

Remote Sensing for Land Degradation Analysis and Sustainable Management of Agroforestry Systems



Zoom Webinar meeting ID:
923 1712 1588 (registration requested)
<https://unipd.zoom.us/j/92317121588>

November 27, 2020
09:00 am CET

workshop organized by the **Italian Society of Agricultural Engineering (AIIA)**



<https://www.facebook.com/Associazione.Italiana.Ingegneria.Agraria>

Chairman

Paolo Tarolli, University of Padova, Italy

Invited speakers

Earth observation, machine learning and ecosystem modelling for agricultural drought monitoring and impact prediction

Matthias Forkel, TU Dresden, Germany

Monitoring from close-range remote sensing the hydraulic resistance (Manning) of agricultural channel network

Jean-Stephane Bailly, AgroParisTech, France

Soil erosion and SfM covering various spatio-temporal scales

Anette Eltner, TU Dresden, Germany

Topography meter: remote sensing with a novel 3D surface measuring technique

Xiangzhou Xu, Dalian University of Technology, PR China

Abandoned reservoirs and gully erosion analysis using LiDAR

Niculita Mihai, University of Iasi, Romania



ASSOCIAZIONE ITALIANA
DI INGEGNERIA AGRARIA



Dipartimento Territorio
e Sistemi Agro-Forestali
Università di Padova

Programme

- 09:00 *Welcome Chairman* **Paolo Tarolli**, University of Padova, Italy
- 09:05 *Welcome President AIA* **Giacomo Scarascia Mugnozza**, University of Bari, Italy
- Panel 1 – Ecosystem** (moderator **Paolo Tarolli**)
- 09:10 *Earth observation, machine learning and ecosystem modelling for agricultural drought monitoring and impact prediction*
Matthias Forkel¹, **Laura Crocetti**², **Wouter Dorigo**¹, ¹TU Dresden, ²Vienna University of Technology
invited talk
- 09:25 *Landsat-based surface energy balance modelling of daily actual evapotranspiration in a Mediterranean ecosystem*
Hassan Awada, **Simone Di Prima**, **Sirca Costantino**, **Mario Pirastru**, University of Sassari, Italy
- 09:35 *A multi-platform approach to dissect the evapotranspiration response to drought of black poplar*
Flavia Tauro¹, **Antonino Maltese**², **Antoine Harfouche**¹, **Salvatore Grimaldi**¹, ¹University of Tuscia, ²University of Palermo, Italy
- 09:45 *Comparison of remote and ground sensing technologies to compute NDVI values of diseased and healthy grapevine*
Gabriele Daglio, **Damiano Zampieri**, **Raimondo Gallo**, **Fabrizio Mazzetto**
Free University of Bozen, Italy
- 09:55 > *discussion*
- Panel 2 – Vegetation & Landuse** (moderator **Fabrizio Mazzetto**)
- 10:15 *Monitoring from close-range remote sensing the hydraulic resistance (Manning) of agricultural channel network*
Jean-Stephane Bailly^{1,2}, **Fabrice Vinatie**¹, **Gabrielle Rudi**³, ¹LISAH Univ Montpellier, ²AgroParisTech, ³G-Eau Univ Montpellier, France *invited talk*
- 10:30 *Assessment of the riparian leaf density using different satellite imagery in a mountain stream*
Giovanni Romano, **Giovanni Francesco Ricci**, **Francesco Gentile**, University of Bari Aldo Moro, Italy
- 10:40 *Use of remotely sensed data for the evaluation of inter-row cover intensity in vineyards*
Francesco Palazzi¹, **Marcella Biddoccu**¹, **Enrico Borgogno Mondino**², **Eugenio Cavallo**¹, ¹National Research Council (CNR), ²University of Turin, Italy
- 10:50 *Comparison between two methodologies for the Individual Tree Height Estimation through a LiDAR mounted on a drone*
Monica F. Rinaldi, **Gabriele Daglio**, **Raimondo Gallo**, **Fabrizio Mazzetto**, Free University of Bozen–Bolzano, Italy
- 11:00 *Sentinel-1 SAR satellite data and open-source Python algorithms for unsupervised burned area detection in Mediterranean ecosystems*
Giandomenico De Luca¹, **João M.N. Silva**², **Giuseppe Modica**¹, ¹Università degli Studi Mediterranea di Reggio Calabria, Italy; ²University of Lisbon, Portugal
- 11:10 *LULC object-oriented classification in Google Earth Engine: an application in the Trasimeno Lake area*
Andrea Tassi, **Marco Vizzari**, University of Perugia, Italy
- 11:20 *Designing and implementing a multifunctional network of urban green infrastructures*
Stefano Chiappini¹, **Francesco Paci**¹, **Nicole Hofmann**¹, **Andrea Galli**¹, **Adriano Mancini**¹, **Ernesto Marcheggiani**^{1,2}, ¹Università Politecnica delle Marche, Italy; ²University of Leuven, Belgium
- 11:30 > *discussion*



Programme

Panel 3 – Digital Terrain Analysis & Soil erosion (moderator Giuseppe Modica)

- 11:50 *Topography meter: remote sensing with a novel 3D surface measuring technique*
Xiangzhou Xu, Dalian University of Technology, PR China *invited talk*
- 12:05 *Monitoring of vegetated agricultural terraces systems through SfM-TLS data fusion technique*
Sara Cucchiario^{1,2}, **Daniel J. Fallu**³, **Antony G. Brown**³, **Paolo Tarolli**², ¹University of Udine, ²University of Padova, Italy; ³Tromso University Museum, Norway
- 12:15 *Soil erosion and SfM covering various spatio-temporal scales*
Anette Eltner, Technische Universität Dresden, Germany *invited talk*
- 12:30 *Assessing sediment dynamics and torrent control works efficiency in a debris-flow catchment using multi-temporal topographic surveys*
Federico Cazorzi¹, **Sara Cucchiario**¹, **Lorenzo Marchi**², **Marco Cavalli**², ¹University of Udine, ²National Research Council CNR-IRPI, Italy
- 12:40 *Primary impacts and cascading processes of the Vaia storm in the Rio Cordon mountain catchment (Belluno Province)*
Lorenzo Martini¹, **Giacomo Pellegrini**¹, **Riccardo Rainato**¹, **Lorenzo Picco**^{1,2}, ¹University of Padova, Italy; ²Universidad Austral de Chile, Chile
- 12:50 *UAV-SfM 4D mapping of landslides activated in steep terraced agricultural context*
Luca Mauri¹, **Eugenio Straffolini**¹, **Sara Cucchiario**², **Paolo Tarolli**¹, ¹University of Padova, ²University of Udine, Italy
- 13:00 > *discussion & lunch break*

Panel 4 – Water Resources Management (moderator Claudio Gandolfi)

- 14:10 *Abandoned reservoirs and gully erosion analysis using LiDAR*
Niculita Mihai, Alexandru Ioan Cuza University of Iasi, Romania *invited talk*
- 14:25 *Remote Sensing advances in agricultural hydraulics and watershed protection*
Giulio Castelli, **Elena Bresci**, **Daniele Penna**, **Federico Preti**, University of Florence, Italy
- 14:35 *Analysis of time-series satellite images as a tool for planning river management strategies*
Paolo Fogliata, **Daniele Masseroni**, **Alessio Cislighi**, **Gian Battista Bischetti**, University of Milan, Italy
- 14:45 *Early recognition of irrigated areas using Sentinel-2 data in Central Italy*
Lorenzo Vergni, **Marco Vizzari**, **Alessandra Vinci**, **Francesco Santaga**, **Francesca Todisco**, University of Perugia, Italy
- 14:55 *Soil Moisture Retrievals from Unmanned Aerial Systems (UAS)*
Nunzio Romano¹, **Ruodan Zhuang**², **Salvatore Manfreda**¹, **Silvano Fortunato Dal Sasso**², **Carolina Allocca**¹, **Paolo Nasta**¹, ¹University of Naples Federico II, ²University of Basilicata, Italy
- 15:05 > *discussion*
- 15:25 *Conclusion* **Paolo Tarolli**, University of Padova, Italy



ASSOCIAZIONE ITALIANA
DI INGEGNERIA AGRARIA



Dipartimento Territorio
e Sistemi Agro-Forestali
Università di Padova