



Università Tor Vergata, Roma
Ingegneria Civile e Ingegneria Informatica
GeoInformation PhD Curriculum

12th 2013 GeoInformation Seminar

DISP meeting room, Ingegneria dell'Informazione, 1 Via del Politecnico
30 May 2013, starting at 15:00

Gaia Vaglio Laurin

Remote sensing for forest information: biomass retrieval and classification studies

The production of useful forest information implies using different sensors and techniques according to study area characteristics and data availability.

The presentation regards a collection of case studies, extracted from papers recently published by the author:

- a forest-oriented land cover map for a National Park in Sierra Leone, from satellite optical and radar data;
 - a vegetation type discrimination effort in an Alpine forested area in Italy, carried out with satellite radar data;
 - arboreous above-ground biomass estimation in Sierra Leone, based on airborne lidar and hyperspectral data.
- An analysis of biomass distribution in land cover classes of tropical Africa is also presented.

Gaia Vaglio Laurin received the Laurea degree in Biological Sciences and a Postgraduate Degree in Demo-Ethno-Anthropological Sciences in 1995 and 1996, from La Sapienza University, Rome, Italy; a Master in Geomatics and Natural Resources Evaluation in 2004 from the Istituto Agronomico per l'Oltremare in Florence, Italy; and a Master of Science in Biodiversity Conservation from the University of London, UK, in 2005. She is expected to defend her PhD thesis in GeoInformation at the Tor Vergata University of Rome by the end of 2013.

From 1997 to 2008 she worked as a consultant for development cooperation in governmental and NGOs, UN agencies, private companies and research institutions, supporting the use of geographical information systems and remote sensing for conservation and monitoring activities in both developing countries and the EU. Presently she collaborates with the Euro Mediterranean Center for Climate Change (CMCC), Impacts on Agriculture, Forest, and Natural Ecosystems Division (IAFENT) in Viterbo, Italy.

Her main interest is in remote sensing of natural resources, with focus on vegetation, forestry and biodiversity monitoring, using different data sources and analysis techniques.

Marco Meloni

**Recent developments in radar altimetry over land
and application to Cryosat-2 mission**

Satellite radar altimetry, which was initially designed for accurate measurements of sea surface height, has demonstrated to be suitable for land surfaces as well.

On the basis of a simplified expression of the FSIR (Flat surface impulse response) and IR (impulse response) that leads to a closed solution of the classical convolutional model, this seminar illustrates the applicability of the model to the waveform modelling of land echoes by comparison with real altimetric data of the sensor SIRAL of ESAs ice mission Cryosat-2.

Marco Meloni received the Masters degree in Telecommunications Engineering from Tor Vergata University, Rome, in February 2008, defending his thesis on the external calibration of the MIRAS instrument of the ESA SMOS satellite. He is now enrolled in the third year of the GeoInformation Doctorate at Tor Vergata University in partnership with ESA/ESRIN.

He currently works with SERCO S.p.A. as Quality Control Engineer of the ESA Gravity Mission GOCE. His main research is focused on the study of satellite radar altimetry over land and the definition of new algorithms for waveform modelling.

You are cordially invited to attend.

<http://www.disp.uniroma2.it/geoinformation/>