

ASPRS 2019 YEARBOOK



ASPRS: *The Imaging and Geospatial Information Society*

The mission of ASPRS: *The Imaging and Geospatial Information Society* is to advance knowledge and improve understanding of the mapping sciences and to promote the responsible application of photogrammetry, remote sensing, geographic information systems (GIS), lidar, Unmanned Autonomous Systems (UAS) and supporting technologies.

Geospatial information answers the questions who, what, when, and primarily where. ASPRS is committed to providing the highest quality spatial information to all people for effective decision making and better understanding to improve their quality of life.

The ASPRS Strategic Plan sets forth the goals which represent the focus of the organization that are to be adopted on the national, regional, and local levels.

Founded in 1934, ASPRS has given increasing service to the scientific, user communities, and the nation through development of the art and science of photogrammetry, remote sensing, geographic information systems, lidar and UAS.

SCOPE OF SOCIETY INTEREST

Initially, the core technologies represented by ASPRS are photogrammetry, remote sensing, GIS, lidar and UAS. Supporting technologies include, but are not limited to, cartography, spatial positioning, image processing, and photo interpretation.

The Society's integration of core and supporting technologies to real-world applications are currently concentrated in the areas of mapping, environmental and natural resources monitoring, modeling, simulation, visualization, close range measurement, and sociocultural documentation. The Society advances responsible practice through its professional certification program, continuing education and workshops, publications, standards, and venues for social and career networking.

DISSEMINATION OF SCIENTIFIC INFORMATION

The Society disseminates scientific information through meetings and publications. Publications of the Society include our journal, *Photogrammetric Engineering and Remote Sensing* (PE&RS), published monthly, and the basic manuals of the science — the *DEM Users Manual*, the *Manual of Photogrammetry*, the *Manual of Remote Sensing*, the *Airborne Topographic Lidar Manual*; the *Manual of Geographic Information Systems*, and proceedings from technical meetings and symposia.

In addition to its publications, the Society thrives through local and national meetings, and specialty conferences to disseminate knowledge of the science as rapidly and effectively as possible. The national Society is responsible for the development and presentation of the Annual Conference and specialty meetings to help keep professionals up-to-date on new developments and technology in the field. The Society is the U.S. Member of the International Society for Photogrammetry and Remote Sensing.

SOCIETY MEMBERSHIP

Five classes of members constitute our Society: Fellow members who have been active for at least ten years and who have performed exceptional service in advancing the science and use of the technologies; Active Members — those from whom the Society draws its officers, directors, and committees; Student Members — a special class of members established to assure a continuing flow of scientific capability in the geospatial sciences, Sustaining Members — those individuals and commercial organizations who desire to render monetary support to the Society; and Emeritus (life) Members who have maintained continuous membership for 25 years and have reached the age of 65, or for 35 consecutive years and have reached the age of 60.

SCHOLARSHIPS AND AWARDS

ASPRS annually offers nine student scholarships ranging in value from \$2,000 to \$7,000. Recipients are chosen through a competitive application process with all scholarships endowed by the ASPRS Foundation. Additional awards for outstanding papers published in *PE&RS*, professional achievement and service activities are determined by committee selection.

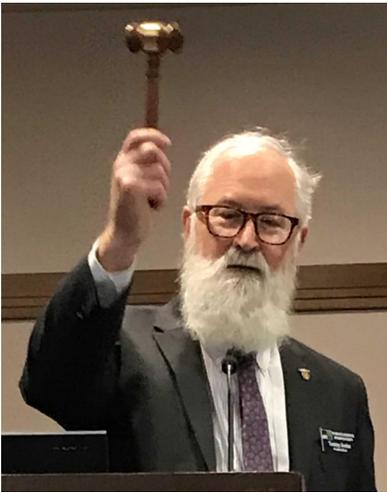
GOVERNANCE OF THE SOCIETY

The governance of the national Society is vested in its Board of Directors and its Officers. Responsibility for the day-to-day management of Society affairs rests with the Executive Director. The Society has established and supports a series of committees, which are responsible to the President. Their function is advisory. However, committee chairpersons may act for the President when directed to do so. The Society is subdivided geographically into 14 Regions, some of which have organized additional Chapters. Each of these regions selects its own officers and directors, and collectively, the Regions elects the chair of the Region Officers Council who is a member of the Board of Directors of the national Society. The Society organization includes seven Technical Divisions: Remote Sensing Applications, Primary Data Acquisition, Professional Practice, Photogrammetric Applications, Geographic Information Systems, Lidar and UAS. The purpose of these Divisions is to bring the Society closer to its members who are ordinarily specialists in a limited phase of the discipline. The Division Directors elect their representative to the Technical Division Directors Council who is a member of the Board of Directors. In addition, the Chair of the Sustaining Members Council represents that segment of the membership on the Board of Directors; student members elect the chair of the Student Advisory Council and Early Career Professionals select their representatives, respectively, both of whom are Board members.

ASPRS PRESIDENTIAL ADDRESS

Dr. Tommy Jordan

Based on remarks made at the 2019 ASPRS/ILMF Annual Meeting, Denver, Colorado



I am humbled and honored to be inducted as the 85th president of the American Society for Photogrammetry and Remote Sensing. While attending the 2019 Annual Conference, I wondered how many of my fellow attendees were here for the very first time. My first time attending an ASPRS Annual Conference was 40 years ago. Can you imagine the changes in the world and technology in 40 years? We drew maps with pen and ink and the computers were so big that they filled entire rooms. Since then we have seen technological changes from analog to analytical to digital and changes in the way we look at and analyze images and data - first using our eyes and optical instruments. Now using artificial intelligence and computer vision methods. We embrace close range and aerial photogrammetry, satellite remote sensing, GIS, lidar, and now we have drones. Most of these technologies weren't even dreamed of 40 years ago. At every point in the course of these developments, ASPRS has been the guiding force that created the standards our colleagues use for guidance in the work they produce.

I want to use this time today to talk about what we do, its importance, and specifically, the value of this organization to the advancement of our profession.

People in this industry are some of the most quietly influential people on the planet with a hand in almost every facet of human life. We keep people moving safely by surveying roads and bridges using aerial photographs and lidar. We participate in keeping people fed and housed by performing inventories and analyses of crops and forests to help improve yields and sustainability. We develop and maintain the maps and underlying technology that people use to navigate their cars to the grocery store, to a national park, or to guide a first responder directly to the front door of the house where someone needs help. We can measure and monitor the retreat of glaciers to estimate the potential impact on sea level rise and on the water supplies of people who depend on meltwater for their lives and livelihoods.

When we survey the damage done by a hurricane to find collapsed buildings and damaged infrastructure, we save lives. When we develop an image processing method to distinguish buried land mines from the surrounding soil, we save lives. When we can inspect satellite images to identify refugee camps and estimate the number of people there, we help to bring food, water, medicine, supplies, and shelter they need to survive. We help save their lives.

We must never doubt that what we do is important and has meaning. That what we do has impact on everyone in the world. This is us. This is who we are in the American Society for Photogrammetry and Remote Sensing.

Over the years, ASPRS has gone through organizational changes and financial challenges, and continues to evolve in response to changing situations. We have always worked to be at the forefront of our field. We have always been the organization that other mapping groups around the world have looked to for leadership and we have always tried to lead by example.

We have strong and flexible leaders – both staff and volunteer board members – who believe in ASPRS. As President Hillyer has stated, we are streamlining our business and financial operations through our partnership with P&N Association Management Company. This gives our staff more time to develop the programs that will add value to our members. Programs like Certification – we are strong here with almost 600 certified professionals in Photogrammetry, Remote Sensing, GIS, Lidar and UAS. Programs like our publications, including PE&RS and the books and manuals we publish to support our work. We provide workshops and webinars on a variety of subjects and we intend to provide a higher level of material for our members' continuing education through the development of on-line training classes.

Above all, we need to continue to add value to being members of ASPRS. We need to make membership a necessity for professionals and students in the geospatial field. And to do this we all – everyone of us - need to be advocates. When we meet local GIS people, we need to ask them if they know about ASPRS. If not, point them in the right direction to find out more, then invite them to join ASPRS. When we give talks or demonstrations to clients and students, we need to talk about ASPRS. We all need to do this. We all need to help grow the membership of ASPRS. Especially with the recent growth of the UAS industry, there is a whole new class of professionals who need us as much as we need them. ASPRS is where these operators need to go for training. After all, mapping is not just about flying a drone and taking pretty pictures. We can provide that training to take them to the next level of professionalism with standards, workflows, and certification.

Over drinks the other night several of us were talking about how ASPRS, over our entire careers, has been our professional home. And how valuable the lasting friendships and contacts we have made have been to our lives.

I have been coming to the ASPRS Annual and Fall Conferences since 1979, my first year as a graduate student at the University of Georgia working with Roy Welch and studying close-range analytical photogrammetry. I have attended this meeting as a learner and to present about a million papers. I have spent many, many hours talking to vendors in the exhibit hall -- and I have been an exhibitor myself. Now I come as a board member and officer. It's been an evolution. One I owe in large part to my graduate advisor, boss and business partner, Roy Welch, who became president of ASPRS in 1984.

In 2007, my friend and colleague, Marguerite Madden, served as President of this Society. In 2014, my friend and classmate, Lynn Usery, was President. Marguerite, Lynn and I have all built our own careers, but all of us started in the same Center at the University of Georgia Department of Geography working with Roy Welch. We owe him a great debt and I want to thank him for starting me down this path by showing me those beautiful pictures of this world that were being produced by the early Landsat satellites. And for giving me a well-earned 'C' on the Kelsh Plotter exercise, proving to me once and for all that the future was in computers and analytics.

I cannot begin to imagine the path this field will take in the next 40 years, or what the incoming ASPRS president of 40 years from now will experience during his or her career. But I do know that there is no substitute for the face to face interactions and exchange of ideas and knowledge that we have here at ASPRS. I am looking forward to serving as president and I thank you for this opportunity.

Landsat's Enduring Legacy and many other ASPRS publications available at Amazon.com.

Order online at amazon.com

THE IMAGING & GEOSPATIAL INFORMATION SOCIETY

MESSAGE FROM ACTING EXECUTIVE DIRECTOR

Jesse Winch

Based on remarks made at the 2019 ASPRS/ILMF Annual Meeting, Denver, Colorado



will start my brief remarks with the assertion that the Society is in excellent hands and we have a clear vision for the way ahead! We have overcome some difficulties in the past couple of years through the hard work and determination of the headquarters staff and the Officers working closely with Managing Director Karen Schuckman, the committee chairs, Region officers, and Division Directors. As we celebrate 85 years as a professional society, we can look back at a rich history of scientific excellence and a consistently high quality of professional services.

President Hillyer has shared her vision as her term comes to an end and our treasurer, Stewart Walker, has reported on our financial status elsewhere.

The big news for ASPRS is that starting in 2019, ASPRS headquarters management will be assisted by an association management company, P&N, who will take over various duties in the membership department, will help manage our member database, will be our web master, finance managers and perform other important administrative activities.

HEADQUARTERS NOTES

- The weekly eNewsletter has shown a delivery rate of over 90% and has become an important communicator among our members and others.
- Our weekly Headquarters Update – a zoom meeting for Board, region, division and committee chairs and members, has proved to be a great intra-society communication device. Thanks to Karen Schuckman for this Initiative.

COMMITTEE UPDATES

Certification

Mike Zoltek, a national expert in licensing and former Director of the Professional Practice Division is the new Chair of the Evaluation for Certification Committee as past president Mike Renslow has retired. Mike Renslow, as most know, was a protégé of the late “Sky” Chamard, founder of the certification program in 1974, and brought with him tremendous experience and understanding of the workings of such an important professional service and oversaw many critical developments including achieving accreditation for our certification program from the Council on Engineering and Scientific Specialty Boards.

Mike Zoltek has been very active in getting involved in all aspects of the certification program and with Mike’s help, we revised the eligibility requirements for the Geospatial Intern designation to cover students who have passed post-secondary studies in the geospatial sciences. This will effectively include community college students and those who have completed geospatial certificate programs.

Considering all applications for certification and/or recertification in all designations, we had over 130 applications in 2018, a record number.

The addition of the UAS certification has helped spur this growth but we are also seeing more photogrammetry and Lidar Certifications as well.



ASPRS
Rising Star
PROGRAM

Meet Our Rising Stars!

Chris Stayte | Corey Ochsman | Collin Hutcheson
Charles Krugger | Kristine Taniguchi-Quan

The Rising Star program is focused on mentorship of tomorrow’s leaders within ASPRS and the geospatial and remote sensing community. Geospatial companies, agencies, and ASPRS regions can all benefit by participation in the program through the advancement and professional development of their employees or associates through the process of sponsorship.

For more information go to www.asprs.org/rising-star-program.

Awards and Scholarships

2018 was Al Stevens’ last year as Chair of the Awards Committee. I have worked with Al for all of my 20+ years with ASPRS and it has been a rewarding and insightful experience for me and Al’s work has been a great benefit to ASPRS. We are extremely fortunate that Dr. Lindi Quackenbush has agreed to become the new Awards Committee Chair. Lindi has managed the Ta Liang Scholarship review committee for many years and is eminently qualified to lead the Awards Committee. Past president Steve DeGloria has agreed to take over the chair of the Ta Liang review committee. Jessica Fayne, who has managed the on-line application process, will be leaving that position this year and will be succeeded by Dr. Peng Fu.

PUBLICATIONS

PE&RS

Mike Renslow has also retired as technical editor of *PE&RS* and ASPRS has contracted with Allen Press to perform that role.

2018 saw the publication of *Landsat’s Enduring Legacy* which continues to sell quite well through bookstore and conference sales.

MRS4 is nearing completion and we hope to see a final publication by the end of Summer, 2019, if not sooner.

DEM Manual, 3rd Edition was debuted at the 2019 conference. Thanks to Dave Maune and Dewberry for making that happen.

We had several other publications from ASPRS member-authors available at the ASPRS exhibit hall booth.

Several ASPRS publications are now available through Amazon to buyers in the US and Canada. We will be distributing to Mexico very soon and hope to add additional International distribution in the near future. Member discounted pricing is not available through Amazon but regular as well as member and student discounted purchases may still be made through the ASPRS online bookstore.

These are just some of the exciting things that are happening in ASPRS and I would like to thank our active and sustaining members for their support of ASPRS, the *Imaging and Geospatial Information Society!*

Awards and Scholarships

The following awards and scholarships were presented at the ASPRS 2019 Annual Conference in Denver, Colorado. 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 www.asprs.org/education/asprs-awards-and-scholarships.

The ASPRS Lifetime Achievement Award

2019 Recipients: Qassim Abdullah and Roger Crystal

Qassim Abdullah

Qassim Abdullah



(L-R) Qassim Abdullah and Anne Hillyer.

Abdullah is an accomplished scientist with 40 years of combined industrial, research, and academic experience in photogrammetry, remote sensing, and civil and surveying engineering. His responsibilities include designing and managing strategic

programs to develop new geospatial technologies focused on meeting the evolving needs of geospatial users. Abdullah is the chief scientist and a member of Woolpert Labs team and serves as an adjunct professor at the University of Maryland, Baltimore County and at Penn State teaching graduate courses on UAS, Photogrammetry and Remote Sensing. His latest accomplishments include introducing the Geiger and single photon lidar to the geospatial industry and leading Woolpert research activities in the field of UAS, its sensor calibration, and its workflow development. Abdullah obtained his doctorate and master degrees in photogrammetry from the Civil Engineering Department at the University of Washington in Seattle. Abdullah publishes a monthly column "Mapping Matters", in the ASPRS journal, *Photogrammetric Engineering and Remote Sensing*. Abdullah is an ASPRS Fellow and he is the recipient of prestigious awards such as the ASPRS 2010 Photogrammetric Fairchild award, the ASPRS Outstanding Service Award, the ASPRS Presidential Citation in recognition to his contributions in co-authoring the new "Positional Accuracy Standards for Digital Geospatial Data", and the ASPRS Outstanding Workshop Instructor award. Abdullah is a certified photogrammetrist and licensed professional surveyor and mapper with the states of Florida, Oregon, Virginia, and South Carolina. He is a certified thermographer by the FLIR and a certified GEOINT Professional (CGP-R) by the USGIF.

Abdullah started as civil engineer then specialized in Photogrammetry, Remote Sensing, GIS, Land Surveying, lidar, GPS/IMU, Accuracy Standards, and Geodetic Sciences.

Roger Crystal



(L-R) Roger Crystal and Anne Hillyer.

Crystal is an independent Geospatial Information – Information Technology consultant who has over 40 years of work experience as a Senior Leader with diverse management experience in the Geospatial and Information Technology

profession. He possesses a unique blend of leadership and business management acumen demonstrated in Strategic Planning, Project Management, Business Development and implementation of large projects.

Crystal started his Geospatial career in 1967 with the Washington State Department of Highways as a Senior Photogrammetrist. In 1975, Crystal started his Federal Government career with the Corps of Engineers, Middle East Division, providing surveying and mapping expertise for activities in Saudi Arabia. In 1980, Crystal ended his tenure with the Corps of Engineers and joined the USDA Forest Service where he served as Regional Director for Information Resource Management. During his tenure with the Forest Service, Crystal was responsible for advising the Forest Service on geospatial and information technology. In the performance of these duties, Crystal established Region-wide remote sensing, aerial photography and mapping programs. Crystal was instrumental in introducing digital orthophotography to Forest Service Natural Resource Managers. He served on a national committee for the development of the Forest Service-wide GIS which included the development of software, hardware and data base development. In 1991, The spotted owl and old growth controversy temporarily shut down timber sales in the Northwest. The Forest Service was tasked with identifying and mapping all old growth habitat in the Northwest in a short period of time. Crystal served as the technical lead for the mapping and classification of land cover in support of the spotted owl controversy. For his participation, he received a Outstanding Service award from the Chief of the Forest Service. During his tenure with the Federal Government, he received numerous Outstanding Service awards. He retired from government service in 1996. Upon

his retirement, Mr. Crystal worked for Titan Corporation, where he provided Geospatial consulting and business development. He has also worked for AeroMetric, Inc. and Sanborn Map company where he served as the Vice President and General Manager of Federal Programs.

In 2007, Crystal started Geospatial and Information Technology consulting. He has provided technology, business and proposal development to a variety of small and large businesses. His higher education started at Eastern Montana College and the University of Utah where he received his BS in Business Administration.

An ASPRS member since 1975, Crystal has served the Society on the ASPRS Board of Directors, as ASPRS President, 1997-1998 and currently serves on the ASPRS Foundation Board of Trustees. He is a Fellow of ASPRS and has received numerous ASPRS awards, including the Birdseye Award, Outstanding Service Award, Presidential Citation for Meritorious Service and several others. Crystal has been heavily involved with the Columbia River and Puget Sound Regions where he served as an officer of the Columbia River Region and served on many committees for the Regions. He chaired the ASPRS Annual 1999 and 2008 conferences which were held in Portland, Oregon. Crystal served as the national ASPRS Membership Leader from 2010 through 2014 where he assisted ASPRS Regions and National Officers on how to articulate the value of ASPRS membership and help grow the number of ASPRS members. From 1991 to 1994, he served as the Chairperson for the ASPRS Certification Committee for GIS/LIS. He has also served as the Director for the ASPRS Professional Practice Division and served on the MAPPS Board from 2003 to 2005.

Upon receiving notice of the Lifetime Achievement award, Crystal stated “this award evokes reflections and I want to thank all my colleagues for their support. This award could simply be a way to conclude decades of service to ASPRS, however this award is a reminder to me and all of my colleagues, we must continue to be mentors and advocates for ASPRS”.

The **ASPRS Lifetime Achievement Award** (formerly the Honorary Lifetime Achievement Award and the Honorary Member Award) is the highest award an ASPRS member can receive, and there are only 25 living Lifetime Achievement Awardees 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.

Donor: ASPRS

ASPRS Photogrammetric Award (Fairchild)

2019 Recipient: Thomas M. Lillesand, PhD, CP, CMS

The 2018-2019 Photogrammetric Award (Fairchild) is presented to Thomas M. Lillesand in recognition of his lifelong contribution to the science and art of photogrammetry, remote sensing, and image interpretation.

Lillesand earned his BS, MS and PhD degrees from the University of Wisconsin-Madison, where he is an Emeritus Professor in Civil and Environmental Engineering, Environmental Studies, and Forest Ecology and Management. He also taught at the State University of New York College of Environmental Science and Forestry and the University of Minnesota prior to his return to the University of Wisconsin-Madison. Lillesand, who serves on the Board of Trustees of the ASPRS Foundation, is also a Fellow and Past-President of ASPRS, an ASPRS Certified Photogrammetrist and Mapping Scientist, and a member of the American Society of Civil Engineers. He was the first member of ASPRS to provide congressional testimony as an official representative of the Society and has done so four times during his career. His previous honors include the ASPRS Alan Gordon Memorial Award for significant achievements in remote sensing and photographic interpretation, and the Earle J. Fennell Award from the American Congress on Surveying and Mapping. He has served on the Academic Board for NASA’s John C. Stennis Space Center and on the Science Advisory Panel for the Earth Observing System Land Process Distributed Active Archive at the USGS EROS Data Center. He is the author of over 125 publications in the area of remote sensing. In addition to educating and advising countless students throughout his long career, Dr. Lillesand is the co-author for numerous editions of one of the most notable and enduring textbooks, *Remote Sensing and Image Interpretation*, used by multiple generations of ASPRS members.

Donor: ASPRS

ASPRS Outstanding Technical Achievement Award

2019 Recipient: Dr.-Ing. Wolfgang Förstner

For his development of rigorous statistical modeling that integrates computer vision technology with accurate photogrammetric applications.

Earlier in his career, Dr. Förstner was internationally acknowledged for his notable work on blunder detection in photogrammetric block adjustments, based on statistics and estimation methodologies as the foundation for the efficient and accurate use of redundant observations. From his research work in the 1980’s, he developed the Förstner Operator, for the detection of key points in images. He embarked on a self-directed study initiative to better understand graphical geometry, pattern recognition and computer vision. Förstner devoted his subsequent research to image matching as digital images became available. As such, he served as a pioneer in the exploitation of digital photogrammetry. Two years ago, he co-authored *Photogrammetric Computer Vision*, a book detailing, as described in its introduction “the concepts and methods for developing computer vision systems for automatically analysing images, with a focus on the main application

areas of photogrammetry, specifically mapping and image-based metrology.” This publication compiles decades of work, timely released for the progress with machine learning currently being focused on imagery analysis.

Wolfgang Förstner, who was born in 1946, is a German geodesist and a retired professor of photogrammetry at the University of Bonn. His fields of professional interest are digital photogrammetry, statistical methods of image analysis, analysis of image sequences, semantic modelling, machine learning and geo information systems. He has published nearly two hundred scientific papers, supervised seventy Bachelor and Master Theses and chaired more than thirty PhD candidates’ committees and their dissertations.

Förstner studied geodesy until 1971 and completed his doctorate in 1976 at the University of Stuttgart to become Dr.-Ing. He spent three years surveying in Bonn, North Rhine-Westphalia, before he returned to the University of Stuttgart as a research associate.

His papers on Least Squares Matching - presented at the 1984 ISPRS Congress - and on The Interest Operator, later named the Förstner Operator at the 1986 ISPRS Symposium are, to this day, recognized as groundbreaking. That operator identifies salient points by the use of an autocorrelation matrix.

In 1990 he was appointed to the University of Bonn, where research on building-reconstruction from aerial photographs formed the scientific focus of his work. From 1990-2012 he chaired the Department of Photogrammetry at Bonn University. He was also the co-editor of the *Zeitschrift für Photogrammetrie, Fernerkundung und Geoinformation* from 1990 to 1996. From 1994-2001 he was vice president of the German Association for Pattern Recognition (DAGM). He chaired several ISPRS Working Groups and was President of the ISPRS Commission III (2004-2008). He served as associated editor of *IEEE Transactions on Pattern Analysis and Machine Intelligence* 2008-2012.

When reviewing the 2016 release of Dr. Förstner’s co-authored *Photogrammetric Computer Vision*, Drs. Toth and Walker from ASPRS wrote: that it “represents a milestone publication in modern photogrammetry. ... a rare masterpiece, providing the most comprehensive description of the underlying theory at the intersection of photogrammetry and computer vision.”

In 2005, ASPRS awarded Dr. Förstner the prestigious Photogrammetric Fairchild Award for his outstanding contributions to photogrammetry. In 2010 he was honored as a Fellow of the International Society of Photogrammetry and Remote Sensing. In 2011 he obtained honorary doctorates from the Leibniz University of Hannover and the Technical University of Graz. During the 2016 ISPRS Congress, he was presented with the Brock Gold Medal Award for his outstanding contribution to the development in the fields of photogrammetry, remote sensing and spatial information sciences.

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 wood panel plus a check for \$6,000.

Donor: In 2011, the ASPRS Foundation received a very generous individual donation from Lifetime Achievement Awardee and ASPRS Fellow Clifford W. Greve to endow a new Outstanding Technical Achievement Award. This award is now fully endowed at the \$6,000 level.

The William T. Pecora Award

2019 Recipient: Barbara J. Ryan

Barbara Ryan served as the Secretariat Director of the international Group on Earth Observations (GEO) until 2018 where she worked tirelessly to make Earth observation data more accessible and usable. GEO is an intergovernmental organization with over 100 member countries and over 100 participating partners working to integrate Earth observations comprehensively to understand how environmental factors impact human life and the environment. Under Ryan’s leadership, millions of satellite images have been made available to the public at no charge allowing scientists, planners and policy makers to take a comprehensive approach to problems that transcend political boundaries including agriculture, biodiversity, climate change, disaster planning, energy and health. Ryan was previously the Director of the Space Program at the World Meteorological Organization (WMO) and Associate Director of Geography at the United States Geological Survey (USGS). She has also served as Chair of the Committee on Earth Observation Satellites (CEOS)

ASPRS Presidential Citations

2019 Recipients:

Roberta Lenczowski for providing expertise in non-profit management and consulting on bylaws and operating procedures.

Rebecca Morton for developing the *Rising Star Mentoring Program*.

Alper Yilmaz as editor-in-chief of *PE&RS* for achieving an Impact Factor of 3.15 in 2017-the highest in the history of the *PE&RS* journal.

Lindi Quackenbush for her many years as Chair of the Ta Liang Scholarship review committee and her work on the Remote Sensing and GIS certification review committee.

Donor: ASPRS

The Presidential Citation is a hand-engrossed certificate.

ASPRS Fellow Award

2019 Recipients: William Heidbreder, Jerome J. Lenczowski, Lindi J. Quackenbush, Charles K. Toth, E. Lynn Usery

William Heidbreder

Heidbreder has a Bachelor of Business Administration from the University of Michigan in June 1963. He spent two years in the Army from September 1963 until September 1965 and then earned a Bachelor of Science with a Mathematics Major from the University of Oklahoma in June 1966. He then completed all requirements for a Master of Science with a Photogrammetry Major from Purdue University in August 1975.

Heidbreder has had a sustained active involvement with ASPRS since the mid 1960's. His very active membership began as a federal employee with the Aeronautical Chart and Information Center (ACIC) - now the National Geospatial Intelligence Agency (NGA.) As a member of the Heartland Region and an ASPRS member with Emeritus distinction, he periodically sponsors informal gatherings of a group he refers to as the "Old Techies," many of whom are still active professionally with photogrammetric and remote sensing. Heidbreder has been resolute in his promotion of the professional society value proposition with its inherent maturation process as he moved from career novice – *joining to signify commitment to ACIC professional development* – to key positions in a professional network – *maintaining membership to augment his professional knowledge and contacts* – to emeritus distinction – *ensuring other professionals continue to nurture the profession and mentor others*.

Heidbreder was elected to multiple three-year terms, representing the then-St. Louis Region on the ASPRS National Board. He completed his Bylaw limited responsibility there in 2003 but sustained an influential role, both mentoring his elected replacement and serving on the Region's Board for the next six years. During his tenure on the National Board, he was an adamant advocate of more rigorous financial management, constantly requesting full transparency for all fiscal decisions and monitoring expenditures. Closer to home, Heidbreder also served multiple times on the Region Board and completed the officer "tour" as vice-president, president, and past-president twice. Each time the annual National ASPRS Conference was held in St. Louis, Heidbreder was a member of the Technical Program Planning Committee (prior to the current practice of managing that from HQ) reviewing all abstracts, preparing the technical program, and organizing the supporting events. Heidbreder was also the Region's most energizing advocate for contributing to the purchase of the HQ building and numerous times was named a membership champion.

Jerome J. Lenczowski

Jerome J. Lenczowski has had a sustained active involvement with ASPRS, celebrating his fiftieth anniversary with the society and its predecessor ASP this year. He joined in 1967, as a federal employee with the Aeronautical Chart and Information Center (ACIC) before it evolved through DMA, NIMA, and NGA. At that time, several federal agencies considered affiliation with a professional society to be essential to career advancement. At that time, the model was "active" affiliation, which has carried through Lenczowski's retirement years. He and his peers in St. Louis built a strong St. Louis Region, with frequent technical meetings and participation in national meetings. When St. Louis was selected to host the 1988 ACSM-ASPRS Conference, Lenczowski was identified as one of the Technical Program Co-Chairs. He became the region president in 1990, serving on the region board until reassignment to DMA Headquarters. After returning to St. Louis, he was elected as a Region director, responsible for the Bylaws and Publications. He was key to the consolidation of the Central and St. Louis Regions into the Heartland Region, coordinating the Bylaws and the Operating Procedures with the National Bylaws Committee, ensuring the ASPRS Board's approval in 2014. As an election Region board member through 2016, Lenczowski has remained the primary contact on bylaws and operating procedures. He also assisted in the successful establishment of two Region chapters, advising and editing their bylaws.

In addition to his advocacy for good governance at the Region level, Lenczowski has made significant contributions with his advocacy for the technical professionalism that ASPRS offers. Throughout his years in St. Louis, he has volunteered annually for the St. Louis Science Fair, encouraging K-12 students with even the most basic or peripheral interests. With the standup of the Heartland Region, he has encouraged Science Fair judging to expand across all nine states. Lenczowski works directly with the St. Louis Science Academy to help encourage more K-12 STEM interest in geosciences.

During his federal career, he developed the implementation of more precise measurement for the Richardson Light Table, by adding a graticule eyepiece and the accompanying software to transform image to object space, allowing the analyst to determine if the object met inclusion criteria for the specific product. For vertical obstructions identification and measurement - needed for air safety of navigation - Lenczowski designed the testing to evaluate how many independent views were required for detection and implemented the production processes.

Perhaps Lenczowski is more recently best known for keeping track of reports on interesting technology developments and sending email to a far-reaching network. In many ways, he has become their personal Rich Site Summary (RSS) feed.

Lenczowski served as the primary chair of the NTPC for the 2016 and 2017 IGTF, the ASPRS Annual Conference, and has been the recipient of several ASPRS awards throughout the fifty years of membership.

Lindi J. Quackenbush

Lindi J. Quackenbush has been a member of ASPRS since 1995, initially joining while a student. At the national level, Quackenbush is a member of the ASPRS Awards Committee and the chair of the ASPRS Ta Liang Memorial Award Committee and has served in that role since 2011. In 2012, she also joined the Mapping Science Certification peer review committee. (She herself is certified as a Mapping Scientist, GIS/LIS and Remote Sensing. She belongs to the Central New York Region and has been an active, continuous CNY Region Council member since 2004. Prior to that, she served as the secretary/treasurer for four years. In 2005, she was elected the Region's vice president and moved to president for 2006-2007. From 2002-2007 she, as a CNY Region representative, was a Planning Committee member for the annual NYS Remote Sensing Symposium.

Her technical contributions to ASPRS include five peer-reviewed articles published in *PE&RS*. In 2011, she received the 2nd place ERDAS award for Best Scientific Paper in Remote Sensing; in 2014, she received the 1st place Esri Award for Best Scientific Paper in Geographic Information Systems. These two are among a most impressive list of nearly thirty peer-reviewed publications in ten different journals. In addition, Quackenbush has supported the peer reviews of seventeen *PE&RS* papers during the past ten years and was a member of the *PE&RS* Editor Search Committee. At the Louisville ASPRS Conference, she gave the Memorial Address honoring Paul Hopkins

Although, CNY Region has no student chapter, Quackenbush has mentored students supporting the Student Advisory Council and serving as conference volunteers. Her ASPRS work with students reflects the student advising that she has been doing at SUNY College of Environmental Science and Forestry where she supervises both undergraduate and graduate students. Quackenbush has also been involved with the New York State GIS Association (NYSGISA), particularly with their conferences: NYGeoCon and the Geospatial Summit. That related professional service includes membership with the NYSGISA since 2007 and active committee work. She was conference co-chair 2007-2012.

At the State University of New York College of Environmental Science and Forestry (SUNY-ESF) in Syracuse, NY, she served as a Research Assistant (1998–2001), Lecturer (2001–2004), Assistant Professor (2004–2011), Associate Professor (2011-2018) before moving into her current position as full Professor in 2018. She teaches a range of courses in the mapping sciences to undergraduate and graduate students in surveying, remote sensing, and GIS, as well as engineering design courses at the freshman and senior level.

Quackenbush is the Principal Investigator for SUNY ESF, which is the New YorkView member university for AmericaView, which is a non-profit consortium of universities focused on remote sensing education, remote sensing, data sharing, and technology transfer. She was selected for that position in 2014 and under her leadership over fourteen high impact activities have been addressed.

Quackenbush received the BS and a Bachelors of Surveying in 1994 from the University of Melbourne, Australia and her MS and Ph.D. from the State University of New York College of Environmental Science and Forestry, Syracuse, NY.

Charles K. Toth

Charles Toth has followed a brilliant academic career, encompassing a remarkable sequence of teaching, research and business successes. At the same time, he has participated actively in professional societies, especially ASPRS, ISPRS and the Institute of Navigation (IoN). These accomplishments represent success at the very highest level in the geospatial profession.

Toth was born in Hungary and received his education there, culminating in MS and PhD degrees in electrical engineering from the Technical University of Budapest in 1977 and 1980 respectively. Later, while he had already moved to the US, he completed a second PhD from the same university, in geo-information sciences, in 1997.

As a young professional eager to learn, he came to the US as a post-doctoral researcher in the Department of Geodetic Science at The Ohio State University. He remains there to this day, has been steadily promoted and currently is research professor in the Department of Civil, Environmental and Geodetic Engineering. His expertise is wide-ranging, but much of his work is focused in the areas of spatial information systems, mobile mapping technology, photogrammetry, lidar, and remote sensing, integrating and calibrating of multi-sensory systems and multi-sensor geospatial data acquisition systems.

Toth is widely known worldwide for his visionary contributions to mobile mapping, where he did significant research in sensor georeferencing and digital imaging technologies. He is generally credited with the introduction of the term “direct and indirect georeferencing” in the photogrammetric community. He is one of the founding fathers of the Mobile Mapping Technology symposium series and has actively contributed to all of them. His engineering creativity resulted in a major technological innovation in the analytical photogrammetry era, where his AP32 software provided a new plotter-independent, data-driven, and modern user interface to the user, and was commonly used until the dawn of digital photogrammetry.

Toth has an outstanding scholarly record, publishing more than 400 journal and conference papers, and several book chapters; organizing many conferences and workshops; reviewing journal papers; working as guest editor at several journals; being in great demand by conference organizers for decades to speak and to offer meticulously prepared, high level workshops on a number of topics, particularly on georeferencing, sensing technologies, imaging, and lidar. He has supervised numerous MS and PhD students, usually of the highest quality, many of whom have earned multiple ASPRS Student Awards.

Toth served as President of ASPRS, and as ISPRS Technical Commission I President and currently is ISPRS 2nd Vice-President. Toth is the recipient of numerous awards, including the 2009 APSRS Photogrammetric Fairchild Award, US Geospatial Intelligence Foundation (USGIF) Academic Achievement Award, ISPRS Schwidofsky Medal Winner, several Lumley Research Awards from OSU, and various best papers awards. Toth has been an active member of ASPRS for decades. His academic career places him in the top handful of geospatial experts worldwide.

E. Lynn Usery

E. Lynn Usery, is a Senior Research Scientist of the United States Geological Survey (USGS) and Director of the Center of Excellence for Geospatial Information Science (CEGIS). Usery is renowned for his work in the field of geographic information science (GIScience), including contributions in remote sensing, geographic information systems (GIS), cartography, ontology/semantics, CyberGIS and theory of geographic features. He received his B.S. degree in Geography and Chemistry from the University of Alabama in 1974 and his M.S. and Ph.D. degrees in Geography from the University of Georgia in 1977 and 1985, respectively.

Usery has demonstrated continued service to ASPRS since becoming a member in 1977. He was awarded the ASPRS Best Scientific Paper in Remote Sensing (2002); he received an ASPRS Presidential Citation in 2011 and, in 2009, Usery was invited to contribute to the ASPRS Manual of GIS. He was the lead author of a critical chapter on map projections/coordinate systems, and lead author of a chapter on GIS in precision agriculture/watershed management and the co-author of a key chapter on the representation of time in GIS, spatio-temporal data analysis and geovisualization. In 2013, Usery was elected Vice President of ASPRS, becoming President in 2015, during which time he guided the Society through a difficult period of transition. He was invited to contribute a chapter on geometric correction to the 4th Edition of the ASPRS Manual of Remote Sensing to be published this year. Usery also has also been active in ISPRS, serving on the Editorial Advisory Board of the ISPRS Journal of Photogrammetry and Remote Sensing and Chair of ISPRS Commission IV, Working Group I on GIS Data and Applications (1992-1996), as well as organizing many conference sessions.

Usery was invited to participate in the U.S.-China Roundtables on Scientific Data Cooperation sponsored by the U.S. National Academy of Science and the Chinese Academy of Science. At the USGS, he contributed to the theoretical and technical development for rapid projection of large raster data sets for The National Map and this work led to the current CyberGIS project in CEGIS. He also served on numerous USGS teams including the Geography Science Synthesis Team, Electronic Publishing Network Visioning and Customer Advisory Group Cost Model Teams and the Science Strategy Team. Usery served as President (2002) of the Cartography and Geographic Information Society (CAGIS) and was elected President of the University Consortium for Geographic Information Science (UCGIS) in 2003. He has received some of

the top awards in GIScience including Fellow of the American Congress on Surveying and Mapping (2006), UCGIS Fellow Award (2010), and CaGIS Distinguished Career Award (2012). He was elected Chair (2006) of the U.S. National Committee to the International Cartographic Association (ICA). In 2015, Usery was elected a Vice-President of the International Cartographic Association (ICA) for which he is serving a four-year term. In addition, he chaired the Local Organizing Committee and was Conference Director for the International Cartographic Conference held in Washington, D.C. in 2017.

Usery has produced over 115 publications on a wide variety of topics throughout his career. His 2005 book “A Research Agenda for Geographic Information Science,” co-edited with Robert McMaster, has been widely acclaimed in the GIScience. Usery has a long list of publications in leading peer-review journals of GIScience including *Photogrammetric Engineering and Remote Sensing*, *Cartography and Geographic Information Science*, *International Journal of Geographic Information Systems*, *Transportation Research Part B*, *IEEE Transactions on Geoscience and Remote Sensing*, *Transactions in GIS*, *Journal of Hydrology*, *International Journal of Remote Sensing*, *International Journal for Geographic Information and Visualization*, *Annals of the Association of American Geographers*, *The Professional Geographer*, *Geoinformatica*, *ISPRS Journal of Photogrammetry and Remote Sensing*, *Cartographic Perspectives*, *Cartographica* and *GIScience and Remote Sensing*.

Usery has developed and taught many, remote sensing and mapping related courses at both the graduate and undergraduate level and for USGS professionals. He served on the faculty of the Department of Geography, University of Wisconsin (1988-1994), and from 1994 to 2006 on the Geography faculty at the University of Georgia where he achieved the rank of Professor in 2004. Usery supervised the completion of 9 Ph.D. dissertations and 13 Masters’ theses, serving on more than 30 Ph.D. and 30 Masters’ advisory committees. He also supervised 4 Postdoctoral Associates for the USGS. In addition, Usery was a tireless editor of the journal *Cartography and Geographic Information Science*, a member of the Information Technology Research Review Panel of the National Science Foundation, and member of UGA’s National Environmentally Sound Production Agriculture Laboratory. He currently serves as Associate Editor of the *International Journal of Cartography*.

Donor: ASPRS

The ASPRS Fellow Award includes a hand-engrossed certificate and lapel pin.

ASPRS Outstanding Service Award

2019 Recipient: Suzanne Hallam

For her dedicated work as the ASPRS Web Master and IT consultant.

Donor: ASPRS

The Outstanding Service Award consists of a bronze plaque.

Presentation of Birdseye Citation

Anne Hillyer, Immediate Past-President

Donor: ASPRS

The Birdseye Citation carries with it a gold Past President's Key, and a hand-engrossed certificate. The retiring President will also receive the Presidential Gavel mounted on a walnut plaque.

Robert E. Altenhofen Memorial Scholarship

2019 Recipient: Daniel Foley

Daniel Foley is in a Master's Degree program at Northern Arizona University, specializing in remote sensing and the use of photogrammetry for agricultural applications. He has numerous publications relating to applications of photogrammetry to agricultural issues and glacial movements, many prior academic awards, and an outstanding faculty recommendation. He also has teaching experience and has worked as a student volunteer at the USGS office in Flagstaff. His faculty advisor is Prasad Thenkabil.

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

2019 Recipient: Danielle O'Buckley

Dannielle O'Buckley is an undergraduate student at The State University of New York Alfred State College where she expects to graduate in December 2019. She is pursuing a BS degree in Surveying and Geomatics Engineering Technology which is very appropriate for the Abe Anson Scholarship given that Abe spent much of his career as a surveyor. She has consistently been on the Dean's List where she has maintained a 4.0 GPA. She was also awarded the Alfred State Athletic Achievement Award for the highest GPA among all student athletes. She has been captain of the woman's soccer team. Dannielle grew up assisting in her grandfather's small surveying company and after exploring other directions, decided to return to that career. She intends to take the Fundamentals of Surveying national exam prior to graduation to obtain a Land Surveyor-in-Straining Certification and then begin her career with a land surveying firm. After gaining more professional experience, she will likely return to higher education in geomatics or business administration.

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

2019 Recipient: Caitlin Tran

The John O. Behrens ILI 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 ILI Memorial Scholarship.

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.

Robert N. Colwell Memorial Fellowship

2019 Recipient: Brad Peter

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 him, Dr. Colwell had the distinction of being one of the 25 Honorary Members of ASPRS.

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

The Award consists of a grant of \$7,000 and a one-year student or associate membership (new or renewal) in ASPRS.

William A. Fischer Memorial Scholarship

2019 Recipient: Su Ye

Mr. Su Ye, currently a Ph.D. student in Geography at Clark University, has been selected to receive the 2019 William A. Fischer Memorial Scholarship. Ye is being presented this award in recognition of his impressive research accomplishments and publications, superior analytical skills, and outstanding academic record. Ye has clearly demonstrated the ability to combine his significant research experience and mathematical skills to help us address complex challenges in monitoring threatened landscapes.

Ye's dissertation research is focused on developing new methods of time series analysis of moderate spatial resolution imagery to detect subtle foliar pigment/moisture stress in threatened forest environments. Ye's work holds great promise for the protection of these resources. The committee congratulates Ye on his accomplishments and we are confident that his current and future research efforts will continue to make important contributions to the global community.

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

2019 Recipient: Vincent Lazar

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

The award consists of a certificate and a check in the amount of \$7,000 and a renewal membership in ASPRS.

The Kenneth J. Osborn Memorial Scholarship

2019 Recipient: Jacob Moyer

Jacob Moyer is pursuing a Bachelor of Science degree in Surveying Engineering from Ferris State University and plans to graduate in June of 2019. Following his BS, he plans to continue working in the surveying and mapping profession, and at some future time, would like to pursue graduate studies. Jacob exemplified the Osborn qualities of communication and collaboration through leadership of activities within the Ferris State campus community by serving as president of Lambda Sigma, the land surveying honor society, treasurer of the student chapter of the National Society of Professional Surveyors, as a member of the Michigan Society of Professional Surveyors, and as an active member of the student chapters of ASPRS and AAGS. In addition to his campus leadership activities, Moyer volunteered for community activities, such as, the American Red Cross Blood Drive, Lids for Kids Event, and Toys for Tots.

Mr. Moyer's faculty advisor is Professor Sagar Deshpande.

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 check in the amount of \$2,000, an engrossed certificate and a membership renewal in the Society.

Ta Liang Memorial Award

2019 Recipient: Alana Herro

Herro is a master's degree student in Environmental Observation and Informatics at the University of Wisconsin Madison. She earned a BA in Interdisciplinary Studies in 2005 from Georgetown University and worked in sustainability communication before returning to graduate studies in 2018. In her research, Herro aims to link satellite observations of conservation farming practices (specifically, cover cropping and no-till techniques) with on-the-ground farmer surveys to better understand the ecological, economic, and social benefits of adopting conservation farming in Wisconsin. Herro will use the Ta Liang travel grant to engage with farmers throughout the state in order to understand why people choose conservation farming practices, and provide insight into what might convince other farmers to follow suit.

In addition to excelling in her academic endeavors, Herro has provided extensive community service, in particular, volunteering for several years with Community Grows, an urban agriculture program based in San Francisco, California. With this group, Herro taught elementary school children how to cook healthy meals with ingredients from their school gardens and taught at-risk young adults professional skills, gardening techniques, nutrition, and cooking.

Donor: Individual and corporate contributions to the ASPRS Foundation 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

2019 Recipient: Isabel Garcia

Isabel Garcia 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, Photogrammetry and related fields. Garcia is currently a Doctoral candidate (planned graduation December 2022) in Geospatial Computing Science at Texas A&M University -Corpus Christi. Garcia has demonstrated



(L-R) Anne Hillyer with Isabel Garcia.

a continued interest, dedication, enthusiasm, passion, and aptitude to become an education professional and has been recognized at all levels. Of note is Garcia’s interest in creating a recruitment program to reach out to minorities, and especially females to introduce them to the profession

that “has treated her so well.”

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 and includes a grant of \$4,000 and a hand-engrossed certificate.

John I. Davidson President’s Award for Practical Papers

2019 Recipients:



(L-R) Anne Hillyer with Preston Hartzell accepting for Unal Okyay.

1st Place
Unal Okyay and Shuhab D. Khan, “Spatial Co-Registration and Spectral Concatenation of Panoramic Ground-Based Hyperspectral Images,” *PE&RS* 84 (12).

2nd Place
Matthew P. Dannenberg, Conghe Song, and Christopher R. Hakkenberg, “A Long-Term, Consistent Land Cover History of the Southeastern United States,” *PE&RS* 84 (9).

3rd Place
Zhen Ye, Xiaohua Tong, Yusheng Xu, Sa Gao, Shijie Liu, Huan Xie, Peng Chen, Wensheng Lu, and Xianglei Liu, “An Improved Subpixel Phase Correlation Method with Application in Videogrammetric Monitoring of Shaking Table Tests.” *PE&RS* 84 (9).

Donor: The ASPRS Foundation in memory of ASPRS Past President John I. Davidson.

The First Place award includes an engraved pewter tankard, a cash award of \$1,000 and a hand-engrossed certificate; Second Place is a cash award of \$600 and a hand-engrossed certificate; Third Place is a cash award of \$400 and a hand-engrossed certificate.

The Esri Award for Best Scientific Paper in GIS

2019 Recipients:

1st Place
Fei Liu, Yashar Balazadegan, and Yang Gao, “Tight Integration of INS/Stereo VO/Digital Map for Land Vehicle Navigation,” *PE&RS* 84 (1).



(L-R) Anne Hillyer with Alina E. Maas, 2nd Place winner.

2nd Place
Alina E. Maas, Franz Rottensteiner, Abdalla Alobeid and Christian Heipke, “Multitemporal Classification Under Label Noise Based on Outdated Maps,” *PE&RS* 84 (5).

3rd Place
Christopher E. Soulard, William Acevedo, and Stephen V. Stehman, Applications Paper: “Removing Rural Roads from the National Land Cover Database to Create Improved Urban Maps for the United States, 1992 to 2011,” *PE&RS* 84 (2).

Donor: 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.

Talbert Abrams Award

2019 Recipients:



(L-R) Anne Hillyer with Christoph Strecha accepting for Carlos Becker.

Grand Award
C. Becker, E. Rosinskaya, N. Häni, E. d’Angelo, and C. Strecha, “Classification of Aerial Photogrammetric 3D Point Clouds,” *PE&RS* 84 (5).



(L-R) Anne Hillyer with Konrad Wenzel accepting for 1st Honorable Mention winner Stefan Blaser.

First Honorable Mention
 Stefan Blaser, Stephan Nebiker, and Stefan Cavegn, “On a Novel 360° Panoramic Stereo Mobile Mapping System,” *PE&RS* 84 (6).

Region Web Site and Newsletter of the Year

- 1st Place**
Rocky Mountain Region
- 2nd Place**
Pacific Southwest Region
- 3rd Place**
Potomac Region

Second Honorable Mention

Lei Ye and Bo Wu, “Integrated Image Matching and Segmentation for 3D Surface Reconstruction in Urban Areas,” *PE&RS* 84 (3).

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 Honorable Mention.

Roger Hoffer Membership Award



(L-R) Roger Hoffer with Joe Cantz.

2019 Recipients: Bon Dewitt, Xioajun Yang, ASPRS Columbia River Region, and Woolpert, ASPRS Sustaining Member
Donor: ASPRS

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.

George E. Brown, Jr. Congressional Honor Award

2019 Recipients: Senators Orrin Hatch (R-UT) and Mark Warner (D-VA)

ASPRS awards the 2019 George E. Brown, Jr. Congressional Honor Award to Senators Orrin Hatch (R-UT) and Mark Warner (D-VA) for their role in the passage of the Geospatial Data Act (GDA), which establishes policy for government procurement, management, and utilization of geospatial data.

Donor: ASPRS

ASPRS Rising Stars

The ASPRS Rising Star program is focused on mentorship of tomorrow’s leaders within ASPRS and the geospatial and remote sensing community. Rising Stars are defined as early career professionals within the first ten years of their geospatial careers who are selected for sponsorship within the program.

The current Rising Stars are Chris Stayte, Corey Ochsman, Collin Hutcheson, Charles Krugger, and Kristine Taniguchi-Quan.

Region of the Year



(L-R) Anne Hillyer with Jeff Young, Rocky Mountain Region; Lorraine Amenda, Pacific Southwest; and Jackie Carr, Potomac Region.

- 1st Place**
Rocky Mountain Region
- 2nd Place**
Pacific Southwest Region
- 3rd Place**
Potomac Region

WHO'S WHO IN ASPRS

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Caitlin Verlund
<http://www.asprsalaska.org/>

Cascades Region

Camile Westlake
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John Boland, C.P.
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Srinivasan Dharmapuri, CP, CMS
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Paul Manley
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<http://asprsintermountain.weebly.com/>

Mid-South Region

Demetrio Zourarakis, Ph.D.
<https://www.asprs.org/all-regions/mid-south.html>

New England Region

TBA
<http://neweng.asprs.org/>

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Richard W. Carlson, Jr., P.L.S., C.P.
<http://natlantic.asprs.org/>

Pacific Southwest Region

Lorraine B. Amenda, PLS, CP
<https://pswasprs.org/>

Potomac Region

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<http://www.asprspotomac.org/>

Rocky Mountain Region

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<http://www.asprs-rmr.org/>

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