

MICHELE DALPONTE

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My research activity is in the area of remote sensing and forestry, in particular the analysis of forest areas using hyperspectral, multispectral and lidar data. Till now I have focused my analyses on the capabilities of hyperspectral and lidar data in the classification of forest areas (considering different spectral resolutions, different classifiers, and combining hyperspectral and lidar data), and on the estimation of biophysical parameters at the single tree level (stem volume, diameter and height).

Professional Experience

- 01/2016 – Now Researcher
Fondazione Edmund Mach, via E. Mach 1, 38010 San Michele all'Adige, Italy.
Research on remote sensing for forestry and ecology applications.
- 09/2014 – 12/2015 Post-Doc
Fondazione Edmund Mach, via E. Mach 1, 38010 San Michele all'Adige, Italy.
Research on airborne laser scanning (ALS) and hyperspectral remote sensing data for forestry applications inside the STEM, IperspettralePAT, and Trees4Future projects. In the STEM project the research was focused on the development of an open-source tool to be used by public administrations for the processing of remote sensing data. The IperspettralePAT project aimed at providing consultancies to the technician of the Province of Trento in the definition of the best practices for the hyperspectral data acquisitions and on their validation. In the Trees4Future project remote sensing data were used to improve forestry activities.
- 03/2015 – 06/2015 Post-Doc
09/2015 – 12/2015 *Department of Plant Sciences, University of Cambridge, Downing Street, Cambridge, UK.*
Analysis of tropical forest areas in Borneo with hyperspectral and ALS data. The part of the project I worked on was focused on the estimation of the carbon content of trees at individual tree crown level and its comparison with estimation at plot level.
- 05/2011 – 08/2014 Post-Doc
Fondazione Edmund Mach, via E. Mach 1, 38010 San Michele all'Adige, Italy.
Analysis of forest areas with hyperspectral and ALS data: comparisons among alpine and boreal forests. The work was carried out in the framework of the project SpectraLLIDAR founded by the European Community's Seventh Framework Programme FP7/2007-2013 under grant agreement Marie Curie 7th Framework Program - PCOFUND-GA-2008-226070, acronymy "progetto Trentino". The work is carried out partially at the Edmund Mach Foundation (Italy), and partially at the Norwegian University of Life Sciences (Norway).
- 09/2011 – 04/2013 Visiting Researcher
Norwegian University of Life Sciences, Postboks 5003, 1432 Ås, Norway.
Analysis of forest areas with hyperspectral and ALS data: comparisons among alpine and boreal forests. The work is carried out in the framework of the project SpectraLLIDAR founded by the European Community's Seventh Framework Programme FP7/2007-2013 under grant agreement Marie Curie 7th Framework Program - PCOFUND-GA-2008-226070, acronymy "progetto Trentino". The work is carried out partially at the Edmund Mach Foundation (Italy), and partially at the Norwegian University of Life Sciences (Norway).

- 06/2010 – 04/2011 Post-Doc
Fondazione Edmund Mach, via E. Mach 1, 38010 San Michele all'Adige, Italy.
 Analysis of forest areas with multispectral, hyperspectral and ALS data. In particular the post-doc was focused on the tree species classification and on the estimation of forest parameters, such as stem volume, biomass, and tree height. The post-doc was funded through the CARBOITALY project (funded by the Italian Ministry of University and Research), and NITROEUROPE project (European Union founded projects).
- 11/2009 – 12/2009 Independent Consultant
Fondazione Edmund Mach, via E. Mach 1, 38010 San Michele all'Adige, Italy.
 Estimation of forest attributes with airborne laser scanning (ALS) data in the framework of the project CARBOITALY (funded by the Italian Ministry of University and Research).

Education and training

- 11/2006 – 03/2010 PhD in Information and Communication Technologies
University of Trento, via Sommarive 14, 38123 Povo (TN), Italy.
 Research in Remote Sensing and Pattern Recognition, in particular analysis of forest areas by advanced remote sensing systems based on hyperspectral and airborne laser scanning (ALS) data. Advisor: Prof. Lorenzo Bruzzone. During the PhD I carried out a three months internship at the University of British Columbia (Canada).
- 11/2013 – 07/2006 Master's Degree in Telecommunication Engineering
University of Trento, via Mesiano 77, 38123 Povo (TN), Italy.
 Main topics: remote sensing, pattern recognition, C and C++ programming, image processing. Thesis on a novel and automatic system for the classification of electroencephalographic (EEG) data.
- 09/2000 – 10/2003 Bachelor's Degree in Telecommunication Engineering
University of Trento, via Mesiano 77, 38123 Povo (TN), Italy.
 Main topics: mathematics, C and C++ programming, remote sensing systems, pattern recognition. Thesis on the analysis and classification of low resolution remote sensing images (SPOT-VGT). The bachelor's thesis was carried out at Sarmap s.a. (Switzerland).

Internships

- 10/2015 – 11/2015 *Department of Global Ecology, Carnegie Institution for Science, Stanford University, 260 Panama St., Stanford, CA 94305, USA*
 Analysis of hyperspectral data for species classification in tropical areas.
- 09/2008 – 12/2008 *Integrated Remote Sensing Studio, Department of Forest Resources Management, University of British Columbia, 2424 Main Mall, V6T1Z4 Vancouver, Canada*
 Analysis of the effectiveness of multi-return airborne laser scanning (ALS) data in the estimation of tree stem volume.
- 06/2003 – 09/2003 *sarmap s.a., Cascine di Barico, 6989 Purasca, Switzerland*
 Analysis and classification of low resolution remote sensing images (SPOT-VGT). Development of a software module integrated in the software "SARscape" for the analysis of SPOT-VGT images.

Associate Editorship

- 2016 - Now IEEE Geoscience and Remote Sensing Letters.

Organizing committees of international conferences

2014 ForestSAT2014 (<http://forestsat2014.com/>).

Papers published in international journals

S. Liu, Y. Zheng, **M. Dalponte**, and X. Tong, "A Novel Fire Index based Burned Area Change Detection Approach Using Landsat-8 OLI Data," *European Journal of Remote Sensing*, accepted.

45. B. Wedeux, **M. Dalponte**, M. Schlund, S. Hagen, M. Cochrane, L. Graham, U. Usup, A. Thomas, D.A. Coomes, "Dynamics of a human-modified tropical peat swamp forest revealed by repeat lidar surveys," *Global Change Biology*, accepted.

C. Sothe, C. M. de Almeida, M. B. Schimalski, L. E. C. la Rosa, J. D. B. Castro, R. Q. Feitosa, **M. Dalponte**, C. L. Lima, V. Liesenberg, G. T. Miyoshi, A. M. G. Tommaselli, "Comparative performance of convolutional neural network, weighted and conventional support vector machine and random forest for classifying tree species using hyperspectral and photogrammetric data," *GIScience & Remote Sensing*, January 2020.

H. M. Nguyen, B. Demir, **M. Dalponte**, "A weighted SVM-based approach to tree species classification at individual tree crown level using lidar data," *Remote Sensing*, Vol. 11, No. 24, December 2019.

S. Versace, D. Gianelle, L. Frizzera, R. Tognetti, V. Garfi, **M. Dalponte**, "Prediction of Competition Indices in a Norway Spruce and Silver Fir-dominated Forest Using Lidar Data," *Remote Sensing*, Vol. 11, No. 23, November 2019.

C. Sothe, **M. Dalponte**, C. M. de Almeida, M. B. Schimalski, C. L. Lima, V. Liesenberg, G. Takahashi Miyoshi, A. M. Garcia Tommaselli, "Tree species classification in a highly diverse subtropical forest integrating UAV-based photogrammetric point cloud and hyperspectral data," *Remote Sensing*, Vol. 11, No. 11, June 2019.

S. Malek, F. Miglietta, T. Gobakken, E. Naesset, D. Gianelle, **M. Dalponte**, "Prediction of stem diameter and biomass at individual tree crown level with advanced machine learning techniques," *iForest - Biogeosciences and Forestry*, Vol. 12, No. 3, pp. 323-329, June 2019.

O. M. Bollandsås, H. O. Ørka, **M. Dalponte**, T. Gobakken, and E. Næsset, "Modelling Site Index in Forest Stands Using Airborne Hyperspectral Imagery and Bi-Temporal Laser Scanner Data," *Remote Sensing*, Vol. 11, No. 9, April 2019.

S. Malek, F. Miglietta, T. Gobakken, E. Naesset, D. Gianelle, **M. Dalponte**, "Optimizing field data collection for individual tree attribute predictions using active learning methods," *Remote Sensing*, Vol. 11, No. 8, April 2019.

M. Dalponte, T. Jucker, S. Liu, L. Frizzera, and D. Gianelle, "Characterizing forest carbon dynamics using multi-temporal lidar data," *Remote Sensing of Environment*, Vol. 224, pp. 412-420, April 2019.

K. Sakowska, A. MacArthur, D. Gianelle, **M. Dalponte**, G. Alberti, B. Gioli, F. Miglietta, A. Pitacco, F. Meggio, F. Fava, T. Julitta, M. Rossini, D. Rocchini, L. Vescovo, "Assessing across-scale optical diversity and productivity relationships in grasslands of the Italian Alps," *Remote Sensing*, Vol. 11, No. 6, March 2019.

M. Dalponte, L. Frizzera, and D. Gianelle, "Individual tree crown delineation and tree species classification with hyperspectral and LiDAR data," *PeerJ*, Vol 6. pp. e6227, January 2019.

T. Jucker, B. Bongalov, D. Burslem, R. Nilus, **M. Dalponte**, S. Lewis, O. Phillips, L. Qie, and D. Coomes, "Topography shapes the structure, composition and function of tropical forest landscapes," *Ecology Letters*, Vol. 21, Issue 7, pp. 989-1000, July 2018.

T. Jucker, G. P. Asner, **M. Dalponte**, P. Brodrick, C. D. Philipson, N. Vaughn, Y. A. Teh, C. Brelsford, D. F. R. P. Burslem, Deere, R. M. Ewers, J. Kvasnica, S. L. Lewis, Y. Malhi, S. Milne, R. Nilus, M. Pfeifer, O. L. Phillips, L. Qie, N. Renneboog, G. Reynolds, T. Riutta, M. J. Struebig, M. Svátek, E. C. Turner, and D. A. Coomes, "Estimating aboveground carbon density and its uncertainty in Borneo's structurally complex tropical forests using airborne laser scanning," *Biogeosciences*, Vol. 15, pp. 3811-3830, June 2018.

- M. Dalponte**, L. Frizzera, D. Gianelle, "How to map forest structure from aircraft, one tree at a time," *Ecology and Evolution*, Vol. 8, Issue 11, pp. 5611-5618, June 2018.
- M. Dalponte**, L. T. Ene, T. Gobakken, E. Næsset, and D. Gianelle, "Predicting Selected Forest Stand Characteristics with Multispectral ALS Data," *Remote Sensing*, Vol. 10, No. 4, April 2018
- M. Dalponte**, L. Frizzera, H. O. Ørka, T. Gobakken, E. Næsset, D. Gianelle, "Predicting stem diameters and aboveground biomass of individual trees using remote sensing data," *Ecological Indicators*, Vol. 85, pp. 367–376, February 2018.
- D. A. Coomes, D. Safka, J. D. Shepherd, **M. Dalponte**, R. Holdaway, "Airborne laser scanning of New Zealand reveals the influences of wind on forest carbon," *Forest Ecosystems*, Vol. 5, No. 10, January 2018.
- K. Kandare, H. O. Ørka, **M. Dalponte**, E. Næsset, T. Gobakken, "Individual tree crown approach for predicting site index in boreal forests using airborne laser scanning and hyperspectral data," *International Journal of Applied Earth Observation and Geoinformation*, Vol. 60, pp. 72-82, August 2017.
- D. A. Coomes, **M. Dalponte**, T. Jucker, G. P. Asner, L. F. Banin, D. F.R.P. Burslem, S. L. Lewis, R. Nilus, O. L. Phillips, M.-H. Phua, L. Qie, "Area-based vs tree-centric approaches to mapping forest carbon in Southeast Asian forests from airborne laser scanning data," *Remote Sensing of Environment*, Vol. 194, Issue 1, pp. 77-88, June 2017.
- K. Kandare, **M. Dalponte**, H. O. Ørka, L. Frizzera, E. Næsset, "Prediction of species-specific volume using different inventory approaches by fusing airborne laser scanning and hyperspectral data," *Remote Sensing*, Vol. 9, Issue 5, April 2017.
- T. Jucker, J. Caspersen, J. Chave, C. Antin, N. Barbier, F. Bongers, **M. Dalponte**, K. Y. van Ewijk, D. I. Forrester, M. Haeni, S. I. Higgins, R. J. Holdaway, Y. Iida, C. Lorimer, P. L. Marshall, S. Momo, G. R. Moncrieff, P. Ploton, L. Poorter, K. A. Rahman, M. Schlund, B. Sonké, F. J. Sterck, A. T. Trugman, V. A. Usoltsev, M. C. Vanderwel, P. Waldner, B. M. M. Wedeux, C. Wirth, H. Wöll, M. Woods, W. Xiang, N. E. Zimmermann, and D. A. Coomes, "Allometric equations for integrating remote sensing imagery into forest monitoring programs," *Global Change Biology*, Vol. 23, Issue 1, pp. 177–190, January 2017
- L. Vescovo, D. Gianelle, **M. Dalponte**, F. Miglietta, F. Carotenuto, C. Torresan, "Hail defoliation Assessment in corn (*Zea mays* L.) using Airbone LiDAR," *Field Crops Research*, Vol. 196, pp. 426–437, 2016.
- K. Kandare, H. O. Ørka, J. C.-W. Chan, and **M. Dalponte**, "Effects of forest structure and airborne laser scanning point cloud density on 3D delineation of individual tree crowns," *European Journal of Remote Sensing*, Vol. 49, pp. 337-359, 2016.
- J. Lee, X. Cai, J. Lellmann, **M. Dalponte**, Y. Malhi, N. Butt, M. Morecroft, C.-B. Schoenlieb, and D. A. Coomes, "Individual tree species classification from airborne multi-sensor imagery," *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, Vol. 9, No. 6, pp. 2554 - 2567, 2016.
- M. Dalponte**, and D. A. Coomes, "Tree-centric mapping of forest carbon density from airborne laser scanning and hyperspectral data," *Methods in Ecology and Evolution*, Vol. 7, No. 10, pp. 1236–1245, 2016.
- F. Nex, L. Delucchi, D. Gianelle, M. Neteler, F. Remondino, and **M. Dalponte**, "Land Cover Classification and Monitoring: the STEM Open Source Solution," *European Journal of Remote Sensing*, Vol. 48, pp. 811-831, 2015.
- M. Dalponte**, L. T. Ene, M. Marconcini, T. Gobakken, and E. Næsset, "Semi-supervised SVM for individual tree crown species classification," *ISPRS Journal of Photogrammetry and Remote Sensing*, Vol. 110, pp. 77-87, 2015.
- M. Dalponte**, F. Reyes, K. Kandare, and D. Gianelle, "Delineation of Individual Tree Crowns from ALS and Hyperspectral data: a comparison among four methods," *European Journal of Remote Sensing*, Vol. 48, pp.365-382, 2015.
- L. Eysn, M. Hollaus, E. Lindberg, F. Berger, J.-M. Monnet, **M. Dalponte**, M. Kobal, M. Pellegrini, E. Lingua, D. Mongus, and N. Pfeifer, "A Benchmark of Lidar-Based Single Tree Detection Methods Using Heterogeneous Forest Data from the Alpine Space," *Forests*, Vol. 6, No. 5, pp. 1721-1747, 2015.

- C. Persello, A. Boularias, **M. Dalponte**, T. Gobakken, E. Næsset, and B. Schölkopf, "Cost-Sensitive Active Learning with Lookahead: Optimizing Field Surveys for Remote Sensing Data Classification," *IEEE Transactions on Geoscience and Remote Sensing*, Vol. 52, No. 10, pp. 6652-6664, October 2014.
- M. Dalponte**, L. T. Ene, H. O. Ørka, T. Gobakken, and E. Næsset, "Unsupervised selection of training samples for tree species classification using hyperspectral data," *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, Vol. 7, No. 8, pp. 3560-3569, Aug. 2014.
- M. Dalponte**, H. O. Ørka, L. T. Ene, T. Gobakken, and E. Næsset, "Tree crown delineation and tree species classification in boreal forests using hyperspectral and ALS data," *Remote Sensing of Environment*, Vol. 140, pp. 306-317, January 2014.
- H. O. Ørka, **M. Dalponte**, T. Gobakken, E. Næsset, and L. T. Ene, "Characterizing forest species composition using multiple remote sensing data sources and inventory approaches," *Scandinavian Journal of Forest Research*, Vol. 28, No. 7, pp. 677-688, October 2013.
- A. Montagni, P. Corona, **M. Dalponte**, D. Gianelle, G. Chirici, and H. Olsson, "Airborne Laser Scanning of Forest Resources: an overview of research in Italy as a commentary case study," *International Journal of Applied Earth Observation and Geoinformation*, Vol. 23, pp. 288-300, August 2013.
- M. Dalponte**, H. O. Ørka, T. Gobakken, D. Gianelle, and E. Næsset, "Tree species classification in boreal forests with hyperspectral data," *IEEE Transactions on Geoscience and Remote Sensing*, Vol. 51, No. 5, pp. 2632-2645, May 2013.
- M. Dalponte**, L. Bruzzone, and D. Gianelle, "Tree species classification in the Southern Alps based on the fusion of very high geometrical resolution multispectral/hyperspectral images and LiDAR data," *Remote Sensing of Environment*, Vol. 123, pp. 258-270, August 2012.
- M. Dalponte**, C. Martinez, M. Rodeghiero, and D. Gianelle, "The role of ground reference data collection in the prediction of stem volume with LiDAR data in mountain areas," *ISPRS Journal of Photogrammetry and Remote Sensing*, Vol. 66, pp. 787-797, 2011.
- S. Tonolli, **M. Dalponte**, M. Neteler, M. Rodeghiero, L. Vescovo, and D. Gianelle, "Fusion of airborne LiDAR and satellite multispectral data for the estimation of timber volume in the Southern Alps," *Remote Sensing of Environment*, Vol. 115, No. 10, pp. 2486-2498, October 2011.
- M. Dalponte**, L. Bruzzone, and D. Gianelle, "A system for the estimation of single tree stem diameters and volume using multireturn LIDAR data," *IEEE Transactions on Geoscience and Remote Sensing*, Vol. 49, No. 7, pp. 2479-2490, July 2011.
- S. Tonolli, **M. Dalponte**, L. Vescovo, M. Rodeghiero, L. Bruzzone, and D. Gianelle, "Mapping and modeling forest tree volume using forest inventory and airborne laser scanning," *European Journal of Forest Research*, Vol. 130, No. 4, pp. 569-577, 2011.
- B. Murphy, M. Poesio, F. Bovolo, **M. Dalponte**, L. Bruzzone, and H. Lakany, "EEG decoding of semantic category reveals distributed representations for single concepts," *Brain and Language*, Vol. 117, No. 1, pp. 12-22, April 2011.
- M. Dalponte**, N. C. Coops, L. Bruzzone, and D. Gianelle, "Analysis on the use of multiple return LiDAR data for the estimation of tree stems volume," *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, Vol. 2, No. 4, pp. 310-318, December 2009.
- M. Dalponte**, L. Bruzzone, L. Vescovo, and D. Gianelle, "The role of spectral resolution and classifier complexity in the analysis of hyperspectral images of forest areas," *Remote Sensing of Environment*, Vol. 113, pp. 2345-2355, Nov. 2009.
- M. Dalponte**, L. Bruzzone, and D. Gianelle, "Fusion of hyperspectral and LIDAR remote sensing data for the classification of complex forest areas," *IEEE Transactions on Geoscience and Remote Sensing*, Vol. 46, No. 5, pp. 1416-1427, May 2008.
- M. Dalponte**, F. Bovolo, and L. Bruzzone, "Automatic selection of frequency and time intervals for classification of EEG signals," *Electronics Letters*, Vol. 43, No. 25, pp. 1406-1408, Dec. 6 2007.

Presentations at international conferences and workshops

M. Dalponte, L. Frizzera, D. Gianelle, "Estimating the dynamics of carbon stocks in forests with remote sensing data," ForestSAT2016 Santiago del Chile, 14-18 November 2016.

M. Dalponte, T. Jucker, D. F. R. P. Burslem, S. L. Lewis, R. Nilus, O. Phillips, L. Qie, and D. A. Coomes, "Aboveground biomass estimation in tropical forests at single tree level with ALS data," IEEE International Geoscience and Remote Sensing Symposium 2016, Beijing, China, 10th - 15th July 2016.

L. Vescovo, K. Sakowska, D. Gianelle, M. Rossini, G. Alberti, **M. Dalponte**, F. Fava, B. Gioli, T. Julitta, F. Meggio, A. Pitacco, and A. Mac Arthur, "Modelling the Spatial Distribution of CO₂ Fluxes in a Subalpine Grassland Plateau of the Italian Alps Using Multiple Airborne AISA Eagle Hyperspectral Sensor Observations and Sentinel-2 Simulated Data," 2015 AGU Fall Meeting, San Francisco, 14-18 December 2015.

D. A. Coomes, X. Cai, **M. Dalponte**, J. Lee, and C. Schönlieb, "Tree-centric mapping of forest carbon density from airborne LiDAR and hyperspectral data," SilviLaser 2015, La Grande Motte, France, 28-30 September 2015.

D. A. Coomes, **M. Dalponte**, J. Lee, C. Schönlieb, and X. Cai, "Tree-centric mapping of forest carbon density from airborne laser scanning and hyperspectral data," RSPSoc, NCEO and CEOI-ST Joint Annual Conference 2015, 8-11 September 2015, University of Southampton, UK.

M. Dalponte, L. Frizzera, and D. Gianelle, "Estimation of forest attributes at single tree level using hyperspectral and ALS data," ForestSAT 2014, 4-7 November 2014, Riva del Garda, Italy.

K. Kandare, **M. Dalponte**, J. C.-W. Chan, H. O. Ørka, and D. Gianelle, "Single tree crowns delineation using multireturn ALS data in an Alpine forest," ForestSAT 2014, 4-7 November 2014, Riva del Garda, Italy.

K. Kandare, **M. Dalponte**, D. Gianelle, and C. W. Chan, "A new procedure for identifying single trees in understory layer using discrete LIDAR data," IEEE International Geoscience and Remote Sensing Symposium 2014, Quebec City, Canada, 13th - 18th July 2014.

C. Persello, **M. Dalponte**, T. Gobakken, and E. Næsset, "Optimizing the ground sample collection with cost-sensitive active learning for tree species classification using hyperspectral images," IEEE International Geoscience and Remote Sensing Symposium 2013, Melbourne, Australia.

M. Dalponte, L. T. Ene, H. O. Ørka, T. Gobakken, and E. Næsset, "Unsupervised selection of training plots and trees for tree species classification," IEEE International Geoscience and Remote Sensing Symposium 2013, Melbourne, Australia.

J. Chan, **M. Dalponte**, L. Ene, L. Frizzera, F. Miglietta, and D. Gianelle, "Forest species and biomass estimation using airborne laser scanning and hyperspectral images," 5th Workshop on Hyperspectral Image and Signal Processing: Evolution in Remote Sensing, 25-28 June 2013, Gainesville, Florida, USA.

H. O. Ørka, **M. Dalponte**, T. Gobakken, E. Næsset, and L. Ene, "Characterizing forest species composition using multiple sensors and inventory approaches," ForestSAT 2012, 11-14 September 2012, Oregon State University, Corvallis, Oregon, USA.

M. Dalponte, H. O. Ørka, T. Gobakken, D. Gianelle, and E. Næsset, "Tree species classification in boreal forests with hyperspectral data," ForestSAT 2012, 11-14 September 2012, Oregon State University, Corvallis, Oregon, USA.

M. Dalponte, H. O. Ørka, L. T. Ene, T. Gobakken, D. Gianelle, and E. Næsset, "Effects of tree crown delineation in individual tree species classification with hyperspectral and LiDAR data," IEEE International Geoscience and Remote Sensing Symposium 2012, Munich, Germany.

M. Dalponte, L. Bruzzone, and D. Gianelle, "Fusion of hyperspectral and LIDAR remote sensing data for the estimation of tree stem diameters," IEEE International Geoscience and Remote Sensing Symposium 2009, Cape Town, South Africa.

M. Dalponte, S. Tonolli, D. Gianelle, and L. Bruzzone, "Estimation of forest biomass with multireturn LIDAR data," 17th ASPRS William T. Pecora Memorial Remote Sensing Symposium, Denver, November 17-20, 2008.

M. Dalponte, L. Bruzzone, and D. Gianelle, "Estimation of tree biomass volume in an Alpine forest area using multireturn LIDAR data and Support Vector Regression", Proceedings of the SPIE Conference on Image and Signal Processing for Remote Sensing XIV, Cardiff 15-18 September 2008.

B. Murphy, **M. Dalponte**, M. Poesio, and L. Bruzzone, "Distinguishing concept categories on the basis of single-participant electrophysiological activity", 30th Annual Meeting of the Cognitive Science Society, Washington 23-26 July 2008.

L. Bruzzone, **M. Dalponte**, and D. Gianelle, "On the role of spectral resolution and classifier complexity in the analysis of hyperspectral images of forest areas", Proceedings of the SPIE Conference on Image and Signal Processing for Remote Sensing XIII, Florence 17-20 September 2007, vol. 6748, pp. 67480C-1-67480C-12.

M. Dalponte, L. Vescovo, L. Bruzzone, and D. Gianelle, "Fusion of hyperspectral and LIDAR remote sensing data for the classification of complex forest areas", Proceedings of the 27th EARSEL Symposium, Bolzano 4-7 June 2007, pp. 189-196.

Posters at international conferences and workshops

M. Dalponte, L. Frizzera, H. O. Ørka, T. Jucker, T. Gobakken, E. Næsset, D. Gianelle, "Predicting the aboveground biomass of individual trees using remote sensing data and new allometric models: a case study in Norway," ForestSAT2016 Santiago del Chile, 14-18 November 2016.

F. Reyes, **M. Dalponte**, K. Kandare, and D. Gianelle, "Delineation of Individual Tree Crowns from ALS and Hyperspectral data: a comparison among four methods," ForestSAT 2014, 4-7 November 2014, Riva del Garda, Italy.

M. Erfurt, **M. Dalponte**, and D. Gianelle, "Estimation of forest stem volume using ALS data and field data collected with relascope technique," ForestSAT 2014, 4-7 November 2014, Riva del Garda, Ital

M. Dalponte, L. Frizzera, and D. Gianelle, "Fusion of hyperspectral and LIDAR data for forest attributes estimation," IEEE International Geoscience and Remote Sensing Symposium 2014, Quebec City, Canada, 13th - 18th July 2014.

M. Dalponte, L. Bruzzone, and D. Gianelle, "Tree species classification in the Southern Alps with very high geometrical resolution multispectral and hyperspectral data", 3rd Whorkshop on Hyperspectral Image and Signal processing: Evolution in Remote Sensing, Lisbon 6th-9th June 2011.

M. Dalponte, S. Tonolli, L. Vescovo, M. Neteler, and D. Gianelle, "Fusion of multispectral and LIDAR remote sensing data for the estimation of forest attributes in an Alpine region", 10th International Conference on LiDAR Applications for Assessing Forest Ecosystems, Freiburg 14-17 September 2010.

B. Murphy, L. Bruzzone, **M. Dalponte**, M. Poesio, and H. Lakany, "Predicting category specific effects in single subject electrophysiological activity," 26th European Workshop on Cognitive Neuropsychology 2008, Bressanone 20-25 January 2008.

Presentations at national conferences

P. Comin, **M. Dalponte**, D. Fedel, L. Frizzera, D. Gianelle, and A. Wolynski, "Nuove tecnologie nella pianificazione forestale trentina. Il progetto NEWFOR sulla proprietà boscata di Pellizzano (Trento)," 17th ASITA Conference, Riva del Garda, 2013.

Invited talks

M. Dalponte, "Tree species classification with hyperspectral data in the Italian Alps," Whorkshop on hyperspectral imaging and LiDAR for forestry applications, Oslo, Norway, November 30th 2015.

M. Dalponte, "Fusion of hyperspectral and ALS remote sensing data for the analysis of forest areas," Environmental Engineering Seminar Series – EESS Fall semester 2014, 18th November 2014, EPFL École polytechnique fédérale de Lausanne, Switzerland. Web: <http://memento.epfl.ch/event/fusion-of-hyperspectral-and-als-remote-sensing-dat/>

M. Dalponte, D. Gianelle, “Fusion of airborne LIDAR and satellite multispectral data for the estimation of timber volume in the Southern Alps,” Workshop on LIDAR applications in forest inventory and related statistical issues, DIBAF, Viterbo, Italy, 8 May 2013

M. Dalponte, and D. Gianelle, “Analysis of forest areas by advanced remote sensing systems based on LIDAR data,” VI Corso intensivo di alta formazione per dottorandi di ricerca del settore forestale-ambientale, CSALP, Pieve Tesino (Trento), 22 – 27 March 2010.

M. Dalponte, “Qualitative and quantitative analysis of Italian forests with remote sensing data,” SpecNet Europe Meeting, Fondazione Edmund Mach, June 30 - July 4, 2008.

Book chapters

J. Vauhkonen, H.O. Ørka, J. Holmgren, **M. Dalponte**, J. Heinzl, and B. Koch, 2013. Tree species recognition using ALS and complementary data sources. In: Maltamo M, Næsset E, Vauhkonen J (Eds). Forestry applications of airborne laser scanning - Concepts and case studies. Springer, Volume 27 of the series Managing Forest Ecosystems, pp. 135-156, 2014.

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