

Awards Presented at the IGARSS 2019 Banquet

The IEEE Geoscience and Remote Sensing Society (GRSS) 2019 awards for papers and special achievements were presented at the IEEE International Geoscience and Remote Sensing Symposium (IGARSS) awards banquet on 1 August at Osanbashi Hall, Osanbashi Yokohama International Passenger Terminal, Japan. During the dinner, GRSS President Paolo Gamba, Publications Awards Chair Antonio Plaza, and Symposium Awards Chair Xiuping Jia presented the following awards:

- ▶ the IEEE GRSS Transactions Prize Paper Award
- ▶ the IEEE GRSS Letters Prize Paper Award
- ▶ the IEEE GRSS Journal of Selected Topics in Applied Earth Observations and Remote Sensing (J-STARS) Prize Paper Award
- ▶ the IEEE GRSS Highest Impact Paper Award
- ▶ the IEEE GRSS Early Career Award
- ▶ the IEEE GRSS Regional Leader Award
- ▶ the IEEE GRSS Symposium Prize Paper Award
- ▶ the IEEE GRSS Symposium Interactive Session Prize Paper Award
- ▶ three IEEE GRSS Student Prize Paper Awards, including the IEEE Mikio Takagi Student Prize.

IEEE GRSS TRANSACTIONS PRIZE PAPER AWARD

The GRSS established the IEEE GRSS Transactions Prize Paper Award to recognize authors who have published an exceptional paper in *IEEE Transactions on Geoscience and Remote Sensing* during the preceding calendar year. Originality and clarity are factors considered during the selection of the winning paper. The award consists of a certificate and an honorarium of US\$3,000, which is equally divided among the authors.

The 2019 IEEE GRSS Transactions Prize Paper Award was presented for the paper “GNSS-Based SAR Interferometry for 3D Deformation Retrieval: Algorithms and Feasibility Study,” published in *IEEE Transactions on Geoscience and Remote Sensing* (vol. 56, no. 10, pp. 5736–5747, Oct. 2018). The paper was coauthored by Feifeng Liu (Figure 1), Xuezhen Fan, Tian Zhang, and Quanhua Liu.

.....
 Digital Object Identifier 10.1109/MGRS.2019.2947403
 Date of current version: 18 December 2019

Feifeng Liu received his B.S. degree in mathematics and his Ph.D. degree in target detection and recognition from the Beijing Institute of Technology (BIT) in 2002 and 2013, respectively. He joined the Microwave Integrated System Laboratory, University of Birmingham, United Kingdom, as a visiting student in 2010. Since 2013, he has been a faculty member at BIT. His research interests include imaging technology of bistatic synthetic aperture radar (SAR) and geosynchronous SAR as well as change-detection technology based on space–surface bistatic SAR systems.

Fan received his B.Sc. degree from Lanzhou University, China, in 2011 and is currently pursuing his M.Eng. degree in bistatic SAR signal processing there. His research interests include image-formation algorithms and interferometric processing of surface-change detection.

Zhang received his B.Sc. degree from BIT in 2011 and is currently pursuing his Ph.D. degree in bistatic SAR signal processing there. His research interests include signal and information processing, synchronization technology in bistatic SAR, and differential SAR interferometry signal processing.

Quanhua Liu received his B.S.E.E. degree in telecommunications engineering and his Ph.D. degree in target detection and recognition from BIT in 2005 and 2010, respectively. From 2010 to 2011, he was a postdoctoral researcher with the Antenna and Microwave Laboratory, University of Tennessee, Knoxville, United States. Since 2011, he has been a faculty member at BIT.

IEEE GRSS LETTERS PRIZE PAPER AWARD

The GRSS established the IEEE GRSS Letters Prize Paper Award to recognize authors who have published an exceptional paper in terms of content and impact on geoscience and remote sensing in *IEEE Geoscience and Remote Sensing Letters* during the previous calendar year. When determining the winning paper, originality, impact, scientific value, and clarity are the factors considered. The award consists of a certificate and US\$1,500, equally divided among the authors.

The 2019 IEEE GRSS Letters Prize Paper Award was presented for the paper “Sea Ice Sensing From GNSS-R Data Using Convolutional Neural Networks,” published in

IEEE Geoscience and Remote Sensing Letters (vol. 15, no. 10, pp. 1510–1514, Oct. 2018), by Qingyun Yan and Weimin Huang (Figure 2).

Yan received his B.Eng. degree in electronic science and engineering from the Nanjing University of Posts and Telecommunications, China, in 2014 and his M.Eng. degree in electrical engineering in 2015 from the Memorial University of Newfoundland, St. John's, Canada, where he is currently working toward his Ph.D. degree in electrical engineering. His research interests include tsunami detection and sea-ice remote sensing using global navigation satellite system reflectometry.

Huang received his B.S., M.S., and Ph.D. degrees in radio physics from Wuhan University, China, in 1995, 1997, and 2001, respectively. In 2004, he received his M.Eng. degree in engineering electromagnetics from the Memorial University of Newfoundland. He was a postdoctoral fellow with the Memorial University of Newfoundland. From 2008 to 2010, he was a design engineer with Rutter Technologies, St. John's. Since 2010, he has been with the Faculty of Engineering and Applied Science, Memorial

University of Newfoundland, where he is currently an associate professor. He has authored more than 200 research papers. His research interests include the mapping of oceanic surface parameters via high-frequency ground-wave radar, X-band marine radar, and global navigation satellite systems. Huang was a member of the technical program committee and served as technical program cochair for the IEEE Newfoundland Electrical and Computer Engineering Conference in 2012 and 2013. He is currently an associate editor of *IEEE Access* and an editorial board member of *Remote Sensing*. He serves as a regular reviewer for more than 40 international journals and for many IEEE international conferences, such as IGARSS, RadarCon, the International Conference on Communications, the Global Communications Conference, and Oceans. He is a member of the Natural Sciences and Engineering Research Council of Canada (NSERC) Electrical and Computer Engineering Evaluation Group for 2018–2021. He received the Discovery Accelerator Supplements Award from the NSERC in 2017.

IEEE GRSS J-STARS PRIZE PAPER AWARD

The GRSS established the IEEE GRSS J-STARS Prize Paper Award to recognize authors who have published an exceptional paper in terms of content and impact on geoscience and remote sensing in *J-STARS* during the previous calendar year. Such factors as originality, clarity, and timeliness are considered during the selection of the winning paper. IEEE membership is preferable. The award consists of a certificate and an honorarium of US\$1,500, equally shared among the authors.

The 2019 IEEE GRSS J-STARS Prize Paper Award was presented for the paper “Sensitivity of SAR Tomography to the Phenological Cycle of Agricultural Crops at X-, C-, and L-band,” published in *J-STARS* (vol. 11, no. 9, pp. 3014–3029, Sept. 2018). It was coauthored by Hannah Joerg, Matteo Pardini, Irena Hajnsek (Figure 3), and Konstantinos P. Papatthanassiou.

Joerg received her Dipl. Tech.-Math. degree in computational mathematics from the Technical University of Munich, Germany, in 2012. In the same year, she joined the Radar Concepts Department of the Microwaves and Radar Institute at the German Aerospace Center (DLR), Oberpfaffenhofen, Germany, as a member of the Polarimetric SAR Interferometry Research Group. She received her doctoral degree on monitoring and characterizing agricultural crops using polarimetric SAR tomography from the Swiss Federal Institute of Technology (ETH) Zurich in May 2018. Her main research interests include the development of processing algorithms for polarimetric, interferometric, and tomographic SAR data; the characterization of electromagnetic scattering mechanisms in agricultural vegetation; and relating bio- and geophysical variables of agricultural crops to multiparametric SAR observables.

Pardini received his M.Eng. degree in telecommunication engineering and his Ph.D. degree in information engineering from the University of Pisa, Italy, in 2006 and 2010, respectively. In January 2010, he joined the Radar Concepts

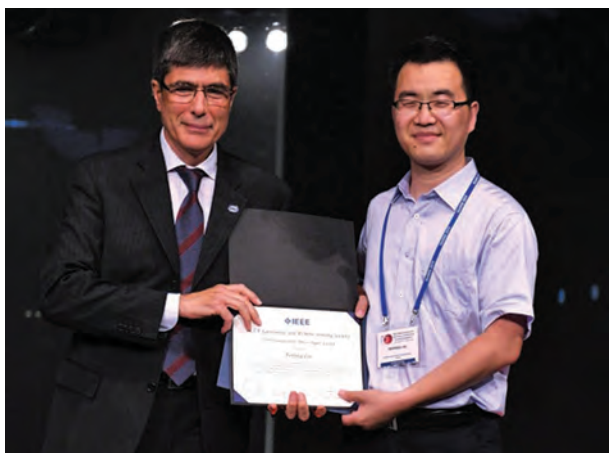


FIGURE 1. 2019 IEEE GRSS Transactions Prize Paper Award recipient Feifeng Liu (right) with GRSS President Paolo Gamba.



FIGURE 2. 2019 IEEE GRSS Letters Prize Paper Award recipient Weimin Huang (right) with GRSS President Paolo Gamba.

Department, Microwaves and Radar Institute, as a research scientist, after a visiting research period from August to December 2009. In 2017, he was visiting scientist at the Department of Geographical Sciences, University of Maryland, United States. His main research interests are SAR tomographic and polarimetric interferometric processing for 3D bio/geophysical information extraction over natural volumes (forest, agriculture, ice), SAR mission design, and SAR mission performance analysis.

Hajnsek received her Dipl. degree from the Free University of Berlin in 1996 and her doctoral degree from the Friedrich Schiller University of Jena, Germany, in 2001. She is currently a professor of Earth observation at the ETH Zurich Institute of Environmental Engineering and head of the Polarimetric SAR Interferometry Research Group at the Microwaves and Radar Institute. Her main research interests are electromagnetic propagation and scattering theory, radar polarimetry, SAR and interferometric SAR data processing techniques, and environmental parameter modeling and estimation. Since 2010, she has been the science coordinator of the German satellite mission *TanDEM-X*. Hajnsek was technical program cochair of IGARSS 2012 in Munich. Since 2013, she has been a member of the IEEE GRSS AdCom and, since 2016, vice president of IEEE GRSS technical committees.

Papathanassiou received his Dipl. Ing. and doctoral degrees from the Technical University of Graz, Austria, in 1994 and 1999, respectively. From 1992 to 1994, he was with the Institute for Digital Image Processing, Joanneum Research, Graz. Between 1995 and 1999, he worked at the Microwaves and Radar Institute. From 1999 to 2000, he was a European Union postdoctoral fellow with Applied Electromagnetics, St. Andrews, United Kingdom. He has been with the Microwaves and Radar Institute since October 2000, currently as a senior scientist leading the Information Retrieval Research Group. His main research interests are in polarimetric and interferometric processing and calibration techniques, polarimetric SAR interferometry, quantitative parameter estimation from SAR data, SAR mission design, and SAR mission performance analysis. He is member of DLR's *TanDEM-X* and *TanDEM-L* science teams, the Japan Aerospace Exploration Agency (JAXA) Advanced Land Observing *Satellite-2* calibration and validation teams, the European Space Agency's Biomass Mission Advisory Group, the Argentine Microwaves Observation Satellite Communications Expert team, JAXA's Carbon and Kyoto Initiative, and NASA's Global Ecosystem Dynamics Investigation Lidar Mission Science team. Papathanassiou received the IGARSS Prize Paper Award in 1998, the Best Paper Award of the European SAR Conference in 2002, and the DLR Science Award in 2002. In 2011, he received the DLR's Senior Scientist Award.

IEEE GRSS HIGHEST IMPACT PAPER AWARD

The GRSS established the IEEE GRSS Highest Impact Paper Award to recognize authors who have published a

scientific paper in a GRSS journal in the past five years that has received the highest number of citations and impact, as measured collectively by the Thomson Reuters *Web of Science*, *Scopus*, and *Google Scholar* citation indices. A previously selected paper shall not be eligible for this award in future years. The award consists of a certificate and an honorarium of US\$3,000, equally divided among the authors.

The 2019 IEEE GRSS Highest Impact Paper Award was presented for the paper "Deep Learning-Based Classification of Hyperspectral Data," published in *J-STARS* (vol. 7, no. 6, pp. 2094–2107, June 2014). It was coauthored by Yushi Chen (Figure 4), Zhouhan Lin, Xing Zhao, Gang Wang, and Yanfeng Gu.

Chen received his Ph.D. degree from the Harbin Institute of Technology (HIT), China, in 2008 and is currently a professor in the School of Electrical and Information Engineering at HIT. He has published a number of papers and is the inventor or coinventor of three patents. His research interests include hyperspectral data



FIGURE 3. 2019 IEEE GRSS J-STARS Prize Paper Award recipient Irena Hajnsek (right) with GRSS President Paolo Gamba.



FIGURE 4. 2019 IEEE GRSS Highest Impact Paper Award recipient Yushi Chen (center) with GRSS President Paolo Gamba (right) and Antonio Plaza, chair of the GRSS Publications Awards Committee.

analysis, ensemble learning, deep learning, and remote sensing applications.

Lin received his bachelor's degree from HIT in 2012. He has worked at the Institute of Image and Information Technology, HIT, in the field of parallel computing and machine learning (especially deep learning) and their applications for remote sensing.

Zhao received her bachelor's degree from the College of Information and Communication Engineering, Harbin Engineering University, China, in 2013. She graduated from the Institute of Image and Information Technology, HIT. Her research interests include hyperspectral image processing, machine learning, and deep learning.

Wang received his B.S. degree in electrical engineering from HIT in 2005 and his Ph.D. degree in electrical and computer engineering from the University of Illinois at Urbana-Champaign (UIUC) in 2010. He is a professor at the School of Electrical and Electronic Engineering, Nanyang Technological University, Singapore, and a research scientist with the Advanced Digital Science Center, Singapore. His research interests include computer vision, machine learning, object recognition, scene analysis, and large-scale machine learning. Wang received the prestigious Harriett and Robert Perry Fellowship in 2009–2010 and the Computer Science/Artificial Intelligence Award in 2009 while completing his Ph.D. degree at UIUC.

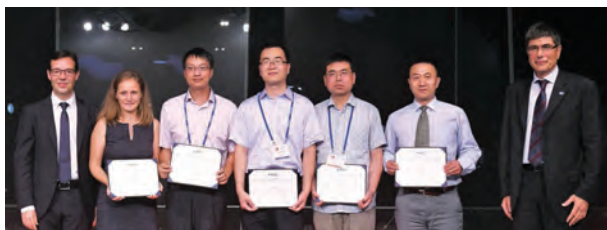


FIGURE 5. The recipients of the 2019 GRSS publications awards with their presenters (from left): Antonio Plaza, Irena Hajnsek, Quanhua Liu, Feifeng Liu, Yushi Chen, Weimin Huang, and Paolo Gamba.

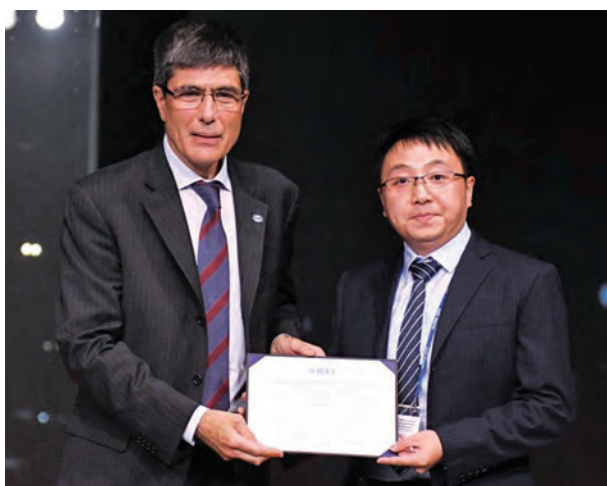


FIGURE 6. 2019 IEEE GRSS Early Career Award recipient Si-Wei Chen (right) with GRSS President Paolo Gamba.

Gu received his Ph.D. degree in information and communication engineering from HIT in 2005. He joined HIT as a lecturer in the School of Electronics and Information Engineering and in 2006 was appointed associate professor. From 2011 to 2012, he was a visiting scholar with the Department of Electrical Engineering and Computer Science, University of California, Berkeley, United States. Currently, he is a professor with the Department of Information Engineering, HIT. He has published a number of peer-reviewed papers and book chapters. He is the holder or coholder of seven patents. His research interests include image processing in remote sensing, machine learning, pattern analysis, and multiscale geometric analysis. Gu was enrolled in the first Outstanding Young Teacher Training Program of HIT. He is a peer reviewer for several international journals, including *IEEE Transactions on Geoscience and Remote Sensing*, *IEEE Transactions on Instrument and Measurement*, *IEEE Geoscience and Remote Sensing Letters*, and the Institution of Engineering and Technology's *Electronics Letters*.

Figure 5 shows all of the recipients of GRSS publication awards with presenters Paolo Gamba and Antonio Plaza.

IEEE GRSS EARLY CAREER AWARD

The IEEE GRSS Early Career Award aims to promote, recognize, and support young scientists and engineers within the GRSS who have demonstrated outstanding ability and the promise for significant future contributions. Factors considered for nomination include quality, the significance and impact of contributions, papers published in archival journals, papers presented at conferences and symposia, patents, a demonstration of leadership, and advancement of the professional. The candidate must have been a GRSS member for at least five years and be younger than 35 at the time of nomination. He or she must be making outstanding contributions in one or more GRSS field(s) of interest. Previous award winners are ineligible. The award consists of a certificate and an honorarium of US\$1,500. This year, the GRSS Early Career Award was presented to Si-Wei Chen (Figure 6), associate professor at the National University of Defense Technology in Changsha, China, for "outstanding contributions in polarimetric radar imaging, target scattering interpretation, and natural disaster evaluation."

Chen received his Ph.D. degree from Tohoku University, Sendai, Japan. He has made a number of highly significant contributions to radar polarimetry and polarimetric imaging radar, especially polarimetric SAR target scattering mechanism modeling, interpretation, and application. Three of his scientific achievements will be included in the new version of PolSARpro software, which is a widely used tool for PolSAR data investigations. He has an impressive research record, multiple patents, and a history of invited talks at international conferences. He is a Senior Member of the IEEE and a founding member of the IEEE GRSS Changsha Chapter.

IEEE GRSS REGIONAL LEADER AWARD

The IEEE GRSS Regional Leader Award was established to promote, recognize, and support members within the GRSS who have made significant technical, scientific, and/or organizational achievements in the areas of interest to the geoscience and remote sensing community. The award shall be considered annually and presented if an outstanding candidate is identified. Preference may be given to candidates who are pivotal and have made significant contributions in a region where GRSS membership and local activities have substantially increased in recent years. Preference may also be given to candidates who are GRSS members with the grade of IEEE Senior Member or Fellow. The award consists of a certificate and an honorarium of US\$1,500. This year, the Regional Leader Award was presented to Dr. Ashish Ghosh (Figure 7), professor at and former head of the Indian Statistical Institute, Kolkata, for "outstanding contributions to the development of the IEEE GRSS in Eastern India."

Ghosh was instrumental in the 2012 creation of the GRSS Chapter in the Eastern Region. After four years he became the chair at a time when the Chapter was almost stagnant with about 20 members. Under his leadership, the Chapter has grown to 65, with members spread across eastern India.

The Chapter has been selected as the nodal Chapter for the ChapNet program, which since 2017 has encouraged international collaboration among Chapters from different countries. Two student Chapters were formed under Dr. Gosh's leadership, one of which won the GRSS Student Grand Challenge Award in 2018. In addition, he has been successful in fundraising for Society outreach activities.

IEEE GRSS DAVID LANDGREBE AWARD

The IEEE GRSS David Landgrebe Award, a GRSS career award, is presented for outstanding contributions in the field of remote sensing image analysis. The contributions shall be related to at least one of the following fields: classification, image analysis, feature extraction, change detection, data fusion, and data mining. A certificate is presented to the awardee. This year, the David Landgrebe Award was presented to Dr. Giles Foody (Figure 8), professor at Nottingham University, United Kingdom, for "outstanding contributions in image analysis for mapping and monitoring land cover."

Dr. Foody's main research interests and expertise are in image classification for thematic mapping, especially in relation to studies of land cover at scales ranging from local to global. He is a pioneer in the areas of fuzzy or soft-image and object-based classifications, neural networks to spatially enhance image classifications leading to superresolution mapping, the use of local approaches to enhance land-cover representations, and the use of citizen sensors to aid image analyses. He has authored more than 200 articles for peer-reviewed journals plus numerous other articles that have had a major impact. He is a Fellow of the IEEE.

Figure 9 shows all of the recipients of GRSS special awards with the presenters.

IEEE GRSS SYMPOSIUM PRIZE PAPER AWARD

The GRSS established the IEEE GRSS Symposium Prize Paper Award to recognize authors who have presented an exceptional paper in terms of content and impact on the GRSS at IGARSS. In selecting the paper, factors considered include originality, clarity, and timeliness of publication.



FIGURE 7. Ashish Gosh (right) receives the 2019 IEEE GRSS Regional Leader Award from GRSS President Paolo Gamba.



FIGURE 8. Giles Foody (right) receives the 2019 IEEE GRSS David Landgrebe Award from GRSS President Paolo Gamba.

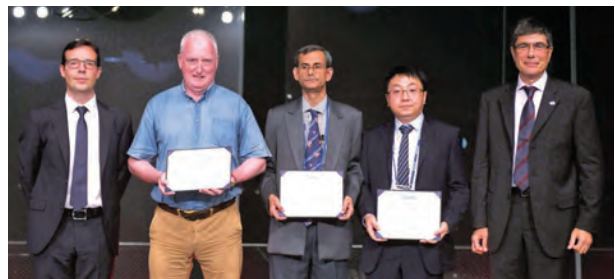


FIGURE 9. Recipients and presenters of the GRSS special awards (from left): Antonio Plaza, Giles Foody, Ashish Gosh, Si-Wei Chen, and Paolo Gamba.

The published versions of the papers in the *Digest* shall also be evaluated. The prize consists of a certificate and an honorarium of US\$1,250, equally divided among the authors. This year, the IEEE Symposium Prize Paper Award was presented for the paper “Self-Supervised Learning for Stereo Reconstruction on Aerial Images,” by Patrick Knöbelreiter, Christoph Vogel, and Thomas Pock [Figure 10(a)–(c)]. Stefano Zorzi received the award [Figure 10(d)] on behalf of the authors.

Knöbelreiter received his master’s degree in computer science from the Graz University of Technology, Austria. He is now pursuing a Ph.D. degree in computer science with the Institute of Computer Graphics and Vision at the Graz University of Technology. His main research interests include machine learning and optimization with applications for dense image matching, such as stereo and optical flow.

Vogel is a scientist in the Microsoft Mixed Reality and AI Laboratory in Zürich. He received his Ph.D. degree on the topic of 3D motion estimation from ETH Zurich in 2015. He was awarded a Marr Prize honorable mention at the 2013 International Conference on Computer Vision for his published Ph.D. thesis. For that thesis, he also received the German Association for Pattern Recognition MVTec Dissertation Prize at the 2016 German Conference on Pattern Recognition. From 2015 to 2018, he was a postdoctoral researcher in the Vision, Learning, and Optimization Group headed by Prof. Pock at the Institute of Computer Graphics and Vision at the Graz University of Technology. Vogel is working on localization- and mapping-related topics as well as lifelong mapping in general. His research interests include computer vision, optimization, and machine learning.

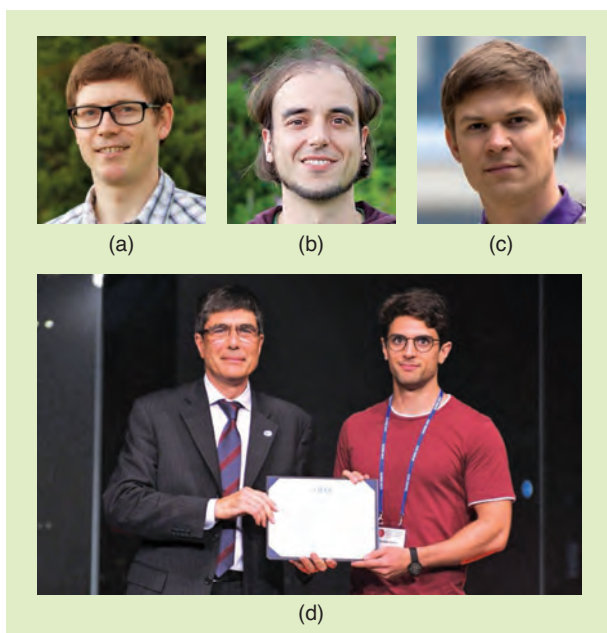


FIGURE 10. 2019 IEEE Symposium Prize Paper Award recipients (a) Patrick Knöbelreiter, (b) Christoph Vogel, and (c) Thomas Pock. (d) Stefano Zorzi (right) with GRSS President Paolo Gamba. Zorzi accepted the certificate on behalf of the authors.

Pock received his M.Sc. degree in 2004 and his Ph.D. degree in 2008, both in computer engineering and both from Graz University of Technology. After a postdoctoral position at the University of Bonn, Germany, he moved back to the Graz University of Technology as an assistant professor at the Institute for Computer Graphics and Vision. In 2013, Pock received the Start Prize of the Austrian Science Fund and the German Pattern Recognition Award of the German Association for Pattern Recognition. In 2014, he was awarded a starting grant from the European Research Council. Since June 2014, he has been a professor of computer science at the Graz University of Technology. The focus of his research is the development of mathematical models for computer vision and image processing as well as the development of efficient convex and nonsmooth optimization algorithms.

IEEE GRSS SYMPOSIUM INTERACTIVE SESSION PRIZE PAPER AWARD

The GRSS established the IEEE GRSS Symposium Interactive Session Prize Paper Award to recognize the author(s) who posted at IGARSS an exceptional paper in terms of content and impact on geoscience and remote sensing. When selecting the winning paper, factors considered are originality, clarity, and timeliness of publication. The published versions of the papers in the digest shall also be evaluated. The prize consists of a certificate and an

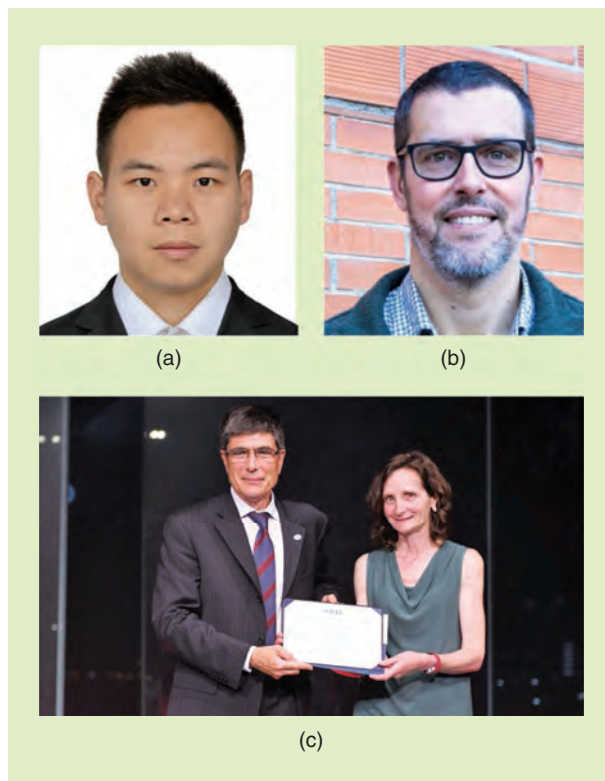


FIGURE 11. 2019 IEEE Symposium Interactive Session Prize Paper Award recipients (a) Zhongbo Hu and (b) Jordi J. Mallorqui. (c) Mercè Vall-Ilossera (right) with GRSS President Paolo Gamba. Vall-Ilossera accepted the certificate on behalf of the authors.

honorarium of US\$1,250, equally divided among the authors. This year, the IEEE Symposium Interactive Prize Paper Award was presented for the paper “A Direct Method to Estimate Atmospheric Phase Delay for INSAR with Global Atmospheric Models.” The coauthors are Zhongbo Hu and Jordi J. Mallorqui [Figure 11(a) and (b)]. Mercè Vall-llossera [Figure 11(c)] received the award on behalf of the authors.

Hu received his bachelor’s degree in geodesy and surveying engineering from the Central South University of Forestry and Technology, Changsha, China, in 2012. From 2012 to 2015, he was a master’s degree student at the China University of Mining and Technology. He is currently pursuing his Ph.D. degree at the Universitat Politècnica de Catalunya (UPC), Barcelona, Spain.

Mallorqui received his ingeniero degree in telecommunications engineering and his doctor ingeniero degree in telecommunications engineering for his research on microwave tomography for biomedical applications in the Department of Signal Theory and Communications from UPC in 1990 and 1995, respectively. Since 1993, he has taught at the School of Telecommunications Engineering at UPC, first as an assistant professor, then starting in 1997 as an associate professor, and since 2011 as a full professor. Since October 2017, he has been the director of the Department of Signal Theory and Communications at UPC. His teaching activity involves microwaves, radionavigation systems, and remote sensing. He spent a sabbatical year at the Jet Propulsion Laboratory, Pasadena, California, United States, in 1999, working on interferometric airborne SAR calibration algorithms. He is currently working on the application of SAR interferometry in terrain-deformation monitoring with orbital, airborne, and ground data; vessel detection and classification from SAR images; and 3D electromagnetic simulation of SAR systems. He is also collaborating in the design and construction of ground-based SAR interferometers and SAR sensors onboard small unmanned aerial vehicles. He has published more than 100 papers on microwave tomography, electromagnetic numerical simulation, SAR processing, interferometry, and differential interferometry in refereed journals and at international symposia.

Figure 12 shows those accepting the IEEE GRSS Symposium Prize Paper Awards with Symposium Awards Chair Xiuping Jia and Paolo Gamba.

IEEE GRSS STUDENT PRIZE PAPER AWARDS

The IEEE GRSS Student Prize Paper Award program was established to recognize the best student papers presented at IGARSS. It is believed that early recognition of an outstanding paper will encourage students to make other, greater contributions to the geoscience and remote sensing profession. The award is considered annually.

Ten high-quality papers are preselected by the GRSS Student Prize Paper reviewers and Student Prize Paper Awards Committee in cooperation with the Technical Program Committee. These students present their papers in a special session, and a jury, formed by the Student Prize Paper Awards Committee, evaluates and ranks them for the awards. The 10 finalists of the Student Prize Paper Award contest are invited to the awards banquet (Figure 13).

Three awards were presented, including two IEEE GRSS Student Prize Paper Awards (second and third prize, with a certificate presented for each and an honorarium of US\$750 and US\$500, respectively) and the IEEE Mikio Takagi Student Prize (first prize, which includes a certificate and an honorarium of US\$1,000).

SECOND AND THIRD PRIZE PAPER RECIPIENTS

The third-place prize was presented to Tianzhu Liu (Figure 14) for the paper “Unsupervised Temporal-Adaptation



FIGURE 12. Accepters and presenters of the IEEE GRSS Symposium Prize Paper Awards (from left): Symposium Awards Chair Xiuping Jia, Mercè Vall-llossera (accepting on behalf of Zhongbo Hu and Jordi J. Mallorqui), Stefano Zorzi (accepting on behalf of Patrick Knöbelreiter, Christoph Vogel, and Thomas Pock), and Paolo Gamba.



FIGURE 13. The 10 2019 IEEE GRSS Student Prize Paper Award contest finalists (starting second from left): Ammar Mian, Xun Liu, Jakob DeLong, Sean Peters, Tianzhu Liu, Kien Nguyen, Richard Chen, Samuel Prager, Nicolas Girard, and Ellen Bowler. They are flanked by Paolo Gamba (right) and Xiuping Jia.



FIGURE 14. 2019 IEEE GRSS third-place Student Prize Paper Award recipient Tianzhu Liu (center) poses with Paolo Gamba (right) and Xiuping Jia.



FIGURE 15. Sean Peters (center), the 2019 IEEE GRSS second-place Student Prize Paper Award recipient receives his certificate from Paolo Gamba (right) and Xiuping Jia.



FIGURE 16. 2019 IEEE Mikio Takagi Student Prize recipient Xun Liu (center), displaying his certificate with Paolo Gamba (right) and Xiuping Jia.

With Multiple Geodesic Flow Kernels for Hyperspectral Image Classification.” Tianzhu’s advisor is Prof. Yanfeng Gu from HIT. Tianzhu Liu, a Student Member of the IEEE, received her B.S. and M.S. degrees from HIT in 2011 and 2014, respectively. She is currently pursuing her Ph.D. degree at the School of Electronics and Information Engineering, HIT. Her research interests include hyperspectral remote sensing image classification and transfer learning.

The second-place prize was presented to Sean Peters (Figure 15) for the paper “Two Dimensional Image Formation With Passive Radar Using the Sun for Echo Detection.” Peters’ advisor is Prof. Dustin Schroeder of Stanford University,

California, United States. Peters received his B.Sc. degree in electrical engineering from Rice University, Houston, Texas, United States, in 2015, and his M.Sc. degree in electrical engineering from Stanford University, in 2017, where he is currently pursuing his Ph.D. degree in electrical engineering with the Department of Geophysics and Electrical Engineering. As a part of the Radio Glaciology Research Group, he has been involved in developing ambient-noise radio glaciology with the Radar Systems Development team. As a Ph.D. student at Stanford, Peters received the National Science Foundation Graduate Research Fellowship; Stanford’s Diversifying Academia Recruiting Excellence Doctoral Fellowship; the Stanford Enhancing Diversity in Graduate Education–Science, Technology, Engineering, and Mathematics Fellowship; and Stanford Engineering’s Larry and Joan Owen Fellowship.

IEEE MIKIO TAKAGI STUDENT PRIZE

The IEEE Mikio Takagi Student Prize, honoring the career of Prof. Takagi, was established to recognize a student who has presented an exceptional paper at IGARSS. The 2019 IEEE Mikio Takagi Student Prize was presented to Xun Liu (Figure 16) for the paper “Multimodal-Temporal Fusion: Blending Multimodal Remote Sensing Images to Generate Image Series With High Temporal Resolution.” Liu’s advisors are Prof. Baojun Zhao and Prof. Chenwei Deng from BIT. Xun Liu received his B.Eng. degree in 2014 from BIT, where he is currently working toward his Ph.D. degree with the School of Electrical and Information Engineering. From 2017 to 2018, he was a visiting student with the Grenoble Images Parole Signal Automatique Laboratory, Grenoble Institute of Technology, Le Centre Nationale la Recherche Scientifique, Université Grenoble Alpes, France, under the supervision of Prof. Jocelyn Chanussot. His research interests include remote sensing image fusion, superresolution, and machine learning.

SOME WORDS OF THANKS

The IEEE GRSS Awards Committee thanks the evaluators of the IGARSS 2019 technical sessions; the editorial boards of *IEEE Transactions on Geoscience and Remote Sensing*, *IEEE Geoscience and Remote Sensing Letters*, and *J-STARS*; the IEEE GRSS Publications Awards Committee; the GRSS Symposium Awards Committee; the GRSS Special Awards Committee; and the GRSS Student Prize Paper Awards Committee for the valuable input they provided during the awards process. We also encourage all GRSS members to nominate distinguished colleagues for these major GRSS awards, including the IEEE GRSS Distinguished Achievement Award, IEEE GRSS Outstanding Service Award, and IEEE GRSS Education Award, as well as the IEEE GRSS special awards, such as the IEEE GRSS Early Career Award, IEEE GRSS David Landgrebe Award, and IEEE GRSS Regional Leader Award. GRSS members can nominate papers for the publication awards by following the instructions on the GRSS home page (<http://www.grss-ieee.org/about/awards/>).

GRS