



International Society for Photogrammetry and Remote Sensing  
Internationale Gesellschaft für Photogrammetrie und Fernerkundung  
Société Internationale de Photogrammétrie et de Télédétection

# ISPRS AWARDS 2016-2022

**XXIV ISPRS Congress**  
Nice, France



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## ISPRS Honorary Member

An individual is elected as an ISPRS Honorary Member in recognition of distinguished services to the ISPRS and its aims. Honorary Members shall be nominated by a committee composed of members from the current and three previous Councils, and elected by the Congress. There may not be more than ten living Honorary Members of the Society at any given time. The Committee has nominated Chen Jun for election as Honorary Members of ISPRS in 2020.

Chen Jun

**Chen Jun** had first contacts with ISPRS as early as 1982, when he participated in the Technical Commission VII Symposium in Toulouse, France, where he spent time as a young scientist with IGN and CNES. Later Chen Jun was elected president of Technical Commission II, entitled “Systems for Data Processing, Analysis and Representation” at the time, and was responsible for the Symposium in Xian in 2002.

During the 2004 Congress in Istanbul China was elected to host the XXI Congress, and Chen Jun became Congress Director, organising a very successful ISPRS Congress in Beijing in 2008 and has since served on ISPRS Council, as Secretary General from 2008 - 2012, leading the society as president from 2012 - 2016, a period which included the reorganization of the ISPRS Technical Commissions, in which he had a major share; and as Past President since 2016. He initiated the ISPRS research agenda which was published in the ISPRS Journal of Photogrammetry and Remote Sensing in 2016; initiated financial support for authors of open access papers who cannot afford the related Author Processing Charges; has represented ISPRS at the level of international geospatial societies such as those grouped in the Joint Board of Geospatial Societies (JBGIS) - now renamed to UN GGIM Geospatial Societies; has represented ISPRS at numerous UN and GEO meetings, e.g. the yearly UN GGIM meetings in New York and the various GEO plenaries around the world; has represented ISPRS in the International Science Council (ISC) and has made sure ISPRS keeps its reputation of a respectable scientific society.

With his charming and diplomatic personality and his dedication to the aims and the activities of the society, Chen Jun truly deserves to be elected an ISPRS Honorary Member. \_\_\_\_\_ ■

## ISPRS Fellowships

An ISPRS Fellow is elected by the Society in recognition of sustained, excellent service to the ISPRS and its aims. Five persons have been nominated to receive the ISPRS 2020 Fellowship, and an additional two persons to receive the 2022 Fellowship.



**Kohei Cho**  
(2020)

**Kohei Cho** is a professor at the Tokai University in Tokyo, Japan. As the vice president of the Japanese Society for Photogrammetry and Remote Sensing since 2005, he has significantly contributed to strengthen the relationship of JSPRS with ISPRS.

He is also an important leader in the field of Remote Sensing in

Asia. Since 2009, and as successor of Shunji Murai, he is serving as the General Secretary of the Asian Association of Remote Sensing (AARS), a Regional Member of ISPRS. In 2019, he successfully organized the 40th Asian Conference of Remote Sensing (ACRS). During his ten years in office, he succeeded in continuing the tradition of ACRS, “friendship first and money after”.

In ISPRS, Kohei has served as International Science Advisory Committee (ISAC) member (2012-2021), as ISPRS Commission VIII “Remote Sensing Application” Scientific Secretary (2008-2012), as ISPRS Commission VI “Education and Outreach” President (2004-2008), and as ISPRS WG VI/2 “Computer Assisted Teaching” working group chair (1992-2000).

Kohei initiated the CATCON (the educational software contest) in 1996, to activate educational research works within ISPRS. The CATCON has continuously been organized as one of the official events at ISPRS Congresses. He also helped initiate the ISPRS Student Consortium in 2004, under Commission VI, to promote student activities in ISPRS. Success in an education commission in the engineering field is generally not easy to gain at conferences and workshops. However, Kohei has significantly improved the research community of education in ISPRS during his Commission VI “Education and Outreach” presidency. Thanks to Kohei, the Midterm Symposium in Tokyo in 2006 was successful, with many papers and participants.

As a researcher, Kohei has been involved in various activities on remote sensing. He was the leader of JAXA AMSR2 sea ice team for years. For the past eight years, he was involved in a project monitoring

the recovery of Tsunami damaged areas in Japan for environmental education. He has published more than 100 papers on remote sensing and is co-author of 15 books on remote sensing and image processing. It should be emphasized, that Kohei has been promoting Remote Sensing in Asia for years through exchange of information, mutual cooperation, and international understanding and goodwill among the member countries of Asia. His smile encourages many young researchers to be involved in research communities and to contribute not only to AARS but also to ISPRS from Asia. ■



**Songnian Li**  
(2020)

**Songnian Li** received a B.Eng. degree in Surveying Engineering from Wuhan Technical University of Surveying and Mapping, China, in 1983 and the Ph.D. degree in Geodesy and Geomatics Engineering from the University of New Brunswick, Canada, in 2002. From 1983 to 1997, he was a Lecturer, Associate Professor and Visiting Scholar in universities in China and Canada.

Since 2001, he has been an Assistant Professor, Associate Professor and Professor in Geomatics Engineering in the Department of Civil Engineering, Ryerson University, Canada. Currently, he is the Associate Chair for Graduate Studies and the leader of the GIS and Geo-Collaboration Lab at Ryerson University. He is a licensed professional engineer and registered land surveyor in Ontario, Canada. He was an invited Research Fellow by the Japan Society for the Promotion of Science in 2009 and 2012, and a recipient of both the nomination for the ISPRS U. V. Helava Best Paper Award 2016-19, and the 2015/2016 Canadian Institute of Geomatics President’s Citation. His current research interests include geospatial big data, spatio-temporal analysis, moving object and location-based services, geo-collaboration and geospatial web and web services.

He has been appointed as Adjunct Professor or Member at over 10 universities in Canada, Japan, and China.

Songnian served as chair of two Working Groups, as President of ISPRS TC II (2012-2016) and as Council Member (Treasurer, since 2016). He is TIF Trustee and Chair of the TIF Grants Evaluation Committee (since 2016) and has represented ISPRS in various roles in UNGGIM, IGU, OGC and GEO.

He has also served as Chair of the Canadian National Committee for ISPRS, Council Member of the Canadian Institute of Geomatics (former Canadian Ordinary Member of ISPRS), and Executive Member of the Canadian Society for Remote Sensing (current Canadian Ordinary Member of ISPRS).

Songnian Li has been involved in the organization of over 90 scientific conferences/workshops; many of them ISPRS or ISPRS-sponsored events, such as the ISPRS TC II Symposium in 2014, in Toronto. He has played a leading role in establishing the workshop series on “Web-based Mapping, Geo-Processing and Services”, which has been held six times since 2010, as well as an important role in organizing ISPRS workshops on global land cover and SDGs, and also served as a member of International Programme Committees for the 2016 ISPRS Congress, and the ISPRS Geospatial Week in 2017 and 2019.

Among other ISPRS editorial roles, he has served as an Editorial Advisory Board member of the ISPRS Journal of Photogrammetry and Remote Sensing since 2016, and received a Certificate of Outstanding Contribution in Reviewing in 2017. ■



**Marguerite Madden** (2020)

**Marguerite Madden**

is a Professor in the University of Georgia, Department of Geography and Director of the Center for Geospatial Research where she has collaborated on environmental research projects using remote sensing and geographic information systems (GIS) since the mid-1980s. Her research focus includes the

generation of original geospatial data (e.g. detailed vegetation databases of vegetation in National Park units, animal tracking/behaviour and 3D landscape models from drone imagery), and integration of these data into GIS databases for analysis and modelling of human-environment interactions over broad scales.

A Fellow, Past GIS Division Director and Past President of the American Society for Photogrammetry and Remote Sensing (ASPRS) and Editor of the ASPRS Manual of GIS (2009), she has served in the International Society for Photogrammetry and Remote Sensing (ISPRS) Working Group and Technical Commission positions continuously since 1988, including ISPRS Technical Commission President for Commission IV, “Digital Mapping and Geodatabases” (2008-2012) and ISPRS Second Vice President (2012-2016). She has served as The ISPRS Foundation Finance Officer since 2010, and the Lead Science Advisor for the Georgia Node of the NASA DEVELOP National Program since 2012. She was awarded the ISPRS Willem Schermerhorn Award (2004), the ASPRS SAIC Estes Memorial Teaching Award (2011) and the NASA Silver Achievement Medal (2018).

Marguerite has served as major advisor to 25 Ph.D. and 21 M.S./M.A. students. She has over 65 publications in peer-reviewed journals, 11 book chapters, five edited books and proceedings, and 12 guest-edited special journal issues and serves on the Editorial Boards of five peer-review journals in geospatial science. ■



**Charles K. Toth**  
(2020)

His research interest and expertise cover broad areas of spatial information sciences and systems, including photogrammetry, multi-sensor geospatial data acquisition systems, LiDAR, high-resolution imaging, surface extraction, modelling, integrating and calibrating multi-sensor systems, georeferencing and navigation, 2D/3D signal processing, and mobile mapping technologies. He has published over 300 scientific papers, and is the recipient of numerous awards, including the 2009 APSRS Photogrammetric Award and the United States Geospatial Intelligence Foundation (USGIF) Academic Achievement Award 2015. In 2016, he was awarded the ISPRS Schwedefsky Medal for his significant contributions to the field of photogrammetric theory and practice in the last three decades.

Acknowledged internationally for his visionary contributions to mobile mapping, he was a key architect of the concept development, and conducted significant research in areas of sensor georeferencing and digital imaging technologies. He is credited with the introduction of the term “direct and indirect georeferencing” in the photogrammetric community. He is very devoted to education and mentoring the next generation of the photogrammetric professionals, and has been a major contributor to annual Summer Schools on mobile mapping, held internationally.

Charles is highly respected across the international mapping community and has held many senior leadership positions in national and international societies, among them that of President of the American Society of Photogrammetry and Remote Sensing. His service to ISPRS started in 1996, when he became co-chair of a working group. He continued in this position during the 2000-2004 term, and then took over the chair position for 2004-2008. He stayed on as co-chair for the next period, before becoming the ISPRS Commission I President from 2012 to 2016. Currently he serves as ISPRS Vice President. ■

**Charles Toth** is a Research Professor in the Department of Civil, Environmental and Geodetic Engineering, at The Ohio State University (OSU). He received a M.Sc. in Electrical Engineering and two Ph.D.s, one in Electrical Engineering and one in Geoinformation Sciences, both from the Technical University of Budapest, Hungary.



**George Vosselman**  
(2020)

He is recipient of the Hansa Luftbild Award, the ISPRS Otto von Gruber Award, the Schwedefsky Medal, and the Karl Kraus Medal. He is a board member of the Netherlands Geodetic Commission and corresponding member of the German Geodetic Commission. As of 2012, he is head of the Department of Earth Observation Science of the University of Twente.

George has been playing an active and often central role in the ISPRS community for over 20 years. He has been instrumental in adapting the society to the rise of laser scanning, including roles as WG chair (2000-2004) on reconstruction from airborne LiDAR and InSAR, WG co-chair (2008-2012) on point processing, and editor of a well-known standard book (with Hans-Geerd Maas).

Moreover, he has made a massive contribution to scientific standards, quality control, and reviewing: he was editor-in-chief of the flagship ISPRS Journal of Photogrammetry and Remote Sensing (2004-2012) and has been a member of the journal’s Editorial Advisory Board (since 2012), a member of the International Science Advisory Committee (ISAC), and chair of the International Program Committee for the Congress 2016, and has written over 250 publications, many of which have been cited numerous times. He was also the Director of the ISPRS Geospatial Week, organised in Enschede in 2019. ■

**George Vosselman** is professor in Geo-Information Extraction with Sensor Systems. He graduated with honours from the Delft University of Technology in Geodetic Engineering in 1986, then worked at the Institute of Photogrammetry of the University of Stuttgart, Germany, until 1992. In 1991, he obtained his PhD degree with honours from the



**Jon Mills** is Professor of Geomatic Engineering at The University of Newcastle upon Tyne. He is Deputy Head of the Geospatial Engineering group, within which he leads the Newcastle Earth Observation research laboratory (NEOlab).

Jon has been a loyal and dedicated supporter of ISPRS since 1996. He has exhibited sustained, excellent service to the



**Jon Mills**  
(2022)

ISPRS and its aims and therefore is an ideal candidate for the Fellowship.

Since attending his first ISPRS event to present his research as a PhD student at the 1996 Vienna Congress, age 24, Jon Mills has attended every quadrennial ISPRS Congress, as well as every Geospatial Week, and is a regular participant in ISPRS Symposia and Workshops. He has convened / co-convened five ISPRS Technical meetings, including the scientifically, socially and financially successful 2010 Technical Commission V workshop held in Newcastle upon Tyne, and has served on Scientific Programme Committees of a further 17 ISPRS technical meetings. As Treasurer of ISPRS (2012-16), he took on roles overseeing the development of the ISPRS Scientific Initiatives programme and, notably, renegotiating the ISPRS Journal contract with Elsevier, turning what was a loss-making endeavour for the Society into a significant surplus generating one from financial year 2016 onwards, with a generated revenue of CHF 88k in FY 2018 alone.

In addition to his roles in Council and ISPRS Commissions Jon was co-author of the research vision paper in 2016 and was a joint PI, ISPRS Scientific Initiative project on SDGs, 2017. He has published 11 papers in ISPRS Journal of Photogrammetry and Remote Sensing and one paper in ISPRS International Journal of Geo-information. He was Theme Issue Guest Editor of the ISPRS Journal of Photogrammetry and Remote Sensing in September 2006 and has edited two ISPRS Archives volumes, 2010 and 2012.



**Sisi Zlatanova** is a Professor at The University of New South Wales (Australia) in the Faculty of the Built Environment. She has a long record of contributing to ISPRS and is now President of Technical Commission IV, Spatial Information Science. She has previously chaired WG IV/8 (2004-12) and WG IV/7 (2012-6). Sisi has been instrumental in the



**Sisi Zlatanova**  
(2022)

organisation of the GI4DM, 3DGeoInfo and Indoor3D international conference series regarding the very important topics of risk and crisis management, 3D geoinformation and indoor modeling, resulting in important related publications. She also contributed to the geomatics community at large through her research and publications and teaching activities at academic institutions in various countries. Sisi Zlatanova studied in Bulgaria, the Netherlands and Graz, Austria (PhD) and has been active professionally in Bulgaria and held academic positions at the University of Architecture Civil Engineering and Geodesy, (Bulgaria), ITC (The Netherlands) and Graz Univ. of Technology (Austria), Delft Univ. of Technology (the Netherlands), Siberian State University of Geosystems and Technologies (Russia) and Beijing University of Civil Engineering and Architecture (China).

Sisi has organised more than 40 ISPRS events including workshops and summer schools, and published widely in ISPRS journals including several hundred articles in peer-reviewed journals, conference proceedings. She has participated in large EU and Australian projects and led seven projects on emergency response and 3D BIM/GIS data. ■

## The Brock Gold Medal Award

The Brock Gold Medal Award, donated by the American Society for Photogrammetry and Remote Sensing, is awarded for an outstanding landmark contribution in the evolution of the photogrammetry, remote sensing and spatial information sciences, which is a proven contribution to these sciences and technologies of whatever form, whether a major completed project or program, some fundamentally new equipment, system or fundamentally new technique, or other new departure.



### Li Deren

The 2020 awardee is Li Deren, for his outstanding scientific achievements in the photogrammetry, remote sensing and geospatial information sciences.

Li Deren is a professor at the Laboratory of Information Engineering in Surveying, Mapping and Remote Sensing (LIESMARS) and the Director of the

Collaborative Innovation Center of Geospatial Technology, both at Wuhan University of China. He enjoys dual membership of both, the Chinese Academy of Sciences and the Chinese Academy of Engineering. In 1985, he received his doctoral degree from the University of Stuttgart, Germany.

Li Deren is a renowned pioneer and leader of civilian space mapping in China. Starting around 2005 he proposed to the central government to establish a high-resolution satellite Earth observation system. As a result of his visionary and strategic suggestion, a dozen high resolution Chinese satellites are now in operation, fulfilling the routine national needs in social and economic developments. Today, about 80 % of satellite images in China's market are collected by these satellites.

Li Deren was also among the key individuals who proposed and designed the technical specifications of this along-track civilian stereo mapping satellite series ZY-3. Since its first successful deployment in 2012, he led his team to design and develop the ground receiving and processing systems to automatically produce standard topographic products, including digital elevation models and orthophotos based on the specification of the 1:50,000 topographic map.

This was achieved for the first time in China's history of civilian mapping; the nationwide mapping revision cycle has been reduced from approximately 5 years to 5 months, empowering the country to be able to map about 30 million square kilometres per year at the scale of 1:50,000.

More recently, Dr. Li re-focused on the development and utilization of small- and nano-mapping satellites. He led the design of three unique, non-traditional mapping satellites, LuoJia-1, 2 and 3. Being the first in China and launched in 2018, LuoJia-1 is a nightlight remote sensing satellite with 130 m resolution, which pioneers the utilization of high-resolution nightlight imagery for population distribution, urban sprawl, and regional studies. As a free and open data source, more than 26,000 LuoJia-1 scenes were downloaded by over 3,000 international users.

Li Deren is also recognized as the key designer of the very first mobile mapping system in China. Today, enhanced with home-made sophisticated algorithms, such mobile systems can ensure a fast acquisition of street-view geospatial data at an accuracy of a few centimetres. More than 300 sets of such systems were sold to various government agencies, research institutes, higher education colleges, and private companies in China; the system has been used to create 3D street views and models for over 600 cities and towns in the country.

Li Deren has served as the President of ISPRS Technical Commission III (Photogrammetry) and VI (Education). He received an Honorary Doctorate from ETH Zürich, Switzerland in 2008 and was awarded Honorary Member by ISPRS in 2012. ■



## The Otto von Gruber Award

The Otto Von Gruber Award is donated by the Netherlands Center of Geodesy and GeoInformation (NCG). It consists of a medal and a monetary grant, and is presented to the author, under 40 years of age, of a paper of outstanding merit in the field of photogrammetry, remote sensing, and spatial information sciences published during the four years prior to the Congress. The recipient of the award is Chenglu Wen from Xiamen University, China, for her pioneering work in learning-based LiDAR point cloud processing.



**Chenglu Wen**

**Chenglu Wen** has been actively involved in research in LiDAR point cloud processing with major focus on applications of 3D LiDAR data in Smart Cities, Autonomous Driving, and Building Information Model (BIM). She has made significant contributions on mobile laser scanning point cloud processing, and published several patents and over eighty

papers in academic journals, conference and workshop proceedings. She has also developed object extraction algorithms for Mobile Laser Scanned (MLS) point clouds which have been used by the industry, in particular in the field of autonomous driving. Thus, her highly cited research work on LiDAR mobile mapping and indoor modeling has a strong impact on both academic society and industry.

Chenglu Wen was born in the fourth quarter of 1982 and received a Ph. D degree of Mechanical engineering in 2009. She is an Associate Professor and former Vice Head of the Department of Artificial Intelligence, Xiamen University, China. Chenglu Wen has been actively involved in several ISPRS working groups in the past. Her research has been sponsored by several Chinese and foreign groups, including Natural Science Foundation of China programs (e.g., she received the Discovery Grant twice, one Youth grant), National Key R&D Program of China, Department of Education, Fujian Province Natural Science Grant and an ISPRS initiative.

The papers for which Chenglu Wen received the award are the following:

C Wen, X Sun, J Li, C Wang, Y Guo, A Habib, A deep learning framework for road marking extraction, classification and completion from mobile laser scanning point clouds, *ISPRS journal of photogrammetry and remote sensing* 147, 178-192, 2019.

C Wen, C You, H Wu, C Wang, X Fan, J Li, Recovery of urban 3D road boundary via multi-source data, *ISPRS Journal of Photogrammetry and Remote Sensing* 156, 184-201, 2019.

C Wang, S Hou, C Wen, Z Gong, Q Li, X Sun, J Li, Semantic line framework-based indoor building modeling using backpacked laser scanning point cloud, *ISPRS journal of photogrammetry and remote sensing* 143, 150-166, 2018. ■

## The U.V. Helava Award

The U.V. Helava Award is a prestigious ISPRS Award, which was established in 1998 to encourage and stimulate submission of high-quality scientific papers by individual authors or groups to the ISPRS Journal of Photogrammetry and Remote Sensing, to promote and advertise the journal, and to honour the outstanding contributions of Dr. Uuno V. Helava to research and development in photogrammetry and remote sensing. The Award is normally presented to authors of the best paper, written in English and published exclusively in the ISPRS Journal during the four-year period from January of a Congress year, to December of the year prior to the next Congress.

The award consists of a monetary grant of 10,000 SFr., certificates and a silver plaque. It is sponsored by Elsevier B.V. and Leica Geosystems. The plaque was designed by the 1980-88 ISPRS Technical Commission III President, Einari Kilpelä, previously professor at the now Aalto University. A five-member Jury evaluates the papers. For each year of the four-year evaluation period, the best paper is selected, and among these four papers, the one to receive the U.V. Helava Award. Due to the pandemic and the resulting postponement of the Congress, in 2022 two awards are given, one for the 2016-2021 period and one for the 2020-2021 period.

### The award-winning paper for 2016 -2019

“Bundle adjustment with raw inertial observations in UAV applications” by Davide Antonio Cucci, Martin Rehak and Jan Skaloud

from École Polytechnique Fédérale de Lausanne, Switzerland, published in volume 130, August 2017, pp. 1-12,

<https://www.sciencedirect.com/science/article/pii/S0924271617301387>



 **Davide Antonio Cucci**

 **Martin Rehak**



 **Jan Skaloud**



### Jury’s rationale for the paper selection

This paper presents a new contribution to integrated sensor orientation. It overcomes problems encountered with the traditional, Kalman filter approach for deriving exterior orientation parameter estimates from integrated GNSS/IMU systems used for bundle adjustment. The authors’ novel approach incorporates raw inertial observations into the bundle solution as a dynamic network adjustment. Their tight fusion method allows rigorous propagation of error models and properly treats correlations between observations. The success of their approach is experimentally demonstrated with real UAV data and is shown to be superior to the conventional approach for incorporating GNSS/IMU observations. The jurors felt this is a highly significant work that presents a practical solution to a technically challenging problem. Moreover, they were impressed with large-scale applicability given the increasing utilization of UAVs for spatial data capture. They felt this well-written contribution represents a genuine scientific advance to photogrammetry and, therefore, very deserving of the U.V. Helava Award for 2016-2019.

**The award-winning paper for 2020 -2021**  
**“Cloud removal in Sentinel-2 imagery using a deep residual neural network and SAR-optical data fusion”, by Andrea Meraner, Patrick Ebel, Xiao Xiang Zhu and Michael Schmitt**  
 from Technical University Munich and DLR, Oberpfaffenhofen, Germany, published in Volume 166, August 2020, Pages 333-346.  
<https://www.sciencedirect.com/science/article/pii/S0924271620301398>

**Jury’s rationale for the paper selection**

This paper developed a cloud-removal model based on a deep residual neural network using SAR data and fusion of SAR and optical data. The methodology was tested by using the data across the globe and the seasons. The Jury thinks that the work is truly innovative and has been impactful since its publication. The developed methodology tackled a common problem in optical remote sensing and has a wide application potential. Therefore, it is very deserving of the U.V. Helava Award for 2020-2021. The seventh U.V. Helava Award will be presented at the XXIV ISPRS Congress in Nice, France, 6-11 June 2022 by Christian Heipke, ISPRS President, and representatives of the sponsors. On behalf of the ISPRS and the U.V. Helava Award Jury, we would like to congratulate the authors for this distinction and thank them for their contribution. We would also like to thank the sponsors of the Award and the Jury members for their thorough evaluations and dedication to this important process. ■



**Andrea Meraner**

**Patrick Ebel**



**Xiao Xiang Zhu**

**Michael Schmitt**



## The Jack Dangermond Award

The Jack Dangermond Award was established in 2017 to encourage and stimulate submission of high-quality scientific papers by individual authors or groups to the ISPRS International Journal of Geo-Information, to promote and advertise the journal, and to honour the outstanding contributions of Jack Dangermond, founder and CEO of ESRI, to research and development in Geospatial Information Sciences. The Award is normally presented to authors of the best paper, written in English and published exclusively in the ISPRS Journal during the four-year period from January of a Congress year, to December of the year prior to the next Congress.

The award consists of a monetary grant of 10,000 USD and certificates, it is sponsored by MDPI and ESRI. A five-member Jury evaluates the papers. For each year of the four-year evaluation period, the best paper is selected, and among these four papers, the one to receive the Jack Dangermond Award. Due to the pandemic and the resulting postponement of the Congress, in 2022 two awards are given, one for the 2016-2021 period and one for the 2020-2021 period.

### The award-winning paper 2017 - 2019

“Voxel-based 3D Point Cloud Semantic Segmentation: Unsupervised Geometric and Relationship Featuring vs Deep Learning Methods” by Florent Poux and Roland Billen

from the Geomatics Unit, University of Liège, Belgium, published in Vol. 8, (5), 2019,

<https://doi.org/10.3390/ijgi8050213>




**Florent Poux**



**Roland Billen**



### Jury’s rationale for the paper selection

The winning paper addresses the problem of voxel-based 3D point cloud semantic segmentation. The authors propose a workflow that uses voxelization, a two-step feature extraction for low-level shape-based features as well as connectivity and relationship features, and finally a knowledge-based decision tree for feature classification. This paper has potential to greatly influence the processing of 3D point cloud data sets that fulfil the definition of Big Data in volume and velocity of data collection. It progresses the trajectory of geospatial analysis toward true 3D functionality. The use of a knowledge-based decision tree for feature classification also leverages the wealth of existing information that can contribute to classification in many application areas. The jury felt this well-written contribution represents a genuine scientific advance in voxel-based semantic segmentation and, therefore, very deserving of the Jack Dangermond Award for 2017-2019. ■

**The award-winning paper for 2020-2021**




**Godwin  
Yeboah**

Analysis of OpenStreetMap Data Quality at Different Stages of a Participatory Mapping Process: Evidence from Slums in Africa and Asia by Yeboah G, Porto de Albuquerque J, Troilo R, Tregonning G, Perera S, Ahmed Saks, Ajisola M, Alam O, Aujla N, Azam SI, Azeem K, Bakibinga P, Chen Y-F, Choudhury NN, Diggie PJ, Fayehun O, Gill P, Griffiths F, Harris B, Iqbal R, Kabaria C, Ziraba

AK, Khan AZ, Kibe P, Kisia L, Kyobutungi C, Lilford RJ, Madan JJ, Mbaya N, Mberu B, Mohamed SF, Muir H, Nazish A, Njeri A, Odubanjo O, Omigbodun A, Osuh ME, Owoaje E, Oyebode O, Pitidis V, Rahman O, Rizvi N, Sartori J, Smith S, Taiwo OJ, Ulbrich P, Uthman OA, Watson SI, Wilson R, Yusuf R. ISPRS International Journal of Geo-Information. 2021; 10(4):265.

<https://doi.org/10.3390/ijgi10040265>

**Jury’s rationale for the paper selection**

The winning paper addresses the needed assessment of OpenStreetMap data quality to quantify volunteer mapping in morphologically complex urban slums in Africa and Asia. Data integrity is a critical area of research. Experts in many parts of the world contributed to this paper by an extensive data collection showing the critical importance of remotely sensed image-derived urban slum data for addressing many social and environmental problems. The approach for this paper was an extremely large undertaking and is novel in its scope. The results make an important contribution to our understanding of volunteer data related to feature complexity. The Jury felt this well-written contribution represents a genuine scientific advance in volunteered geographic information handling and, therefore, very deserving of the Jack Dangermond Award for 2020-2021. ■

## The Samuel Gamble Award

The Samuel Gamble Award is sponsored by the Canadian Institute of Geomatics in honour of Dr. Samuel G. Gamble, former President of ISPRS, and Director of the 1972 Congress. A recipient of the award shall be a person who, like Dr. Gamble, has contributed significantly to the development, organization or professional activities of photogrammetry, remote sensing and spatial information sciences, at the national or international level.

In 2020, two recipients are awarded: Jonathan Li, for his contribution to the field of mobile mapping in Canada and internationally; and Jan Skaloud, who has advanced the frontier between photogrammetry & remote sensing and navigation sensors. In 2022, Ruisheng Wang is awarded for his significant contribution to the field of photogrammetry and remote sensing



**Jonathan Li**  
(2020)

**Jonathan Li** is a professor both in Geomatics and Systems Design Engineering at the University of Waterloo (UW), Canada, where he founded and leads the «Mobile Sensing and Geodata Science» group with 20 researchers. He has been a principal investigator of over 30 research projects since 2001.

He has made outstanding contributions to the

development and commercialization of photogrammetry and remote sensing technologies. His research has resulted in the development of new concepts and algorithms for a HD mapping system for smart cities and a 3D LIDAR point cloud processing system for roadway inventory.

Jonathan has been serving on the Canadian National Committee for ISPRS of both the Canadian Institute of Geomatics and the Canadian Remote Sensing Society. He has been an officer of several ISPRS working groups, he has also served as associate editor of various scientific prestigious journals. His research has been supported by government funding agencies, industry and international sponsors. His research activities have led to 16 granted patents, 8 books, and more than 400 research papers published in refereed journals, and in refereed conferences. He has received numerous citations and has also received a number of awards.

Jonathan Li has played an important role in the successful training of geomatics students and professionals. He is very actively involved in many international professional activities, which include his role as a national examiner of Professional Engineers Ontario (PEO) and a co-organizer and/or programme committee of several well-known international conferences including mobile mapping technology (MMT, since 2003), and earth observation for global/environmental changes (EOGC, since 2009). ■



**Jan Skaloud**  
(2020)

**Jan Skaloud** is, among other accomplishments, senior research fellow at EPFL since 2008 and (co-) chair of ISPRS WGs for 12 years. Furthermore, he is active in other international (ION, IAG) and national (Swiss Geodetic Commission, Swiss Society for Photogrammetry and Remote Sensing) scientific and professional organisations. From these positions he has

contributed significantly in the organisation of professional activities and events. A highlight of his contributions is his role in the successful EuroCOW conference series.

Throughout his career, Jan Skaloud has advanced the frontier between photogrammetry & remote sensing and navigation sensors: during his time in Canada he developed the 1st practical result of airborne direct orientation, presented at the ISPRS Congress in Vienna while optimizing georeferencing by INS/DGPS in general. Since his arrival in Switzerland, he put forward the rigorous calibration technique for airborne lidar and new methodology for sensor georeferencing. He led the development of a system and techniques for real-time registration of airborne lasers with sub-decimetre accuracy and in-flight quality control. Since 2013, he pioneered the integrated sensor orientation on small UAV for mapping with cm-level accuracy without ground control, which won him the Hansa Luftbild Prize in 2014. In this field, he is the co-recipient of 2020 Helava Award for the development of bundle adjustment with raw inertial observations.

Over the last 20 years, Jan Skaloud contributed to various ISPRS and EuroSDR activities, chairing ISPRS working groups (since 2008) that organize the EuroCOW meetings for which he acts as a main onvener since 2016. His other research activities are related to geodesy and navigation. ■



**Ruisheng Wang**  
(2022)

**Ruisheng Wang**

is a professor in the Department of Geomatics Engineering at the University of Calgary which he joined in 2012. Before that, he worked as an industrial researcher at HERE Technologies in Chicago, Illinois. Ruisheng Wang holds a Ph.D. in Electrical and Computer Engineering from McGill University, an M.Sc.E. in Geomatics Engineering from the University of New Brunswick, and a B.Eng. in Photogrammetry and Remote Sensing from the Wuhan University, respectively. He has supervised over 50 PhD, MSc, Postdoc, and Honour theses of undergrads. He has co-authored over 70 research papers published in prestigious ISPRS, IEEE, Elsevier journals in photogrammetry, remote sensing, and computer vision. He is currently a Professional Engineer registered in the Province of Alberta, a member of CIG and CRSS and a senior member of IEEE.

Ruisheng Wang is an acknowledged expert in automatic LiDAR point cloud processing, who leads an internationally recognized research program that aims to develop fully automated methods for real-time generation and updating of 3D maps, operating at the interface of photogrammetry and computer vision. He also made important contributions related to building extraction and modelling in complex urban environments.

Ruisheng Wang and his research team’s highly innovative work has been recognized through important and highly competitive awards, including Google Research awards in 2014 and 2016 in the Geo/Maps category for contributions on “Building Entrance Recognition from Street-Level LiDAR and Video Images” and “Enhancing Building Facades Using Mobile LiDAR”. In regard to broader contributions to the profession, Ruisheng Wang serves as Associate Editor of Photogrammetric Engineering and Remote Sensing, IEEE Selected Topics in Applied Earth Observations and Remote Sensing, the Canadian Journal of Remote Sensing, and the Journal of Applied Remote Sensing. Also, he has served as a program committee member for many conferences and has been involved in organizing the IEEE Winter Conference on Applications of Computer Vision series. ■

## The Willem Schermerhorn Award

The Willem Schermerhorn Award (1988), sponsored by Geo-Information Netherlands is granted to a person who has most significantly contributed to the activities of a Working Group of the ISPRS during the four-year Congress period. The award consists of a plaque and a monetary grant.




**Michael  
Ying Yang**

The 2020 Award has been awarded to **Michael Ying Yang** for his leadership of in co-chairing ISPRS working group II/5 Dynamic Scene Analysis in continuity of his involvement in working group III/3 in Image Sequence Analysis (2012-2016). Through this working group he displayed great effort in building bridges between communities, in particular Computer Vision. Such an effort is permitted by the fact Dr. Yang has a clear and sharp vision of this domain and current challenges, as well as by his methodological expertise and publication track record. This allows him to pave the way in new directions for ISPRS and to build new initiatives with counterparts in other communities. His research interests broadly cover computer vision and photogrammetry. During the last 10 years, he specialized on scene understanding and semantic interpretation from imagery and videos, and has published more than 100 papers in international journals and conference proceedings.

He serves as Associate Editor of Photogrammetric Engineering & Remote Sensing journal, he co-organized 10 international workshops, and is guest editor of 4 journal special issues. He was also the Programme Chair of the ISPRS Geospatial Week 2019.

He is recipient of the ISPRS President's Honorary Citation (2016) and Best Science Paper Award at BMVC 2016. Since 2012, he is regularly serving as program committee member of conferences and reviewer for international journals. He has twice received the Outstanding Reviewer Award for ISPRS Journal of Photogrammetry and Remote Sensing.

He also recently co-edited a book in Multimodal Scene Understanding, which includes state-of-the-art developments on the topic both from a theoretical and an applicative perspective. ■

## The Schwidefsky Medal

The Schwidefsky Medal is sponsored by the German Society of Photogrammetry, Remote Sensing, and Spatial Information (DGPF), in memory of Professor Dr. rer. techn. Dr.-Ing. e.h. Kurt Schwidefsky, Honorary Member of the ISPRS. The Award is in the form of a medal made of porcelain. The recipients shall be persons who have made significant contributions to photogrammetry and remote sensing, either through the medium of publication as author or editor, or in another form.




**Derek Lichti**

The Schwidefsky Medal 2020 is awarded to **Derek Lichti**, in recognition of his role as Editor-in-Chief for the ISPRS's flagship journal, the ISPRS Journal of Photogrammetry and Remote Sensing, a role in which he served since 2013. He successfully managed the journal's tremendous growth by doubling the editorial team and kept quality the primary focus, as evidenced by the impact factor more than doubling, and the journal's top ranking among remote sensing journals. Widely recognized for his professional prominence in the worldwide photogrammetry and laser scanning community, Derek has held senior leadership positions with several national and international societies and associations. He was the Co-Chair of Working Group V/3, Terrestrial Laserscanning for the period 2004-2008, and then continued as Chair for the next four-year period. During this time, he organized the very successful Laser Scanning 2011 workshop in Calgary, Canada.

He was the Head of the Geomatics Engineering Department at the University of Calgary from 2013 to 2018, and has received numerous awards for his excellence in teaching undergraduate students and supervising graduate students, and has an outstanding scholarly record, measured in a large number of peer-reviewed journal papers, giving keynotes, teaching tutorials and workshops worldwide.

Prior to his time in Calgary, Derek worked as an academic in Perth, Australia, starting in 1999 and has held visiting academic positions in Australia, Brazil, Malaysia and Switzerland. He was also a co-founder of Scanalyse Pty. Ltd., a successful Perth-based start-up company specialising in wear-measurement solutions for the mining industry, based on laser scanning technology. ■

## The Eduard Doležal Award

The Eduard Doležal Award is donated by the Austrian Society for Surveying and Geoinformation to assist individuals or representatives of institutions from developing or reform countries to participate in the ISPRS Congress.



**Damdinsuren  
Amarsaikhan**

The 2020 recipient is **Damdinsuren Amarsaikhan** for his implementation of many practical applications of remote sensing (RS) and GIS. In 1991, as one of the first GIS specialists of Mongolia, he developed the first GIS system of the country. Since then, he has developed many techniques applied in different fields of RS/GIS and also worked as a project leader in many RS/GIS projects.

Damdinsuren Amarsaikhan has been working as Head of Division of RS and Spatial Modelling, Institute of Geography and Geoecology, Mongolian Academy of Sciences (MAS) since February 25, 2015. From 2004 to 2015, he worked as Head of Geoinformatics Department, Institute of Informatics and RS, MAS. He was elected as a full member of the Mongolian Academy of Sciences and became Academician (i.e. Distinguished Professor of Mongolia) in June 2011. From 2007 to 2017, he worked as a professor of GIS/RS at the Geography Department, National University of Mongolia.

He was awarded the “Young Scientist” Prize, by World Academy of Sciences; “Outstanding Scientist of Mongolia - 2005”, by the Ministry of Science and Education of Mongolia; “Best ITC Alumni Paper Award”, from the ISPRS TC VII Mid-Term Symposium of 2006; “Outstanding Scientist of Mongolia - 2008”; and “Most Outstanding IT Researcher of Mongolia - 2009”. In November 2011, his paper entitled “Advanced Applications of Optical, Microwave and Hyperspectral RS in Mongolia” was selected as “The Paper of the Month” by the International Federation of Surveyors. ■

## The Wang Zhizhuo Award

The Wang Zhizhuo Award is sponsored by the Chinese Society of Geodesy, Photogrammetry and Cartography (CSGPC) and consists of a medal and a monetary grant. It is granted at each quadrennial ISPRS Congress to a person who has made significant achievement or innovation in the spatial information sciences.



**Wolfgang  
Kainz**

The recipient of the 2020 Award is **Wolfgang Kainz** for his contribution to the theoretical foundations of GIS in fuzzy logic and topology, his efforts to strengthen international education through the development of international graduate programs in geospatial information technology at LIESMARS, Wuhan University, and his excellent work as editor-in-chief of the ISPRS International Journal of Geo-Information.

Wolfgang Kainz is a full professor of Cartography and Geo-Information Science at the Department of Geography and Regional Research of the University of Vienna, Austria. In his research, he focuses on the theoretical issues of GIS, in particular related to spatiotemporal modelling, uncertainty, and topology.

Previously, he has led several research groups in Austria and the Netherlands. He has published more than 150 scientific papers and guided more than 25 international PhD students.

Wolfgang held visiting professor positions at universities in Brazil, the Czech Republic, Kuwait and the USA. In 2014, he became a visiting professor at Wuhan University. He has served ISPRS as chair of WG II/5 (2000-2004), President of Technical Commission II (2004-2008), member of the Executive Committee for the preparation of the ISPRS Centennial (2007-2010), and member of the ISPRS International Scientific Advisory Committee (2008-2012).

He is co-editor of volumes 1 and 5 of the ISPRS Book series. Since 2011, he is founding editor-in-chief of the ISPRS International Journal of Geo-Information (IJGI). In 2019, he was accepted as a member of the ISPRS White Elephant Club.

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## The Karl Kraus Medal

The Karl Kraus Medal, sponsored by the German Society of Photogrammetry, Remote Sensing, and Spatial Information (DGPF), the Austrian Society of Surveying and Geoinformation (OVG), and the Swiss Society of Photogrammetry and Remote Sensing (SGPF), is awarded to authors of excellent textbooks in the fields of photogrammetry, remote sensing, and spatial information sciences, published no more than eight years prior to the commencement of the ISPRS Congress at which it is to be awarded.

In 2020, the medal is awarded to Wolfgang Förstner and Bernhard P. Wrobel for their textbook *Photogrammetric Computer Vision - Statistics, Geometry, Orientation and Reconstruction*, published by Springer in 2016.



### Wolfgang Förstner

After obtaining a degree in geodesy, Wolfgang Förstner started his career at the Institute for Photogrammetry, University of Stuttgart. In his dissertation he concentrated on blunder detection in photogrammetric blocks; his results still prevail. Förstner then devoted his research to the problem of image matching which was highly topical with

the first-time availability of digital images. His work was pioneer in digital photogrammetry world-wide. Papers on least squares matching presented at the 1984 ISPRS Congress and on an Interest-Operator, later named the Förstner Operator, at the 1986 ISPRS Symposium are, to this day, recognized as ground-breaking. Almost all systems, which have proven themselves in the practical world, are based on either LSM, the Förstner-Operator or variants thereof. After his appointment to the professorship of photogrammetry at Bonn University in 1990, Förstner became interested also in pattern recognition and computer vision. Work on building reconstruction from aerial images formed his scientific focus for the following years, resulting in many scientific publications but also in the commercial program system inJect.

Many other areas of interest of Wolfgang Förstner and many more of his achievements could be mentioned. Suffice it to say that throughout his exemplary career of more than 40 years as a researcher, inventor, innovator and educator, he has made exceptionally significant scientific contributions in many areas of Information from Imagery and mentored generations of mapping scientists and engineers. Although formally retired since 2012, he continues his scientific activities.

In 2016, Wolfgang received the Brock Gold Medal Award for his outstanding scientific achievements in the fields of photogrammetry and computer vision.



### Bernhard P. Wrobel

After studying Surveying and Mapping at the Technical University Darmstadt and the University of Bonn, Germany, where he also worked as a research assistant, Bernhard Wrobel obtained a PhD degree in 1965. He continued his career as an assessor at the Land Registry Cadastre, in the state of North Rhine-Westphalia. From 1967

to 1974, he was head engineer in Photogrammetry at the Institute for Theoretical Geodesy, Bonn University, where he obtained his *venia legendi* in 1973. He took up the position of associate professor at the Universität Hannover in 1974, and in 1981 became full professor of photogrammetry at the TU Darmstadt, a position he employed until his retirement in 2001. Since then he has intensified his interest in the link between photogrammetry and computer vision, which is visible in the publication of the awarded book.

He was guest lecturer in Zurich, in 1992, 1996 and 2000, and in Tainan, Taiwan in 1984, 1988 and 1999. Bernhard's main areas of interest have been mathematical aspects of photogrammetry, surface reconstruction of objects using digital image matching, particularly with the "Facetten-Stereosehen" approach, and applications in cadastre, construction and engineering.

He is author and co-author of various publications, including "Digital Image Matching by Facets using Object Space Models" (SPIE 804, 1987) and "Calibration and Orientation of Cameras in Computer Vision" (Springer, 2001). In 1977, he was awarded the Hansa Luftbild Prize.



## The Frederick J. Doyle Award

The Frederick J. Doyle Award is awarded to an individual who has made significant accomplishments in advancing the photogrammetry, remote sensing and spatial information sciences and technologies. A recipient of the award should typically be less than 50 years of age and have outstanding stature within the ISPRS community. The award consists of a silver medal and a monetary grant.




**Konrad  
Schindler**

The Frederick J. Doyle Award 2020 goes to **Konrad Schindler** for his outstanding scientific achievements and his exceptional contribution to connecting the areas of photogrammetry and computer vision.

Konrad Schindler has been active in photogrammetry, remote sensing and computer vision for more than 20 years. He has worked in various academic positions, since 2010 he is professor of Photogrammetry and Remote Sensing at ETH Zurich. He has been a figurehead of photogrammetric computer vision, both within the world of photogrammetry and as one of the few photogrammetrists with a long-term recognition in the computer vision community. He has made sustained contributions to the use of high-level computer vision in photogrammetry and remote sensing, and to the adoption of deep learning.

Overall, he has co-authored more than 150 peer-reviewed publications. His work has won several scientific awards: Helava Award 2008-2011, the Helava Best Paper 2018, Best Paper at the TC2 Symposium 2018, Best Paper at PIA 2015, and Honourable Mentions for the Marr Prize 2013, and the 3DV Award 2019. With more than 12,000 citations and a h-index of 63, Konrad is among the most-cited academics in photogrammetry.

Konrad has been ISPRS Technical Commission II President (2012-2016), organiser of several joint ISPRS/IEEE workshops, and since 2012 is associate editor of the ISPRS Journal. His exceptionally inspirational work consistently and successfully bridges the presumable gap between photogrammetry and remote sensing on one hand, and (modern) computer vision on the other. In this way, he has inspired many top PhDs, helping them to a successful career. ■

## The Giuseppe Inghilleri Award

The Giuseppe Inghilleri Award, sponsored by the Italian Society for Surveying and Photogrammetry (SIFET) is presented to a person who has significantly enhanced the applications of photogrammetry, remote sensing or spatial information sciences in the 4 years preceding the Congress. The award consists of SFr 2,500 and a certificate.

Two recipients of the award have been chosen for 2020: Marc Pierrot Deseilligny, for his long-term development of the open source software MicMac; and Cheng Wang, for his work in 3D point cloud processing.



### Marc Pierrot Deseilligny

is research director at IGN. He currently works at the Ecole Nationale des Sciences Géographiques (ENSG) where he is involved in research and teaching in the LaSTIG (Laboratoire en Sciences et Technologies de l'Information Géographique). It is his conviction that research must be closely linked to teaching.

The principal topic of

his scientific career is "Image processing applied to data production for geographic information systems". Until 2003, his research was focused on "Automatic interpretation of scanned maps". Since then, his main activities have moved to the field of photogrammetry.

Since 2003, Marc's photogrammetric research has been integrated into the software named MicMac. In 2007, he proposed to IGN, to make MicMac a free open source project, motivated by his belief that it is good that intangible property is shared for free, and because free open source is a necessary condition to preserve freedom in the digital domain. Since then, the user base of MicMac has largely increased, demonstrating the convincing success of his work.

### Marc Pierrot Deseilligny



### Cheng Wang

is presently a professor in Computer Science and Executive Associate Dean at the School of Informatics, Xiamen University, China, and Deputy Director of the Fujian Key Laboratory on Sensing and Computing for Smart Cities.

He holds a PhD in Communication and Information Systems (2022) and a B.Sc degree in Electronic Engineering

### Cheng Wang

(1997), both from the National University of Defense Technology, Changsha, China. His current main research interests are 3D point cloud processing, mobile mapping system design and geospatial big data analysis with applications on Smart Cities. He has extensively published and hold different patents in these areas and attracted numerous research grants, mainly from Chinese funding agencies. Furthermore, he has been active in ISPRS and has organised different scientific meetings, mainly on topics common to photogrammetry and computer vision.

# ISPRS Best Young Author Award

The awards for Best Papers by Young Authors are provided by donor organizations and by ISPRS to authors who are less than 35 years old and are the 1st author of a high-quality paper presented at the Congress. In 2020, two awards were presented per Technical Commission, in 2021 and 2022 one award was presented.

## Technical Commission I

**Emmanuel Cledat**, Switzerland (2020)  
Camera calibration models and methods in corridor mapping with UAVs

**Stefan Blaser**, Switzerland (2020)  
Cm-accuracy in forests and urban canyons – combining a high-performance image-based mobile mapping backpack with new georeferencing methods

**Jiayuan Li**, China (2021)  
Robust estimation in robot vision and photogrammetry: A general model and its applications

**Kyriaki Mouzakidou**, Switzerland (2022)  
On the benefit of concurrent adjustment of active and passive optical sensors with GNSS & raw inertial data

## Technical Commission II

**Dennis Wittich**, Germany (2020)  
Deep domain adaptation by weighted entropy minimization for the classification of aerial images

**Eleonora Maset**, Italy (2020)  
Bundle Block Adjustment with Constrained Relative Orientations

**Rahima Djahel**, France (2021)  
Towards Efficient Indoor/Outdoor Registration Using Planar Polygons

**Corinne Stucker**, Switzerland (2022)  
ImpliCity: City Modeling from Satellite Images with Deep Implicit Occupancy Field

## Technical Commission III

**Rory Clifford Pittman**, Canada (2020)  
Estimation of soil bulk density and carbon using multi-source remotely sensed data

**Jiangyuan Zeng**, China (2020)  
Development and validation of a new passive microwave-based soil moisture index

**Milad Niroumand-Jadidi**, Italy (2021)  
Water quality retrieval and algal bloom detection using high-resolution CubeSat imagery

**Mirjana Voelsen**, Germany (2022)  
Investigation 2D and 3D convolutions for multitemporal land cover classification using remote sensing images

## Technical Commission IV

**Xiaoli Li**, China (2020)  
Region-based fuzzy clustering image segmentation algorithm with Kullback-Leibler distance

**Patrick Hübner**, Germany (2020)  
Voxel-based indoor reconstruction from hololens triangle meshes

**Oskar Wage**, Germany (2021)  
Joint estimation of road roughness from crowd-sourced bicycle acceleration measurements

**Xiaodan Shi**, Japan (2022)  
Learning social compliant multi-modal distributions of human path in crowds

## Technical Commission V

**Priyanka Singh**, India (2020)  
Maximum entropy modelling using citizen science: use case on Jacobin cuckoo as an indicator of Indian monsoon

**Recep Can**, Turkey (2020)  
Development of a CitSci and artificial intelligence supported GIS platform for landslide data collection

**Clémence Dubois**, Germany (2021)  
Knowledge and skills related to active optical sensors in the body of knowledge for earth observation and geoinformation (EO4GEO BoK)

**Juan Fernando Toro**, Italy (2022)  
The open database of regional models of the international service for the geoid

# The President's Honorary Citation

The President's Honorary Citation is a certificate of recognition presented by the President of ISPRS to one or more officers of one Working Group of each ISPRS Technical Commission. The citation is to recognize special, personal and meritorious contributions to the operation of the relevant Technical Commission's activities and advancement of its interests, during the quadrennial term of the Society. Due to the pandemic, citations were presented separately for the 2016-2020 and the 2020-2022 periods.

## Technical Commission I

**Francesco Nex**, Netherlands (2020)  
for his outstanding efforts in leading ICWG I/II «UAS and Small Multi-Sensor Platforms» and meritorious contributions to our scientific community

**Rupert Müller**, Germany (2022)  
for his outstanding efforts in leading WG I/1 «Multi- and Hyperspectral Sensing» and meritorious contributions to our scientific community

## Technical Commission II

**Diego Gonzalez-Aguilera**, Spain (2020)  
for his excellent work in strengthening relationships with the heritage community, for his overall contribution to the organization of scientific events related to heritage 3D documentation and for his efforts in educational activities

**Devis Tuia**, Switzerland (2022)  
for his meritorious efforts and hard work to increase collaboration between IEEE and ISPRS communities by organizing numerous joint events

## Technical Commission III

**Eija Honkavaara**, Finland (2020)  
for her outstanding leadership of ISPRS Working Group III/4 on "Hyperspectral Image Processing", and meritorious contributions to the objectives and missions of TC III

**Mitsunori Yoshimura**, Japan (2022)  
for his outstanding leadership of WG III/10 on «Agriculture and Natural Ecosystems Modelling and Monitoring», and his meritorious contributions to the Technical Commission III's activities and its scientific goals

## Technical Commission IV

**Maria Antonia Brovelli**, Italy (2020)  
for her significant support to Commission IV by organising multinational open data projects with the aim of promoting geospatial knowledge and technologies for community-based mapping and outstanding leadership of WG IV/4 on "Collaborative Crowdsourced Cloud Mapping (C<sup>3</sup>M)"

**Zhizhong Kang, Kourosh Khoshelham, Lucía Díaz Vilariño**, China/Australia/Spain (2022)  
in recognition of their special, personal and meritorious contributions to the operation of the working group in 3D modelling of indoor and outdoor environment

## Technical Commission V

**Vladimir Seredovich**, Russia (2020)  
for his meritorious contributions to Technical Commission V and invaluable leadership of WV/7 on «Innovative Technologies in training Civil Engineers and Architects»

**Sultan Kocaman**, Turkey (2022)  
for her significant contributions to the objectives of Commission V, and in particular, to the capacity building on advanced Geospatial methods in Citizen Science, as well as demonstrated leadership of WGV/3 on "Promotion of Regional Collaboration in Citizen Science and Geospatial Technology"

## Best Reviewers of the ISPRS XXIV Congress

Reviewing the submissions for a scientific event is an essential element of quality assurance in any discipline. For the first time in a large ISPRS meeting, the XXIV Congress recognises the top five reviewers per Technical Commission and wholeheartedly thanks them for their valuable time and efforts.

### Technical Commission I

**Petra Helmholz**, Australia  
**Michael Cramer**, Germany  
**Stephan Nebiker**, Switzerland  
**Dorota Iwaszczuk**, Germany  
**Naser El-Sheimy**, Canada

### Technical Commission IV

**Mahmoud Reza Delavar**, Iran  
**Stephan Winter**, Australia  
**Lucía Díaz-Vilariño**, Spain  
**Youness Dehbi**, Germany  
**Serena Coetzee**, South Africa

### Technical Commission II

**Filiberto Chiabrande**, Italy  
**Michael Ying Yang**, Netherlands  
**Eleonora Maset**, Italy  
**Max Hödel**, Germany  
**Loic Landrieu**, France

### Technical Commission V

**Alfred Stein**, Netherlands  
**Andrea Masiero**, Italy  
**Rupert Mueller**, Germany  
**Cristiana Achille**, Italy  
**Jen-Jer Jaw**, China Taipei

### Technical Commission III

**Michael Schmitt**, Germany  
**Timo Balz**, China  
**Ali Ozgun Ok**, Turkey  
**Andrea Masiero**, Italy  
**Daniele Cerra**, Germany

## Student Consortium Service Award

The ISPRS Student Consortium Service Award recognizes an individual who has rendered exceptional contributions to the Consortium during an ISPRS Congress term. This award is given for the first time in 2020, and then at each following Congress.



For 2020, the award is presented to **Sheryl Rose Reyes** for outstanding leadership of the ISPRS Student Council in the 2016 to 2020 term.

In the past four years, Ms. Reyes has provided outstanding leadership for the ISPRS Student Council and developed strong respect among her peers.

From her many achievements, two are particularly noteworthy: the first is the Student Consortium Newsletter, SPECTRUM, which, for the student community is in par with the ISPRS eBulletin, and signifies Sheryl's commitment and hard work. The second one is the increasing number of Student Consortium Summer Schools, which have not only grown but improved in quality under her Student Consortium leadership. ■

Sheryl Rose  
Reyes

## CATCON Award

At the Congress, CATCON - the Computer Assisted Teaching Contest - will be organized by ISPRS Technical Commission V. It is funded by ISPRS. The main objective of the contest is to promote the development and dissemination of good, user-friendly software packages, web content and data sets for computer assisted teaching, which preferably are non-commercial and free. Typically, the prizes consist of a Gold Award (SFr. 3,000), a Silver Award (SFr. 2,500), and a Bronze Award (SFr. 1,500) and a certificate.

## Best Poster Papers

At the Congress, a total of 10 Best Poster Papers Awards are sponsored by ISPRS. A jury for each of the five ISPRS Commissions observes the poster presentations and selects the two best Poster Papers of each Commission. The award consists of a gift and certificate from the Congress Director.

## Youth Forum Awards

The best paper at the Youth Forum will be selected from the papers of the Youth Forum Technical Sessions. The Youth Forum Best Paper award consists of a certificate and a gift sponsored by Leica Geosystems, Switzerland.

## Certificates of Recognition for Excellence in Service to ISPRS

Besides the Working Group officers, the Technical Commission Presidents and Council Members there are many people who collectively contribute to the activities and the success of ISPRS. At the Congress a representative number of them are honoured for their dedicated and excellent work and service for the society. At the Nice Congress Certificates of Recognition go to:

**Ian Dowman**, ISAC Chair

**Gunter Schreier**, IPAC Chair

**Christian Hoffmann**, IIAC Chair

**Yana Gevorgyan**, ICORSE Chair 2018-2021

**Mary Ann Kutny**, ICORSE Chair 2021-2022

**Stratos Stylianidis**, CIPA Chair

**Sheryl Rose Reyes**, President, Student Consortium

**Stewart Walker**, TIF Trustee & Chair of the Board

**Marguerite Madden**, TIF Trustee & Finance Officer

**John Trinder**, TIF Trustee & Operations Officer

**George Vosselman**, Chair Financial Commission  
2021-2022, Member 2016-2021

**Jon Mills**, Chair Financial Commission 2016-2021

**Emmanuel Baltsavias**, Financial Commission  
2016-2021

**Fulvio Rinaudo**, Financial Commission 2021-2022

**Petri Rönholm**, Financial Commission 2021-2022

**Hussein Farah**, Regional Representative for Africa

**Mario Hernandez**, Regional Representative  
Latin America

**Shailesh Nayak**, Regional Representative Asia

**Muhamad Alrajhi**, Regional Coordinator Arab States

**Mohammed Yahia Al Sayel**, Regional Coordinator  
Arab States

**Abdalla Alobeid**, Vice-Regional Coordinator  
Arab States

**Derek Lichti**, Editor-in-Chief ISPRS Journal  
of Photogrammetry & Remote Sensing

**Qihao Weng**, Editor-in-Chief ISPRS Journal  
of Photogrammetry & Remote Sensing

**Clément Mallet**, Editor-in-Chief ISPRS Journal  
of Photogrammetry & Remote Sensing

**George Vosselman**, Editor-in-Chief ISPRS Open  
Journal of Photogrammetry & Remote Sensing

**Wolfgang Kainz**, Editor-in-Chief ISPRS Journal  
Geo-Information

**Zhilin Li**, Book Series Editor

**Markus English**, Web Master

**Mustafa Ustuner**, Social Media Editor

**Annette Radtke**, ISPRS Headquarters

**Dan Brooking-Coker**, ISPRS Treasurer's Office

**Chen Chen**, ISPRS Beijing Office

**Laurent Polidori**, Deputy Director and Institutional  
Chair of the XXIV Congress

**Clément Mallet**, Advisor to the Congress Director  
of the XXIV Congress

**Inez Burger**, Advisor to the Congress Director  
and PCO of the XXIV Congress

**Eric Laberge**, Financial Chair of the XXIV Congress

**Pierre Grussenmeyer**, Industry chair  
of the XXIV Congress

**Tania Landes**, Media chair of the XXIV Congress

**Ian Dowman**, Chair of the International Programme  
of the XXIV Congress

**Clément Mallet**, Programme Chair  
of the 2020-2021 Editions of the XXIV Congress

**Florent Lafarge**, Programme Chair of the 2020-2021  
Editions of the XXIV Congress

**Ewelina Rupnik**, Programme Chair of the 2022  
Edition of the XXIV Congress

**Loïc Landrieu**, Programme Chair of the 2022 Edition  
of the XXIV Congress

**Sander Oude Elberink**, Programme Chair of the  
2022 Edition of the XXIV Congress

**Erica Nocerino**, Tutorial Chair of the XXIV Congress

**Jan-Dirk Wegner**, Tutorial Chair  
of the XXIV Congress

**Franz Rottensteiner**, Student Consortium Mentor  
of the XXIV Congress

**Michael Ying Yang**, Thematical Session Chair  
of the 2021 Edition of the XXIV Congress

**Clément Mallet**, Thematical Session Chair  
of the 2022 Edition of the XXIV Congress

## The ISPRS Foundation and Congress Travel Grants

In 2022, The ISPRS Foundation has allocated Cash travel grants funded by TIF to the sum of \$US34,600 and, with the generous support from France, fee waivers funded by IRD (Institut de Recherche pour le Développement) to the sum of €17,150 to assist students and young scientists to attend the ISPRS Congress. These grants represent a major part of the philanthropic activities of the ISPRS Foundation. Of the 69 applicants for the travel grants and fee waivers received, partial travel grants and fee waivers were awarded to 63 participants from 23 countries. The recipients for 2022 are:

**Joelle Abu-Hani**, Israel

**Sanchalita Bandyopadhyay**, Germany

**Valeria Belloni**, Italy

**Shruti Bharadwaj**, India

**Arpit Bhatt**, India

**Mehmet Büyükdemircioğlu**, Germany

**Recep Can**, Turkey

**Letícia Ferrari Castanheiro**, Brazil

**Sinem Çetinkaya**, Turkey

**Jorge Andres Chamorro Martinez**, Brazil

**Jisung Chang**, Korea

**Elisabetta Colucci**, Italy

**Francesca Condorelli**, Italia

**Irene Cortesi**, Italy

**Nicholas De Kock**, South Africa

**Holly Dehingia**, India

**Mangesh Deshpande**, India

**Ashraf Dewan**, Australia

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