Prof. Lorenzo Bruzzone

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Background and activities in education

Lorenzo Bruzzone received the Laurea (M.S.) degree in electronic engineering (summa cum laude) and the Ph.D. degree in telecommunications from the University of Genoa, Italy, in 1993 and 1998, respectively. He is currently a Full Professor of telecommunications at the University of Trento, Italy, where he teaches remote sensing, radar, pattern recognition, and electrical communications. Dr. Bruzzone is the founder and the director of the Remote Sensing Laboratory in the Department of Information Engineering and Computer Science, University of Trento. His current research interests are in the areas of remote sensing, radar and SAR, signal processing, and pattern recognition. He promotes and supervises research on these topics within the frameworks of many national and international projects. Among the others, he is the Principal Investigator of the Radar for icy Moon exploration (RIME) instrument in the framework of the JUpiter ICy moons Explorer (JUICE) mission of the European Space Agency. He has been involved as teacher in many international PhD Schools related to remote sensing and data analysis. He is the author (or coauthor) of 137 scientific publications in referred international journals (93 in IEEE journals), more than 190 papers in conference proceedings, and 16 book chapters. He is editor/co-editor of 11 books/conference proceedings and 1 scientific book. His papers are highly cited, as proven form the total number of citations (more than 7700) and the value of the h-index (46) (source: Google Scholar). He was invited as keynote speaker in 24 international conferences and workshops. He is a member of the Managing Committee of the Italian Inter-University Consortium on Telecommunications. Since 2009 he is a member of the Administrative Committee of the IEEE Geoscience and Remote Sensing Society. Dr. Bruzzone ranked first place in the Student Prize Paper Competition of the 1998 IEEE International Geoscience and Remote Sensing Symposium (Seattle, July 1998). Since that time he was recipient of many international and national honors and awards. Dr. Bruzzone was a Guest Co-Editor of different Special Issues of international journals. He is the co-founder of the IEEE International Workshop on the Analysis of Multi-Temporal Remote-Sensing Images (MultiTemp) series and is currently a member of the Permanent Steering Committee of this series of workshops. Since 2003 he has been the Chair of the SPIE Conference on Image and Signal Processing for Remote Sensing. Since 2013 he has been the founder Editor-in-Chief of the IEEE GEOSCIENCE AND REMOTE SENSING MAGAZINE. Currently he is an Associate Editor for the IEEE

TRANSACTIONS ON GEOSCIENCE AND REMOTE SENSING and the CANADIAN JOURNAL OF REMOTE SENSING. From 2010 to 2012 he has been the Editor of the IEEE GEOSCIENCE AND REMOTE SENSING NEWSLETTER. Since 2012 he has been appointed Distinguished Speaker of the IEEE Geoscience and Remote Sensing Society. He is a Fellow of IEEE and a member of the International Association for Pattern Recognition (IAPR) and of the Italian Association for Remote Sensing (AIT).

Recent projects

- JUICE-RIME - Design, development, and scientific exploitation of the Radar for Icy Moon Exploration (RIME) instrument for the JUpiter ICy moons Explorer (JUICE) mission (European Space Agency - Italian Space Agency - NASA) [2013-2035]. Role: Principal Investigator.
- ESA-PFA - Product Feature extraction Analysis (European Space Agency) [2013-2014]. Role: Scientific Coordinator.
- HiResAlp - An innovative framework for the Integration of multi-source data to determine soil moisture and evapotraspiration at high resolution in Alpine regions-[2012-2015]. Role: Co-Investigator.
- ITPAR (phase 3) - India-Trento Program for Advanced Research - Advanced methods for the analysis of optical and radar remote sensing images acquired by last generation satellite systems - [2012-2015]. Role: Principal Investigator.
- Mapping and the citizen sensor (ICT COST Action - European Union)- [2012-2016]. Role: Member of the Management Committee
- CRIOPAT - Generation and regular updating of snow cover maps by the analysis of time series of satellite remote sensing images -[2011-2013]. Role: Principal Investigator
- SISAR - Automatic Recognition of Very High Resolution SAR Images - [2010-2013]. Role: Co-Investigator

Selected publications

- **L. Bruzzone**, F. Bovolo, A Novel Framework for the Design of Change-Detection Systems for Very-High-Resolution Remote Sensing Images, Proceedings of the IEEE, Vol. 101, 2013, pp. 609-630.
- F. Bovolo, S. Marchesi, **L. Bruzzone**, A Framework for Automatic and Unsupervised Detection of Multiple Changes in Multitemporal Images, IEEE Transactions on Geoscience and Remote Sensing, Vol. 50, no. 6, 2012, pp. 2196-2212.
- **L. Bruzzone**, G. Alberti, C. Catallo, A. Ferro, W. Kofman, R. Orosei, Sub-Surface Radar Sounding of the Jovian Moon Ganymede, Proceedings of the IEEE, Vol. 99, No. 5, 2011, pp. 837-857.
- B. Demir, C. Persello, L. Bruzzone, Batch Mode Active Learning Methods for the Interactive Classification of Remote Sensing Images, IEEE Transactions on Geoscience and Remote Sensing, Vol. 49, 2011, No.3, pp. 1014-1031.
- **L. Bruzzone**, M. Marconcini, Domain Adaptation Problems: a DASVM Classification Technique and a Circular Validation Strategy, IEEE Transactions on Pattern Analysis and Machine Intelligence, Vol. 32, 2010, No. 5, pp. 770-787