

Curriculum Vitae – Vettore Antonio

Antonio Vettore is full professor of Geomatics at the University of Padova. He is author of more than 240 publications in international journals and conferences in the field of Geomatics (Surveying, Photogrammetry, Mapping, GIS, Remote Sensing).

Past and present international collaborations

He has several scientific collaborations with the University California at Berkeley, Department of Forestry Science, University of Melbourne (Australia) Department of Geomatics, University of Calgary (Canada) Department of Geomatics, ETH Zurich Polytechnic, Institute of Photogrammetry, and University of Technology Vienna.

Visiting scholar (1999) at the Virtual Information Technology Group, Institute for Information Technology, National Research Council of Canada NRC.
Visiting Professor (2001) University of Calgary (Canada). Visiting Professor (2006) Department of Geomatics University of Melbourne (Australia).
Visiting Professor (2008) Technological University of Buenos Aires (UTBS).

Professional activities

He is the head of the Interdepartmental Research Center of Geomatics of the University of Padova (CIRGEO). He leads a group composed by two associate professors, two post-docs, and a variable number of PhD students and other grad-students.
He has a 25+ year experience in coordinating research units in national and international projects (e.g. head of research units in several national (Italian Ministry of Education, Italian Civil Protection Agency)) and he currently is the principal coordinator of the European project H2020 Marie Skłodowska-Curie project “CReScenDo-Combining Remote Sensing Technologies for Peatland Detection and Characterization” 2017-2019.
He is actively involved in the International Society of Photogrammetry and Remote Sensing and served in 2000-2004 as chair of the Working Group "Kinematic and Integrated Positioning System". He is a member of the Scientific Committee of MMS (Mobile Mapping Systems) at ASPRS (American Society of Photogrammetry and Remote Sensing).
Since 2016, he is the head of the Italian association of professors and researchers on topography and cartography (AUTeC).

He was chief organizer and host for the following international conferences:

- (i) The Role of Geomatics for hydrogeological Risk (Padova 11 to 13 February 2013)
 - (ii) International Symposium on Mobile Mapping Technology MMT07 (Padua, 2013)
 - (iii) 2nd Italy-Canada workshop on Applications of 3D Digital, Imaging and Modeling, Padova, May 17-18 2005
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Main research topics

- 1) Mobile Mapping Systems, Inertial Navigation Systems, Road Tracking, Image Processing.

- 2) Application of Laser Scanner and GPS / INS techniques for Surveying and 3D modeling of archeological sites.
- 3) Processing of LiDAR data from airborne or ground sensors (ALS & TLS), both discrete return.

List of selected recent publications

- Masiero, A., Fissore, F., Guarnieri, A. Pirotti, F., Vettore, A. (2019). *Aiding Indoor Photogrammetry with UWB Sensors*. *Photogrammetric Engineering & Remote Sensing*, (Accepted, 2019).
- Masiero, A., Fissore, F., Guarnieri, A. Pirotti, F., Visintini, D., Vettore, A. (2018). *Performance Evaluation of Two Indoor Mapping Systems: Low-Cost UWB-Aided Photogrammetry and Backpack Laser Scanning*, *Applied Sciences*, 8(3):416.
- Masiero, A., Fissore, F., Vettore, A. (2017). *A low cost UWB based solution for direct georeferencing UAV photogrammetry*, *Remote Sensing*, 9(5):414.
- Piermattei, L., Carturan, L., de Blasi, F., Tarolli, P., Dalla Fontana, G., Vettore, A., Pfeifer, N. (2016). *Suitability of ground-based SfM–MVS for monitoring glacial and periglacial processes*. *Earth Surface Dynamics*, 4(2), 425-443.
- Masiero, A. & Vettore, A. (2016). *Improved Feature Matching for Mobile Devices with IMU*. *Sensors*, 16(8):1243.
- Masiero, A., Fissore, F., Pirotti, F., Guarnieri, A., Vettore, A. (2016). *Toward the use of smartphones for mobile mapping*. *Geo-spatial Information Science*, special issue on "Mobile Mapping Technology", 19(3):210-221, Taylor & Francis.
- Guarnieri, A., Masiero, A., Vettore, A., & Pirotti, F. (2015). *Evaluation of the dynamic processes of a landslide with laser scanners and Bayesian methods*. *Geomatics, Natural Hazards and Risk*, 1, 1–21.
- Masiero, A., Guarnieri, A., Pirotti, F., Vettore, A. (2015). *Painting recognition with smartphones equipped with IMU*. *Optical Metrology 2015, Videometrics, Range Imaging and Applications XIII* (Munich, Germany).
- Masiero, A., Guarnieri, A., Pirotti, F., Vettore, A. (2014). *A Particle Filter for Smartphone-Based Indoor Pedestrian Navigation*. *Micromachines*, 5(4), 1012–1033.
- Pirotti, F., Laurin, G., Vettore, A., Masiero, A., Valentini, R. (2014). *Small Footprint Full-Waveform Metrics Contribution to the Prediction of Biomass in Tropical Forests*. *Remote Sensing*, 6(10), 9576–9599.
- Guarnieri, A., Pirotti, F., & Vettore, A. (2013). *Low-Cost MEMS sensors and vision system for motion and position estimation of a scooter*. *Sensors* (Basel, Switzerland), 13(2), 1510–1522.
- Pirotti, F., Guarnieri, A., Vettore, A. (2013). *Ground filtering and vegetation mapping using multi-return terrestrial laser scanning*. *ISPRS Journal of Photogrammetry and Remote Sensing*, 76, 56–63.
- Pirotti, F., Guarnieri, A. Vettore, A. (2013). *State of the Art of Ground and Aerial Laser Scanning Technologies for High-Resolution Topography of the Earth Surface*. *European Journal of Remote Sensing*, 46:66-78.
- Guarnieri, A., Milan, N., Vettore, A. (2013). *Monitoring of complex structure for structural control using TLS and Photogrammetry*. *Int. Journal of Architectural Heritage*, 7(1), 54-67.
- Guarnieri, A., Vettore, A., Camarda, M., Domenica, C. (2011). *Automatic registration of large range datasets with spin-images*. *Int. Journal. of Cultural Heritage*, 12(4), 476-484.
- Pirotti, F., Guarnieri, A., Vettore, A. (2011). *Collaborative Web-GIS Design: A Case Study for Road Risk Analysis and Monitoring*. *Transactions in GIS*, 15(2), 213–226.
- Guarnieri, A., Vettore, A., Pirotti, F., Menenti, M., Marani, M. (2009). *Retrieval of small relief marsh morphology from Terrestrial Laser Scanner, optimal spatial filtering, and laser return intensity*. *Geomorphology*, 113(1-2), 12–20.
- Guarnieri, A., Pirotti, F., Vettore, A. (2010). *Cultural heritage interactive 3D models on the web: An approach using open source and free software*. *Journal of Cultural Heritage*, 11, 350–353.