th may be purchased separately.

Is there an ASPRS staff office on-site?

Yes, the ASPRS staff office is located in the Galt House Hotel on the second floor, Suite Tower in the Willis room.

What should presenters do after they register?

ALL PRESENTERS ARE REQUIRED TO CHECK IN AT THE CONFERENCE REGISTRATION DESK BY INITIALING THE MASTER FINAL PROGRAM NEXT TO THEIR NAME AND INCLUDING EITHER A CELL PHONE NUMBER OR A HOTEL ROOM NUMBER. A Master Program will be posted at the Conference Registration Desk. This information is essential for the moderators to determine that all presenters have arrived and are prepared to make their presentations.

Do presenters bring their own laptops?

ASPRS does **NOT** provide laptops or desktop computers, laser pointers, internet or flip charts for speakers. Projectors will be provided in all meeting rooms.

What does ASPRS provided in each Technical Session room?

Each technical session room will be equipped with a LCD projector and screen. A microphone will be provided when necessary. ASPRS does NOT provide internet access, laser pointers, or laptop computers for the technical sessions.

Do Presenters have a Preparation Room?

Yes, the Bradley room on the third floor, Skywalk Level has been reserved for Presenters. The room will be available on a first come basis and should be used for rehearsal only.

Monday, March 24	8:00 AM – 5:00 PM
Tuesday, March 25	8:00 AM – 5:00 PM
Wednesday, March 26	8:00 AM – 5:00 PM
Thursday, March 27	8:00 AM – 12:00 NOON

This room will be equipped with an LCD projector and screen. **All presenters must bring their own laptops for all presentations.** We encourage all presenters to review their materials prior to their presentation.

Do Moderators need to check-in?

Yes, as soon as you arrive, at the Conference Registration Desk a Master Final Program will be posted. Please put your initials and cell phone number or hotel room number beside your name on this Master Program. We are asking the presenters to do the same thing. This will be our way of knowing that moderators and presenters have arrived.

Prior to your session, check back at the Conference Registration Desk Master Final Program to confirm that all of your presenters have arrived at the conference.

What are Lightning Talk and Poster Presenters expected to do?

Lightning Talk and Poster presenters have the option to do a lightning talk of 5 minutes, a poster or both. Lightning talks should have 5 to 10 slides that focus on the "story" of what you did, why and briefly how it turned out. Pick a main focus of your project, even if it is only one piece of the puzzle, and talk about it. Don't try to fit a 20-minute presentation into 5 minutes. Practice so you talk at a normal rate. There is one minute between speakers so no time for questions. Arrive 10 minutes before your session to load your slides.

Frequently Asked Questions

You have the option to also prepare a poster. This way you can include more details and meet people afterwards to discuss your research

All posters must be removed by 3 pm Thursday, March 27th.

ASPRS is not responsible for posters that are not removed. All poster packaging must be removed from the poster area once posters are installed.

Where should Student Assistants and Volunteers report?

All Student Assistants and Volunteers should check in with the Volunteer Coordinator in the Wilson room on the third floor, sky-walk level of the Galt House Hotel when they arrive to coordinate their work assignments. All volunteers should plan to arrive at least 20 minutes before their scheduled start time.

Why do I need a badge?

Your badge is proof that you paid your registration fee. For entrance to the General Sessions, plenary and technical sessions, and Exhibit Hall, you need to wear your name badge.

What if I forget or lose my badge?

A charge of \$5 will be made for replacement of lost badges.

Why do I need tickets for certain events?

Your tickets are proof of payment for certain events and must be presented at the collection point. Lost tickets will not be replaced.

Is there an additional charge for the Welcome Reception?

All daily registrants, unregistered guests, and children must purchase tickets if they wish to attend the Welcome Reception. The ticket cost for children under 13 is \$40 each. Children 13 years of age and over must have an adult ticket. All tickets must be purchased in advance no later than 10 am on Sunday, March 23, 2014. The cost of an adult ticket is \$60.

How can I visit the Exhibit Hall if I am not registered for the conference?

Daily Exhibit Hall badges may be purchased at the Conference Registration Desk in the Galt House Hotel. Everyone entering the Exhibit Hall must have a name badge, including children over 13

years of age. *Children under 13 years of age are not permitted in the Exhibit Hall at any time due to insurance and safety regulations.*

Will it be possible to post resumes and job openings?

Yes, posting boards are provided near the Exhibit Hall for all resumes and job openings. Please bring multiple copies of all postings to allow interested parties to take one and check the board frequently for new materials.

How do I get a copy of the Proceedings?

All registrants, except for those registered as Spouse/Guest, will receive access to the online proceedings that are on the conference website. Access for additional people can be ordered on-site for \$20. *ASPRS has requested papers from all speakers and is not responsible for the number of papers submitted.*

How can someone from outside the hotel contact me?

Messages cannot be personally delivered to Conference attendees due to the varied schedules of everyone in attendance. Cell phone numbers should be made available to anyone needing to contact a conference attendee.

Is there a Lost and Found?

Please contact the Galt House Hotel Security for all lost and found items.

Where can I store my bags/luggage?

Please contact the Hotel Bell Desk for storage of your personal items. There may be a fee for this service. ASPRS is **NOT** responsible for your bags or luggage during the Conference and will not hold personal items. Bags/luggage/personal items may NOT be stored at the ASPRS Registration Desk.

Is the JACIE Workshop a separate registration fee?

Yes, in order to attend the JACIE Workshop sessions, you must purchase an additional registration. You may register onsite for the JACIE Workshop sessions at the Conference Registration Desk.

Awards Program

Awards for Outstanding Papers, Professional Achievement, Service and Region activities are determined by committee selection; scholarships and academic awards are also determined by committee selection but are chosen from among current applications. For details on the application process, see <http://www.asprs.org/ASPRS-Awards-and-Scholarships.html>.

Keynote Address, Tuesday, March 25th

Honorary Member Award

Outstanding Technical Achievement Award

Photogrammetric (Fairchild) Award

ASPRS Honorary Member

2014 Recipients: John R. Jensen and Stanley A. Morain

Complete biographical information can be found at: <http://www.asprs.org/Press-Releases/ASPRS-Selects-John-R-Jensen-and-Stanley-Morain-as-Honorary-Members.html>

Dr. John R. Jensen is a Carolina Distinguished Professor Emeritus in the Department of Geography at the University of South Carolina. He majored in physical geography, cartography and remote sensing at California State University at Fullerton, where he received a BA in 1971. He went on to receive his MA from Brigham Young University in 1972 and a PhD from the University of California at Los Angeles (UCLA) in 1976. While attending UCLA, he worked as a photogrammetric stereo-plotter operator at Aero Service Corporation in Beverly Hills, CA. In 1977, he accepted a professorship at the University of Georgia. In 1981, he went to the University of South Carolina as an Associate Professor and helped develop the PhD program in GIScience. He has been an ASPRS Certified Photogrammetrist since 1991.

Jensen has made lasting contributions to the field of remote sensing and GIScience in the geographical, environmental, biophysical and urban sciences through his research, publications, leadership, and undergraduate and graduate teaching. He taught hundreds of undergraduate students and mentored 62 Masters and 35 PhD graduate students to completion at the University of South Carolina. In effect, he helped educate a generation of remote-sensing scientists who are now making significant contributions in academia, government and industry.

He has published more than 140 articles in refereed journals including 20 in *Photogrammetric Engineering & Remote Sensing* and has received numerous ASPRS best scientific and practical paper awards. He and his graduate students presented more than 300 papers to learned societies with many published in proceedings volumes. He was the editor of the journal *GIScience & Remote Sensing* from 2004 – 2013 and served on several other journal editorial boards.

He is well known as the author of two widely used remote-sensing and digital image processing textbooks: *Remote Sensing of the Environment* (2nd Ed.; 2007) and *Introductory Digital Image Processing: A Remote Sensing Perspective* (3rd Ed., 2005; 4th Ed., in press), that ushered in a new era of remote sensing education at numerous universities around the world. In 2013, he co-authored *Introductory Geographic Information Systems* with his son, Ryan Jensen.

He was a contributor to the ASPRS *Manual of Remote Sensing* (1st Ed., 1975; 2nd Ed., 1983), *Digital Photogrammetry* (1996); *Manual of Photographic Interpretation* (2nd Ed., 1997), *Manual of Remote Sensing: Remote Sensing of Human Settlements* (3rd Ed., Vol. 5; 2005), and *Manual of Remote Sensing: Earth Observing Platforms & Sensors* (3rd Ed., Vol. 1.1; 2009). He is a contributing author on ten (10) remote sensing-related scientific reports published by the National Research Council, National Academy Press.

He received the ASPRS Alan Gordon Memorial Award in 1989. He served as President of ASPRS from 1995 to 1996. He received the ASPRS Autometric Award in 1996. Jensen received the ASPRS Fellow Award in 1998 and the SAIC/Estes Memorial Teaching Award in 2004. He received the William T. Pecora Award from NASA in 2006 for his lifetime accomplishments in remote sensing science. He received the AAG Lifetime Achievement Honor for his work in remote sensing and GIScience in 2009.

Dr. Stanley Morain received his PhD in Geography from the University of Kansas in 1970 and was an Assistant Professor there until 1974. From 1974 to 2008, he progressed from Associate to Full Professor of Geography at the University of New Mexico (UNM) while also serving as Director of UNM's Earth Data Analysis Center (EDAC) from 1976 until his retirement in 2008.

For over 38 years, Morain carved a distinguished career in remote sensing recognized locally, nationally, and internationally. His contributions focused on educating his students and developing professional ties to research communities in many developing countries on the applications of remote sensing in several societal benefit areas, but primarily in agriculture, transportation, and public health. In pursuit of his vision, he worked with many research teams and governments in Latin America, Asia, and Africa.

Recently, Morain's expertise in remote sensing has been directed toward sustainable transportation, public health, and archeological studies of early agricultural systems. He led a consortium of three universities, a federal lab, and several industry partners to insert remote sensing and geospatial technologies into projects aimed at assessing transportation safety/hazards/disasters/ and security in the US, China and India. He organized and participated in several workshops dedicated to these topics in both the U.S. and abroad. He was instrumental also in developing a bi-national agreement focusing on remote sensing and geospatial technologies for transportation cooperation between US/DOT and the China Academy for Transportation Sciences, signed by both parties in January 2005.

A large part of Morain's career has been as a Professor in the Department of Geography at UNM. During his tenure, he served twice as Chair of the Department (1983–1992) and (2003–2006). His courses focused on theory and applications of remote sensing, and biogeography. As an educator, he influenced the careers

Awards Program

of over 50 students who have been gainfully employed in geospatial technologies. He authored, edited, and/or contributed to numerous publications on applications of remote sensing in agriculture, natural resources, and vegetation mapping.

In addition to these contributions, Morain has served this community through his involvement in ASPRS and the International Society for Photogrammetry and Remote Sensing (ISPRS). He is a Certified Photogrammetrist, an elected Fellow, past editor of *PE&RS*, and past president of ASPRS. In ISPRS he is a past president of Commission I (Platforms, Sensors, and Imagery), served as a council member and treasurer, and as technical secretary in Commission VIII, Working Group 2 (health). He also has been active in the International Council for Science (ICSU), and the intergovernmental Group on Earth Observations/ User Interface Committee (GEO/UIC). He is an elected Fellow in the Geology/Geography Section of the American Association for the Advancement of Science (AAAS). During his career, he has been recognized by the community through numerous awards and citations for his service.

The Honorary Member is the highest award an ASPRS member can receive, and there are only 25 living Honorary Members of the Society at any given time. Candidates are chosen by a Nominating Committee made up of the past five recipients of the award and chaired by the most recent recipient. Initiated in 1937, this life-time award is given in recognition of individuals who have rendered distinguished service to ASPRS and/or who have attained distinction in advancing the science and use of the geospatial information sciences. It is awarded for professional excellence and for at least 20 years of service to ASPRS.

Purpose: to recognize an individual who has rendered distinguished service to ASPRS and/or who has attained distinction in advancing the science and use of the mapping sciences. It is awarded for professional excellence and for service to ASPRS and consists of a plaque and a certificate.

Donor: The ASPRS Foundation

ASPRS Outstanding Technical Achievement Award

The award will not be given this year.

The ASPRS Outstanding Technical Achievement Award was introduced for the first time in 2012. This Award consists of a silver presentation plaque mounted on a walnut wood panel plus a check for \$5,000.

Purpose: This generous grant is designed to reward the developer[s] of a specific breakthrough technology which causes quantum advances in the practice of photogrammetry, remote sensing or geographic information systems in the United States.

The Photogrammetric (Fairchild) Award

2014 Recipient: Riadh Munjy

The 2014 Photogrammetric Award (Fairchild) is awarded to Riadh Munjy, Ph.D., P.E., in recognition of his major contributions to the science and art of photogrammetry. His contributions include camera self-calibration and advancing and leading the transition from conventional aerial triangulation to airborne-controlled aerial triangulation; both of which are implemented in the well respected and utilized commercial aerial triangulation package, ISBBA. Munjy is also credited for the introduction of the finite element approach for sensor calibration in photogrammetry, the introduction of an analytical approach to color balancing and enhancement of digital imagery, and the development of full processing work flow for the GeoSAR system. Munjy received his BSc in Civil Engineering from the University of Baghdad in 1976. He earned a master's degree in Civil Engineering, M.S.C.E, and a second master's degree in Applied Mathematics, MS, from the University of Washington, Seattle, in 1979 and 1981, respectively. Munjy received his PhD in Civil Engineering and photogrammetry from the University of Washington in 1982. Munjy is currently a full professor and the Geomatics Engineering Program Coordinator at the California State University – Fresno, where he has served as professor since 1982. Throughout his career, he has also served as a well-respected consultant to numerous national and international organizations, providing a diverse range of expertise in mapping and photogrammetry. As a professor, Munjy has supervised hundreds of students studying in the field of geomatics, published numerous peer-reviewed papers in a wide range of technical journals in the field of photogrammetry and served as the Associate Editor for Theoretical and Applied Photogrammetry for *Photogrammetric Engineering and Remote Sensing (PE&RS)*, (1991 – 1996). Munjy's past achievements and awards include: the School of Engineering Faculty Award for Research Excellence (1996, 1998, 2002, 2003), the Caltrans Research Innovation Award (March 2004), the Halliburton Research Award (1992), and the ASPRS Meritorious Service Award (1992 and 1997). Munjy is an outstanding professional photogrammetrist whom the Society recognizes with the Photogrammetric Award for his excellent and far reaching achievements.

Purpose: The Photogrammetric (Fairchild) Award is designed to stimulate the development of the art of aerial photogrammetry in the United States. Practicability is the essence of the Award and is the basis for the review of all candidates.

Donor: The ASPRS Foundation and Lockheed Martin

The award consists of a silver presentation plaque mounted on a walnut wood panel and an engraved plaque.

Awards Program

80th Business Meeting and 25th Awards Luncheon, Tuesday, March 25th

Welcome	Stephen D. DeGloria	Teller's Report	Larry Hothem
Lunch			
Introduction of Guests	Stephen D. DeGloria	Installation of New and Re-elected Directors	Stephen D. DeGloria
Presentation of ASPRS Awards	Alan R. Stevens Stephen D. DeGloria	James Stewart Blundell, Remote Sensing Applications Division Srinivasan Dharmapuri, Eastern Great Lakes Region Barbara Eckstein, Potomac Region Marcus Glass, Columbia River Region Christopher Parrish, Lidar Division Robert Thomas, Photogrammetric Applications Division Michael Zoltek, Professional Practice Division TBA, Central Region TBA, Central New York Region TBA, Southwest US Region	
Outstanding Papers Awards		Installation of New Assistant Directors	Stephen D. DeGloria
Boeing Award for Best Paper in Image Analysis and Interpretation John I. Davidson President's Award for Practical Papers ERDAS Award for Best Scientific Paper in Remote Sensing ESRI Award for Best Scientific Paper in GIS Talbert Abrams Award		John McCombs, Remote Sensing Applications Division Scott Perkins, Photogrammetric Applications Division Jason Stoker, Lidar Division Frank Taylor, Professional Practice Division	
Scholarships and Academic Awards		Installation of President-Elect & Vice President	Stephen D. DeGloria
Robert E. Altenhofen Memorial Scholarship Abraham Anson Memorial Scholarship John O. Behrens ILI Memorial Scholarship Robert N. Colwell Memorial Fellowship DigitalGlobe Foundation Award William A. Fischer Memorial Scholarship Francis H. Moffitt Memorial Scholarship Kenneth J. Osborn Memorial Scholarship Ta Liang Memorial Award Paul R. Wolf Memorial Scholarship Z/I Imaging Award International Educational Literature Award		Charles Toth, Vice-President E Lynn Usery, President-Elect	
Service Awards		Installation of Incoming President	Stephen D. DeGloria
Outstanding Service Award Ford Bartlett Membership Award SAIC/Estes Memorial Teaching Award Outstanding Workshop Instructor Award George E. Brown, Jr. Congressional Honor Award		A. Stewart Walker	
President's Report	Stephen D. DeGloria	Presentation of Birdseye Citation & President's Key to Retiring President	A. Stewart Walker
Executive Director's Report	Michael Hauck	Stephen D. DeGloria	
Recognition of Retiring Members of Board of Directors and Executive Committee	Stephen D. DeGloria	Business Meeting Adjournment	
Chris Aldridge, Columbia River Region John Boland, Central New York Barry Budzowski, Central Region Barbara Eckstein, Potomac Region Lewis Graham, Lidar Division Steven Lambert, Southwest US Region Rebecca Morton, Professional Practice Division Douglas Smith, Photogrammetric Applications Division Dave Szymanski, Remote Sensing Applications Division Charles Toth, Eastern Great Lakes Region			

Awards Program

Boeing Award for Best Paper in Image Analysis and Interpretation

2014 Recipients: Shunyi Zheng, Rongyong Huang, and Yang Zhou for “Registration of Optical Images with Lidar Data and Its Accuracy Assessment,” *PE&RS*, 79 (8), 731-741.

Purpose: Established in 1965 as the Autometric Award, this grant recognizes development and achievement in the field of photographic interpretation through special acknowledgment of superior publications on the various aspects of image analysis and interpretation.

Donor: Boeing S&IS Mission Systems through the ASPRS Foundation

The Award includes an inscribed plaque and a cash award of \$1,000.

The John I. Davidson President’s Award for Practical Papers

2014 Recipients:

First Place: Shunyi Zheng, Rongyong Huang, and Yang Zhou for “Registration of Optical Images with Lidar Data and Its Accuracy Assessment,” *PE&RS*, 79 (8), 731-741.

Second Place: David Hernandez-Lopez, Beatriz Felipe-Garcia, Diego Gonzalez-Aguilera, and Benjamin Arias-Perez for “An Automatic Approach to UAV Flight Planning and Control for Photogrammetric Applications: A Test Case in the Asturias Region (Spain),” *PE&RS*, 79 (1), 87-98.

Third Place: Bo Wu, Han Hu, Qing Zhu, and Yeting Zhang for “A Flexible Method for Zoom Lens Calibration and Modeling Using a Planar Checkerboard,” *PE&RS* 79 (6), 555-571.

Purpose: The John I. Davidson Award was established in 1979 to encourage and commend individuals who publish papers of practical or applied value in Photogrammetric Engineering & Remote Sensing (*PE&RS*).

Donor: The ASPRS Foundation

The First Place award includes an engraved pewter tankard, a cash award of \$500 and a hand-engrossed certificate; Second Place is a cash award of \$300 and a hand-engrossed certificate; Third Place is a cash award of \$200 and a hand-engrossed certificate.

ERDAS Award for Best Scientific Paper in Remote Sensing

2014 Recipients:

First Place: Marek Jakubowski, Qinghua Guo, Brandon Collins, Scott Stephens, and Maggi Kelly for “Predicting Surface Fuel Models and Fuel Metrics Using Lidar and CIR Imagery in a Dense, Mountainous Forest,” *PE&RS*, 79 (1), 37-49.

Second Place: Ruirui Wang, Jianwen Ma, Huaguo Huang, and Wei Shi for “Improved Nonsubsampled Contourlet Transform for Multi-sensor Image Registration,” *PE&RS*, 79 (1), 51-66.

Third Place: Meghan Graham MacLean and Russell G. Congalton for “Applicability of Multi-date Land Cover Mapping using Landsat5TM Imagery in the Northeastern US,” *PE&RS*, 79 (4), 359-368.

Purpose: Established in 1991 as the ERDAS Award for Best Scientific Paper in Remote Sensing, it became the Leica Geosystems Award for Best Scientific Paper in Remote Sensing in 2002 and returned to ERDAS sponsorship in 2009. This award encourages and commends individuals who publish papers of scientific merit that advance our knowledge of remote sensing technology.

Donor: ERDAS through the ASPRS Foundation

The ERDAS Award first prize is \$500 and a hand-engrossed certificate; second prize is \$300 and a hand-engrossed certificate; third prize is \$200 and a hand-engrossed certificate.

The Esri Award for Best Scientific Paper in GIS

2014 Recipients:

First Place: Zhenyu Lu, Jungho Im, Lindi J. Quackenbush, and Sanglim Yoo for “Remote Sensing-based House Value Estimation Using an Optimized Regional Regression Model,” *PE&RS*, 79 (9), 809-820.

Second Place: Joann W. Harvey and Edwin J. Green for “Illustrating the Temporal Progress of Environmental Change,” *PE&RS*, 79 (12), 1159-1170.

Third Place: Eugenio Y. Arima, Robert T. Walker, and Dante G. Vergara for “Assessing the Performance of Linear Feature Models: An Approach to Computational Inference,” *PE&RS*, 79 (9), 847-855.

Purpose: Established in 1991, the fully-endowed ESRI Award honors individuals who publish papers of scientific merit that advance our knowledge about GIS technology.

Donor: Endowed by Esri, Inc. through the ASPRS Foundation

The Esri Award first prize is \$1,000 and a hand-engrossed certificate; second prize is \$600 and a hand-engrossed certificate; third prize is \$400 and a hand-engrossed certificate.

Awards Program

The Talbert Abrams Award

2014 Recipients:

Grand Award: Min Chen and Zhenfeng Shao for "Robust Affine-Invariant Line Matching for High Resolution Remote Sensing Images," *PE&RS*, 79 (8), 753-760

First Honorable Mention: Clive S. Fraser for "Automatic Camera Calibration in Close Range Photogrammetry," *PE&RS*, 79 (4), 381-388.

Second Honorable Mention: M. Al-Durgham and A. Habib for "A Framework for the Registration and Segmentation of Heterogeneous Lidar Data," *PE&RS*, 79 (2), 135-145.

Purpose: The Talbert Abrams Award was established in 1945 to encourage the authorship and recording of current, historical, engineering, and scientific developments in photogrammetry. The Award is determined from papers published in *Photogrammetric Engineering & Remote Sensing (PE&RS)*.

Donor: The ASPRS Foundation

The award consists of a check for \$3,000 and an engraved plaque for the Grand Award, and an award certificate for the First and Second Honorable Mentions.

Robert E. Altenhofen Memorial Scholarship

2014 Recipient: Jacky Chow

Jacky Chow is a doctoral candidate at the University of Calgary, Department of Geomatics Engineering, with a specialization in 3-D close-range photogrammetry. He has an extremely strong background in photogrammetry and geomatics. He has nine refereed publications and numerous other papers. He proposes to apply sensor fusion and positioning to close-range 3-D applications. He has two excellent academic letters of recommendation, has served as a teaching assistant and as a graduate research associate, and has been very active professionally. His faculty advisor is Professor Derek Lichti.

Purpose: First given in 1986, the Robert E. Altenhofen Memorial Scholarship is intended to encourage and commend college students who display exceptional interest and ability in the theoretical aspects of photogrammetry.

Donor: The ASPRS Foundation. This award was originally established by Mrs. Helen Altenhofen as a memorial to her husband, Robert E. Altenhofen, past president of ASPRS. He was an outstanding practitioner of photogrammetry and made notable contributions to the mathematical aspects of the science.

The Altenhofen Scholarship consists of a check for \$2,000 and a hand-engrossed certificate.

Abraham Anson Memorial Scholarship

2014 Recipient: Michelle Andrews

Michelle Andrews is selected as the sixth recipient of Abraham Anson Memorial Scholarship. Andrews is finishing up her Bachelor of Arts degree in Geography at Clark University, Worcester, Massachusetts. She has been the recipient of several previous academic honors, awards and scholastic achievements. Andrews is an excellent student as evidenced by her high overall GPA and research work in her undergraduate studies. She has been on the Dean's list in all semesters and is a Member of Gamma Theta Upsilon Honor Society. She is the recipient of an Ellen C. Semple Scholarship, a merit based award renewed annually based on academic performance. She is also the recipient of the Clark University Human Environmental Observatory (HERO) Fellowship, 2014-14. Andrews has gained excellent experience as a research assistant and in peer-assistance to GIS and remote sensing students. Andrews is expected to graduate in 2014 and plans to continue studies in the graduate program in Geographic Information Science at Clark University.

Purpose: To encourage students who have an exceptional interest in pursuing scientific research or education in geospatial science or technology related to photogrammetry, remote sensing, surveying and mapping to enter a professional field where they can use the knowledge of their discipline to excel in their profession.

Donor: This award is presented by the ASPRS Foundation from funds donated by the Anson bequest and contributions from the Society and the Potomac Region as a tribute to Abe Anson's many contributions to the field of photogrammetry, remote sensing, and long, dedicated service to the Society.

The award consists of a certificate, a check in the amount of \$2,000 and a one-year student membership (new or renewal) in the Society.

John O. Behrens Institute for Land Information (ILI) Memorial Scholarship

2014 Recipient: Ann Marie Rowland

Anne Marie Rowland is selected as the sixth annual recipient of the John O Behrens ILI Memorial Scholarship. Rowland is a person who exemplifies the combination of practical experience and education with the pursuit of excellence in geospatial science and land information systems. She demonstrates the commitment, dependability and motivation as exemplified by John O. Behrens. She also demonstrates her own exceptional interest in pursuing scientific research and education in geospatial and land information science and technology and applying it to a career in remote route reconnaissance. Rowland is an excellent student with an outstanding grade point average. Her goals include completing her academic studies and pursuing a professional career in surveying and engineering. Rowland has been an active leader in student organizations, and has demonstrated success in work experiences as an Intern and Field Technician. It is with pleasure that the 2014 John O. Behrens ILI Memorial Scholarship is awarded to Anne Marie Rowland of the University of Alaska Anchorage.

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The John O. Behrens III Memorial Scholarship was established by the Institute for Land Information (since officially dissolved) as a tribute to the many contributions of Mr. Behrens to the field of geographic and land related information and technology. John O. Behrens was a founder of the ILI and the author of many articles about the value of spatial information, land assessment and taxation, and land information policy. In recognition of Mr. Behrens outstanding contributions over his distinguished career, funds from the ILI have been donated to the ASPRS Foundation to be administered for the John O. Behrens III Memorial Scholarship.

Purpose: To encourage students/persons who have an exceptional interest in pursuing scientific research or education in geospatial science or technology or land information systems/records to enter a professional field where they can use the knowledge of this discipline to excel in their profession.

Donor: The ASPRS Foundation from funds donated by the ILI.

The Award consists of a certificate and a check in the amount of \$2,000 and a one-year student or associate membership (new or renewal) in ASPRS.

Robert N. Colwell Memorial Fellowship

2014 Recipient: Michael Alonzo

Michael Alonzo is a PhD candidate at the University of California, Santa Barbara (UCSB). After completing an MA in Geography degree at the University of Denver, Alonzo worked with a non-profit organization in Washington, DC that is committed to urban forestry and restoring and protecting the city's trees. Alonzo's research led him to recognize the need to improve the remote sensing inputs that are used in urban ecosystem models. His PhD research goal is to integrate imaging spectroscopy (hyperspectral remote sensing) with high point-density lidar data to leverage limited samples of urban trees into a wall-to-wall, spatially explicit urban forest inventory. Achieving this research goal will address a major unresolved problem: what is the role of trees in an urban environment and how can we quantify their importance? His longer term career goal is to develop remote sensing research methods and operational spatial products that lead to more livable and sustainable cities. He has already published a paper in which he demonstrates very high accuracy in discriminating three tree species using Canonical Discriminant Analysis (CDA) applied to 4-meter AVIRIS hyperspectral data. He is finishing a second manuscript in which he describes an entirely new approach for segmenting tree crowns and locating tree trunks using waveform lidar data. One of the key analyses he has made is to determine the added value of lidar to hyperspectral data. Alonzo's results show that certain tree species are classified with higher accuracy using lidar data whereas some larger trees do not benefit from this technology. Alonzo has also been recognized for excellence as a teaching assistant, graduate student mentor, undergraduate supervisor, and for maintaining laboratory research facilities. He served as the 2012-2013 President of the ASPRS Student Chapter at UCSB.

Over the course of more than a half century, Dr. Robert N. Colwell developed a reputation as one of the world's most respected leaders in remote sensing, a field that he stewarded from the interpretation of aerial photographs during World War II, to the advanced acquisition and analysis of many types of geospatial data from military and civilian satellite platforms. His career included nearly 40 years of teaching and research at the University of California, Berkeley, a distinguished record of military service reaching the rank of Rear Admiral, and prominent roles in private industry and as a consultant for many U.S. and international agencies. Among the many awards bestowed upon Dr. Colwell, he had the distinction of being one of the 25 Honorary Members of ASPRS, chosen from the Society's 6000 members.

Purpose: Established in 2006 to encourage and commend college/university graduate students or post-doctoral researchers who display exceptional interest, desire, ability, and aptitude in the field of remote sensing or other related geospatial information technologies, and who have a special interest in developing practical uses of these technologies.

Donor: The ASPRS Foundation, from funds donated by students, associates, colleagues and friends of Robert N. Colwell.

The Award now consists of a grant of \$6,000 and a one-year student or associate membership (new or renewal) in ASPRS

The DigitalGlobe Foundation Award for the Application of High Resolution Digital Satellite Imagery

2014 Recipient: Matthew Dannenberg

Dannenberg is a PhD student in the Geography program at University of North Carolina at Chapel Hill, specializing in remote sensing, forest ecosystems, and dendroclimatology. Dannenberg has been selected to receive a Digital Globe Foundation data grant for his graduate work on his project "Seasonal Tree Growth and Satellite Vegetation Indices: A Case Study in Eight Ponderosa Pine Forests in the Columbia River Basin, Washington, USA." Tree rings and remotely sensed vegetation indices provide useful, complementary information on the productivity of vegetated ecosystems. While coarse resolution satellite data provide global coverage at daily temporal resolutions, they have only been widely available since the early 1980s. Tree rings, on the other hand, lack the high temporal resolution of satellite data but provide direct measurements of forest growth for many centuries prior to the launch of the first earth observing satellites. Previous studies linking tree ring data with coarse resolution vegetation indices have typically examined a limited range of variables with mixed results. The research focuses on: Assessing the potential of seasonally- and annually-resolved tree-ring width indices to capture variation in remotely sensed NDVI and land surface phenology and examining the effect of canopy closure on the relationship between NDVI and tree rings.

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Purpose: To support remote sensing education and stimulate the development of applications of high-resolution digital satellite remote sensing data through the granting of GeoEye imagery for applied research by undergraduate or graduate students.

Donor: The DigitalGlobe Foundation through the ASPRS Foundation

The ASPRS DigitalGlobe Foundation Award consists of a grant of data valued up to \$4,000 and a hand-engrossed certificate.

William A. Fischer Memorial Scholarship

2014 Recipient: Lindsay Deel

Lindsay Deel, currently a Ph.D. student in the Department of Geology and Geography at West Virginia University, has been selected to receive the 2014 William A. Fischer Memorial Scholarship. Deel is being presented this award in recognition of her outstanding academic achievements, very impressive record of research, teaching, and publication in the application of remote sensing and geospatial analysis. Deel's dissertation research has focused on a multistage use of remote sensing and GIS data to develop a predictive model to monitor nutrient loading into the Chesapeake Bay and she has successfully transferred these new capabilities to the Bay's environmental managers. This combination of exemplary basic and applied research with the translation of those results into practical management tools is truly remarkable and can serve as a model for future scientists. In addition, Deel has made significant contributions to the profession through both teaching and significant service to her department and the remote sensing community. The committee congratulates Deel on her accomplishments and is confident that her current and future research efforts will continue to have a real impact on our profession.

Purpose: The William A. Fischer Scholarship facilitates graduate studies and career goals of a worthy student adjudged to address new and innovative uses of remote sensing data and techniques that relate to the natural, cultural, or agricultural resources of the Earth. It was established in 1984.

Donor: the ASPRS Foundation through individual and corporate contributions in memory of William A. Fischer.

The William A. Fischer Memorial Scholarship consists of a \$2,000 check and a hand-engrossed certificate.

Francis H. Moffitt Memorial Scholarship

2014 Recipient: Adam Benjamin

Benjamin is currently pursuing his PhD in Geomatics at the University of Florida. He has been an active student member in both ASPRS and the Florida Society of Surveying & Mapping (FSMS) He has been a Lab Instructor, Teaching Assistant and/or Instructor in 9 different classes since he began his studies at

the University of Florida and has plans to continue his career in the field of Education. He is actively involved with ASPRS and has volunteered his time as Deputy Chair of the ASPRS Student Advisory Council. His professors have been quoted as saying "As a student in my class, Adam was truly a pleasure. He has a very positive attitude toward his education and is willing to put in the time and effort to excel. ...I wish all students in my classes were as intelligent and dedicated as Adam" and "I wouldn't be surprised to see him become an ASPRS national director or Officer someday. He seems to have limitless energy and devotion in his willingness to provide assistance and service to others."

Purpose: The award was first presented in 2008 with the purpose of encouraging upper-division, undergraduate-level and graduate-level college students to pursue a course of study in surveying and photogrammetry leading to a career in the geospatial mapping profession.

Donor: The ASPRS Foundation from funds donated to the Foundation from former students, associates, colleagues and friends.

The award consists of a certificate and a check in the amount of \$5,500 and a new or renewal membership in ASPRS.

The Kenneth J. Osborn Memorial Scholarship

2014 Recipient: Beau Dassin Immel

Beau Immel is pursuing a Bachelor of Science degree in Geomatics Engineering from the California State University (CSU) at Fresno, and plans to graduate in the spring of 2014. Following his BS, he intends to apply his outstanding scholarship towards pursuit of a Master's Degree in geomatics or photogrammetry, perhaps at the University of Stuttgart in Germany. Immel exemplified the Osborn qualities of communication and collaboration through leadership of activities within the CSU Fresno campus community by serving as president of the ASPRS student chapter, and through his active participation as treasurer for both Tau Beta Pi (the CSU Fresno engineering honor society) and Lambda Sigma (the land surveying honor society). He chaired the ASPRS-sponsored 2012 and 2013 GIS Day events on campus, and is also active in the California Land Surveyor Association activities on campus, participating in campus MESA events. As president of the ASPRS student chapter, he will serve as chair for the 2014 Geomatics Engineering Conference, Fresno State's student-organized and -managed conference. Mr. Immel's faculty advisor is Dr. Riadh Munjy.

Purpose: to encourage and commend college students who display exceptional interest, desire, ability, and aptitude to enter the profession of surveying, mapping, photogrammetry, or geospatial information and technology. In addition, the Award recognizes students who excel at an aspect of the profession that Ken demonstrated so very well, that of communications and collaboration.

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Donor: The ASPRS Foundation from funds donated by the friends and colleagues of Kenneth J. Osborn. Recognized nationally and internationally, Ken was an outstanding practitioner of surveying, mapping, photogrammetry, and geospatial information and technology, and a great friend of the Society. As a professional cartographer with the U.S. Geological Survey, Ken made significant contributions to these fields. The award was first offered in 2005.

The Award consists of a one-year membership in the Society (new or renewal), an engrossed certificate and a check in the amount of \$2,000.

Ta Liang Memorial Award

2014 Recipient: Steve Padgett-Vasquez

Padgett-Vasquez is a PhD student in Geography and Integrative Conservation at the University of Georgia. He earned an MS in biology from the University of Alabama at Birmingham (2010), and a BS in biology from Thomas University (2007). Mr. Padgett-Vasquez's current research explores how remote sensing data can support natural resource management and environmental policy to ensure long-term ecosystem functioning. He aims to use remote sensing to help conservation efforts in the Bell Bird Corridor on the Pacific Coast of Costa Rica. His research will provide an assessment of forest connectivity and a hydrological inventory for the region considering multiple spatial and temporal scales. Padgett-Vasquez will develop connectivity models by combining geophysical parameters derived from satellite-based sources—including Landsat, MODIS, and Rapid Eye—with environmental factors derived from ASTER-based digital elevation models. By combining MODIS-level data with finer-scale data (e.g. RapidEye) Mr. Padgett-Vasquez aims to better predict local conditions and understand mechanisms for the variation in vegetation indices throughout the biological corridor. The Ta Liang travel grant will support field visits to Costa Rica to collect reference data for model training and validation.

Padgett-Vasquez has also been involved in a range of extracurricular efforts benefiting high school students, and the local community in Georgia, as well as in his native Honduras. Padgett-Vasquez is a truly deserving candidate of the Ta Liang Memorial Award.

Purpose: To facilitate research-related travel by outstanding graduate students in remote sensing, including field investigations, agency visits, participation in conferences, or other travel which enhances or facilitates graduate research.

Donor: Individual and corporate contributions to the ASPRS Foundation in memory of Ta Liang.

Established in memory of Ta Liang, a skilled civil engineer, an excellent teacher, and one of the world's foremost airphoto interpreters, the award consists of a \$2,000 grant and a hand-engrossed certificate.

Paul R. Wolf Memorial Scholarship

2014 Recipient: Tammy Parece

Tammy Parece is being presented this award in recognition of her outstanding academic credentials and her plans and enthusiasm to become an education professional in Surveying, Mapping, and Photogrammetry and related fields. Parece is currently a PhD candidate (planned graduation Spring 2015) in Geospatial and Environmental Analysis at the Virginia Polytechnic Institute and State University, Blacksburg, Virginia. Parece has demonstrated her continued interest, dedication, enthusiasm, and aptitude to become an education professional and has been recognized at all levels. Of note was Parece's work in education outreach at not just the university but also in the public and K-12 community school programs. The committee wishes Parece much success and is confident that her current and future educational efforts will continue to make important contributions to the Surveying, Mapping and Photogrammetry community.

Purpose: To encourage and commend college students who display exceptional interest, desire, ability, and aptitude to enter the profession of teaching surveying, mapping, or photogrammetry.

Donor: the ASPRS Foundation from funds donated by the friends and colleagues of Paul R. Wolf. Recognized nationally and internationally, Paul was an outstanding educator and practitioner of surveying, mapping, and photogrammetry and a great friend of the Society. As author, teacher, and mentor, Paul made significant educational and academic contributions to these fields. The award was inaugurated in 2003.

The award includes a grant of \$3,500 and a hand-engrossed certificate.

Z/I Imaging Scholarship

2014 Recipient: Ivan Detchev

Ivan Detchev is being presented with this award in recognition of his academic achievements, the outstanding nature of his current research and his future career goals pertaining to the practical application of photogrammetry and digital imaging systems. Detchev, who is pursuing his PhD in Photogrammetry with an emphasis on digital imaging systems, from the University of Calgary, Alberta, Canada, has demonstrated sustained academic excellence in his area of primary research including working on an image-based system for fine-scale infrastructure monitoring. Detchev's research relies on digital photogrammetry (or line scanning) to develop precise 3D reconstruction of the feature of interest without making contact with the monitored object. Specifically, this leading edge research has significant and practical implications in monitoring the structural health of key civil infrastructure constructs in North America that are progressively deteriorating. In addition to his sustained academic excellence, Detchev has received several national and international prestigious

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awards from the University of Calgary, the National Science and Engineering Research Council of Canada, and from ASPRS.

Purpose: The Z/I Imaging Award, is designed to facilitate graduate-level studies and career goals adjudged to address new and innovative uses of signal processing, image processing techniques, and the application of photogrammetry to real-world techniques within the earth imaging industry.

Donor: Z/I Imaging through the ASPRS Foundation

The Z/I Imaging Award consists of a \$2,000 cash prize and a hand-engrossed certificate.

International Educational Literature Award (IELA)

2014 Recipient: African Regional Centre for Space Science and Technology Education – English (ARCSSTE-E); Obafemi Awolowo University Campus, ILE – Ife, Nigeria

Represented by Dr. Oladosu Olakunle Rufus

The African Regional Centre for Space Science and Technology Education – English (ARCSSTE-E) offers curricula in Remote Sensing and GIS at the graduate level for participants from other English-speaking African countries. With limited internet capabilities, a lack of geospatial text materials, and a focus on instruction in English the materials of the IELA will be beneficial to their Post-graduate Diploma Program. The African Centre is affiliated with the United Nations and is structured as a developing program with limited resources available to provide current content, technological developments, and fundamental teaching materials for the Centre's lecturers and post-graduate participants. The award materials will provide students with the opportunity to include current journal articles and books into course work, the materials will allow lecturers access to current technology advances for inclusion into the diploma program, and the knowledge and information will "go a long way in addressing the teaching and research needs of the institution," as their application states. The IELA will provide a unique opportunity for a much needed infusion of knowledge and literature to the African Regional Centre for Space Science and Technology Education.

Purpose: The IELA was first bestowed in 1990. Its goal is to improve the quantity and quality of literature in the recipient's library, particularly in the mapping sciences (i.e. photogrammetry, remote sensing, GIS, and related disciplines) by providing ASPRS educational materials and publications.

Donor: the ASPRS Foundation from funds donated by ASPRS members and participating sponsors through contributions to the ASPRS Foundation.

The IELA includes \$350 worth of books, manuals, or other literature published by ASPRS; a five-year subscription to *PE&RS*, proceedings of the Annual Conference and Fall technical meetings for five years; one free registration to the Society's Annual

Conference at the time of receiving the award for a member of the institution to whom the award is being given; and a hand-engrossed certificate.

This award has been augmented by

- a generous grant from the Environmental Systems Research Institute (ESRI) of the complete ESRI Press Library collection
- Selected titles from the John Wiley and Sons, Publishers, catalog.

ASPRS Outstanding Service Award

2014 Recipients:

Cliff Greve for his endowment of the Outstanding Technical Achievement Award and his foresight in establishing the award.

Lewis Graham for his leadership in establishing and leading the Lidar Division and sustained efforts to enhance the LAS file format specification as a geospatial industry standard.

David Alvarez for his leadership in establishing periodic GIS Division teleconferences, and initiating a web-based seminar series with co-sponsorship from CaGIS and GLIS.

Roger Crystal for his sustained efforts as Membership Development Coordinator.

William Hemple for this long-term leadership and professionalism as Chair, Memorial Address Committee.

Purpose: Established in 1991, The Outstanding Service Award is given to Society members in recognition of outstanding and unusual efforts in helping ASPRS develop and carry out its program over a sustained period. Recipients have performed outstanding service at the chapter, regional, or national level. Awardees' service includes any activities, including professional, that have helped the Society achieve its goals and objectives.

Donor: The ASPRS Foundation

The Outstanding Service Award consists of a bronze plaque

ASPRS Ford Bartlett Award

2014 Recipients: Steven P. Lennartz, Karen L. Schuckman, and Xiaojun Yang

Purpose: First awarded in 1968, the ASPRS Ford Bartlett Membership Award honors members for actively promoting membership in ASPRS.

Donor: the ASPRS Foundation. (This award was originally sponsored by the firm of Lockwood, Kessler, and Bartlett, Inc.)

A member is eligible to receive the Award after sponsoring ten or more members in one year. Each recipient receives a hand-engrossed certificate and a one-year membership in the Society.

Awards Program

SAIC Estes Memorial Teaching Award

2014 Recipient: Dr. James B. Campbell

Dr. Campbell is a Professor of Geography at Virginia Tech University, Blacksburg, Virginia, and received his Ph.D. from the University of Kansas, Lawrence. Campbell's research focuses on soil and landscape variability, land use, image processing and analysis, and coastal reclamation. He teaches remote sensing, quantitative methods, and geomorphology at Virginia Tech University, working closely with students and faculty in related fields, such as forestry, geology, agronomy, environmental sciences, and planning. His research has been sponsored by numerous academic, governmental, and private organizations, including NASA, the National Science Foundation, and the United States Geological Survey. Since 1997 he has served as co-director of the Virginia Tech Center for Environmental Applications of Remote Sensing, and is the co-author of the leading textbook for undergraduate and graduate level courses, *Introduction to Remote Sensing*. The text introduces widely used forms of remote-sensing imagery and their applications in plant sciences, hydrology, earth sciences, and land-use analysis. He has been active in the AmericaView Program, a nationwide partnership of remote-sensing scientists who support the use of Landsat and other public domain remotely sensed satellite data in support of applied research, K-16 education, workforce development, and technology transfer. He is active in VirginiaView, a statewide consortium for cultivating state and local applications of satellite remote sensing through education, research, and geospatial applications. Campbell has also helped enhance the image of ASPRS by actively working with the Potomac Region student chapter in promoting ASPRS to the Geospatial Community. Campbell is a Fellow/Emeritus member of ASPRS and is a recipient of the ASPRS Ford Bartlett Award.

The SAIC Estes Memorial Teaching Award was inaugurated in 2003 and is named in honor of Professor John E. ("Jack") Estes, teacher, mentor, scientist, and friend of the American Society for Photogrammetry and Remote Sensing.

Purpose: This award is designed to recognize individual achievement in the promotion of remote sensing and GIS technology, and applications through educational efforts. Award recipients are chosen based on documented excellence in education, teaching, mentoring and, training.

Donor: Science Applications International Corporation (SAIC) through the ASPRS Foundation

The award consists of a presentation plaque and a cash award of \$2,000.

ASPRS Outstanding Workshop Instructor Award

2014 Recipient: Dr. Sorin C. Popescu

Sorin Popescu is a professor at the Spatial Sciences Lab at Texas A&M University. He has been active in the ASPRS workshop and

webinar program since 2004 when he presented his first workshop on lidar and vegetation at the Fall conference. Over the next decade he has given 10 workshops along with numerous webinars. Popescu's presentations are well-attended and well-liked by the attendees. He is an excellent workshop presenter with very good evaluations.

Purpose: The Outstanding Workshop Instructor Award is conferred by ASPRS in recognition of special, personal, and meritorious contributions to continued organization, promotion, and/or delivery of workshops at the ASPRS Annual and Fall Conferences.

Donor: The award is administered by the ASPRS Foundation from funds donated by ASPRS members and participating sponsors through contributions to the ASPRS Foundation.

The award consists of a certificate and an inscribed laser pointer.

George E. Brown, Jr. Congressional Honor Award

The Award will not be given this year.

Purpose: ASPRS created the award in honor of the late Congressman George E. Brown, Jr. and the contributions he made to advance the benefits of imagery and geospatial information to Society. Representative Brown authored key legislation affecting the industry, supported geospatial information research, and promoted the development of the commercial remote sensing industry for the greater good of Society.

Donor: The ASPRS Foundation

This award is presented periodically to recognize members of the U.S. Congress whose leadership and personal efforts have advanced the science, engineering, application, education, and commerce of imaging and geospatial information. In addition to a plaque, the award consists of an opportunity for ASPRS to sponsor a geospatial sciences presentation to an elementary school, secondary school, or university of the recipient's choice in his or her District or State.

Col. Claude H. Birdseye President's Citation

2014 Recipient: Stephen D. DeGloria

Purpose: The Col. Claude H. Birdseye President's Citation was established in 1965 as a tribute to one of the founders and the first president of the Society. Each year at the Annual Convention it is conferred on the outgoing president in recognition of her/his contributions to the Society.

Donor: ASPRS Foundation

The Birdseye Citation carries with it a gold Past President's Key, and a hand-engrossed certificate.

Awards Program

General Session, Wednesday, March 27th

ASPRS Fellow Award

2014 Recipients: Bon A. Dewitt, Rongxing Li, Richard A. Pearsall, Karen L. Schuckman and Douglas A. Stow

Complete biographical information can be found at:
<http://www.asprs.org/Press-Releases/2014-ASPRS-FELLOW-AWARD-WINNERS.html>

Dr. Bon Dewitt is currently an Associate Professor and Director of the Geomatics Program at the University of Florida. Dewitt earned his Masters and Doctorate degrees from the Civil and Environmental Engineering Department at the University of Wisconsin-Madison in 1982 and 1989, respectively. He acquired his Bachelor's degree with a Surveying option from the same department in 1980. Dr. Dewitt is licensed as a Professional Surveyor and Mapper in the state of Florida. Dewitt has been working as a faculty member in the Geomatics Program at the University of Florida for more than 22 years. He has advised dozens of Masters and Doctoral students and supervised their research projects. The University of Florida recognized him with two of the coveted "Teaching Improvement Program" Awards, in 1994 and again in 1999. He has also served as the faculty advisor of the ASPRS Student Chapter at the University of Florida for the past 19 years and has been a Member Champion several times. He has been involved in writing and quality-checking exam questions in the subjects of surveying and photogrammetry for the NCEES. He has also served as a private consultant and expert witness in numerous court cases involving forensic photogrammetry. Dewitt started his ASPRS (ASP) services as a student member in 1981, becoming an ASPRS active member in 1989 after completing his Ph.D. Beginning with his election in 1993, Dewitt has served the Florida Region of ASPRS for over 18 years. He also served on the Program Committee for two national ASPRS annual conferences –in 1998 and 2007 as the Technical Program Coordinator. Dewitt regularly serves as a manuscript reviewer for the *Photogrammetric Engineering and Remote Sensing* (PE&RS) Journal as well as other journals in the field. He is co-author with Dr. Paul Wolf of *Elements of Photogrammetry – With Applications in GIS*, which is one of the most widely-used photogrammetry textbooks in the U.S. and throughout the world. Dewitt has received several ASPRS awards: the Bausch and Lomb Photogrammetric Award (1981) and the Wild Heerbrugg Photogrammetric Fellowship Award (1982). In 1996, he received an ASPRS Merit Award, and the Intergraph Award as a co-author for best scientific paper in spatial data standards. In 2001, he received the President's Award from the Florida Surveying and Mapping Society.

Dr. Rongxing (Ron) Li earned his BS with honors (1982) and MS in Surveying Engineering (1984) from Tongji University in Shanghai, and his Dr.-Ing. from the Technical University of Berlin in Photogrammetry and Remote Sensing in 1990. He was Assistant Researcher at Pacific Mapping Center at the University of Hawaii, Assistant and then Associate Professor at the Dept. of Geomatics Engineering of the University of Calgary, Canada. He has been a professor at the Dept. of Civil and Environmental Engineering and

Geodetic Science of The Ohio State University (OSU) since 1996 and the Lowber B. Strange designated professor since 2005. Li is a 20-year member of ASPRS, and has been an ASPRS Certified Photogrammetrist since 1991. He has received numerous highly prestigious awards from ASPRS, NASA, and other organizations. He is one of the pioneers in high-resolution satellite image stereo processing (IKONOS and QuickBird) and was one of the early developers of mobile mapping systems. Li and his research results have been featured at NASA press conferences and on ABC news, Space.com, and other TV/radio/web media programs as well as in *National Geographic*, *USA Today*, *Los Angeles Times*, *San Diego Union-Tribune*, *Denver Post*, and *Columbus Dispatch*. Li has been a member of the Society since 1989. He was ISPRS Working Group Chair of V/I "Autonomous Vehicle Navigation" (2004-2008) and II/1 "Real-time Mapping Technology" (1996-2004). He is also the leading author of the Chapter on Mobile Mapping in the ASPRS *Manual of Photogrammetry*. He has widely published his major research findings in *PE&RS* and has received multiple awards at ASPRS annual conferences including the Talbert Abrams Award (2nd Honorable Mention) in 2003, ESRI Awards for Best Scientific Papers (First Place in 2005 and 2008 and Third Place in 2006), and John I. Davidson President's Award for Practical Papers (First Place) in 2006. Li is an international pioneer in modeling high-resolution satellite imaging sensors. Sensors used include stereo IKONOS and QuickBird, water-gauge stations, buoys, ground GPS receivers, and airborne imaging sensors, Lidar, and other meteorological sensors. He has been successfully researching the automation of object extraction from sequential images of mobile mapping vehicles.

Richard A. Pearsall graduated with honors from Johnsburg Central School in North Creek, New York in 1969. He received his Bachelor's Degree in Forest Engineering from the State University of New York College of Environmental Science and Forestry in 1974 and a Master's Degree in Civil and Environmental Engineering – Surveying and Mapping from the University of Wisconsin-Madison in 1976. From 1976 to 2007, Pearsall worked for the United States Geological Survey (USGS), National Mapping Division in every phase of mapping to include field surveys, photogrammetry, and cartography. In 1981, he completed the USGS Cartographer Development Program. In 1979-1980, Pearsall was a summer member of the USGS Antarctic Team, doing field surveys in the Ellsworth Mountains, Antarctica. Pearsall Ridge in the Antarctica Dry Valleys is named after him. In the mid-1980's, Pearsall was the chief of the USGS National Mapping Digital Standard program. In the late-1980's, early 1990's, Pearsall worked in the Systems Engineering arena. From 1998-2004, he worked for the Federal Geographic Data Committee (FGDC) responsible for the development and advocacy for the FGDC Geospatial Metadata Standard. From 2004-2007, Pearsall was responsible for helping to implement of The National Map. In 2007, Pearsall left the USGS for the National Geospatial-Intelligence Agency (NGA) to serve as a GEOINT Standards Officer, responsible for the development and advocacy of major

Awards Program

information technology and service oriented architecture GEOINT standards for the Department of Defense. In 2008, Pearsall was elected as the chair of the American National Standards Institute International Committee for Information Technology Standards (INCITS) LI committee where he served as Head of the US delegation to the International Organization for Standardization (ISO) Technical Committee. During this time, Pearsall also served as the primary NGA Technical Committee contact to the Open Geospatial Consortium as well as chairing the Department of Defense Geospatial Working Group Information Technology and Service Architecture Working Group. During his career at the USGS and NGA, Pearsall has received numerous national and governmental awards and citations for his work in geographic and cartographic map standardization. Pearsall retired from Federal Service in April 2011, with 34.5 years of public service. Pearsall has been a member of ASPRS since 1974. From 1979-1982, Pearsall was an officer of the ASPRS Potomac Region, serving as President in 1982. In the early 1980's, Pearsall served as the ASPRS Convention Technical Program Committee chair. From 2007-2011, Pearsall served as chair of the ASPRS Standards Committee. Since 2003, he has been involved in the ASPRS Awards program, serving as the chair for the ASPRS Paul R. Wolf Memorial Scholarship. Pearsall has received several ASPRS Presidential Citations for his contribution to ASPRS.

Karen L. Schuckman attended Penn State University where she earned a BS degree in Meteorology in 1979. She returned to Penn State and earned a Masters in Geographic Information Systems in 2009. In addition, she received a BA in Liberal Arts at Penn State, pursued graduate studies in Geography at the University of California at Santa Barbara, 1985-1986, and pursued graduate studies in Civil Engineering, Surveying, and Photogrammetry in California State University at Fresno's Surveying Engineering Program from 1990-1992. Since 2007, Schuckman has been Senior Lecturer in Geography at Penn State University, teaching remote sensing and geospatial technology in the online programs offered by the John A. Dutton e-Education Institute. She has also been serving as President of Seven Valleys Consulting LLC since 2007. From 2005 through 2006, she served as a consultant to URS Corporation in Gaithersburg, Maryland. From 1995-2005 Schuckman worked for various components of EarthData as senior vice-president of EarthData Technologies, and president and general manager of EarthData International of North Carolina. Prior to joining the private sector, Schuckman worked for the USGS National Mapping Division in Menlo Park, California (1992-1994). She immediately demonstrated her technical expertise by developing the rigorous Global Positioning Systems (GPS) specifications for the USGS digital orthophoto contract. As the Geospatial Technology Leader at URS, Schuckman supported response, recovery and mitigation projects following Hurricanes Katrina, Rita, and Wilma. Early in her career at the USGS, she joined and became an active member of the Northern California Region of ASPRS. Those modest beginnings led to her service as National President of ASPRS (2005-2006). She is an ASPRS Certified Photogrammetrist (CP), a Professional Land Surveyor (PLS) licensed in North Carolina.

Douglas A. Stow is a Professor of Geography at San Diego State

University (SDSU), in San Diego, California. Stow received his BA, MA and PhD degrees in Geography from the University of California at Santa Barbara (UCSB). While at UCSB he served as a teaching assistant and lecturer in the Department of Geography and staff research assistant for the Geography Remote Sensing Unit. His faculty mentors were Drs. John Estes, Ray Smith, John Jensen, Jeff Dozier, and Alan Strahler, all distinguished faculty in the field of remote sensing. Stow has been on the Geography Department faculty at SDSU for 28 years. Upon arrival he established a four course remote sensing curriculum. In 1985, he co-founded the Center for Earth Systems Analysis Research (CESAR) and continues to serve as its primary co-director. CESAR is a thriving GIScience research laboratory. Stow served as the department chair from 1992-96 and has been the SDSU doctoral adviser for the SDSU-UCSB joint doctoral program in Geography since 1998. Stow has served on 19 doctoral committees and 115 master's committees. He received the Alumni Outstanding Faculty Award for SDSU in 1997, was the SDSU Phi Beta Kappa Faculty Lecturer for 2008-09 and received SDSU Presidential Leadership Awards in 2009 and 2012. He is the author or co-author of 128 refereed publications, including eleven in *Photogrammetric Engineering & Remote Sensing*. Stow has twice been on research teams that received the ASPRS Leica Geosystems Award for Best Scientific Paper in Remote Sensing published in *PE&RS*. He has regularly presented his research findings at ASPRS and has frequently published in the proceedings of the ASPRS meetings. Stow has been a member of ASPRS for over 30 years. In 2010, he served as conference Co-Chair and Co-Coordinator of student volunteers for the ASPRS Annual Meeting in San Diego. In 2006, he worked with SDSU students and the Southwest US Region directors to organize an ASPRS student chapter. Directly through the student chapter and by his example, he effectively recruits students into ASPRS and assisted in the establishment of the Volunteer Hazard Mapping Corps. He has organized and sponsored three ASPRS Southwest US Region technical meetings, the most recent in the Spring 2012. He is often called upon to review manuscripts for *PE&RS*. This past spring (2013), Stow received the ASPRS SAIC Estes Memorial Teaching Award, which was particularly fitting since Professor Estes was his primary mentor. Stow donated a portion of the cash price associated with the SAIC award to the local ASPRS student chapter. Stow has made a major difference to the image of ASPRS in his work with students, the Volunteer Hazard Mapping Corps for San Diego and technical meetings for the ASPRS Southwest US Region and his service as conference Co-Chair for the 2010 ASPRS Annual meeting. Stow is a very accomplished remote sensing scientist and honored educator with a powerful national and international reputation.

Purpose: Started in 1992, the designation of Fellow is conferred on Society members who have been active for a total of at least ten years and who have performed exceptional service in advancing the science and use of the mapping sciences and related disciplines. It is awarded for professional excellence and for service to the Society.

Donor: the ASPRS Foundation

The ASPRS Fellow Award includes a hand-engrossed certificate.

Awards Program

Memorial Address, Wednesday, March 26th

Conference Management Awards

Region Awards

Region of the Year
Region Newsletter of the Year
Region Website of the Year

Presidential Citations

GeoLeague Awards

ASPRS Conference Management Awards

2014 Recipients:

Conference Chair: Haluk Cetin

Conference Secretary: Demetrio Zourarakis

Conference Technical Program Co-Chairs: Marguerite Madden and Thomas Jordan

Purpose: The intent of this award is to recognize the great effort put forth by the individuals who volunteer their time to assist in the planning and execution of a successful annual conference.

Donor: The ASPRS Foundation

The award is an engraved plaque with the conference program cover.

ASPRS Region the Year Award

2014 Recipients:

First Place: The Florida Region

First Honorable Mention: The Central New York Region

Second Honorable Mention: The Saint Louis Region

Purpose: The Region of the Year Award was established in 1968 to recognize excellence at the regional level in providing service to the members and to the profession at large.

Donor: The ASPRS Foundation

The Region of the Year Award includes a hand engrossed certificate and possession of the Region of the Year banner for one year for the winner and certificates for first and second honorable mention.

ASPRS Region Newsletter of the Year

2014 Recipients:

First Place: *The Rocky Mountain Compiler*, Rocky Mountain Region

Second Place: *The NCR News*, Northern California Region

Third Place [tie]: *The Central Perspective*, Central New York Region and *The Array of Sunshine*, Florida Region

Purpose: The Society first bestowed this award in 1980 to recognize excellence of the Region in providing service to the members and to the profession at large through publications of a newsletter.

Donor: The ASPRS Foundation

The Newsletter of the Year Award includes a hand engrossed certificate.

Region Website of the Year

2014 Recipients:

First Place: Western Great Lakes Region

Second Place: Rocky Mountain Region

Third Place: Florida Region

A scoring and weighting system applied by a third party neutral judge is used to decide the winners of the Region Website of the Year Award.

The winning websites demonstrate high quality look and feel in the site design and effectively convey accurate, informative and timely content. Each site is easy to navigate with few or no broken links and page file sizes are minimized to reduce page loading times. The sites display content of unique regional flavor.

Purpose: The Region Website of the Year Award serves to recognize excellence among the regions in providing service to members and to the profession at large through web site publication.

Donor: The ASPRS Foundation

The Region Website of the Year Award, inaugurated in 2003, includes hand-engrossed certificates for all winners.

Presidential Citations

2014 Recipients:

Josh McNary for revitalizing the Electronic Communications Committee and leading the review committee for the Outstanding Region Web Site of the Year Award.

Awards Program

Dave Kreighbaum and Barry Budzowski for their leadership in establishing a framework for consolidation of regions, initially with the Central and St. Louis Regions.

Jim Peters for his efforts in establishing and demonstrating innovative, widely distributed simultaneous intra- region technical meetings using web-based information technologies.

Chris Aldridge for his dedicated work as Chair of the ASPRS Bylaws Committee.

Devin Kelly for his leadership in promoting the Young Professionals Council

Mike Renslow for serving as a significant catalyst in organizing the editorial team for the new edition of the Manual of Remote Sensing.

Kari Craun and Michael Hodgson for their leadership as Technical Program Chairs of the CaGIS/ASPRS 2013 Specialty Conference, "Imaging and Mapping for Disaster Management: from the Individual to the Global Community"

Heather Staverman and Kim Tilley for their leadership in organizing and implementing our new National Technical Program Committee.

Purpose: First awarded in 1992, Presidential Citations are presented by the ASPRS President to members of ASPRS and other societies, family members, and friends in recognition of special, personal, and meritorious contributions to the operation or advancement of the Society and its interests during the presidential year.

Donor: The ASPRS Foundation

The Presidential Citation is a hand-engrossed certificate

GeoLeague Challenge

2014 marks the fourth year of the GeoLeague Challenge held at the ASPRS Annual Conference. Teams from across the country compete to solve the challenge put forth by the ASPRS Student Advisory Council (SAC). The topic for 2014 is "Mapping Ecosystem Services Change in Coastal Belize Based on Landsat Data." This year's Challenge is being carried out in cooperation with the Natural Capital Project in an effort to assist with a study for ecosystem services mapping in the coastal zone of Belize.

Details at: <http://www.asprs.org/Students/GeoLeague-Challenge-2014.html>

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My Day-at-a-Glance

Saturday, March 22 nd			
Time	Event	Room	Attending
8:00 AM to 5:00 PM	ASPRS Executive Committee	Wilkinson, 1 st Floor, Suite Tower	
4:00 PM to 7:00 PM	Registration Desk Open	2 nd Floor, Suite Tower	
Sunday, March 23 rd			
6:30 AM to 5:00 PM	Registration Desk Open	2 nd Floor, Suite Tower	
7:45 AM to 5:15 PM	Workshop #1—From Lidar Point Clouds to Forest Biophysical Parameters: Theoretical Concepts and Hands-On Processing	Clements, 2 nd Floor, Suite Tower	
8:00 AM to 10:00 AM	ASPRS Committee Meetings—Division Directors & Committee Chairs	Sampson, 1 st Floor, Suite Tower	
10:00 AM to 12 NOON	ASPRS Committee Meetings—Journal Policy & Publications Committee	Sampson, 1 st Floor, Suite Tower	
10:00 AM to 12 NOON	ASPRS Committee Meetings—Awards & Scholarships Committee	Wilkinson, 1 st Floor, Suite Tower	
1:00 PM to 2:00 PM	ASPRS Committee Meetings—Electronic Communications Committee	Sampson, 1 st Floor, Suite Tower	
1:00 PM to 2:00 PM	ASPRS Committee Meetings—Region Officers	Wilkinson, 1 st Floor, Suite Tower	
2:00 PM to 3:00 PM	ASPRS Committee Meetings—Remote Sensing Applications Division (RSAD)	Sampson, 1 st Floor, Suite Tower	
3:00 PM to 4:00 PM	ASPRS Committee Meetings—Remote Sensing Applications Division (RSAD)— <i>Climate Change Subcommittee</i>	Sampson, 1 st Floor, Suite Tower	
3:00 PM to 5:00 PM	ASPRS Committee Meetings—Education & Professional Development	Wilkinson, 1 st Floor, Suite Tower	
4:00 PM to 5:00 PM	ASPRS Committee Meetings—Evaluation for Certification	Sampson, 1 st Floor, Suite Tower	
5:00 PM to 6:00 PM	ASPRS Committee Meetings—Films Committee	Sampson, 1 st Floor, Suite Tower	

Saturday, March 22nd - Sunday, March 23rd Technical Program

Saturday, March 22nd

ASPRS Committee Meetings

ASPRS Executive Committee

8:00 AM to 5:00 PM

Room: Wilkinson, 1st Floor, Suite Tower

Registration Desk Open **R**

4:00 PM to 7:00 PM

Location: 2nd Floor, Suite Tower

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.

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.



Sunday, March 23rd

Registration Desk Open **R**

6:30 AM to 5:00 PM

Location: 2nd Floor, Suite Tower

Workshops

Workshop #1—From Lidar Point Clouds to Forest Biophysical Parameters: Theoretical Concepts and Hands-On Processing

Dr. Sorin Popescu and Ryan Sheridan, *Texas A&M University*

CEU .8* / Advanced

7:45 AM to 5:15 PM, Room: Clements, 2nd Floor, Suite Tower

*For more information on CEUs, please see the box to the left.

ASPRS Committee Meetings

Anyone interested in the work of an ASPRS Division or Committee is welcome to attend these meetings. There is no registration required for attendance at the Division and Committee meetings. Your participation is encouraged and welcome.

Division Directors & Committee Chairs

(Joint meeting – will focus upon the activities of each entity as they relate to the Strategic Plan of ASPRS.)

8:00 AM to 10:00 AM, Room: Sampson, 1st Floor, Suite Tower

Journal Policy & Publications Committee

10:00 AM to 12 NOON, Room: Sampson, 1st Floor, Suite Tower

Awards & Scholarships Committee

10:00 AM to 12 NOON, Room: Wilkinson, 1st Floor, Suite Tower

Electronic Communications Committee

1:00 PM to 2:00 PM, Room: Sampson, 1st Floor, Suite Tower

Region Officers

1:00 PM to 2:00 PM, Room: Wilkinson, 1st Floor, Suite Tower

Remote Sensing Applications Division (RSAD)

2:00 PM to 3:00 PM, Room: Sampson, 1st Floor, Suite Tower

Remote Sensing Applications Division (RSAD)

Climate Change Subcommittee

3:00 PM to 4:00 PM, Room: Sampson, 1st Floor, Suite Tower

Education & Professional Development

3:00 PM to 5:00 PM, Room: Wilkinson, 1st Floor, Suite Tower

Evaluation for Certification

4:00 PM to 5:00 PM, Room: Sampson, 1st Floor, Suite Tower

Films Committee

5:00 PM to 6:00 PM, Room: Sampson, 1st Floor, Suite Tower

My Day-at-a-Glance

Monday, March 24 th			
Time	Event	Room	Attending
6:30 AM to 5:45 PM	Registration Desk Open	2 nd Floor, Suite Tower	
8:00 AM TO 5:00 PM	Presenter Prep Room Open	Bradley, 3 rd Floor, Suite Tower	
7:45 AM to 5:15 PM	Workshop #4—Introduction to Unmanned Aerial Systems (UAS) Operations	Breathitt, 2 nd Floor, Suite Tower	
7:45 AM to 5:15 PM	Workshop #5—Object-Based Image Analysis	Brown, 2 nd Floor, Suite Tower	
7:45 AM to 5:15 PM	Workshop #6—GPS Based Aerial Triangulation for Imaging Sensors Orientation	Clements, 2 nd Floor, Suite Tower	
7:45 AM to 12:15 PM	Workshop #8—Mobile Laser Scanning (MLS) - Desktop Data Exploitation	Combs Chandler, 2 nd Floor, Suite Tower	
8:00 AM to 9:00 AM	ASPRS Committee Meetings—Membership	Sampson, 1 st Floor, Suite Tower	
9:00 AM to 10:00 AM	ASPRS Committee Meetings—Remote Sensing Applications Division (RSAD)— <i>Marine Application Working Group</i>	Sampson, 1 st Floor, Suite Tower	
9:00 AM to 10:00 AM	ASPRS Committee Meetings—Professional Practice Division (PPD)	Wilkinson, 1 st Floor, Suite Tower	
10:00 AM to 12 NOON	ASPRS Committee Meetings—Geographic Information Systems Division (GISD)	Sampson, 1 st Floor, Suite Tower	
10:00 AM to 11:00 AM	ASPRS Committee Meetings—Data Preservation & Archive	Wilkinson, 1 st Floor, Suite Tower	
11:00 AM to 12 NOON	ASPRS Committee Meetings—Photogrammetric Applications Division (PAD)	Wilkinson, 1 st Floor, Suite Tower	
1:00 PM to 2:00 PM	ASPRS Committee Meetings—Primary Data Acquisition Division & UAS (PDAD)	Sampson, 1 st Floor, Suite Tower	
1:00 PM to 2:00 PM	ASPRS Committee Meetings—Photogrammetric Applications Division (PAD)— <i>Defense and Intelligence Subcommittee</i>	Wilkinson, 1 st Floor, Suite Tower	
2:00 PM to 3:00 PM	ASPRS Committee Meetings—Lidar	Sampson, 1 st Floor, Suite Tower	
2:00 PM to 4:00 PM	ASPRS Committee Meetings—Convention Planning and Policy Committee (CPPC)	Wilkinson, 1 st Floor, Suite Tower	
3:00 PM to 4:00 PM	ASPRS Committee Meetings—Professional Practice Division (PPD)— <i>Licensure Exam Subcommittee</i>	Sampson, 1 st Floor, Suite Tower	
4:00 PM to 5:00 PM	ASPRS Committee Meetings—Standards Committee	Sampson, 1 st Floor, Suite Tower	
4:00 PM to 5:00 PM	ASPRS Committee Meetings—Young Professionals Council (YPC)	Wilkinson, 1 st Floor, Suite Tower	
5:00 PM to 6:00 PM	ASPRS Committee Meetings—Division Directors	Sampson, 1 st Floor, Suite Tower	
5:30 PM to 6:30 PM	ASPRS Committee Meetings—Student Advisory Council (SAC)	Wilkinson, 1 st Floor, Suite Tower	
1:00 PM to 5:00 PM	User Group Meetings —Intergraph/Leica	Combs Chandler, 2 nd Floor, Suite Tower	
6:00 PM to 9:00 PM	Conference Welcome Reception	Kentucky Derby Museum	

Monday, March 24th

Technical Program

Monday, March 24th

Registration Desk Open

6:30 AM to 5:45 PM

Location: 2nd Floor, Suite Tower

Presenter Prep Room Open

8:00 AM to 5:00 PM

Room: Bradley, 3rd Floor, Suite Tower

ASPRS has arranged a room for presenters to practice their presentations. This room will be open daily and is available on a first come, first served basis. Please be respectful of fellow presenters when using the practice room. Just like a regular session room, a LCD projector and screen are provided for practice use.

Workshops

Workshop #4—Introduction to Unmanned Aerial Systems (UAS) Operations

Kevin Gambold and Ed Freeborn, *Unmanned Experts LLC*
CEU .8*/Intermediate

7:45 AM to 5:15 PM, Room: Breathitt, 2nd Floor, Suite Tower

Workshop #5—Object-Based Image Analysis

Jarlath O'Neil-Dunne, Ph.D., *University of Vermont*
CEU .8*/Advanced

7:45 AM to 5:15 PM, Room: Brown, 2nd Floor, Suite Tower

Workshop #6—GPS Based Aerial Triangulation for Imaging Sensors Orientation

Dr. Qassim Abdullah, *Woolpert, Inc.* and Dr. Riadh Munjy,
California State University - Fresno
CEU .8*/Intermediate

7:45 AM to 5:15 PM, Room: Clements, 2nd Floor, Suite Tower

Workshop #8—Mobile Laser Scanning (MLS) - Desktop Data Exploitation

Lewis Graham, CTO, *GeoCue Corporation* and Division Director
of the ASPRS Lidar Division
CEU .4*/Introductory

7:45 AM to 12:15 PM, Room: Combs Chandler, 2nd Floor, Suite Tower

*For more information on CEUs, please see 23.

ASPRS Committee Meetings

Membership

8:00 AM to 9:00 AM, Room: Sampson, 1st Floor, Suite Tower

Remote Sensing Applications Division (RSAD)

Marine Application Working Group

9:00 AM to 10:00 AM, Room: Sampson, 1st Floor, Suite Tower

Professional Practice Division (PPD)

9:00 AM to 10:00 AM, Room: Wilkinson, 1st Floor, Suite Tower

Geographic Information Systems Division (GISD)

10:00 AM to 12 NOON, Room: Sampson, 1st Floor, Suite Tower

Data Preservation & Archive

10:00 AM to 11:00 AM, Room: Wilkinson, 1st Floor, Suite Tower

Photogrammetric Applications Division (PAD)

11:00 AM to 12 NOON, Room: Wilkinson, 1st Floor, Suite Tower

Primary Data Acquisition Division & UAS (PDAD)

1:00 PM to 2:00 PM, Room: Sampson, 1st Floor, Suite Tower

Photogrammetric Applications Division (PAD)

Defense and Intelligence Subcommittee

1:00 PM to 2:00 PM, Room: Wilkinson, 1st Floor, Suite Tower

Lidar

2:00 PM to 3:00 PM, Room: Sampson, 1st Floor, Suite Tower

Convention Planning and Policy Committee (CPPC)

2:00 PM to 4:00 PM, Room: Wilkinson, 1st Floor, Suite Tower

Professional Practice Division (PPD)

Licensure Exam Subcommittee

3:00 PM to 4:00 PM, Room: Sampson, 1st Floor, Suite Tower

Standards Committee

4:00 PM to 5:00 PM, Room: Sampson, 1st Floor, Suite Tower

Young Professionals Council (YPC)

4:00 PM to 5:00 PM, Room: Wilkinson, 1st Floor, Suite Tower

Division Directors

5:00 PM to 6:00 PM, Room: Sampson, 1st Floor, Suite Tower

Student Advisory Council (SAC)

5:30 PM to 6:30 PM, Room: Wilkinson, 1st Floor, Suite Tower

Technical Program

Monday, March 24th

User Group Meetings

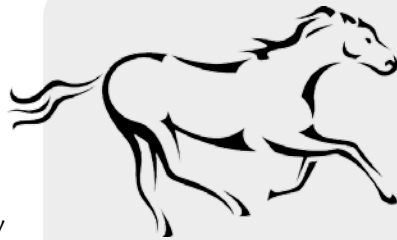
User Group Meetings are a wonderful chance for YOU to meet with exhibitors one-on-one.

The meetings include a discussion or presentation from the exhibiting company about their new products, software or innovations. These sessions are designed for personal attention from the exhibitor and are **complimentary for all conference attendees**. You don't want to miss these sessions!

Intergraph/Leica

1:00 PM to 5:00 PM, Room: Combs Chandler, 2nd Floor, Suite Tower

Learn about the next generation of Leica Geosystems Lidar sensors for airborne topography and bathymetry, and find out about the cost saving common sensor platform for ADS100, DMC IIe and RCD 30. Plus, get the latest on the unique RCD30 Penta oblique system configuration and workflow. Thought leaders from Hexagon Geospatial will also showcase the Intergraph Geospatial 2014 release, highlighting the new analytics, mobile and cloud capabilities to increase your productivity.



Experience "The Fastest Two Minutes in Sports" at the Kentucky Derby Museum!

Conference Welcome Reception

Monday, March 24th, 6:00 PM to 9:00 PM
Kentucky Derby Museum

The Kentucky Derby Museum sits on the front steps of historic Churchill Downs and is a very visible part of the community as one of Louisville's premiere attractions. Take this wonderful opportunity to participate in the history that encompasses the Kentucky Derby Museum!

Our evening begins with a motor coach to transport you through the streets of Louisville. Buses will load at the Galt House Hotel and will run on a continuous basis throughout the evening. The ride is about 20 minutes in length from the hotel to the museum. Attendee tickets will be required at the entrance to the Kentucky Derby Museum. **Tickets may not be purchased at the museum.**

Join your friends and colleagues for an evening of networking, laughter. The exhibits will take you through the journey from the birth of the foal to the winner's circle. Find yourself in the middle of Kentucky Derby week activities and Derby traditions. Or you can take in the view of the track on Derby Day from the middle of the infield.

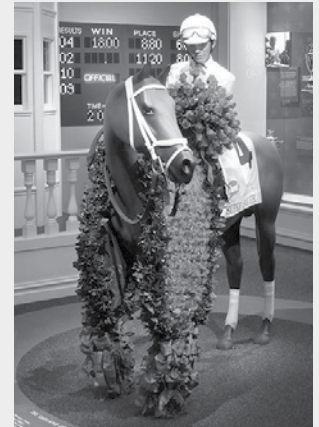
Refreshments will be served throughout the evening and throughout the museum. Each ticket holder will receive one complimentary beverage.

Transportation: Complimentary continuous service throughout the evening; loading at the Galt House Hotel, Suite Tower Lobby. The first bus departs the hotel at 5:45 pm.

Food & Beverage: Heavy hors d'oeuvres and one complimentary beverage per guest, cash bar open all evening

Experience "the fastest two minutes in sports" at the Kentucky Derby Museum!

The evening at the Kentucky Derby Museum is included in the registration for those paying the Full, Presenter/ Moderator and Spouse/Guest Registration fee. All other registration types, including children, wishing to attend this event MUST purchase tickets in advanced at the ASPRS Registration Desk in the Galt House Hotel no later than 10 am on Sunday, March 23rd. Tickets will not be sold onsite at the Museum. Advanced adult tickets for this event are \$50 and tickets for children 13 years of age and under are \$40. Children over 13 years of age must have an adult ticket.



My Day-at-a-Glance

Tuesday, March 25 th			
Time	Event	Room	Attending
7:00 AM to 5:45 PM	Registration Desk Open	2 nd Floor, Suite Tower	
7:30 AM to 9:00 AM	Poster Set-up	Grand Ballroom 2 nd Floor, Suite Tower	
8:00 AM to 5:00 PM	Presenter Prep Room Open	Bradley, 3 rd Floor, Suite Tower	
8:00 AM to 9:00 AM	Keynote Address	Archibald & Cochran Ballrooms, 3 rd Floor, Rivue Tower	
9:15 AM to 10:45 AM	Track Sessions—1 to 9	Various, see description	
10:30 AM to 7:00 PM	Exhibit Hall & Posters Area Open	Exhibit Hall, Grand Ballroom, 2 nd Floor, Suite Tower	
10:45 AM to 11:30 AM	All Conference Beverage Break	Exhibit Hall, Grand Ballroom, 2 nd Floor, Suite Tower	
10:50 AM to 11:05 AM,	Thought Leader Presentation— Visual Intelligence—Esri	Exhibit Hall, Grand Ballroom, 2 nd Floor, Suite Tower	
11:00 AM to 12 NOON	Student & Young Professionals—Exhibit Hall Guided Tour for Students	Exhibit Hall, Grand Ballroom, 2 nd Floor, Suite Tower	
11:15 AM to 1:00 PM	User Group Meetings— Applanix & Trimble (<i>combined session</i>)	Jones, 3 rd Floor, Suite Tower	
11:15 AM to 1:00 PM	User Group Meetings— Exelis	Sampson, 1 st Floor, Suite Tower	
11:15 AM to 1:00 PM	User Group Meetings— GeoCue Corporation/ QCoherent Software	Wilkinson, 1 st Floor, Suite Tower	
11:30 AM to 1:30 PM	25 th Annual Awards Luncheon & 80 th Installation of ASPRS Officers	Archibald & Cochran Ballrooms, 3 rd Floor, Rivue Tower	
1:30 PM to 3:00 PM	Track Sessions—10 to 18	Various, see description	
9:00 AM to 10:30 AM	Student & Young Professionals—GeoLeague Competition Presentations	Jones, 3 rd Floor, Suite Tower Room	
3:00 PM to 3:30 PM	All Conference Beverage Break	Exhibit Hall, Grand Ballroom, 2 nd Floor, Suite Tower	
3:00 PM to 3:15 PM	Thought Leader Presentation—Not a Web-Developer? Not a Problem! Using Open, Free, Configurable GIS Web-Applications to Jumpstart Your GIS Application Development Project—Esri	Exhibit Hall, Grand Ballroom, 2 nd Floor, Suite Tower	
3:30 PM to 5:00 PM	Track Sessions—20 to 27	Various, see description	
5:30 PM to 7:00 PM	Exhibitors' Reception	Exhibit Hall, Grand Ballroom, 2 nd Floor, Suite Tower	

Technical Program

Tuesday, March 25th, 7:00 AM to 9:00 AM

Tuesday, March 25th

Registration Desk Open



7:00 AM to 5:45 PM, Location: 2nd Floor, Suite Tower

Poster Set-up

7:30 AM to 9:00 AM, Location: Grand Ballroom 2nd Floor, Suite Tower

All poster presenters should plan to arrive no earlier than 7:30 AM to display their work and affix it to any available board. Board space is available on a first-come, first-served basis – NO holding board space. All poster packaging must be removed from the poster area once posters are installed.

Presenter Prep Room Open

8:00 AM to 5:00 PM, Room: Bradley, 3rd Floor, Suite Tower

ASPRS has arranged a room for presenters to practice their presentations. This room will be open daily and is available on a first-come, first-served basis. Please be respectful of fellow presenters when using the practice room. Just like a regular session room, a LCD projector and screen are provided for practice use.

Keynote Address

8:00 AM to 9:00 AM, Room: Archibald & Cochran Ballrooms, 3rd Floor, Rivue Tower

Lost Cities, Lasers, and the Vestiges of the Colonial Discourse of Archaeology

Christopher Begley, Ph.D., Associate Professor of Anthropology, *Transylvania University*

Archaeologists invoke the saying “It’s not what you find, it’s what you find out” to suggest that we are not after objects, but pursuing an understanding of the past. This understanding benefits from revolutionary advances in technologies such as lidar imaging, 3D imaging, and portable analytical tools such as x-ray fluorescence. However, some recent examples demonstrate the use of these new technologies to perpetuate a disturbing and problematic element of archaeological discourse– the trope of discovery.

This focus on finding, rather than finding out, has clear historical roots in the colonial discourse of exploration, wherein explorers representing colonial powers were often credited with ‘discoveries’ long known to local folks. As with the explorers of old, differential access to expensive, cutting edge technology and to the media makes it difficult to challenge these claims. Not only does this differential access allow some to perpetuate the discoverer fantasy, it can obscure the critical role of local knowledge and previous research.

We will explore this phenomenon by examining the announcements of the discovery of a lost city in Honduras. Publicity over the discoveries, made by non-archaeologists using lidar, received immediate and harsh criticism from professionals and has been partly dismissed as hype and sensationalism. We will discuss the pattern of using differential access to powerful tools to perpetuate vestiges of a colonial discourse, camouflaging privilege and oppression within the seemingly neutral rhetoric of science, discovery, technology, and exploration. Finally, I examine successful ways in which new technologies also help resist this pattern.



Christopher Begley is Associate Professor of Anthropology at Transylvania University. His archaeological research for the last two decades has focused on issues of ethnicity and identity among ancient populations in the remote jungles of the Mosquito Coast of Honduras. Over the last five years, he has focused on developing zero-impact archaeological imaging technology, especially structured light 3D systems. He has received many notable awards for his work including, the 2010 National Geographic/Waite Foundation Grant, was named a National Geographic Explorer in 2012, a Fulbright scholar in El Salvador, a National Science Foundation Graduate Fellow, and the recipient of other research grants from the National Science Foundation, the Explorers Club, and Transylvania University. His work has been featured in documentaries on the BBC, Discovery Channel, and TLC, and

he is a presenter for Past Preservers, a media group focusing on archaeology and history. He was recently featured in the *New Yorker* magazine and in the book ‘Jungleland’ by Christopher Stewart, which explores the lost city myth in Honduras.

Award Presentations

Honorary Members

Outstanding Technical Achievement Award

Photogrammetric (Fairchild) Award

Tuesday, March 25th, 9:15 AM to 10:45 AM

Technical Program

Track Sessions—9:15 AM to 10:45 AM

The Conference Planning Committee does its best to assure all speakers attend the conference; however, occasionally there are situations that arise where a listed speaker does not attend. Session Moderators should not skip ahead if a scheduled speaker is not present. Please use this open time for a question and answer period in your session.

1—Indoor and Outdoor Mobile Mapping

Track 1—Geospatial Power in Our Pockets

Moderator: Steven Steinberg

Room: Sampson, 1st Floor, Suite Tower

Implementing Mobile Devices as Field Computers for Environmental Data Acquisition

Steven Steinberg, *Southern California Coastal Water Research Project Authority*, United States

Larry Cooper, Paul Smith, Abel Santana, and Cody Gruebele

Indoor and Outdoor Calibration of Multiple Mobile Laser Scanning System

Ayman Habib, *University of Calgary, Department of Geomatics Engineering*, Canada

Essam Hassan Hamza

Combined Matching of 2D and 3D Kinect Data to Support Indoor Mapping and Navigation

Grzegorz Jozkow, *The Ohio State University*, United States

Charles Toth, Zoltan Koppanyi, and Dorota Grejner-Brzezinska

2—Object Based Image Analysis

Track 2—Emerging Technologies

Moderator: Jarlath O'Neil-Dunne

Room: Wilkinson, 1st Floor, Suite Tower

An Object-based Approach to Statewide Land Cover Mapping

Jarlath O'Neil-Dunne, *University of Vermont*, United States

Sean MacFaden, Anna Royar, and Max Reis

GEOBIA Based Land-cover of the Chattahoochee National Forest - Mapping Above and Below the Canopy

Jitendra Sharma, *University of North Georgia*, United States

Alex Martin and Scott Blackwell

Monitoring Urban Tree Cover by Hyperspatial Imagery Using Object-Based Image Analysis and Geometric-Optical Modeling

Lihong Su, *Texas A&M University - Corpus Christi*, United States

James Gibeaut

3—Contracts and Bidding Processes and Opportunities - Small Business Size Standard Increase Panel Discussion

Track 3—Business & Management for the Geospatial Professional

Moderator: Brian Murphy, *Altavian*

Room: Beckham, 3rd Floor, Suite Tower

Contracts and Bidding Processes and Opportunities

Brian Murphy, *Altavian*

Panelist:

Bobby Tuck, *Tuck Mapping Solutions, Inc.*

Mike Ritchie, *Photo Science, Inc., a Quantum Spatial company*

Mike Aslaksen, *NOAA*

Amar Nayegandhi, *Dewberry*

Joshua Helton, *Digital Aerial Solutions*

Jeff Lower, *PAR, LLC*

Gina Holman, *Small Business Administration*

4—Special Session: Mapping with Hyperspectral Imagery

Sponsored by the ASPRS Primary Data Acquisitions Division

Track 4—Core Technologies

Moderator: Pierre le Roux

Room: Jones, 3rd Floor, Suite Tower

Shoreline Mapping with Integrated DEM-Hyperspectral Imagery using Multiphase Active Contour Segmentation

Anuchit Sukcharoenpong, *The Ohio State University*, United States

Ron Li

A New Method for Supervised Optimum Multispectral and Hyperspectral Data Band Selection

Robert McConnell, *WAY-2C*, United States

5—3D Landscape and Building Reconstruction using Lidar

Track 5—Application Areas

Moderator: Nancy O'Hare, *University of Georgia*

Room: Segell, 3rd Floor, Suite Tower

The Appraisal of Roof Slope from Lidar Data using Neighboring Structure Similarities

James Gooding, *The University of Leeds*, U.K.

The Use of Terrestrial Laser Scanning (TLS) and Unmanned Aerial Vehicles (UAV) to Investigate Potential Rice Cultivation on the Isle of Hope, Georgia

Alessandro Pasqua, *University of Georgia*

Cultural Heritage Reconstruction: 3D Visualization of an Historical Landscape

Nancy O'Hare, *University of Georgia*, United States

Chiao-Yin Chou and Marguerite Madden

Technical Program

Tuesday, March 25th, 9:15 AM to 10:45 AM

6—NGA - Everyone is a Sensor ... and an Analyst Session I

Track 6—Invited Group - NGA UnClassified Sessions

Moderator: Dennis Walker, *NGA*

Room: Combs Chandler, 2nd Floor, Suite Tower

Geo-tagged Social Media-guided Hyperspectral Target Detection

Dr. Alina Zare, *University of Missouri*

Reducing the Burden on Analysis via Probabilistic Reasoning and Data Analytics

Dr. Paul Gader, *University of Florida*

A Geospatial Predictive Analytics Framework with Application to Finding Medically Underserved Areas in Missouri

Dr. Alina Zare, *University of Missouri*

7—Lidar Data Processing and Classification

Track 7—Lightning Talks

Moderator: TBD

Room: Brown, 2nd Floor, Suite Tower

Point Density Distribution and Resulting Terrain Surfaces from Select Lidar Point Cloud Datasets

Demetrio Zourarakis, *Kentucky Division of Geographic Information, United States*

3D Airborne Lidar Data Classification via Unsupervised Learning

Ye Duan, *University of Missouri, United States*

Wenjun Zeng and Ye Duan

Co-registration of Images and Multiple Laser Scans without Markers

Sudhagar Nagarajan, *Florida Atlantic University, United States*

Automatic Orientation Estimation of Multiple Images with Respect to Laser Data

Fangning He, *Department of Geomatics Engineering, University of Calgary, Canada*

Ayman Habib

Solution Frequency-based Procedure for Automated Registration of Terrestrial Laser Scans Using Linear Features

Mehdi Mazaheri Tehrani, *University of Calgary, Canada*

Ayman Habib and Mehdi Mazaheri Tehrani

Coastal Landforms, Dune Topography, and Categorizing Geographic Variability in Barrier Island Responses to High Water Forcings

Jackie Monge, *University of Kentucky, United States*

J. Anthony Stallins and Daehyun Kim

Integration of High-resolution Panorama Imaging and Terrestrial Laser Scanner

Yushin Ahn, Assistant Professor, *Surveying Engineering, School of Technology, Michigan Technological University, United States*

Point Cloud Analysis for Road Pavements in Bad Conditions

Yoshiy Yamamoto, *Aichi Institute of Technology, Japan*

Yasuhiro Shimizu, Eiji Nakamura, Masay Okugawa, Tomohiro Asaka, and Keishi Iwashita

A Comparative Analysis of Terrestrial Lidar Georeferencing Techniques across South Florida Landscapes

Adam Benjamin, *University of Florida, United States*

Keqi Zhang and Evan Cook

Study of Urban Land Surface Temperature Inversion Based on Emissivity Mixture Analysis at Sub-pixel Scale

Tianyu Li, *Department of Geosciences,*

Qingmin Meng

Resourcing Military Remote Sensing Research and Development

Corry Robb, *National Geospatial-Intelligence Agency, United States*

Richard W. Lindsay

Combined Bundle Block Adjustment of Airborne Lidar Data and Aerial Imagery

Xiaodong Xiong, *School of Remote Sensing and Information Engineering, Wuhan University, China*

Youngjun Zhang, Shoupeng Qin, and Daifeng Peng

ICESat Waveform Based Land Cover Classification using a Curve Matching Approach

Yuhong Zhou, *University of Texas at Dallas*

Fang Qiu

Fractal Dimension Analysis for Landslide Mapping from Airborne Lidar

Omar Mora, *The Ohio State University, United States*

Charles K. Toth, Ralph R. B. von Frese, Dorota A. Grejner-Brzezinska, and M. Gabriela Lenzano

9—Special Session: Geospatial Education Initiatives in Kentucky - Decades-Old, Overnight Success Stories

Sponsored by the ASPRS Education Committee

Track 9—Interactive & Varied

Moderator: Demetrio Zourarakis, *Kentucky Division of*

Geographic Information and Travis Powell, *Kentucky Council on Postsecondary Education, United States*

Room: Breathitt, 3rd Floor, Suite Tower

Invited Panelists:

Vince DiNoto, Director, *National GeoTech Center* and Dean, *KCTCS*

Robert Forbes, Director, *University of Louisville, Center for GIS*

Kevin Cary, Director, *Western Kentucky University – GIS Center*

Buddhi Gyawali, Assistant Professor, *Kentucky State University*

Haluk Cetin, Professor, *Murray State University*

Carol Hanley, *Environmental and Natural Resources Initiative,*

College of Agriculture, Food and Environment, University of Kentucky

Tuesday, March 25th, 10:30 AM to 1:00 PM

Technical Program

Exhibit Hall & Posters Area Open

10:30 AM to 7:00 PM

Location: Exhibit Hall, Grand Ballroom, 2nd Floor, Suite Tower

Take some time to visit with the fantastic exhibitors in attendance this year. Many activities are planned for the 2014 Exhibit Hall, so plan your schedule and don't miss out!



All Conference Beverage Break

10:45 AM to 11:30 AM, Location: Exhibit Hall, Grand Ballroom, 2nd Floor, Suite Tower

Take a break! Come to the Exhibit Hall for a beverage, visit with our great Exhibitors, view a Thought Leader Presentation or fill your Exhibit Hall Passport! All conference attendees are welcome, complimentary beverages provided inside the exhibit hall.



Thought Leader Presentation

10:50 AM to 11:05 AM, Location: Exhibit Hall, Grand Ballroom, 2nd Floor, Suite Tower

NEW for 2014! Thought Leader Presentations are 15 minute presentations from various exhibitors. The presentations will feature new products, interesting information and ways to better your business. These are sure to be a fantastic addition to the Exhibit Hall experience.

Visual Intelligence

Presenter: Phil Kern, *Visual Intelligence*

Student & Young Professionals— Exhibit Hall Guided Tour for Students

Tuesday, March 25th, 11:00 AM to 12 NOON

The ASPRS Sustaining Members Council is hosting a guided tour of the Exhibit Hall for students. This is your opportunity to meet the exhibitors, up close and personal. Exhibit Halls can be intimidating, but not after this personal tour. Meet at the main Exhibit Hall entrance doors to participate in this fun tour. See you there!



User Group Meetings

11:15 AM to 1:00 PM

NEW for 2014! User Group Meetings will now be held during the conference! Everything else stays the same, all the fantastic information, the personal time with company, and wonderful presentations on new products, software and innovations! The sessions are complimentary for all conference attendees.



Applanix & Trimble (*combined session*)

Room: Jones, 3rd Floor, Suite Tower

"Directly Georeferenced Aerial Mapping for UAVs."

With small unmanned systems, the physical and financial constraints present all-new challenges for direct georeferencing from the air. Applanix has brought together its experience in positioning, orientation and mobile mapping, along with the best in small-form-factor hardware and powerful software, to produce a system for aerial mapping with UAVs: the DMS (Direct Mapping Solution).

Trimble

Unmanned Aerial Systems (UAS) and automated feature extraction from imagery provide photogrammetry and remote sensing professionals with new technologies for creating GIS ready information. In this session, Trimble's UAS solutions, including Inpho and eCognition software, will be presented highlighting the technologies, workflows and user benefits that can be obtained. Learn how these new technologies can be applied to increase productivity for your business.

Exelis

Room: Sampson, 1st Floor, Suite Tower

Join us at the ENVI User Group Meeting to learn how advances in the ENVI product family can help you turn imagery, Lidar, and SAR data into the knowledge you need to make more informed decisions. This event will feature presentations by remote sensing and GIS professionals who will demonstrate how they use ENVI to solve real-world problems.

GeoCue Corporation/ QCoherent Software

Room: Wilkinson, 1st Floor, Suite Tower

GeoCue Corporation is a premier software development and consulting services company specializing in geospatial production management and Lidar exploitation solutions. We will be demonstrating our GeoCue product family of integrated solutions for sensor data processing as well as our expanding suite of LP360 and Terrasolid Lidar/Point Cloud processing and analysis solutions.

Technical Program

Tuesday, March 25th, 11:30 AM to 3:00 PM

25th Annual Awards Luncheon & 80th Installation of ASPRS Officers

11:30 AM to 1:30 PM, Room: Archibald & Cochran Ballrooms, 3rd Floor, Rivue Tower

Join your colleagues at this year's luncheon on Tuesday, March 25th, to honor current award recipients and participate in the installation of the 80th Slate of ASPRS Officers.

The award winners will be given special honor and the annual business meeting of the Society will include installation of the new ASPRS Officers. To conclude the year, Steve DeGloria, retiring ASPRS President, will give a summation of the past year's events.

Tickets for this Luncheon are required and are separate from the conference registration. Tickets may be purchased from the Conference Registration Desk, no later than 2:00 pm, Monday, March 24th. Cost is \$65 per person.

On-site ticket purchases are limited to availability. Limited seating in the rear of the room is available at no cost for conference registrants wishing to attend the ceremonies only.

Track Sessions—1:30 PM to 3:00 PM

The Conference Planning Committee does its best to assure all speakers attend the conference; however, occasionally there are situations that arise where a listed speaker does not attend. Session Moderators should not skip ahead if a scheduled speaker is not present. Please use this open time for a question and answer period in your session.

10—Terrain Visualization on Mobile Devices

Track 1—Geospatial Power in Our Pockets

Moderator: Peter Guth

Room: Sampson, 1st Floor, Suite Tower

Lidar Data Visualization on Mobile Devices

Ryan Morrison, *OGSystems*, United States

Mobile Device Visualization of Cloud Generated Terrain Viewsheds

Chris Mangold, *Penn State University*, United States

Formats for Digital Elevation Data Manipulation on Mobile Devices

Peter Guth, *Department of Oceanography*, United States

Filipe Vieira

Mobile Landscape Analysis in the Cloud

Gerald Kinn, *Esri*, United States

Suzanne Foss

11—Special Session: Emerging Trends in UAS Research

Sponsored by the Student Advisory Committee and the Primary Data Acquisition Division

Track 2—Emerging Technologies

Moderator: Ben Vander Jagt

Room: Nunn, 2nd Floor, Suite Tower

Invited Panelists:

Henry Theiss, *Integrity Applications, Inc*

Charles Toth, *The Ohio State University*

Michael Krimmer, *Northern Virginia Community College*

Pierre le Roux, *Quantum Spatial, inc.*

Anthony Hearst, *Purdue University*

12—Big Data

Track 3—Business & Management for the Geospatial Professional

Moderator: Jeff Lovin, *Woolpert, Inc.*

Room: Jones, 3rd Floor, Suite Tower

Taming Very Big Data

Lewis Graham, *GeoCue Corporation*, United States

Contemporary Issues in Geospatial Data Archiving and Preservation

Jeffrey Young, *LizardTech, Inc.*, United States

13—Special Session: The Future of National Land Imaging

Track 4—Core Technologies

Moderator: Greg Stensaas, *U.S. Geological Survey*

Room: Wilkinson, 1st Floor, Suite Tower

Characterization of Future Imaging Systems

Jon Christopherson, *U.S. Geological Survey*, United States

Gregory Stensaas

National Land Imaging Requirements Program

John Crowe, *U.S. Geological Survey*

Gregory Stensaas

Moderate Resolution Imaging Requirements

Carolyn Vadnais, *U.S. Geological Survey*

John Crowe and Gregory Stensaas

NASA/U.S. Geological Survey Land Imaging Steering Committee

Stephen Volz, *NASA*

Bradley Doorn, Woody Turner, and John Crowe

Tuesday, March 25th, 11:30 AM to 3:00 PM

Technical Program

14—Emerging Sensor and Platform Technologies for Geospatial Data Acquisition: Photon Counting Lidar and Unmanned Aerial Systems (UAS)

Sponsored by the ASPRS Photogrammetric Applications Division and the ASPRS Primary Data Acquisition Division

Track 9—Hot Topic

Moderator: Qassim Abdullah, *Woolpert, Inc.*
Room: Breathitt, 2nd Floor, Suite Tower

Roundtable Discussion

Qassim Abdullah, *Woolpert, Inc.*
Lewis Graham, *GeoCue Corporation*
Marcos Sirota, *Sigma Space, Inc.*
David Snyder, *Trimble*

15—NGA - Everyone is a Sensor ... and an Analyst Session II

Track 6—Invited Group - NGA UnClassified Sessions
Moderator: Dennis Walker, *NGA*
Room: Combs Chandler, 2nd Floor, Suite Tower

Probabilistic Methods for Divide-and-Conquer Distributed Learning

Dr. Lawrence Carin, *Duke University*

Generating Verified and Validated Geospatial Data from Open-Source Web 2.0 Content

Dr. Barry Bitters, *GISP, Leidos, Inc.*

Internet of Things (IOT) and Geospatial Connectivity

Dr. Shawana Johnson, *GISP, Global Marking Insights, Inc.*

16—Emerging Technology Services

Track 7—Commercial Session

Moderator: Frank Scarpace
Room: Segell, 3rd Floor, Suite Tower

An Active Way of Thinking About Multiple-sensor Integration: A Constellation Approach from the DMC Satellites

Elena Lobo, *DMCii Ltd., U.K.*

Advantages of Gyro-Stabilization on Multi-Sensor Platforms

Jason Oldham, *Optech, Canada*

A New Automated Aerotriangulation Product

Frank Scarpace, *Image Processing Software, Inc., United States*

Optimizing GNSS Network and Continuously Operating Reference Stations (CORS) to Optimize GIS Point and Vector Data Collection

Bishwa Acharya, *Earth Mapping International*

17—Hydrology and Water Quality

Track 8—Application Areas

Moderator: Cyril Wilson
Room: Beckham, 3rd Floor, Suite Tower

Modeling Cyanobacteria Concentrations in a Large Modified Temperate River using Landsat 8

Thaddaeus Tuggle, *Marshall University, United States*
Jeffrey Kovatch and Anne Axel

A Geospatial Investigation of Irrigation Permits and Agriculture Fields in the Semi-Arid in the State of Minas Gerais, Brazil

Rodrigo Nobrega, *Institute for Water Management of Minas Gerais, Brazil*
Joselaine Filgueiras and Sergio D. Faria

Development of Contemporary and Future Land Use/Land Cover Data In Support of Water Quality Monitoring in the Lower Chippewa River Watershed, WI

Cyril Wilson, *University of Wisconsin-Eau Claire, United States*

18—Geospatial Data Quality

Track 8—Application Areas

Moderator:
Room: Brown, 2nd Floor, Suite Tower

The Global Canopy Height Map Validation with Airborne Lidar Remote Sensing Data in the Southern United States

Nian-Wei Ku, *Texas A&M University, United States*
Sorin C. Popescu

A Novel Confidence Metric Approach for a Landsat Land Surface Temperature Product

Monica Cook, *Rochester Institute of Technology, United States*
John Schott

Geospatial Data Quality: The Content Maturity Model

John Strebeck, *NGA, United States*
Walter Lister, Emery Wilson, and Thomas Green

The Specification and Validation of Predicted Accuracy Capabilities for Commercial Satellite Imagery

John Dolloff, *Integrity Applications Incorporated, United States*
Hank Theiss

Student & Young Professionals—GeoLeague Competition Presentations

9:00 AM to 10:30 AM, Room: Jones, 3rd Floor, Suite Tower Room

The teams competing in the GeoLeague Challenge will present their projects during this technical session. Students should attend and support the teams. Judging will take place following the session and prizes will be awarded during the Memorial Address on Wednesday, March 26th.



Technical Program

Tuesday, March 25th, 3:00 PM to 5:00 PM

All Conference Beverage Break

3:00 PM to 3:30 PM, Location: Exhibit Hall, Grand Ballroom, 2nd Floor, Suite Tower

Take a break! Come to the Exhibit Hall for a beverage and visit with our great Exhibitors! All attendees are welcome, complimentary beverages provided. Beverage service will be provided inside the Exhibit Hall.

Thought Leader Presentation

3:00 PM to 3:15 PM, Location: Exhibit Hall, Grand Ballroom, 2nd Floor, Suite Tower

NEW for 2014! Thought Leader Presentations are 15 minute presentations from various exhibitors. The presentations will feature new products, interesting information and ways to better your business. These are sure to be a fantastic addition to the Exhibit Hall experience.

Not a Web-Developer? Not a Problem! Using Open, Free, Configurable GIS Web-Applications to Jumpstart Your GIS Application Development Project

Presented By: Greg Brunner, *Esri*

Using web-application templates from Esri, analysts can easily configure, redesign, and customize web-applications to visualize, process, and analyze their vector and raster data. In this talk I'll discuss how utilizing web-application templates and existing code allow non-developers to become developers and significantly reduce the time it takes to create a web-application

Track Sessions—3:30 PM to 5:00 PM

The Conference Planning Committee does its best to assure all speakers attend the conference; however, occasionally there are situations that arise where a listed speaker does not attend. Session Moderators should not skip ahead if a scheduled speaker is not present. Please use this open time for a question and answer period in your session.

19—Special Session on the Manual of Remote Sensing 4th Ed.

Track 1—Geospatial Power in Our Pockets

Moderator: Stan Morain and Amy Budge
Room: Beckham, 3rd Floor, Suite Tower

This session seeks to identify contributors to the new MRS-3 e-book scheduled for release in late 2015 or early 2016. A question and answer segment will respond to issues of interest already identified, and provide a meet-and-greet opportunity for those wishing to contribute.

20—Special Session: Recent Developments for New Geospatial Standards, Accuracies and Specifications

Sponsored by the ASPRS Photogrammetric Applications Division, Lidar Division and Primary Data Acquisition Division

Track 2—Emerging Technologies

Moderator: Doug Smith, ASPRS Photogrammetric Applications Division Director

Room: Jones, 2nd Floor, Suite Tower

New ASPRS Accuracy Standards for Digital Geospatial Data

Qassim Abdullah, *Woolpert, Inc.*, United States

Dave Maune, Hans Karl Heidemann, and Doug Smith

The U.S. Geological Survey - NGP Lidar Base Specification v1.1: Revisions for the 3DEP

Hans Karl Heidemann, *U.S. Geological Survey*

U.S. Geological Survey/ASPRS Lidar Data Quality Guidelines

Greg Stensaas, *U.S. Geological Survey*, United States

21—Special Session: Mentoring Through ASPRS: The Beta Program

Sponsored by the Young Professionals Council

Track 6—Invited Groups - ASPRS Young Professionals Council

Moderator: Ryan Elizabeth Bowe, *Photo Science, Inc.*

Room: Breathitt, 2nd Floor, Suite Tower

Panelists & Open Discussion with:

Ryan Elizabeth Bowe, *Photo Science, Inc.*

Devin Kelley, *Photo Science, Inc.*

Patrick Adda, *University of New Brunswick*

Hui Ju, *Topcon Positioning Systems*

22—VHSR Digital Images and Classification: Tried, True and Future

Track 4—Core Technologies

Moderator: Charles Olson, *Michigan Tech Research Institute*

Room: Sampson, 1st Floor, Suite Tower

The Ells Are Still Relevant in Today's Digital World

Charles Olson, *Michigan Tech Research Institute*, United States

Towards Integration of Point Clouds with VHSR Imagery for Feature Extraction

Caixia Wang, *University of Alaska Anchorage*, United States

A Technique for Unsupervised Classification of Image Segments

Brian Kloer, *Intergraph Corp.*, United States

UltraCam and UltraMap - An Update

Alexander Wiechert, *Microsoft/Vexcel Imaging GmbH*, Austria

Tuesday, March 25th, 3:30 PM to 5:00 PM

Technical Program

23—Spatial Dynamics of Coastal Environments

Track 5—Application Areas

Moderator: Michael Starek, *Texas A&M University-Corpus Christi*
Room: Wilkinson, 1st Floor Suite Tower

Unmanned Aerial System for Coastal Reconnaissance of the Near-shore Zone

Michael Starek, *Harte Research Institute, Texas A&M University-Corpus Christi*, United States

David Bridges, James Gibeaut, and Philippe Tissot

Mapping Coastal Morphodynamics using Lidar and Multispectral Imagery

Patrick Collins, *Exelis Visual Information Solutions*, United States

Practical Applications of Remote Sensing Methodologies to Quantify Environmental Issues Facing Coastal Wetlands of Florida, and Provide Critical Inputs for Mitigation Efforts

Samuel Rajasekhar, *Environmental Data Resources Inc.*, United States
Joseph Burgess

How Does Using Atmospherically Corrected Landsat Imagery Affect Automated Change Detection?

Chad Lopez, *Photo Science, a Quantum Spatial Company, U.S.*
Andrew Brenner

24—NGA Academic Research Program (NARP)

Track 6—Invited Group - NGA UnClassified Sessions

Moderator: Dennis Walker, *NGA*
Room: Combs Chandler, 2nd Floor, Suite Tower

NARP Overview

Joan Vallancewhitacre, *NGA*

2014 NARP Broad Agency Announcement

Joan Vallancewhitacre, *NGA*
Dennis Walker

Visiting Scientist Program/ Open Discussion

Michael Janney, *ORAU/ NARP*

25—Land Use/Land Cover and Change Detection

Track 7—Lightning Talks

Moderator: Trina Merrick, *Vanderbilt University*
Room: Brown, 2nd Floor, Suite Tower

Fusion of RapidEye and Radarsat-2 Data for the Land Cover Mapping of a Small Mixed-use Watershed

Qiaofeng (Robin) Zhang, *Murray State University*, United States

A Decision Support System for Monitoring, Reporting and Forecasting Ecological Conditions of the Appalachian Trail

John Clark, *University of Rhode Island*, United States
Y.Q. Wang

Comparison of Multispectral and Hyperspectral Imaging and Classification to Map Sand Types on Perdido Key, Florida

Trina Merrick, *Vanderbilt University*, United States
Haluk Cetin and Ralf Bennartz

Fuzzy Cluster-based Selection of Signatures for Seasonal Multi-Temporal Burned Area Mapping

Lonesome Malambo, *Virginia Tech*, US
Conrad Heatwole

Using Remote Sensing and GIS to Study Residential Foreclosure in Miami, Florida

Adejoh Ogbe, United States
Bingqing Liang

Accuracy Assessment of the 2006 National Land Cover Database Percent Developed Imperviousness Dataset

Heidi Adams, *University of Arkansas at Monticello*, United States
Hal Liechty, Chris Stuhlinger, David Carr, and Heidi Adams

Estimating Baobab Tree Size and Fruit Product Rate from Formosat-2

Ming-Chih Hung, *Northwest Missouri State University*, United States
Yi-Hwa Wu and George Kegode

Urban Mapping in Fayetteville

Tisha Jahangir, *Fayetteville State University*, United States

The Redwood National and State Parks Vegetation/Land-cover Map Data Set - More than Just a Color-coded Type Map!

Ken Stumpf, *Geographic Resource Solutions*, United States

Agricultural Land Use Changes, 2001-2012, Southeastern Iowa, using Landsat 4 & 5 TM Imagery

Jie Ren, *Virginia Tech*, United States
James B. Campbell and Yang Shao

High-resolution Land Cover Classification Using Object-based Image Analysis Techniques

Bikash Basnet, *Rochester Institute of Technology*, United States
Anthony Vodacek

Urban Mapping and Social Class

Terra Wright, United States

Characterizing Disturbance in the Fernow Experimental Forest Following Superstorm Sandy

Lindsay Deel, *West Virginia University*, United States
Dara A. Erazo, Ty Z. Heimerl, Christopher A. Walter, Mary Beth Adams, and Brenden E. McNeil

MERGEOS: A Pilot Study for Collaborative Mapping and Dynamic GIS Web Application

Chau Kelp, *Getfused, Inc.*, United States
Ming-Chih Hung

Technical Program

Tuesday, March 25th, 3:30 PM to 7:00 PM

Spectral and Socioeconomic Assessment of Land Use/Land Cover Changes in the Chippewa Valley Metropolitan Area, WI

Drew Briski, *University of Wisconsin Eau Claire*, United States
Cyril Willson

26—Land Use and Land Cover Change in Africa and Asia

Track 5—Application Areas

Moderator: Douglas Stow, *San Diego State University*
Room: Segell, 3rd Floor, Suite Tower

The Urban Transition in Ghana and Its Relation to Land Cover and Land Use Change Through Analysis of Multi-scale and Multi-temporal Satellite Image Data

Douglas Stow, *San Diego State University*, United States
Lloyd Coulter, John Weeks, Sory Toure, Magdalena Benza-Fiocco, and Nicholas Ibanez

A Case Study Using Commercial Airborne Imagery to Perform Rapid IA & PA Damage Assessments in less than 24 Hours in a Cloud Computing Environment.

Scott Perkins, *Aero-Metric, Inc. a Quantum Spatial company*

Monitoring the Wetland Dynamics of the Dongting Lake, China

Minzi Wang, *ER&P and Geography Dept., SIUC*, United States
Guangxing Wang

Cellular Automata (CA) Markov Modeling of LULC Change and Sensitivity Analysis to Identify Sensitive Parameter(s)

Surabuddin Mondal, *Institute of Geography, Dept. of Cartography, GIS & Remote Sensing, Georg August University of Göttingen*, Germany

Martin Kappas, Nayan Sharma, and P.K. Garg

27—Special Session on Littoral Characterization for Safe and Free Maritime Navigation

Track 5—Application Areas

Moderator: Peter Doucette, *Integrity Applications Incorporated*
Room: Nunn, 2nd Floor, Suite Tower

Panelists:

Peter Doucette, *Integrity Applications Incorporated*, United States
John Lambert, *Unmanned Systems Research and Consulting, LLC*
Chris Parish, *Center for Coastal and Ocean Mapping, University of New Hampshire*

Exhibitors' Reception

5:30 PM to 7:00 PM, Room: Exhibit Hall, Grand Ballroom, 2nd Floor, Suite Tower

A highlight of the ASPRS Annual Conferences is this gathering of exhibitors the night the Show officially opens, as ASPRS says "Thank You" to its exhibitors for bringing all the innovative new products and creative displays that are the main attraction.



All the extraordinary displays of the latest innovations in imaging and geospatial technology remain the star attraction of the ASPRS Annual Conference Exhibit Hall year after year.

Join us for this fun way to say "Thank You" to all of our supporting exhibitors! The Exhibitor Reception is also a terrific way for exhibitors to connect with each other, "shop" the Show floor themselves and do business with other exhibitors, as many do.



Light hors d'oeuvres and one complimentary beverage per ticket holder. Admission to this event is included with most registrations. Each attendee will be given one complimentary drink ticket. A cash bar will be open all evening.

My Day-at-a-Glance

Wednesday, March 26 th			
Time	Event	Room	Attending
7:00 AM TO 5:00 PM	Registration Desk Open	2 nd Floor, Suite Tower	
7:00 AM to 8:00 AM	JACIE Workshop Breakfast— JACIE Workshop Registrants Only Included with Registration – Tickets Required	Coe, 3 rd Floor, Suite Tower	
8:00 AM to 5:00 PM	Presenter Prep Room Open	Bradley, 3 rd Floor, Suite Tower	
8:00 AM to 9:15 AM	JACIE/ASPRS Joint Plenary Session Presidential Address—“Gen X and Millennials: ASPRS is Sustainable!”	Archibald & Cochran Ballrooms, 3 rd Floor, Rivue Tower	
9:15 AM to 9:30 AM	All Conference Beverage Break	Exhibit Hall, Grand Ballroom, 2 nd Floor, Suite Tower	
9:30 AM to 10:45 AM	Track Sessions—28 to 36	Various, see description	
9:30 AM to 10:45 AM	JACIE/ASPRS Joint Session - #33 JACIE Sponsoring Agency Briefings	Segell, 3 rd Floor, Suite Tower	
11:00 AM to 11:30 AM	All Conference Beverage Break	Exhibit Hall, Grand Ballroom, 3 rd Floor	
11:00 AM to 12 NOON	JACIE Session #1b - Q&A Session for Keynotes & Agencies	Segell, 3 rd Floor, Suite Tower	
11:05 AM to 11:20 AM	Thought Leader Presentation— Managing a Geo-Enabled World - New Solutions Facilitating a Modern Field to Office Workflow— Trimble	Exhibit Hall, Grand Ballroom, 2 nd Floor, Suite Tower	
11:15 AM to 1:00 PM	User Group Meetings— Microsoft	Jones, 3 rd Floor, Suite Tower	
11:15 AM to 1:00 PM	User Group Meetings— Optech	Sampson, 1 st Floor, Suite Tower	
12 NOON to 1:30 PM	JACIE Workshop Lunch— JACIE Workshop Registrants Only Included with Registration – Tickets Required	Coe, 3 rd Floor, Suite Tower	
12 NOON to 1:30 PM	Memorial Address	Archibald & Cochran Ballrooms, 3 rd Floor, Rivue Tower	
1:30 PM to 3:00 PM	Track Sessions—37 to 45	Various, see description	
1:30 PM to 3:00 PM	JACIE Session #2	Segell, 3 rd Floor, Suite Tower	
3:00 PM to 3:30 PM	All Conference Beverage Break	Exhibit Hall, Grand Ballroom, 2 nd Floor, Suite Tower	
3:05 PM to 3:20 PM	Thought Leader Presentation— Not a Web-Developer? Not a Problem! Using Open, Free, Configurable GIS Web Web-Applications to Jumpstart Your GIS Application Development Project—Esri	Exhibit Hall, Grand Ballroom, 2 nd Floor, Suite Tower	
3:30 PM to 5:00 PM	Track Sessions— 46 to 54	Various, see description	
3:30 PM to 5:00 PM	JACIE Session #3	Segell, 3 rd Floor, Suite Tower	
5:00 PM to 6:00 PM	JACIE/ASPRS Poster Reception & LIVE Music	Exhibit Hall, Grand Ballroom, 2 nd Floor, Suite Tower	
6:30 PM to 8:30 PM	The YPC Social	TBD	

Technical Program

Wednesday, March 26th, 7:00 AM to 8:00 AM

Wednesday, March 27th

Registration Desk Open



7:00 AM to 5:00 PM, Location: 2nd Floor, Suite Tower

JACIE Workshop Breakfast

7:00 AM to 8:00 AM, Room: Coe, 3rd Floor, Suite Tower

JACIE Workshop Registrants Only Included with Registration – Tickets Required

Presenter Prep Room Open

8:00 AM to 5:00 PM, Room: Bradley, 3rd Floor, Suite Tower

ASPRS has arranged a room for presenters to practice their presentations. This room will be open daily and is available on a first come, first served basis. Please be respectful of fellow presenters when using the practice room. Just like a regular session room, a LCD projector and screen are provided for practice use.

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JACIE/ASPRS Joint Plenary Session

8:00 AM to 9:15 AM, Room: Archibald & Cochran Ballrooms, 3rd Floor, Rivue Tower



David Hodgson, CEO and Managing Director, *DMC International Imaging Limited (DMCii)*

DMCii manages the Disaster Monitoring Constellation (DMC) of satellites. Since 2002, DMCii has launched nine DMC satellites, continues to operate three in orbit, and will be launching more in 2014 and 2015. DMCii has

been a strong supporter of the International Charter for Space and Major Disasters.

Mr. Hodgson has been the Program Manager for the DMC and Division Head of Ground & Information System for Surrey Satellite Technology Ltd.. Hodgson also served on the International Charter for Space and Major Disasters, including twice leading the Executive Secretariat of that group, and is a past chairman of the British Association of Remote Sensing Companies (BARSC). Hodgson has over 20 years of satellite and service industry experience. He holds an MBA from Warwick Business School and a degree in computing from Surrey University.

Hodgson brings a unique perspective on the future direction and growth of the remote sensing industry, as well as the importance of calibration and validation of sensors for private, commercial, and governmental use.



Frank Kelly, Space Policy Advisor and Director, *USGS—EROS Data Center*

Dr. Frank Kelly will briefly review the Landsat legacy, the Landsat 8 improvements in imaging, the USGS commitment to continuing that legacy, and will discuss Landsat 8 and beyond ... existing situation, steps forward, and challenges ahead for the U.S.

Dr. Frank P. Kelly is the USGS Space Policy Advisor and Director of the USGS Earth Resources Observation and Science (EROS) Center, Sioux Falls, S.D. In late 2011 Kelly joined the USGS EROS Center from Anchorage, Alaska, where he served as the National Oceanic Atmospheric Administration National Weather Service (NWS) Regional Director. Prior to being stationed in Anchorage, Kelly served in several senior leadership positions at NWS Headquarters in Silver Spring, Maryland, including a key role in the implementation and activation of the national deployment of inter-agency capability to transmit time-sensitive information of all hazards, including weather, hydrologic, environmental and homeland security threats.

Presidential Address—“Gen X and Millennials: ASPRS is Sustainable!”

Stewart Walker, ASPRS Incoming President

ASPRS faces its greatest challenges this century; changing expectations on part of stakeholders and growing competition for their time and attention. Just as we were appointing Michael Hauck as the new Executive Director, we suffered the tragic loss of Kim Tilley.

The Society’s many strengths include a diverse membership of both individuals and supportive Sustaining Members, publications, certification, student affairs, advocacy and the work of the divisions. Combining this Conference with the 2014 JACIE Workshop is an exemplar of adventurous new approaches to partnerships that can bridge the range of generations, interests and geospatial technologies. It is salutary to wonder at the development of photogrammetry, including Lidar and other remarkable sensors, and the impact of GIS—even in our own lifetimes. Photogrammetry, remote sensing and GIS are pieces in a geomatics jigsaw that offers compelling technologies and exciting career prospects. As new leaders complement dynamic member volunteers to foster new ideas, we must proselytize our discipline and its applicability while we provide relevant services to our members, including professional development, mentoring and networking. We will prevail and prosper.

Award Presentations

ASPRS Fellows

Paul R. Wolf Memorial Scholarship

ASPRS Conference Management Award

ISPRS Remarks

“Why You Should Participate in the XXIII ISPRS Congress in Prague 2016?”

Lena Halounová, *ISPRS Congress Director*

Technical Program

Wednesday, March 26th, 9:00 AM to 10:45 AM

Exhibit Hall & Poster Area Open

9:00 AM to 5:00 PM

Location: Exhibit Hall, Grand Ballroom, 2nd Floor, Suite Tower

All Conference Beverage Break

9:15 AM to 9:30 AM, Location: Exhibit Hall, Grand Ballroom, 2nd Floor, Suite Tower

Take a break! Come to the Exhibit Hall for a beverage and visit with our great Exhibitors! All attendees are welcome, complimentary beverages provided. Beverage service will be provided inside the exhibit hall.

Track Sessions—9:30 AM to 10:45 AM

The Conference Planning Committee does its best to assure all speakers attend the conference; however, occasionally there are situations that arise where a listed speaker does not attend. Session Moderators should not skip ahead if a scheduled speaker is not present. Please use this open time for a question and answer period in your session.

28—Special Session: Geoleague Challenge

Sponsored by the Student Advisory Council

Track 1—Geospatial Power in Our Pockets

Moderator: Mingshu Wang, *University of Georgia*

Room: Jones, 3rd Floor, Suite Tower

Teams:

Coastal Hokies, *University of Virginia*

Gamecock Geographers, *University of South Carolina*

Murray State Racers, *Murray State University*

Northern Virginia Community College

29—Surface from Motion: 3D Reconstruction

Track 2—Emerging Technologies

Moderator: Clive Fraser, *CRC for Spatial Information*

Room: Sampson, 1st Floor, Suite Tower

Automated, Target-free Camera Self-calibration

Clive Fraser, *CRC for Spatial Information*, Australia

Christos Stamatopoulos

Euclidean Reconstruction of Natural Underwater Scenes

Han Hu, *Center for Coastal and Ocean Mapping, University of New Hampshire*, United States

Yuri Rzhanov and Thierry Boyer

Structure from Motion and Bearded Capuchin Monkey Stone Tool Use

Thomas Jordan, *University of Georgia*, United States

Allison Howard, Sergio Bernardes, Marguerite Madden, Natalie Schwob, and Dorothy Fragaszy

30—Funding and Risk Management Geospatial Production Programs

Track 3—Business & Management for the Geospatial Professional

Moderator: Jeff Lovin, *Woolpert, Inc.*

Room: Beckham, 3rd Floor, Suite Tower

Power In Our Pockets: Funding National Geospatial Production Programs

Alan M. Mikuni, *Towill, Inc.*, United States

Risk Management in Geospatial Projects

Robert Crawford, *Intermap Technologies*, United States

31—Special Session: Best Practices in Archiving and Preservation of Imagery and Geospatial Data

Track 4—Core Technologies

Moderator: John Faundeen, *U.S. Geological Survey*

Room: Wilkinson, 1st Floor, Suite Tower

International Perspective

Lluís Colomer, *Institute Cartografic de Catalunya*, Spain

Private Industry Perspective

Jeffrey Young, *LizardTech, a Celartem Company*, United States

Federal Perspective

John Faundeen, *U.S. Geological Survey*, United States

Legal Perspective

Bob Pope, *Waterstone Environmental, Inc.*, United States

Implementation of the Open Source Document Preservation System at the NASA GES-DISC

Mo G. Khayat, *NASA Goddard Space Flight Center*

James Edward Johnson, Irina V Gerasimov, Barbara DeShong, Ed Efsandiari, Steven J Kempler, and Michael R Berganski

32—Apps, Lidar, and Web Imagery for Disaster Response

Track 5—Application Areas

Moderator: Shunfu Hu, *Southern Illinois University*

Room: Nunn, 2nd Floor, Suite Tower

Change Detection Analysis for Landslide Monitoring from Airborne Lidar

Omar Mora, *The Ohio State University*, United States

Charles K. Toth, Dorota A. Grejner-Brzezinska, and M. Gabriela Lenzano

An Android-based Smartphone App for Fire First Responders: A Case Study

Shunfu Hu, *Southern Illinois University*, United States

Mukta Puri

Image Analysis for Flood Disaster Response

Patrick Collins, *Exelis Visual Information Solutions*, United States

Wednesday, March 26th, 9:30 AM to 10:45 AM

Technical Program

33—Special Session: JACIE Sponsoring Agency Briefings

Track 6—Invited Group - JACIE & ASPRS Combined Session

Moderator: Greg Stensaas and Kurt Thome, *U.S. Geological Survey*

Room: Segell, 3rd Floor, Suite Tower

Civil and Commercial Imagery viewpoints from JACIE Government Agencies and ASPRS/JACIE Keynote Speakers

Panelists:

Dr. Changyong Cao, *NOAA*

Glenn Bethel, *USDA*

Frank Kelly, Ph.D., *U.S. Geological Survey, EROS Data Center*

Dr. Stephen Volz, *NASA*

34—Advancements in Radar and Image Processing/ Time Series Analyses

Track 7—Lightning Talks

Moderator:

Room: Brown, 2nd Floor, Suite Tower

Object Based Change Detection in the Boreal Forest

Jeffrey Cragle, *Marshall University*, United States

DEIMOS-2: Cost-Effective, Very-High Resolution Multispectral Imagery

Julio Lopez, *Elecnor Deimos Imaging*, Spain

Enrique Gonzalez and Julio Lopez

Eigenvector Spatial Filtering Covariate Maps

Dr. Melissa Tolene Rura, *United Methodist Neighborhood Centers of Memphis*, United States

ESA ExoMars Rover PanCam: Pre-Launch Modeling and Accuracy Assessment

Steven Ostrowski, *The Ohio State University, Department of Civil and Environmental Engineering and Geodetic Science, Center for Mapping and GIS Laboratory*, United States

Rongxing Li, Gerhard Paar, Andrew Coates, Jan-Peter Muller, Andrew Griffiths, and Jargen Oberst

Effectiveness Analysis of the Uberlandia's Legal Environmental Park using Multi-temporal Remote Sensing Data and GIS Modeling

Rodrigo A. A. Nobrega, PhD, *Institute of Geosciences, Federal University of Minas Gerais*, Brazil

Jose Irley

Study of Urban Land Surface Temperature Inversion Based on Emissivity Mixture Analysis at Sub-pixel Scale

Tianyu Li, *Department of Geosciences*

Qingmin Meng

Multi-temporal Dynamics of Land Surface Temperature

Peng Fu, *Indiana State University*

Qihao Weng

The Long-term Hydrological Impacts of Land Use and Land Cover Changes Using L-THIA Model in the Qinhuai River Watershed of Jiangsu Province, China

Jinkang Du, *Nanjing University*, China

Caili Li and Shunfu Hu

Mapping Ephemeral Streams Using Very High Resolution Remote Sensing and a Knowledge-based Feature Extraction Algorithm

Yuki Hamada, *Argonne National Laboratory*

Ben O'Connor and Kelsey Wuthrich

Detection of Sand Boil Locations Along the Mississippi River in Fulton County Kentucky

Nolan Mark, *Murray State University*, United States of America

Automatic Matching of Large-scale Urban Aerial Images with Corner Features

Xiaodong Xiong, *School of Remote Sensing and Information Engineering, Wuhan University*, China

Yongjun Zhang, Shoupeng Qin, Xu Huang

Comparison of Maximum Likelihood (ML) to Artificial Neural Network (ANN) for Supervised Landcover Classification in Arid and Semiarid Area

Tarek Elawed, *Lecturer in Az Zawia University*, Libya

Time Series Analysis of Polarimetric ALOS-PALSAR Data in Tropical Plantation Forests in Indonesia

Shoko Kobayashi, *Ritsumeikan Asia Pacific University*, Japan

Omura Yoshiharu, Sanga-Ngoie Kazadi, Yoshio Yamaguchi, Ragil Widyorini, Bambang Supriadi, and Kawai Shuichi

An Efficient Brightness-preserving Approach For Contrast Enhancement

Shiqi Yang, *Chongqing Institute of Meteorological Sciences*, China

Shiqi Yang and Yanghua Gao

Modeling Protest in Lafayette Square: An agent-based modeling approach

Tom Booth, *LMI*

35—Geospatial Analysis for Wildlife and Conservation Track 8—Applications

Moderator: Marguerite Madden, *University of Georgia*

Room: Combs Chandler, 2nd Floor, Suite Tower

Collaborative Remote Sensing for Conservation: Identifying and Mapping Tropical Dry Forest Fire Damage in Kirindy Mitea National Park, Madagascar

Anne Axel, *Marshall University*, United States

Emma Arneson, Jeffrey Cragle, Robert Davis, Elise Edwards, Richard Fulcher, Lyndsay Rankin, Jerrod Stout, Thaddaeus Tuggle, Stephen Wick, Rebecca J. Lewis, Maximain Andriamampandrisoa, and Ralph Oberly

Technical Program

Wednesday, March 26th, 9:30 AM to 12 NOON

A Geospatial Framework For Supporting Spatial Analysis In Urban Ecology

Jorge L. C. Pinto, *Institute of Geosciences, Federal University of Minas Gerais, Brazil*

Rodrigo A. A. Nobrega, Camila P. Teixeira, and Robert Young

Geospatial Analysis of Animal Movement and Habitat Conservation for Wildlife

Marguerite Madden, *University of Georgia*

Andrea Presotto, Allison Howard, Thomas R Jordan, Sergio Bernardes, Ricardo Rodrigues dos Santos, and Karol Marques

36—Panel Discussion on Future Landsat Data Needs at the Local and State Levels

Track 9—Interactive & Varied - Roundtable

Moderator: Ramesh Sivanpillai, *University of Wyoming/Botany*

Room: French, 3rd Floor, Suite Tower

Panelists:

Ramesh Sivanpillai, *University of Wyoming/Botany, United States*

Russ Congalton, *University of New Hampshire*

All Conference Beverage Break

11:00 AM to 11:30 AM, Location: Exhibit Hall, Grand Ballroom, 3rd Floor

Take a break! Come to the Exhibit Hall for a beverage and visit with our great Exhibitors! All attendees are welcome, complimentary beverages provided. Beverage service will be provided inside the exhibit hall.

JACIE Sessions – 11:00 AM to 12 NOON

1b—Q&A Session for Keynotes & Agencies

Moderators: Kurt Thome and Greg Stensaas, U.S. Geological Survey

Room: Segell, 3rd Floor, Suite Tower

Question and answer session from conference keynote speakers, David Hodgson and Frank Kelly and agency representatives.

Thought Leader Presentation

11:05 AM to 11:20 AM, Location: Exhibit Hall, Grand Ballroom, 2nd Floor, Suite Tower

NEW for 2014! Thought Leader Presentations are 15 minute presentations from various exhibitors. The presentations will feature new products, interesting information and ways to better your business. These are sure to be a fantastic addition to the Exhibit Hall experience.

Managing a Geo-Enabled World - New Solutions Facilitating a Modern Field to Office Workflow

Presented By: Christian Hoffmann, *Trimble*

Trimble will present the latest technology achievements in the field of Remote Sensing and Photogrammetry by focusing on the cutting-edge airborne Lidar-data acquisition systems, the latest Inpho developments including the new module for UAS data processing and the industry leading eCognition software for automatic object-based information extraction.

Wednesday, March 26th, 11:15 AM to 1:30 PM

Technical Program

User Group Meetings

11:15 AM to 1:00 PM



NEW for 2014! User Group Meetings will now be held during the conference! Everything else stays the same, all the fantastic information, the personal time with company, and wonderful presentations on new products, software and innovations! The sessions are complimentary for all conference attendees.

Microsoft

Room: Jones, 3rd Floor, Suite Tower

Join the technical experts and business leaders from Microsoft's UltraCam product group in this 105 minute presentation for an opportunity to learn about the company's latest aerial mapping sensor and software product advancements: UltraCam Osprey, UltraCam Eagle, UltraCam Falcon, UltraCam Hawk and UltraMap v3. Prizes will be raffled and refreshments will be served.

Optech

Room: Sampson, 1st Floor, Suite Tower

This session will share best practices for processing and qualifying lidar data efficiently using the Optech LMS Lidar Mapping Suite, and explore new features in LMS 2.4.1 including accuracy and density quality control, a 3D Shapefile viewer, and control-point reporting. We will focus especially on efficiently and consistently achieving accurate outputs from airborne and mobile sensors using the same workflow.

JACIE Workshop Lunch

12 NOON to 1:30 PM, Room: Coe, 3rd Floor, Suite Tower

JACIE Workshop Registrants Only Included with Registration – Tickets Required



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- GPS
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Technical Program

Wednesday, March 26th, 12 NOON to 1:30 PM

Memorial Address

12 NOON to 1:30 PM, Room: Archibald & Cochran Ballrooms, 3rd Floor, Rivue Tower

A special presentation will be given by Ms. Lindi J. Quackenbush honoring Professor Paul F. Hopkins as the 2014 Memorial Addressee. Hopkins will be honored for his lifetime of accomplishments and service to the geospatial industry. Join us for this spectacular presentation followed by a luncheon.

Honoree



Paul Frederick Hopkins was born in Tarryville, CT, and died unexpectedly on July 29, 2003, at the age of 48. Paul was a devoted husband to Christine, father to Eric and Ryan, and friend to all but passionately engaged those who skied or had an interest in maps and imagery.

Paul graduated with a BS degree in Forestry with high distinction from the University of Maine at Orono in 1977. In 1979 he joined what is now the Department of Environmental Resources Engineering (ERE) at the State University of New York College of Environmental Science and Forestry (SUNY ESF) as an Assistant Professor. He received his MS degree in photogrammetry and remote sensing from SUNY ESF in 1980, and his Ph.D. degree in digital photogrammetry and remote sensing from the University of Wisconsin-Madison in 1993.

Paul skillfully balanced his teaching, research, and service duties at SUNY ESF. He taught classes in elementary surveying and map interpretation, remote sensing, and GIS at levels from undergraduate through advanced graduate. Paul made frequent presentations and encouraged his students to get involved at conferences, symposia, workshops, and meetings including those hosted by ASPRS at the national and region levels. During his time at SUNY ESF, Paul advised and mentored 124 undergraduate students, 42 master's students, and 10 doctoral students. Paul's research contributions were broad and supported through many sources including the US Forest Service, NSF, NOAA, NASA, and various state and county agencies. He was interested in the spatial and radiometric integrity of remotely sensed data, and made substantial contributions in the application of airborne and satellite imagery across a wide range of disciplines. Paul was recognized for his service to ASPRS and the profession by being posthumously honored as an ASPRS Fellow in 2004. At the National level, his ASPRS service included Chairmanship of the Strategic Planning and Membership Committees, and core and charter membership in the Electronic Communications Committee. He was the National Director for the Central New York (CNY) Region from 1987 to 1993, and served on the Executive Committee from 1989 to 1993. Paul was Vice-President of the CNY Region, twice President, and a long time member of the Region Council. He contributed original research and other articles to PE&RS and recruited many students and professionals to the Society, including those now serving in leadership roles at the region and national levels.

Paul derived great pleasure in talking spatially to anyone who would listen. However, his legacy was his ability to balance his family, work, and community time — Paul lived each aspect of his life to the fullest.

Presenter

Lindi J. Quackenbush is an Associate Professor in the Department of Environmental Resources Engineering at SUNY ESF. After earning baccalaureate degrees in science and surveying from The University of Melbourne in 1994, she earned her MS and Ph.D. degrees in Image Processing and Remote Sensing under Paul Hopkins' mentorship at SUNY ESF in 1998 and 2004, respectively. Lindi worked with Paul Hopkins at SUNY ESF as a teaching assistant (1995–1998) and Coordinator of Paul's NASA-funded Affiliated Research Center (1998–2000), before joining the ERE faculty in 2001. Lindi has followed her mentor's lead, and carefully balances teaching, research, and service responsibilities. She has taught classes in surveying, remote sensing, GIS, and engineering design from the freshman through graduate levels. Lindi has served as Major Professor advising 5 PhD students and 21 master's students, as well as serving on committees for more than 40 other graduate students. She encourages her advisees to engage in the society and the profession; she and her students present at regional and national conferences, and publish in a variety of journals. Lindi is a certified mapping scientist (GIS-LIS and Remote Sensing) through ASPRS. She has previously served the CNY Region of ASPRS as Vice President, President, and Secretary-Treasurer, and currently serves on the Region Council as the web page editor. Lindi also serves on several national committees including ASPRS's Certification Peer Review committee and Ta Liang Memorial Award committee.

Awards Presentations

Presidential Citations
Region of the Year Award
Region Newsletter Award
Region Website Award
GeoLeague Awards
Memorial to Kimberly Tilley, ASPRS Associate Executive Director and Director of Communications

Wednesday, March 26th, 1:30 PM to 3:00 PM

Technical Program

Track Sessions—1:30 PM to 3:00 PM

37—Lidar for Forest Assessment

Track 1—Application Areas

Moderator: Hua Sun, *Southern Illinois University*

Room: Wilkinson, 1st Floor, Suite Tower

Agent-based Region Growing for Individual Tree Crown

Delineation from Airborne Laser Scanning (ALS) data

Lindi Quackenbush, *Northeast Forestry University*, China

Zhen Zhen, Stephen V. Stehman, and Lianjun Zhang

Detecting and Mapping Sub-canopy Plant Invasions in Urbanizing Forest Landscapes using Lidar-derived Metrics

Kunwar Singh, *NC State University*, United States

Ross Meentemeyer

Retrieval and Accuracy Assessment Of Stand Parameters For Chinese Fir Plantations using Terrestrial Laser Scanning

Guangxing Wang, *Southern Illinois University at Carbondale*, United States

Hua Sun, Huaqing Zhang and Hongbo Ju

38—Object Based Classification

Track 2—Emerging Technologies

Moderator:

Room: Sampson, 1st Floor, Suite Tower

Stereo Based Very High-resolution Satellite Image Classification using RPCs

Shabnam Jabari, PhD Candidate, Canada

Yun Zhang

A Holistic Approach to Land Cover Mapping to Answer Multiple Management Questions

Lisa Erickson, *Photo Science*, United States

Andrew Brenner, Paul Jordan, Nancy Hayes, and Syed Ahmed

Object-based Classification of Unmanned Air System Imagery of Complex Wetland Region

Amr Abd-Elrahman, *University of Florida*, United States

Roshan Pande-chhetri, Jon Morton, and Franklin Percival

Object Based Classification at Different Spatial Scale: Analysis and Comparison

Sean Ahearn, *Hunter College-CUNY*, United States

Hyo Jin Ahn

39—Generating Leads, Marketing Support & Meeting Clients' Goals

Track 3—Business & Management for the Geospatial Professional

Moderator:

Room: Jones, 3rd Floor, Suite Tower

Don't Stop at Implementation: How to Meet Clients' Goals Through Marketing Support

Kim Hansen, *Woolpert, Inc.*, United States

Generating Leads For Geospatial Services

Joshua McNary, *Aerial Services, Inc. (ASI)*, United States

40—Unmanned and Autonomous Aerial Systems

Track 4—Core Technologies

Moderator: Mike Tully, *Aerial Services, Inc.*

Room: Combs Chandler, 2nd Floor, Suite Tower

Privacy & Remote-sensing: A Changing Landscape

Mike Tully, *Aerial Services, Inc. (ASI)*, United States

Using Airborne Photogrammetry from Small Unmanned Aircraft Systems to Enable Faster Incident Clearance

Ed Freeborn, *Unmanned Experts*

Photogrammetric Imaging Acquisition with Small Unmanned Aerial Systems

Levin Tellidis, *Michigan Technological University*, United States

Automatic Aerial Triangulation and Adjustment of Light Weight UAS Imagery

Riadh Munjy, *California State University, Fresno*, United States

41—Hydrology and Water Quality

Track 5—Application Areas

Moderator: Tammy Parece

Room: Beckham, 3rd Floor, Suite Tower

Using IfSAR Breaklines and GIS Processes to Automate Updates in the USGS Alaska National Hydrography Dataset

Kristina Yamamoto, *Furougehe*, United States

Automatic Generation of Hydro Break Line using Lidar Elevation and Intensity Data

George Toscano, *University of Texas at Arlington*, United States

Uday Kiran Gopalam and Venkat Devarajan

Introduction of Automated Calibration Approaches to the Surface Energy Balance-based Evapotranspiration Algorithms

Nishan Bhattarai, *SUNY College of Environmental Science and Forestry*, United States

Lindi J. Quackenbush, Stephen B. Shaw, Jungho Im,

Delineating Drainage Networks in Urban Areas

Tammy Parece, *Virginia Tech*, United States

James Campbell

Technical Program

Wednesday, March 26th, 1:30 PM to 3:00 PM

42—Lidar Technologies and Commercial Services

Track 7—Interactive & Varied - Commercial Sessions

Moderator:

Room: Nunn, 2nd Floor, Suite Tower

Lidar Processing and Terrain Analysis in Global Mapper

Cassandra Quintal, *Blue Marble Geographics*

The Introduction of a New Era for Airborne Lidar

Andres Vargas, *RIEGL United States*, United States

Mobile Lidar in Roadway Design and Construction

Ted Knaak, *Certainty 3D*, United States

Emerging Technologies In Lidar

Jamie Young, *AeroMetric, Inc*, United States

43—Special Session: Applications of NASA Earth Observations - the NASA DEVELOP Program

Track 6—Invited Groups

Moderator: Lauren Childs-Gleason, *NASA/NASA DEVELOP National Program*

Room: French, 3rd Floor, Suite Tower

Applications of NASA Earth Observations

Kenton Ross, *NASA/NASA DEVELOP National Program*, United States

Lauren Childs-Gleason and James Favors

Comparison of NASA OMI and MLS Ozone Products with US Forest Service Ground-based Ozone Monitoring Data for US Forest Service Air Quality/Forest Management Decision Support

Shelby Barrett, *William Carey University/NASA DEVELOP National Program*, United States

Aaron Brooks, Yaseen Moussa, Teneala Spencer, and Jamie Thompson

Using NASA Earth Observation Data to Understand Snow Melt and Respond to a Worsening Chilean Drought

Jeffrey Ely, *Old Dominion University/NASA DEVELOP National Program*, United States

Joshua Kelly, Ajoke Williams, Amberle Keith, and Bethany Burress

Utilizing NASA Earth Observations to Monitor Loss of Hemlock Forest Against the Invasive Hemlock Woolly Adelgid and Explore Ozone Impacts on the Defoliation

Jiaying He, *University of Georgia/NASA DEVELOP National Program*, United States

Xiyu Li, Austin Stanforth, Lauran Craft, and Pornampai Narenpitak

Infusing NASA Satellite Data to Model Air-Quality for Southeast United States: A Wildfire, Aerosol Transport, and Respiratory Health Case Study

Jennifer Bell, *University of Georgia/NASA DEVELOP National Program*, United States

Binita KC, Eric Dobbs, and Swatantra Kethireddy

Utilizing NASA Earth Observations and Remote Sensing Techniques to Monitor Possible Threats to Protected Areas for Decision Support in Chittagong Hill Tracts, Bangladesh

Kel Markert, *University of Alabama in Huntsville/NASA DEVELOP National Program*, United States

Nabin Paudel, Rimal Rukumani, Shishir Sarker, Labiba Farhana, and Pornampai Narenpitak

Utilizing NASA EOS to Evaluate Site-Specific Salt Marsh Phenology in Order to Improve Monitoring and Restoration Efforts by the Georgia Department of Natural Resources

Shuvankar Ghosh, *University of Georgia/NASA DEVELOP National Program*, United States

Steve Padgett-Vasquez, Joseph A. White, Jiaying He, Ning Chen, Pradeep Kumar, and Deepak Mishra

Utilizing NASA Earth Observations for Conservation Management of the Bearded Capuchin Monkey (*Sapajus libidinosus*) in Northeastern Brazil

Caren Remillard, *UGA*, United States

Andrea Presotto, Steve Padgett-Vasquez, Auryr Baruch, Thomas Jordan, Marguerite Madden

Great Plains Agriculture: Monitoring Rangelands for Enhanced Range Management in the Great Plains

Lance Watkins, *Mississippi State University/NASA DEVELOP National Program*, United States

Alexandra Perillo and Jerrod Lessel

Impacts of Snow Water Equivalent on Wildfire Events in the Sierra Nevada

Andrew Nguyen, *Indiana University-Purdue University of Indianapolis/NASA DEVELOP National Program*, United States

Chase Mueller, Roy Petrakis, Spencer Adkins, Olivia Kuss, Monica Kumaran, Marc Meyer, and Cindy Schmidt

Utilizing NASA Earth Observations to Characterize Drought Scenarios in Coahuila, Mexico for Management Decision Making Practices

Rhiannon Cates, *University of Virginia, Wise/NASA DEVELOP National Program*, United States

Pedro Rodriguez Rivera, Abednego Mayon, Giovanni Colberg, Carlos Cardenas, Laura Esqueda

Wednesday, March 26th, 1:30 PM to 3:30 PM

Technical Program

44—Feature Extraction for Infrastructure

Track 8—Applications

Moderator: Michael Loose, *Pennsylvania Department of Transportation*

Room: Brown, 2nd Floor, Suite Tower

Classification of low visibility railroad crossings using Lidar data

Sudhagar Nagarajan, *Florida Atlantic University*, United States

Site Selection for Base Stations: A New Method

Mert Marangoz and Musaoglu Nebiye

High Accuracy Pavement Elevation Comparison Between Low-level Mapping and Mobile Lidar Mapping for an interstate project for The Pennsylvania Department of Transportation (PennDOT).

Michael Loose, *Pennsylvania Dept. of Transportation*, United States
Chet Lukasiewicz

45—Special Session: Extreme Weather Monitoring with Remote Sensing

Sponsored by the RSAD Climate Change Subcommittee

Track 8—Applications

Moderator:

Room: McCreary, 3rd Floor, Suite Tower

Downscaling Geostationary Land Surface Temperature Imagery for Heat Wave Hazard Risk Assessment

Yitong Jiang, *Indiana State University*, United States
Qihao Weng

Monitoring Drought Intensity in Illinois with a Combined Index

Guanling Feng, *Department of Geography, Southern Illinois University*, United States
Guangxing Wang and Justin Schoof

Nationwide Flood Inundation Mapping In Bangladesh By Using Modified Land Surface Water Index

Kwak youngjoo, *International Centre for Water Hazard and Risk Management (ICHARM-UNESCO)*, Japan
Yoichi Iwami

Spatiotemporal Analysis of Primary Productivity Fluctuations Under Increased Hydroclimatic Variability

Sergio Bernardes, *Center for Geospatial Research, UGA*, United States
Marguerite Madden

JACIE Session

JACIE—JACIE Session #2

Moderator: Jon Christopherson, *U.S. Geological Survey*
Room: Segell, 3rd Floor, Suite Tower

Validation of the WorldView - 2 Absolute Radiometric Calibration

Michele Kuester

A Look at Data From Astrium's New Satellites: SPOT-6 and Pleides 1A & 1B

Ajit Sampath

COSI-Corr Processing: A Solution for 3D Change Detection Using Optical Remote Sensing

Sebastien LePrince

Combining Relative and Absolute Calibration Methods to Achieve Radiometric Calibration of the RapidEye Constellation

Andreas Brunn

All Conference Beverage Break

3:00 PM to 3:30 PM, Location: Exhibit Hall, Grand Ballroom, 2nd Floor, Suite Tower

Take a break! Come to the Exhibit Hall for a beverage and visit with our great Exhibitors! All attendees are welcome, complimentary beverages provided. Beverage service will be provided inside the exhibit hall.

Thought Leader Presentation

3:05 PM to 3:20 PM, Location: Exhibit Hall, Grand Ballroom, 2nd Floor, Suite Tower

NEW for 2014! Thought Leader Presentations are 15 minute presentations from various exhibitors. The presentations will feature new products, interesting information and ways to better your business. These are sure to be a fantastic addition to the Exhibit Hall experience.

Not a Web-Developer? Not a Problem! Using Open, Free, Configurable GIS Web Web-Applications to Jumpstart Your GIS Application Development Project

Presented By: Greg Brunner, *Esri*

Using web-application templates from Esri, analysts can easily configure, redesign, and customize web-applications to visualize, process, and analyze their vector and raster data. In this talk I'll discuss how utilizing web-application templates and existing code allow non-developers to become developers and significantly reduce the time it takes to create a web-application

Technical Program

Wednesday, March 26th, 3:30 PM to 5:00 PM

Track Sessions—3:30 PM to 5:00 PM

46—Fire Impact Assessment

Track 5—Application Areas

Moderator: Mary Henry, *Miami University*

Room: Sampson, 1st Floor, Suite Tower

Characterizing Vegetation Structure in Recently Burned Forests of the Great Smoky Mountains National Park

Alexa McKerrrow, *U. S. Geological Survey Core Science Analytics and Synthesis*, United States

John Kosovich, Alexa McKerrrow, Theodore Simons, and Eli Rose

Assessing the Impact of Forest Disease on Burn Severity: Integrating MASTER Airborne Simulator and Landsat TM Data

Gang Chen, *University of North Carolina at Charlotte*, United States

Margaret Metz, David Rizzo, and Ross Meentemeyer

Analyzing 40 Years of Change in Lynx Habitat Using Three Landsat Sensors and Historical Disturbance Data

Shannon Savage, *Montana State University*, United States

Rick Lawrence and John Squires

Burn Scar Mapping on Mount Kenya, Central Kenya using Landsat Data

Mary Henry, *Miami University*, United States

John K. Maingi, Meghan Sheehan, and Jessica L. McCarty

47—Pattern Recognition in Remote Sensing

Track 2—Emerging Technologies

Moderator:

Room: Wilkinson, 1st Floor, Suite Tower

Preparing For ICESat II Vegetation Studies: An Automated Method of Filtering and Classifying Photon Counting Lidar Data

Ryan Sheridan, *Texas A&M University*, United States

Sorin Popescu, Amy Neuenschwander, and Dylan Pederson

Clustering Based on Eigenspace Transformation: A Framework for Fast Clustering

Yanlei Chen, *University of California, Berkeley*

Peng Gong

Estimating Rainfall for Index-based Agricultural Insurance

Arif Albayrak, *NASA GES DISC (ADNET Systems, Inc.)*, United States

William Teng

What Can We Do With A Single Thermal Infrared Band from Landsat?

Qihao Weng, *Indiana State University*, United States

48—Value of PMP Certification for the Geospatial Professional

Track 3—Business & Management for the Geospatial Professional

Room: Beckham, 3rd Floor, Suite Tower

Value of the Project Management Professional (PMP) Certification for the Geospatial Professional

Deb Norris, *Sinclair Community College*, United States

Andrew Shepherd

49—Broad Scale Mapping Projects

Track 4—Core Technologies

Moderator: Tom Heinrichs, *University of Alaska Fairbanks - GINA*

Room: Combs Chandler, 2nd Floor, Suite Tower

Image Analysis at your Fingertips: Kentucky's Image Services

Demetrio Zourarakis, *Kentucky Division of Geographic Information*, United States

AmericaView Classification Methods Accuracy Comparison Project

Rick Lawrence, *Montana State University*, United States

Assessing the Impacts of Land Use/Land Cover on Surface Water Quality in Middle Cedar Watershed, Iowa

Bingqing Liang, *University of Northern Iowa*, United States

John DeGroote and Maureen Clayton

Mapping Alaska: University-Commercial Partnerships, Joint Projects, and Lessons Learned

Tom Heinrichs, *University of Alaska Fairbanks - GINA*

Dayne Broderson

50—Soil Surface and Subsurface Applications in Remote Sensing

Track 5—Application Areas

Moderator: Offer Rozenstein, *Ben-Gurion University of the Negev*

Room: Nunn, 2nd Floor, Suite Tower

Exploring the Utility of Terrestrial Surface Geospatial Information for Subsurface Ecosystem Research: What Can Plants Tell Us about Soil Microbial Communities Biogeography?

Yuki Hamada, *Argonne National Laboratory*

Jack Gilbertm and Peter Larsen

Quantifying Native Grassy Vegetation Over Iron Ore Reserves in Minas Gerais: An Exploratory Method Using GeOBIA and Worldview-II Data

Rodrigo Nobrega, *Institute of Geosciences, Federal University of Minas Gerais*, Brazil

Diogo F. Saraiva

Wednesday, March 26th, 3:30 PM to 5:00 PM

Technical Program

Estimating Typical Four-Season Thermal Distribution and Self-Adaptive Gradient Based Thresholding Parameters Over Coal Fire Areas In China Using ASTER TIR

Xiaomin Du, *College of Geosciences and Survey Engineering, China University of Mining and Technology, China*

Daiyong Cao, Sergio Bernardes, Guang Yang, Zhipeng Li

Thermal Remote Sensing of Desert Environment at a High Spectral Resolution

Offer Rozenstein, *Ben-Gurion University of the Negev, Israel*

Karnieli Arnon

51—Special Session: The Geospatial Community and Open Source Software

Track 8—Applications

Moderator: Michael Finn, *U.S. Geological Survey*

Room: French, 3rd Floor, Suite Tower

Performance Evaluation of Pan-sharpening techniques on HR Satellite imagery

Rakesh Kumar Mishra, *Department of Geodesy and Geomatics Engineering, University of New Brunswick, Canada*

Yun Zhang

A Cloud Sourced Geospatial Solution for Environmental Stewardship

Dharmendra Saraswat, *University of Arkansas Cooperative Extension Service, United States*

Bob Scott

Coordinate Systems: PROJ.4, EPSG and OGC WKT

Frank Warmerdam, *Planet Labs*

52a—Attracting Returning Military to the Geospatial Workforce

Track 9—Hot Topics

Moderator: Bobbi Lenczowski

Room: Laffoon, 1st Floor, Suite Tower

Hot Topic #1: Attracting Returning Military to the Geospatial Workforce

52b—Procurement Guidelines

Track 9—Hot Topics

Moderator: Becky Morton, *Towill*

Room: Clemets, 2nd Floor, Suite Tower

Hot Topic #2: The New Guidelines for Procurement of Geospatial Mapping Products and Services

53—Modeling Forest and Shrubland Conditions

Track 7—Commercial Sessions

Moderator: TBD

Room: McCreary, 3rd Floor, Suite Tower

Predicting Macronutrient Concentrations from Leaf Reflectance in Loblolly Pine Across Multiple Spatial Scales

Beth Stein, *Virginia Tech, United States*

Valerie Thomas, Laura Lorentz, and Brian Stram

Defining Forest Condition in Grazed Tropical Dry Forests

Lyndsay Rankin, *Marshall University*

Anne Axel

Tracking Changes in Species Composition and Biomass in Southern California Chaparral

Kellie Uyeda, *San Diego State University, United States*

54—Geospatial Analysis, Monitoring, and Modeling

Track 7—Lightning Talks

Moderator: John Clark, *University of Rhode Island*

Room: Clemets, 2nd Floor, Suite Tower

Assessing Current and Projected Suitable Habitats for the Invasive Species Tree-of-Heaven Along the Appalachian Trail

John Clark, *University of Rhode Island, United States*

Yeqiao Wang

Modeling Urban Storm Water Runoff in the Dry Run Creek Watershed, Iowa using Lidar, GIS, and the WinSLAMM Model

Rebecca Gronewold, *University of Northern Iowa, United States*

Daniel Murphy, Bernard Conrad, Ramanathan Sugumaran,

Jonathan Voss, and John Degroote

Assessing Solar Potential of Commercial and Residential Building in Indianapolis using Lidar and GIS Modeling

Yuanfan Zheng, *Department of Earth and Environmental Systems, Indiana State University, United States*

Qihao Weng

Developing Image Derived Indices for quantifying Land Condition Recovery in a Military Disturbed Land - Fort Riley Installation, Kansas

Guangxing Wang, *Department of Geography and Environmental Resources, United States*

Santosh Rijal

Modeling the Effects of Surface Mining on Geomorphology and the Transport of Metals Throughout the Pigeon Creek Watershed, West Virginia

Amy Parsons-White, *Marshall University, United States*

Anne Axel

Technical Program

Wednesday, March 26th, 3:30 PM to 5:00 PM

SLC Radiative Transfer Model for Estimating LAI in Wetland Ecosystems

Cameron Proctor, *University of Toronto, Canada*
Yuhong He

Role of Elevation and Relative Sea Level History in Determining Carbon Distribution in Spartina Alterniflora Dominated Salt Marshes

Ranjani Kulawardhana, *Texas A & M, United States*
Rusty A. Feagin and Sorin C. Popescu

Stable Nitrogen Isotope Mapping at the Canopy Level in a Southern Piedmont Forest

Katherine Correll, *Virginia Tech, United States*
Valerie Thomas and Brian Strahm

Examining the Effects of Terrestrial Liming on Vegetation Health

Elise Edwards, *Marshall University, United States*
Anne Axel

Law Enforcement and Geographic Information Systems

Terra Wright, Student ASPRS Member, United States

Open Source Low Cost Remote Sensing For Small Shareholder Site Selection and Plant Health Monitoring

Robert Davis, Student, *Marshall University, United States*

Classifying the Sunda Banda Seascape with Self-organizing Map

Mingshu Wang, *Conservation Science Program, World Wildlife Fund-United States; University of Georgia, United States*
Charles Huang, Gabby Ahmadi, Iliana Chollett, Helen Fox, Anton Wijonarno, and Novi Christian

Towards Sea Ice Classification using Simulated RADARSAT Constellation Mission Compact Polarimetric SAR Imagery

Mohammed Dabboor, *Science and Technology Branch, Environment Canada, Canada*
Torsten Geldsetzer

Development of Spectral Indices to Estimate Epicuticular Wax Content on Wheat Canopy

Fatima Camarillo, *Texas A&M University, United States*
Maria Tattaris, Matthew Reynolds, and Dirk Hays

Image-based Urban Change Detection and Prediction using Dense Landsat Time Series Stacks

Zewei Xu, *SUNY-ESF, United States*

JACIE Sessions—3:30 PM to 5:00 PM

JACIE Session #3—Spotlight Session

Moderator: Kurt Thome, *U.S. Geological Survey*
Room: Segell, 3rd Floor, Suite Tower

Airbus Defense and Space's Complete Optical Constellation

Brian Cutler

Airborne Imaging Sensor from Hexagon Geosystems

Klaus Neumann

UltraCam Osprey - Calibration, Aerial Operation and Data Processing

Michael Gruber

An Update on the Constant MTF Interpolator: An Image Resampler with Minimal MTF Losses and Geometric Error

Ellis Freedman

Geolocation Accuracy Performance of the Digitalglobe Constellation During 2013

David Mulawa

Wednesday, March 26th, 5:00 PM to 6:00 PM

Technical Program



JACIE/ASPRS Poster Reception & LIVE Music

5:00 PM to 6:00 PM, Location: Exhibit Hall, Grand Ballroom, 2nd Floor, Suite Tower

Stop by the Poster area within the Exhibit Hall, for a Poster Reception. JACIE and ASPRS posters will be displayed and Presenters will be available to discuss their research.

Before you head out for your evening dinner plans, enjoy some live Bluegrass music, played by ASPRS Members, light appetizers and drinks. Get your evening started right with some great music and networking!

Exhibit Hall Passport Contest

in Great Prizes at the ASPRS 2014 Annual Conference!

Play the Exhibit Hall Passport Contest YOU could win one of many great prizes, including the Grand Prize an iPad Mini, just for talking with exhibitors!

All registered attendees will receive a game card with your registration packet. Each game card lists the participating booths with company logos and booth numbers. All you need to do is visit each booth listed on the game card, answer a fun trivia question and receive their specific stamp! Fill your entire game card and enter for a chance to WIN!

It's Easy and Fun!

This is a great opportunity to speak with exhibitors, learn about some of their great new products, technology and services, while participating in a fun and interactive game!

Play today for a chance to win some great prizes! Prize drawing will take place on Thursday, March 27th at 8:30 a.m. in the Exhibit Hall. *Must be present to win. Only one entry per registered attendee will be accepted. Entry must be complete. Full entry rules on each game card.*

**PASSPORT
CONTEST**

EXHIBIT HALL PASSPORT CONTEST PRIZES

Blue Marble Geographics—Booth 514
GM Lidar Module SU License

Cannon IV Inc.—Booth 313
HP Photosmart Plus Printer

Cardinal Systems, LLC—Booth 307
Fitbit Flex

Dynamic Aviation—Booth 201
Noise Cancelling Headset

Elecnor Deimos Imaging—Booth 611
X-Rite ColorMunki Smile Monitor Calibration Tool

Exelis—Booth 200
Attendance to an Exelis VIS public training class

GeoCue Corporation—Booth 412
Android Tablet PC

Microsoft/Vexcel Imaging GmbH—Booth 509
UltraCam FlipCam

NovAtel Inc.—Booth 414
Fitbit

Trimble Applanix—Booth 413
iPad Mini

Visual Intelligence—Booth 501
iPod Touch

My Day-at-a-Glance

Thursday, March 27 th			
Time	Event	Room	Attending
7:00 AM to 3:00 PM	Registration Desk Open	Registration Desk, 2 nd Floor, Suite Tower	
8:00 AM to 11:00 AM	Exhibit Hall & Posters Open	Grand Ballroom, 2 nd Floor, Suite Tower	
8:00 AM to 8:45 AM	Breakfast with Exhibitors & Prize Drawing	Exhibit Hall, Grand Ballroom, 2 nd Floor, Suite Tower	
8:00 AM TO 5:00 PM	Presenter Prep Room Open	Bradley, 3rd Floor, Suite Tower	
8:00 AM to 5:00 PM	ASPRS Board of Directors	Sampson, 1 st Floor, Suite Tower	
9:00 AM to 10:30 AM	Student & Young Professionals Events—Student & Employer “Meet and Greet”		
9:00 AM to 10:30 AM	Track Sessions—55 to 63	Various, see descriptions	
9:00 AM to 10:30 AM	JACIE Session #4	Segell, 3 rd Floor, Suite Tower	
10:30 AM to 11:00 AM	All Conference Beverage Break	Exhibit Hall, Grand Ballroom, 2 nd Floor, Suite Tower	
10:40 AM to 10:55 AM	Thought Leader Presentation— Marketing Opportunities at the XXIII ISPRS Congress in Prague in 2016—ISPRS	Exhibit Hall, Grand Ballroom, 2 nd Floor, Suite Tower	
11:00 AM to 12:30 PM	Track Sessions—64 to 72	Various, see descriptions	
11:00 AM to 12:30 PM	JACIE/ASPRS Joint Session #69 - Landsat 8 Data Quality: One Year On-Orbit	Segell, 3 rd Floor, Suite Tower	
12:30 PM to 1:30 PM	JACIE Workshop Lunch— JACIE Workshop Registrants Only Included with Registration – Tickets Required	Coe, 3 rd Floor, Suite Tower	
1:30 PM to 3:00 PM	JACIE Session #6	Segell, 3 rd Floor, Suite Tower	
3:00 PM to 3:30 PM	Beverage Break		
3:30 PM to 5:00 PM	JACIE Session #7	Segell, 3 rd Floor, Suite Tower	

Technical Program

Thursday, March 27th, 7:00 AM to 10:30 AM

Admission to this event is open to all registrants; drink tickets are included with JACIE registrations only.

Band Featuring Our Very Own  Chris McGlone, Tommy Jordan and Jesse Winch!

Thursday, March 27th



Registration Desk Open

7:00 AM to 3:00 PM

Location: Registration Desk, 2nd Floor, Suite Tower

Exhibit Hall & Posters Open

8:00 AM to 11:00 AM, Location: Grand Ballroom, 2nd Floor, Suite Tower

Please Note: All posters must be removed by 3:00 pm on Friday, March 28th.

Breakfast with Exhibitors & Prize Drawing

8:00 AM to 8:45 AM

Location: Exhibit Hall, Grand Ballroom, 2nd Floor, Suite Tower

A lite continental breakfast will be held in the Exhibit Hall before the Track Sessions begin on Thursday, March 28th. Take some time to leisurely view the exhibit hall and continue discussions with the exhibitors.

Also taking place in the Exhibit Hall during the breakfast is the **Prize Drawing** for the winners of the **Exhibit Hall Passport Contest!** Don't miss this opportunity to win some great prizes. *Winners must have completed the Exhibit Hall Passport Contest game card and be present to win. Admission to these events is included with most registrations.*

Presenter Prep Room Open

8:00 AM to 5:00 PM, Room: Bradley, 3rd Floor, Suite Tower

ASPRS has arranged a room for presenters to practice their presentations. This room will be open daily and is available on a first come, first served basis. Please be respectful of fellow presenters when using the practice room. Just like a regular session room, a LCD projector and screen are provided for practice use.

ASPRS Committee Meetings

ASPRS Board of Directors

8:00 AM to 5:00 PM, Room: Sampson, 1st Floor, Suite Tower



Student & Young Professionals Events—Student & Employer “Meet and Greet”

9:00 AM to 10:30 AM

A great event designed to connect students applying for jobs in the digital mapping industry and employers looking to hire! Bring your resume, a business card, or just a smile and a handshake, and expand your job network at the conference. It's also an opportunity to meet other students and young professionals from all over the world who are attending the conference. Don't miss out on this great event!

Track Sessions—9:00 AM to 10:30 AM

JACIE Session

JACIE Workshop—JACIE Session #4

Moderator: Jon Christopherson, *U.S. Geological Survey*
Room: Segell, 3rd Floor, Suite Tower

Calibration and Validation for KOMPSAT-3

DongHan Lee

Definition of KOMPSAT-3 Product Quality

DongHan Lee

Overview of KOMPSAT-3 Geometric Calibration and Accuracy

DooChun Sao

A New Axis of Data: Rapid Cadence, Broad Coverage Satellite Imagery

Beau Jarvis

55—Disaster Monitoring

Track 5—Application Areas

Moderator: Zachary Bortolot, *James Madison University*
Room: Nunn, 2nd Floor, Suite Tower

Using Remote Sensing to Assess the Damage of Cyclone Aila, 2009 in the Coastal Region of Bangladesh

Md Niaz Morshed, *Murray State University*, United States
Dr. Robin Qiaofeng Zhang

Using High Spatial Resolution Satellite Imagery to Quantify Forced Evictions in Phnom Penh, Cambodia

Thursday, March 27th, 9:00 AM to 10:30 AM

Technical Program

Zachary Bortolot, *James Madison University*, United States
Nora Lindstrom and Kathryn Striffolino

Applications of the DMC Satellite Constellation in Agriculture, Land Cover, Forest and Disaster Monitoring

Gary Holmes, *DMC International Imaging Ltd*, United Kingdom
Stephens Paul

56—Close Range Photogrammetry

Track 2—Core Technologies (Emerging Technologies)

Moderator: Ruijin Ma, *University of Redlands*
Room: Beckham, 3rd Floor, Suite Tower

Transportation Infrastructure Assessment with High-Resolution Remote Sensing

David Dean, *Michigan Tech Research Institute*, United States
Colin Brooks, Chris Roussi, Tim Colling, Thomas Oomman, Timothy Havens, Theresa Ahlborn, Richard Dobson, and Melanie Kueber

Localization of Cracks in Image Space

Ivan Detchev, *University of Calgary*, Canada
Ayman Habib and Mamdouh El-Badry

Tunnel Deformation Monitoring Using Non-metric Cameras

Ruijin Ma, *University of Redlands*, United States

57—CEO Panel Discussion

Track 3—Business & Management for the Geospatial Professional

Moderator: Jeff Lovin, *Woolpert, Inc.*
Room: McCreary, 3rd Floor, Suite Tower

Invited Panelists:

Lewis Graham, *GeoCue Corporation*
Jeff Lovin, *Woolpert, Inc.*
Mike Ritchie, *Quantum Spatial, Inc.*

58—Surface Modeling

Track 4—Core Technologies

Moderator: Charles Toth, *The Ohio State University*
Room: Combs Chandler, 3rd Floor, Suite Tower

Research for the 3D Elevation Program (3DEP)

E. Lynn Usery, *U.S. Geological Survey*, United States

Spatial Spectrum Characteristics of Various Digital Elevation Models

Charles Toth, *The Ohio State University*, United States
Zoltan Koppanyi and Dorota Grejner-Brzezinska

Integrating Multi-resolution Lidar-derived DEMs into the National Elevation Dataset

Lori Phillips, *U.S. Geological Survey*, United States
Samantha Arundel and Karen Adkins

59—Urban Night Light and Gas Flare Mapping

Track 5—Application Areas

Moderator: Yuyu Zhou, *Pacific Northwest National Laboratory*
Room: Jones, 3rd Floor, Suite Tower

Mapping Urban Areas by Using NPP/VIIRS Imagery

Yanhua Xie, *Earth and Environmental Systems, Indiana State University*, United States
Weng Qihao

Precise Mapping of Gas Flares and Estimation of Gas Flaring Volumes in the Niger Delta with Infrared Remote Sensing

Obinna Anejionu, *Lancaster University*, United Kingdom
Alan Blackburn Duncan Whyatt

Mapping Global Urban Area from DMSP/OLS Nightlights Using a Cluster-based Method

Yuyu Zhou, *Pacific Northwest National Laboratory*

60—Canopy Structure

Track 7—Interactive & Varied - Commercial Session

Moderator:
Room: Stopher, 3rd Floor, Suite Tower

Airborne Lidar for Evaluating the Impacts of Urbanization on Forest Carbon Dynamics: A Case Study in the City of Charlotte
Christopher Godwin, *University of North Carolina at Charlotte*, United States

Gang Chen and Kunwar

Improving Techniques for Historic Urban Tree Cover Mapping with Archival Moderate Resolution Remote Sensing Data

Andrew Johnston, *Smithsonian Institution*, United States

Downscaling On Demand: Using Web Services to Simulate High-Resolution Canopy Structure

Gordon Green, *City University of New York*, United States
Sean C. Ahearn and Wenge Ni-Meister

61—Multi-Sensor Data Integration and High Resolution Satellite Imagery

Track 7—Interactive & Varied - Lightning Talks

Moderator:
Room: Brown, 2nd Floor, Suite Tower

Comparative Analysis using Multi Sensor Data Integration for

Technical Program

Thursday, March 27th, 9:00 AM to 10:30 AM

Extracting Geotechnical Parameters

Abdulla Al-Rawabdeh, *University Of Calgary, Department of Geomatics Engineering, Canada*

Habib Ayman and He Fangning

Development of a Remote-sensing Based Methodology for the Identification and Classification of Kentucky Wetlands

Kelly Watson, *Eastern Kentucky University, United States*

Daniel Mullins and Nicholas Middleton

Monitoring and Predicting Land Use and Land Cover Change on Cedar River Watershed of Iowa for the Next 30 Years

Xin Hong, *University of Northern Iowa, United States*

Bingqing Liang

Suitability of Remote Sensing Data for African Dust Mapping in the Florida Keys, U.S.A.

Bandana Kar, *University of Southern Mississippi, United States*

Grant L. Harley

Land Cover Classification and Analysis using Radar and Landsat Data in North Central Ethiopia

Haile Tadesse, *George Mason University, United States*

Geo-Spatial Technologies for Nigerian Urban Security and Crime Management - A Study of Abuja Crime Hotspot Mapping and Analysis

Dr. Matthiew Adepoju, *National Space Research and Development Agency, Nigeria*

Seidu Mohammed, Halilu Shaba, Mohammed Ozigis, Idris Ibrahim, Blessing Alau, and Seun Adeluyi

Analysis of Epipolar Geometry Mapping Relation for Digital Frame Camera Images

Zexun GENG, *Zhengzhou Insitute of Surveying and Mapping, China*

Xu Qing, Zhang Baoming, Gong Zhihui, and Fan Dazhao

Use of DubaiSat-1 Imagery and In-Situ Observations for Nutrient Monitoring in a Dubai Coastal Area

Tarig Ali, *American University of Sharjah, United Arab Emirates (UAE)*

Maruf Mortula and Serter Atabay

Advanced Image Processing Using Image I/O-Ext and Java Advanced Imaging(JAI)

Rakesh Kumar Mishra, *Department of Geodesy and Geomatics Engineering, University of New Brunswick, Canada*

Yun Zhang

A Hierarchical Outlier Detection Method for Point Cloud Data from Laser Scanning and Image Matching

Junfeng Zhu, *Wuhan University, China*

Zhang Zuxun

ZY-3 Satellite DEM Verification and Refinement with SRTM

Bo Wang, *Wuhan University, China*

Yongjun Zhang, Yansong Duan, and Qi Chen

Land Cover Mapping at Level 2 or Higher for Multi-county Regional Areas: Comparison of SPOT 5, SPOT 6, and PLEIADES imagery

Hyo Jin Ahn, *Hunter College-CUNY, United States*

Sean Ahearn

62—Special Session: Geospatial Education and Outreach

Sponsored by the Student Advisory Council

Track 8—Applications

Moderator: Raechel Bianchetti, *Pennsylvania State University*
Room: French, 3rd Floor, Suite Tower

Panelists:

J.B. Sharma, *University of North Georgia*

Gustavo Zastrow, *Northern Virginia Community College*

Raechel Bianchetti, *Pennsylvania State University*

63—Panel Discussion: Operational Space Imaging Systems, Advances, Calibration, and Standards

Track 9—Interactive & Varied - Panel Discussion

Moderator: Raad Saleh, *Astrogeology Science Center, U.S. Geological Survey*

Room: Wilkinson, 1st Floor, Suite Tower

Operational Space Imaging Systems, Advances, Calibration, and Standards

Raad Saleh, *Astrogeology Science Center, U.S. Geological Survey, United States*

Gregory Stensaas

Overview of the effects of Inappropriate Calibration

Greg Stensaas, *EROS Data Center, U.S. Geological Survey*

Interoperability Through the Community Sensor Model

Henry J. Theiss, *NGA-IBP United States CTR*

Use of Calibration and Sensor Modeling

Milan Karspeck, *Digital Globe*

Understanding Sensors from a Calibration/Characterization and Modeling Perspective

Mary Pagnutti, *I2R, CORP.*

Understanding Calibration and Modeling Effects on Government

Thursday, March 27th, 10:30 AM to 12:30 PM

Technical Program

Sensors

Kurt Thome, *NASA*



The Importance of Camera Calibration in the GIS Data Production Environment

Qassim Abdullah, *Woolpert, Inc.*

Integration and use of Small Satellite Datasets

Darrel Williams, *Global Science & Technology, Inc.*

All Conference Beverage Break

10:30 AM to 11:00 AM, Location: Exhibit Hall, Grand Ballroom, 2nd Floor, Suite Tower

Take a break and wrap-up your conversations with exhibitors. All attendees are welcome, complimentary beverages provided. Please see the exhibit hall map for location of beverage service.

Thought Leader Presentation

10:40 AM to 10:55 AM, Location: Exhibit Hall, Grand Ballroom, 2nd Floor, Suite Tower

NEW for 2014! Thought Leader Presentations are 15 minute presentations from various exhibitors. The presentations will feature new products, interesting information and ways to better your business. These are sure to be a fantastic addition to the Exhibit Hall experience.

Marketing Opportunities at the XXIII ISPRS Congress in Prague in 2016

Presented By: Dr. Lena Halounova, *ISPRS Congress Director*

Track Sessions—11:00 AM to 12:30 PM

64—Applications in Agriculture

Track 1—Geospatial Power in Our Pockets

Moderator:

Room: Wilkinson, 1st Floor, Suite Tower

Applying String Matching Algorithms to Multi-Temporal Satellite Imagery to Identify Crop Rotation Patterns

John Long, *Montana State University*, United States

Rick Lawrence, Perry Miller, and Lucy Marshall

Assessing Variations in Urban Heat Island Effects Within Roanoke, Virginia

Tammy Parece, *Virginia Tech*, United States

James Campbell

A New Approach for Agroecosystems Monitoring Using High-Resolution Multitemporal Satellite Data Series

Monica Daez, *ELECNOR DEIMOS Imaging*, Spain

A 3-Dimensional Yellowness Index for Oilseed Acreage Estimation

John Sulik, *USDA Agricultural Research Service*, United States

Dan Long

65—Long Term Monitoring of Dynamic Environments Track 2—Emerging Technologies

Moderator: James Lein, *Department of Geography/Ohio University*

Room: Combs Chandler, 2nd Floor, Suite Tower

Determination of velocities from repeat aerial imagery based on matching in object space

Sudhagar Nagarajan, *Florida Atlantic University*, United States

Beata Csatho and Toni Schenk

Mapping of Mining and Mine Reclamation: A Comparison of NAIP Orthophotography and RapidEye Satellite Imagery

Aaron Maxwell, *Alderson Broaddus College*, United States

Michael Strager, Tim Warner, Charlie Yuill, and Nicholas Zegre

Geometric Modelling of 1960s KH-5 Images and Applications of Coastline Changes in Amery Ice Shelf, East Antarctic

Gang Qiao, *Tongji University*, China

Wenkai Ye, Marco Scaioni, Xiaohua Tong, Rongxing Li

Developing Satellite-based Land Use Intensity Metrics for Urban Sustainability Monitoring

James Lein, *Department of Geography/Ohio University*, United States

66—Real-world Experience with Geospatial Science and Technologies in the Workplace

Sponsored by the ASPRS Young Professionals Council

Track 3 - Business & Management for the Geospatial Professional

Moderator: Devin Kelley, *Quantum Spatial, Inc.*

Room: French, 3rd Floor, Suite Tower

Special Session—Young Professionals Council

Devin Kelley, *Quantum Spatial, Inc.*

67—High-resolution Satellite Imagery

Track 4—Core Technologies

Moderator: Gary Holmes, *DMC International Imaging Ltd*

Room: Nunn, 2nd Floor, Suite Tower

The DEIMOS-2 Concept: Alternative Cost-Effective, Very High Resolution Multispectral Imagery for Civil and Defense Applications

Julio Lopez, *ElecNor Deimos Imaging*, Spain

Fabrizio Pirondini

Building Detection in Very High Resolution Satellite Image Using

Technical Program

Thursday, March 27th, 11:00 AM to 12:30 PM

IHS Model

Shabnam Jabari, PhD candidate, Canada
Yun Zhang

Astrium's Completed Constellation

Brian Cutler, *Astrium Geo-Information Services*

The DMC Satellite Constellation and New Sensors for 2014-15

Gary Holmes, *DMC International Imaging Ltd*, United Kingdom
Paul Stephens

68—Geospatial Data and Services

Track 5—Application Areas

Moderator: Peter Becker, *Esri*, United States
Room: Jones, 3rd Floor, Suite Tower

The GeoMarketSpace - Unifying the GIS Market to Provide Real Solutions in Real Time

Charles Samuels, *The SI Organization, Inc*, United States
John Kelley

URS Providing a Wide Array of Engineering Solutions Using Geospatial Data and Services

Bob Ryan, *URS Corporation*, United States

Instant Access to Landsat 8

Peter Becker, *Esri*, United States

ArcGIS as an Imagery Platform

Peter Becker, *Esri*, United States

69—Landsat 8 Data Quality: One Year On-Orbit

Track 6—Invited Group - JACIE & ASPRS Combined

Moderator: Ronald Hayes, *U.S. Geological Survey*
Room: Segell, 3rd Floor, Suite Tower

Radiometric Performance of the Landsat 8 OLI and TIRS Sensors

Ronald Morfitt, *U.S. Geological Survey*
Brian Markham

Geometric and Spatial Performance of Landsat 8

James Storey, *NASA*
Michael Choate

Measuring and Monitoring Landsat 8 Data Quality

Ronald Hayes, *U.S. Geological Survey*
Kelly Vanderwerff

Data Quality Features in Landsat Products

John Dwyer, *U.S. Geological Survey*
Pasquale Scaramuzza

70—Planetary Photogrammetric Mapping

Track 8—Applications

Moderator: Raad Saleh, *Astrogeology Science Center, U.S. Geological Survey*
Room: Beckham, 3rd Floor, Suite Tower

Measuring Mars Sand Flux Seasonality from a Time Series of HiRISE Images and Calibration of the Threshold for Sand Mobility

Francois Ayoub, *Caltech*, United States
Jean-Philippe Avouac, Claire Newman, Mark Richardson, Antoine Lucas, Sebastien Leprince, and Nathan Bridges

ESA ExoMars Rover PanCam: Pre-Launch Modeling and Accuracy Assessment

Steven Ostrowski, *The Ohio State University, Department of Civil and Environmental Engineering and Geodetic Science, Center for Mapping and GIS Laboratory*, United States

Rongxing Li, Gerhard Paar, Andrew Coates, Jan-Peter Muller, Andrew Griffiths, and Jorgen Oberst

Crater Topographic Mapping Based on Ground Images

Changlin Xiao, *The Ohio State University*, United States
Ron Li and Rui Wu

Automated Matching Techniques in ISIS for Planetary Photogrammetric Mapping

Raad Saleh, *Astrogeology Science Center, U.S. Geological Survey*, United States

72—Feature Extraction

Track 7—Interactive & Varied - Lightning Talks

Moderator:
Room: Brown, 2nd Floor, Suite Tower

Extraction of Planar and Pole-Like Road Features from Terrestrial Mobile Laser Scanning Data

Ayman Habib, *Department of Geomatics Engineering, University of Calgary*, Canada
Zahra Lari

Region Growing Approach for the Extraction of Cylindrical/Linear Features from Laser Scanning Data

Kaleel Al-Durgham, *University of Calgary*, Canada
Ayman Habib

Mapping of Levee Lines using Lidar Data and Multispectral Orthoimages

Yunjae Choung, *The Ohio State University*
Ron Li

Sustainable Geotechnical Asset Management along the Transportation Infrastructure Environment Using Remote Sensing

Rudiger Escobar-Wolf, *Michigan Tech University*, United States
Thomas Oommen, Colin Brooks, Pasi Lautala, and Stanley Vitton

Thursday, March 27th, 11:00 AM to 3:30 PM

Technical Program

Geospatial Power Applications to Developmental Projects Monitoring and Evaluation to Eliminate Corruption in Nigeria
Matthew Adepoju, *National Space Research and Development Agency*, Nigeria

Halilu Shaba, Mohammed Seidu, and Alade Taslim

GUI-based Image ANnotation Tool (GIANT)

Paul Pope, *Los Alamos National Laboratory*, United States

Doug Ranken and Meilin Yan

Community Driven Asset Maps

Alex Bostic, *URS*

Using Cloud Technology to Deliver Geospatial Data and Tools to the Enterprise

Stephen Ellis, *GISP, CMS, AeroMetric*, United States

Modeling Tallgrass Prairie Above-Ground Biomass in the Central Great Plains Using Hyperspatial Multispectral Imagery

Chuyuan Wang, *Department of Geography, Kansas State University*, United States

Kevin P. Price, Deon van der Merwe, Huan Wang, and Nan An

Automatic Detection of Zebra crossings from Mobile Mapping Images

Qian Li, *School of Remote Sensing and Information Engineering, Wuhan University*, China

Lu Hongshu, Xiong Xiaodong, Wang Bo, Wang Qing, and Yongjun Zhang

Automated Edge-based Extraction of Power Lines from Imagery of Electrical Substations

Hossein Armeshi, *University of Calgary*, Canada

Ayman Habib

An Application of Object-based Land-cover Mapping for Tippecanoe County, Indiana

Xiaoxiao Li, *Arizona State University*

Proposed Algorithm for Automatic Cleaning of Terrestrial Lidar Data

Hussein Attya, *University of Calgary*, Canada

Ayman Habib and Abdulla Al-Rawabdeh

Thank you for attending the ASPRS 2014 Annual Conference. We hope to see you again soon. The remainder of the technical program will be dedicated to JACIE Workshop sessions only. In order to attend these sessions, you must be registered as an attendee for the JACIE Workshop.

JACIE Sessions

JACIE Workshop Lunch

12:30 PM to 1:30 PM

Room: Coe, 3rd Floor, Suite Tower

JACIE Workshop Registrants Only Included with Registration – Tickets Required

JACIE Workshop - JACIE Session #6

Moderator: Jon Christopherson, *U.S. Geological Survey*

Room: Segell, 3rd Floor, Suite Tower

High-resolution Image and Video from SkySat-1

Dirk Robinson

On-Orbit Calibration Activities and Image Quality of SkySat-1

Byron Smiley

DEIMOS-1 Cross-calibration with Landsat-7 and Landsat-8

Jorge Gil

DEIMOS-2 Cross-Calibration with Dubaisat-2

Jorge Gil

Beverage Break

3:00 PM to 3:30 PM

JACIE Workshop—JACIE Session #7

Moderator: Ajit Sampath

Room: Segell, 3rd Floor, Suite Tower

The Rise of the (Geospatial) Machines: The Future with Unmanned Aerial Systems (UAS)

My Day-at-a-Glance

Friday, March 28 th			
Time	Event	Room	Attending
7:30 AM to 8:30 AM	JACIE Workshop Breakfast	Coe, 3 rd Floor, Suite Tower	
8:30 AM to 10:00 AM	JACIE Session #8	Segell, 3 rd Floor, Suite Tower	
10:00 AM to 10:30 AM	Beverage Break		
10:30 AM to 12 NOON	JACIE Session #9	Segell, 3 rd Floor, Suite Tower	
12 NOON to 1:30 PM	JACIE Workshop Lunch	Coe, 3 rd Floor, Suite Tower	
1:30 PM to 3:00 PM	JACIE Session #10	Segell, 3 rd Floor, Suite Tower	
3:00 PM to 3:30 PM	Beverage Break		
3:30 PM to 5:00 PM	JACIE Session #11	Segell, 3 rd Floor, Suite Tower	
	Closing Remarks and Re-cap		

Friday, March 28th, 7:30 AM to 3:30 PM

Technical Program

Mike Tully

A Case Study on using Commercial Airborne Imagery to Perform Rapid IA & PA Damage Assessments in Less than 24 Hours

Scott Perkins

WorldDEM

Brian Cutler

Integrating Multi-resolution Lidar-derived DEMs into the National Elevation Dataset

Lori Phillips

Friday, March 28th

JACIE Workshop Breakfast

7:30 AM to 8:30 AM

Room: Coe, 3rd Floor, Suite Tower

Included with JACIE Workshop Registration – Tickets Required

JACIE Session #8

Moderator: Kurt Thome

8:30 AM to 10:00 AM, Room: Segell, 3rd Floor, Suite Tower

Sustainable Land Imaging Architecture

Brad Doorn

Temporal Repeat Frequency Needed to Achieve Cloud-Free Imagery from Landsat-8 Observatories: An Analysis from 10 Years of MODIS TERRA Daily Coverage

Darrel Williams

Operational Challenges to Contemporary Changes of Satellite Imagery Characterization

Dath Mita

Coordinated Quality Control (CQC) : Coordinating and monitoring quality information within the GMES/Copernicus Space Component Data Access System

Sebastien Saunier

Beverage Break

10:00 AM to 10:30 AM

JACIE Session #9

Moderator: Dath Mita

10:30 AM to 12 NOON, Room: Segell, 3rd Floor, Suite Tower

High Spatial Resolution Visible through SWIR Multispectral Image Product Simulation

Mary Pagnutti

Land Cover Classification and Analysis Using Radar and Landsat Data in North Central Ethiopia

Haile K. Tadesse

Summary of Characterization Work at the USGS EROS

Jon Christopherson

Open Data Policy for Landsat Imagery: New Opportunities for Regional and Global Crop Mapping

Dmitry Varlyguin

JACIE Workshop Lunch

12 NOON to 1:30 PM, Room: Coe, 3rd Floor, Suite Tower

Included with JACIE Workshop Registration – Tickets Required

JACIE Session #10

Moderator: Dennis Helder

1:30 PM to 3:00 PM, Room: Segell, 3rd Floor, Suite Tower

The Absolute Radiometric Calibration of Earth-Observing Sensors using Ground-Based Techniques

Jeffrey Czapl-Myers

Absolute Radiometric Calibration Using Pseudo Invariant Calibration Sites

Dennis Helder

Advanced LED illuminated Calibration Sphere

Robert Ryan

A New Alaska, US, and Global Capability: Near-real-time, Multi-satellite, Optical, Radar, and Elevation Products

Tom Heinrichs

Beverage Break

3:00 PM to 3:30 PM

JACIE Session #11

Moderator: Greg Stensaas

3:30 PM to 5:00 PM, Room: Segell, 3rd Floor, Suite Tower

Developing Standards for Lidar Quality

Ajit Sampath

ASPRS Guidelines For Geometric Calibration of Optical Aerial Camera Systems

Dean Merchant

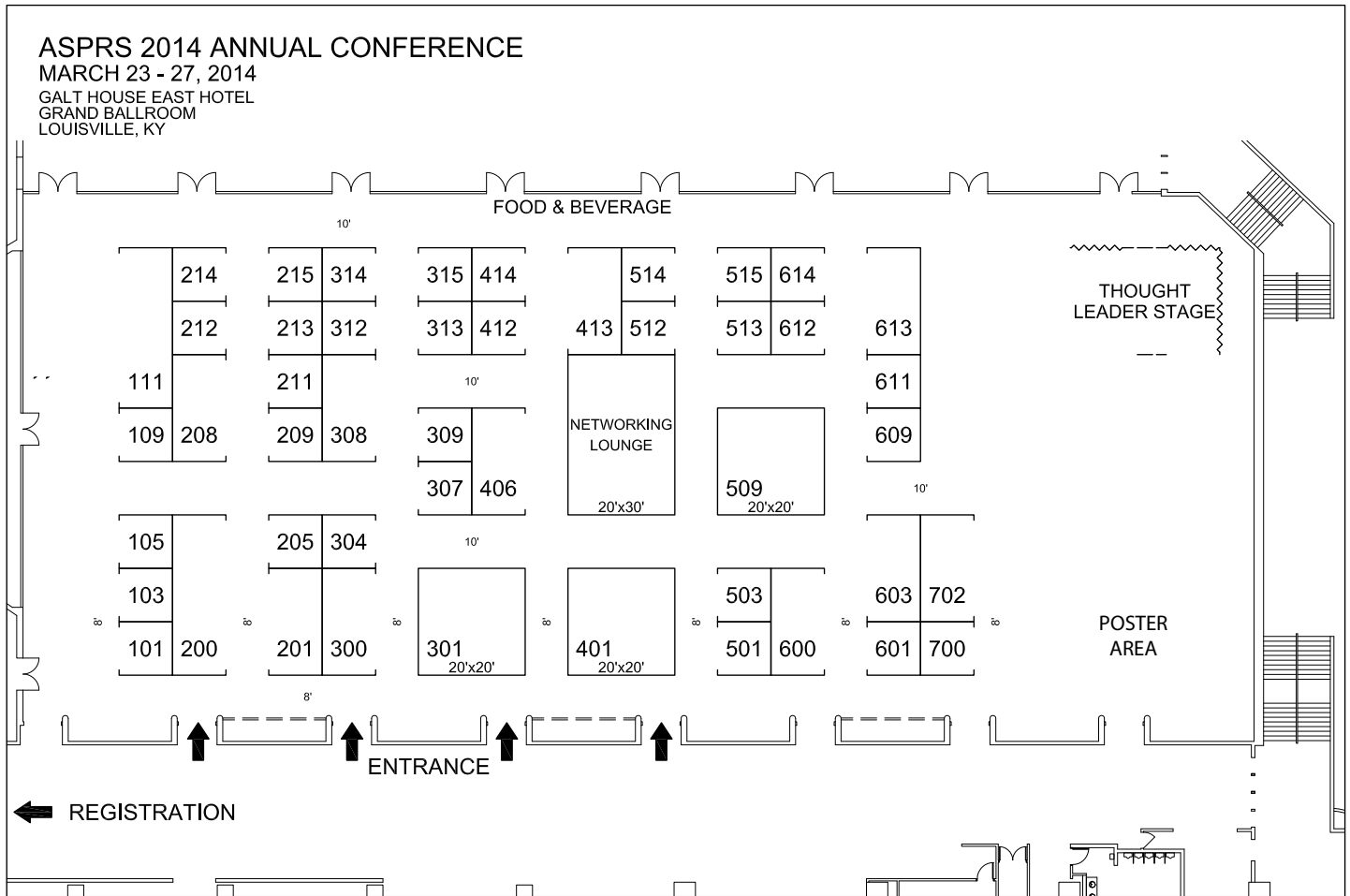
Sensor Interconsistency to Achieve Climate-Quality Measurements

Kurt Thome

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Exhibitor Descriptions

Acute 3D 204
www.acute3d.com

Applanix 413
Exhibiting with Trimble—We apply technology to make field and mobile workers in businesses and government significantly more productive. Solutions are focused on applications requiring positioning or location—including surveying, construction, agriculture, fleet and asset management, public safety and mapping. In addition to utilizing positioning technologies such as GPS, lasers and optics, Trimble solutions may include software content specific to the needs of the user. Wireless technologies are utilized to deliver the solution to the user in the field and to ensure communication between the field and the office.

Altavian UAS
Altavian's Nova™ family of small Unmanned Aerial Systems are designed and built with the primary purpose of meeting the challenging demands of the photogrammetry and remote sensing communities. Altavian's principle focus is to develop solutions based on a solid foundation of photogrammetric principles while giving companies the affordable economy of scale required to acquire data for smaller-sized areas of interest. Whether your mission is for precision agriculture, natural resource assessments, or traditional aerial surveys, Altavian has all of your bases covered.

ASD, Inc. 503
Boulder, CO www.asdi.com
ASD, Inc. (now PANalytical Boulder) is the world's leading supplier of precision field portable NIR spectrometers and spectroradiometers. Our ruggedized analytical instruments provide the freedom to rapidly collect high-quality spectra in the field for real-time lab quality results. When accuracy matters and success is measured in nanometers, see why the world's leading research institutions depend on ASD for data that can be trusted. For more information please visit www.asdi.com

ASPRS 111
Bethesda, MD www.asprs.org

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BAE Systems 315
San Diego, CA www.baesystems.com/gxp
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Blue Marble Geographics 514
Hallowell, ME www.bluemarblegeo.com
For over two decades, Blue Marble Geographics has been a leader of the GIS data processing software business. Companies in countries all over the world who appreciate the importance of maintaining the quality of their critical data, have come to depend on Blue Marble software. Blue Marble is known for coordinate conversion, file format expertise and is the developer of the Geographic Calculator, GeoCalc SDK, Global Mapper and Global Mapper SDK.

Cannon IV Inc 313
Indianapolis, IN www.cannon4.com

Cannon IV, Inc., headquarters in Indianapolis, IN is a SMALL BUSINESS provider and reseller of office, imaging and document solution products and services. Cannon IV offers on its GSA Schedule 36 Contract number GS-03F-0052X, Hewlett-Packard and Lexmark printers, MFPs, services and supplies. Cannon IV has been awarded a contract for FSSI Print Management BPA (Contract number GS-03F-PM005) for Device Plus and Customizable Solutions with Hewlett-Packard and Lexmark products.

Cardinal Systems, LLC 307
Flagler Beach, FL www.cardinalsystems.net
Cardinal Systems provides mapping software for handling digital spatial data and is the developer of the Vr Mapping software suite. Offering the modules VrOne, VrTwo, VrLiDAR, VrOrtho, VrAirTrig, VrAutoTie, VrBundle, VrMosaic, VrBalance, VrAdjust, VrVolumes and VrLite we are continually developing fresh new programs for the geospatial community in which Vr is fast becoming the standard. Learn how to revolutionize your data collection and editing methods by visiting Booth 307.

Certainty 3D 205
Orlando, FL www.certainty3d.com

Certainty 3D offers TopoDOT™ processing software for Riegl, Leica, Z&F, Faro and other popular laser scanning systems. TopoDOT™ extracts high quality CAD deliverables from point cloud and calibrated image data. Certainty 3D offers a full range of services including worldwide technical support and training. Certainty 3D also offers freeware applications for laser scanning project planning, scheduling and cost estimation.

TopoDOT is a CAD application designed to extract high quality CAD models from point clouds and calibrated images produced by both static, mobile and airborne lidar systems.

Exhibitor Descriptions

CRC Press 700

DAT/EM Systems International 603

Anchorage, AK www.datem.com

DAT/EM Systems International® develops advanced software tools designed for the photogrammetric, engineering and GIS industries. Our human-engineered products enable the efficient extraction and editing of 3D vector features from stereo imagery and point clouds. DAT/EM serves its 500 plus clients in more than 70 countries by building and maintaining valuable systems, staying alert to industry trends and advances, and always leading by example with quality products and services.

DMC International Imaging Ltd 314

Guldford, Surrey www.dmcii.com

DMC International Imaging Ltd (DMCii) provides optical satellite imagery from the DMC constellation, specialising in the reliable capture of large areas on a regular basis. DMC imagery is particularly powerful for applications such as land cover classification, crop monitoring, forest monitoring, disaster response and precision farming. We achieve almost daily revisit in most parts of the world through the very wide swath (650km) vis/NIR sensors with 22m spatial resolution, and the coordination of multiple DMC satellites. For example, since 2011 we have routinely imaged the whole of the USA every 2 weeks, >90% cloud-free on average to support multitemporal crop classification and precision farming users.

Dynamic Aviation Group, Inc. 201

Bridgewater, VA dynamicaviation.com

Dynamic Aviation specializes in providing turbine powered aircraft and aviation infrastructure to organizations with exacting data needs, but lacking aviation resources. We offer versatile, superior aerial platforms into which existing and emerging technologies can be installed to acquire data of all types. Our aerial platforms can be deployed to obtain lidar and multi/hyperspectral data. They may be used for aerial photography, geophysical survey, and air sampling; as well as for aerial and maritime surveillance.

Ecopia 515

Waterloo, Ontario www.ecopiatech.com

Millions of geospatial images are collected by satellites, airplanes, and vehicles every day. With large amounts of data becoming available at an increasing rate, efficient retrieval and organization of useful information from this data has become a large issue. As a result, much of this information is not accessible to those who need it most. Ecopia creates intelligent systems that vastly improve the process of analyzing geospatial imagery through the employment of computer vision techniques.

Elecnor Deimos Imaging 611

Boecillo - Valladolid, Spain

www.deimos-imaging.com

Elecnor Deimos owns and operates DEIMOS-1 multispectral satellite, with 22m GSD over a uniquely wide swath of 650 km, allowing rapid and multitemporal coverages of large areas. The company will add the new DEIMOS-2 satellite to its EO system by mid-2014. It is a very-high resolution multispectral with 75-cm panchromatic sharpened imagery.

The company is specialized in complete end-to-end design, implementation, operation and commercial exploitation of Earth Observation Systems.

Esri 401

Redlands, CA www.esri.com

Esri® creates GIS software tools and methodologies that enable organizations to effectively analyze and manage their geographic information to make better decisions. Esri leads the way for remote sensing technology that helps customers become successful through easy to use products for managing, visualizing, sharing and analyzing imagery. We provide online access to a wealth of imagery content, including high resolution world basemaps, and dynamic elevation and Landsat GLS image services.

Exelis 200

Boulder, CO www.exelisvis.com

Exelis provides software solutions to help scientists, geographers, and GIS specialists solve problems using remotely sensed data both on the desktop and in the cloud. Our advanced ENVI suite of products can extract important information from any type of geospatial imagery, regardless of whether it is panchromatic, multispectral, hyperspectral, Lidar, or SAR. Visit Exelis booth #200 to see how ENVI enables you to get more information about the world around you and make more informed decisions.

GeoCue Corporation 412

Madison, AL www.GeoCue.com

GeoCue Corporation is a software development and consulting services company specializing in geospatial production management solutions. GeoCue products provide an integrated end-to-end processing framework that significantly reduces production time from data acquisition to finished product.

LP360 comprises an innovative suite of high-capacity point cloud software for Lidar exploitation. Our extensive knowledge of Lidar and point clouds derived from small UAS imagery has been applied to LP360 for visualization and analysis.

IGI mbH 609

Kreuztal, Nordrhein-Westfalen

www.igi-systems.com

IGI mbH was founded in 1978. The primary goal of the company was to manage airborne sensor systems for flight guidance, sensor control using GNSS (Global Navigation Satellite System) and INS (Inertial Navigation Systems). Today the portfolio includes additional sensor systems using Lidar, digital camera systems and thermal camera systems. IGI covers a wide variety of expertise in optics, electronics, mechanics, software development, and analytics through a team of highly qualified scientists, engineers and technicians.

Exhibitor Descriptions

Keystone Aerial Surveys, Inc. (PASCO Group) 600

Philadelphia, PA www.kasurveys.com
Keystone, a PASCO group company, based in Philadelphia, PA, has been providing airborne acquisition, platforming and value added services to clients for over 50 years. The PASCO group of companies provides the most advanced technologies in the areas of the acquisition and processing of geospatial information. Based on the results obtained through the active utilization of these technologies, it provides products and services that underpin secure and comfortable living.

Lead Air Inc. 209

Kissimmee, FL Trackair.com
Lead Air Inc., located in Kissimmee FL, is a US affiliate of Track Air, BV in the Netherlands. Lead Air manufactures and installs aerial navigation and surveying equipment for use in small and medium aircraft. The commitment of Track Air and Lead Air to the continued development of innovative new and improved products is unmatched in the industry and we will continue to strive for the excellence in products and service for which we are known.

Intergraph & Leica Geosystems 301

Norcross, GA www.leica-geosystems.us
Intergraph SG&I provides geospatially powered solutions to a wide range of industries. Hexagon Geosystems newly formed Geospatial Solutions Division is bringing together Leica Geosystems' Airborne Sensors and Intergraph's Z/I Imaging Solutions.

LizardTech 406

www.lizardtech.com

Microsoft/Vexcel Imaging GmbH 509

Graz, Austria www.iFlyUltraCam.com
Microsoft's UltraCam business group offers state-of-the-art photogrammetric products based on the latest and most-advanced technological developments, including UltraCam digital aerial camera systems and the UltraMap photogrammetric workflow software. Its family of award-winning UltraCam sensor systems includes the UltraCam Eagle, UltraCam Falcon, UltraCam Hawk and the UltraCam Osprey.

National Geospatial-Intelligence Agency (NGA) 613

NOAA 512

Silver Spring, MD
www.ngs.noaa.gov/RSD/rsd_home.shtml
The Remote Sensing Division of NOAA's National Geodetic Survey uses a variety of photogrammetry and remote sensing technologies to support the Aeronautical Survey Program (ASP), Coastal Mapping Program (CMP), and Emergency Response. These programs require data from field survey and photogrammetric methods. The CMP provides updated National Shoreline for supporting marine navigation, defining territorial limits, and managing coastal resources. Emergency response efforts deliver timely, high-resolution remotely-sensed data following natural disasters.

NovAtel Inc. 414

Calgary, AB, Canada www.novatel.com
Long-time supplier of high precision GNSS positioning and attitude determination technology for mobile mapping applications. NovAtel GNSS receivers, antennas and SPAN® GNSS/INS products offer a wide range of performances and are designed to integrate easily with existing camera and flight management systems. GrafNav™ from our Waypoint® products group, is the industry's preferred GNSS data post-processing software. Inertial Explorer® extends this functionality with tightly coupled GNSS/INS processing. Visit Booth 414 to learn more.

Optech 308

West Henrietta, NY www.optech.com

Optech is the world leader in lidar and camera survey instruments. Optech's CS-series aerial digital cameras—standalone or lidar-integrated—are rugged, high-precision, metric imaging systems with camera control, INS integration and image processing.

Optech ALTMs deliver complete airborne data collection solutions, from high-altitude wide-area to low-altitude corridor surveys. Optech CZMIL, integrated lidar/imagery bathymetry system, automatically generates information products for the coastal zone.

Optech Lynx Mobile Mapper™ collects engineering/survey-grade lidar data at highway speeds.

PCI Geomatics 208

Richmond Hill, ON, Canada
www.pcigeomatics.com

PCI Geomatics is a world-leading developer of software and systems for remote sensing, imagery processing, and photogrammetry. With more than 30 years of experience in the geospatial industry, PCI is recognized globally for its excellence in providing software for accurately and rapidly processing satellite and aerial imagery. There are more than 30,000 PCI licenses, in over 150 countries worldwide.

Exhibitor Descriptions

Phase One Industrial 101

Melville, NY www.industrial.phaseone.com

The Phase One iXA aerial camera is an integrated medium format camera system that was designed from the ground up exclusively for aerial photogrammetry. Developed with leading experts and engineers in the field, the iXA is built to meet the exacting needs of aerial photogrammetry and streamline the entire capture and processing workflow. The camera is a major addition to the current aerial implementations that Phase One already provides to partners in the industry. With a choice of 80 megapixel or 60 megapixel models, the iXA aerial camera is designed to easily incorporate into existing or new systems, making it the perfect solution for integrators or end users looking for a rugged, high-quality industrial-grade aerial camera system. The medium format solution offers exceptional image quality and features that rival large format cameras at a fraction of the price.

Point of Beginning 109

Troy, MI www.pobonline.com

Point of Beginning (POB) helps land surveyors and geomatics professionals succeed through our coverage of new technologies and opportunities. We offer practical solutions to surveying and mapping problems, while keeping you up-to-date on business strategies, the law and education.

Publications – Take One 109

Take an opportunity to visit the “Take One” booth and pick-up a copy of your favorite industry publications. Publications such as Directions magazine, Point of Beginning or even the new xyHt - Positioning and Measurement, Elevated.

RIEGL USA 601

Orlando, FL www.rieglusa.com

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Simactive 304

Montreal, QB, Canada www.simactive.com

SimActive is the developer of Correlator3D™ software, a patented end-to-end photogrammetry solution for the generation of high-quality geospatial data from satellite and aerial imagery, including UAVs. Correlator3D™ performs aerial triangulation (AT) and produces dense digital surface models (DSM), digital terrain models (DTM), orthomosaics and vectorized 3D features. Powered by GPU technology and multi-core CPUs, Correlator3D™ ensures matchless processing speed to support rapid production of large datasets.

Spectral Evolution 708

Lawrence, MA
www.spectralevolution.com

SPECTRAL EVOLUTION is a leading manufacturer of field portable and laboratory spectroradiometers, spectrometers, and spectrophotometers for applications including geological remote sensing, ground truthing, spectral remote sensing, environmental and climate research, crop and soil research, vegetative studies, water body research including water quality and pollution studies, forestry and canopy studies, calibration transfer, upwelling and downwelling measurement, and more. With the PSR-Series, the company offers the standard in portable spectroradiometers with a 350-2500nm spectral range. www.spectralevolution.com

Trimble 413

Westminster, CO www.trimble.com

Trimble applies technology to make field and mobile workers in businesses and government significantly more productive. Solutions are focused on applications requiring positioning or location—including surveying, construction, agriculture, fleet and asset management, public safety and mapping. In addition to utilizing positioning technologies such as GPS, lasers and optics, Trimble solutions may include software content specific to the needs of the user. Wireless technologies are utilized to deliver the solution to the user in the field and to ensure communication between the field and the office.

Visual Intelligence 501

Houston, Texas visualintell.com

Visual Intelligence delivers to the geospatial market place the most economical, best performing, reliable family of oblique corridor-area (iOne IMS) and stereo-3D large area (iOne Stereo) digital airborne sensors for infrastructure engineering surveying & mapping and precision geospatial web content (oil & gas, railroads, highways, energy networks, telecoms, land records, real state, agro & forestry management and many more).

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xyHt 109

Positioning and Measurement, Elevated.
Frederick, MD <http://whatisxyht.com>

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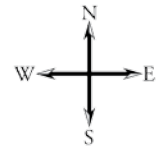
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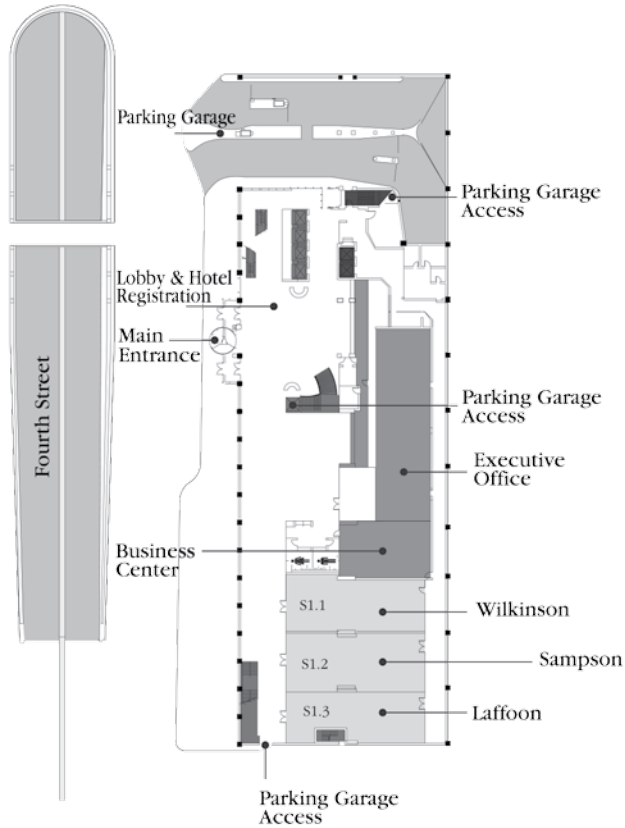
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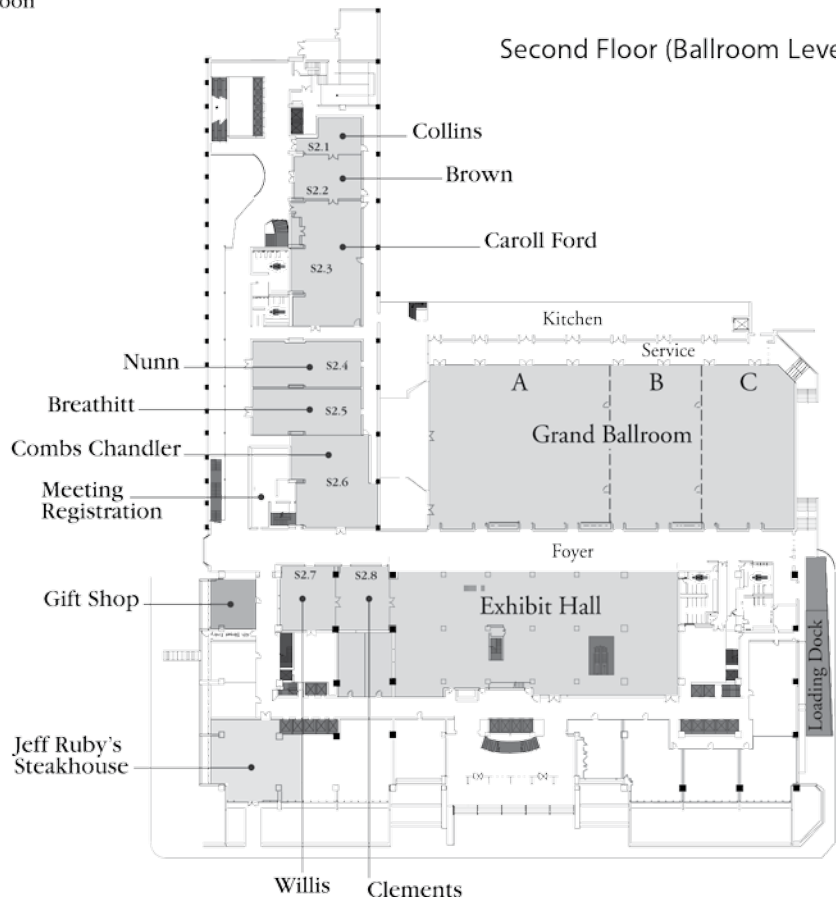
SUITE TOWER



First Floor (Lobby)

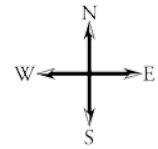
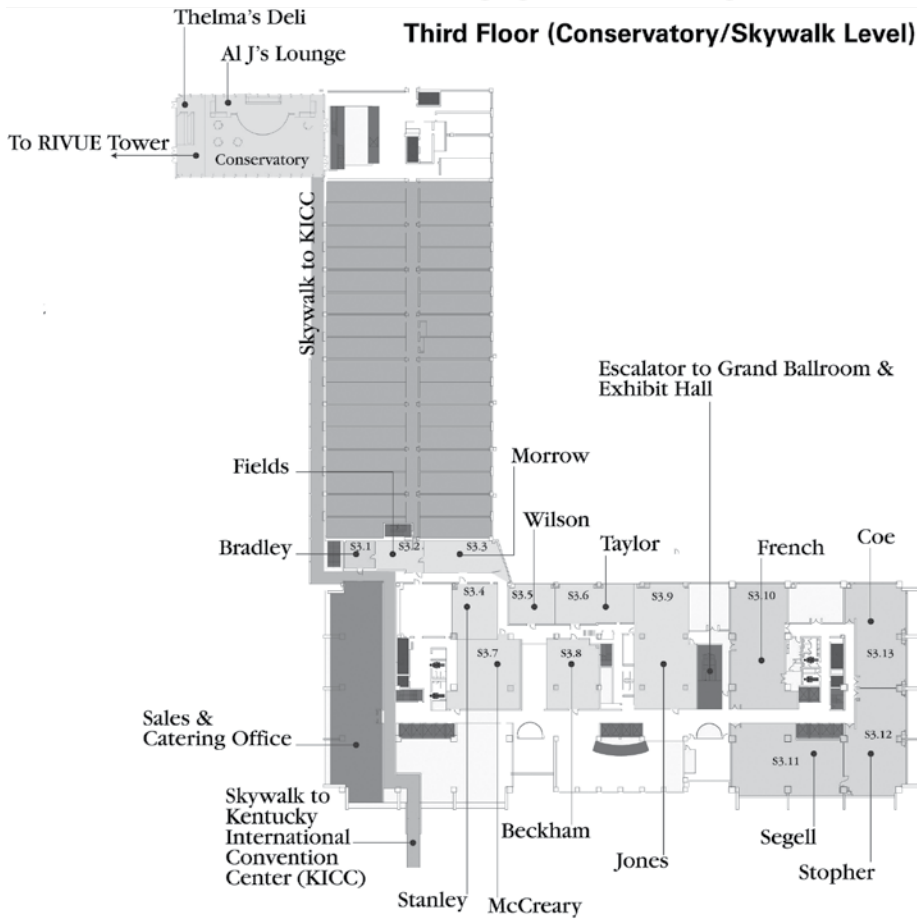


Second Floor (Ballroom Level)



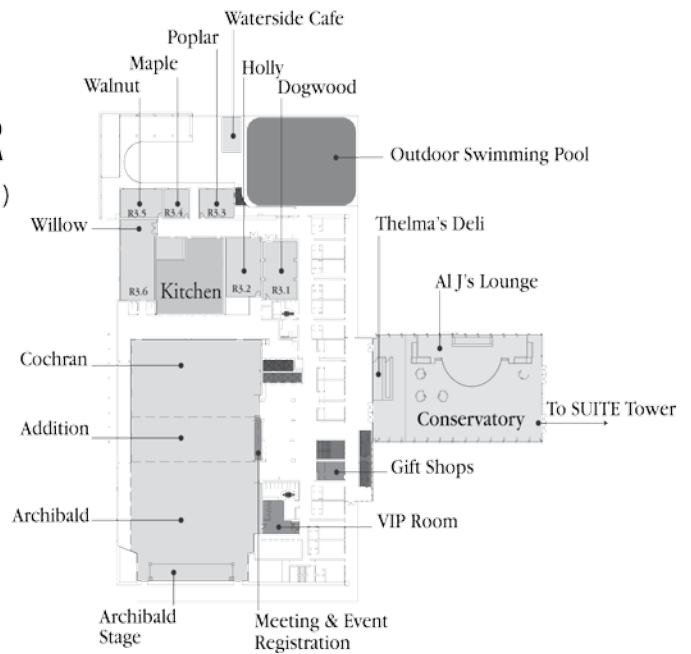
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SUITE TOWER



RIVUE TOWER

Third Floor (Conservatory/Skywalk Level)



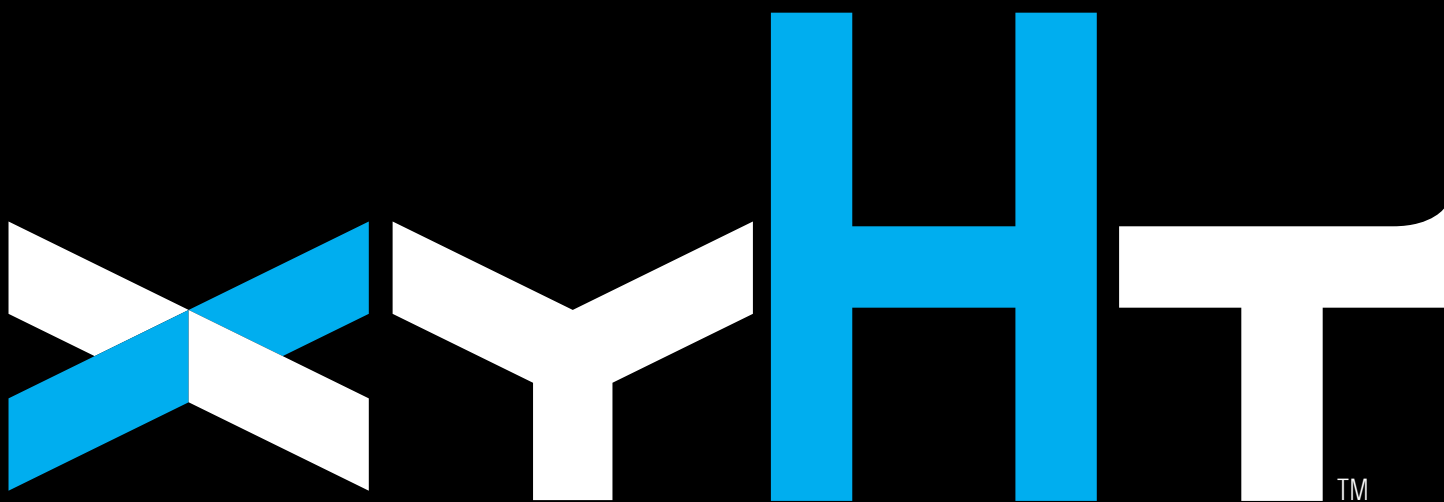
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