

Pavia 2015 International Summer School /
2015 Geoscience and Remote Sensing Summer School

on

Data Fusion for Risk Mapping

University of Pavia (Italy), 23rd –24th July 2015

A cooperation of



The Institute
of Electrical and Electronic
Engineers



IEEE Geoscience
and Remote Sensing
Society



Dipartimento di Ingegneria
Industriale e
dell'Informazione
University of Pavia, Italy

Introduction

The “Pavia 2015 International Summer School on “Data Fusion for Risk Mapping” is the fifth in a series of International Summer Schools on Data Fusion held in Pavia, Italy, following the first edition in 2011 on “Data Fusion and High Performance Computing”, the second one in 2012 on “Data Fusion and Target Detection”, the third one in 2013 on “Data Fusion of Synthetic Aperture Radar Data”, and the fourth one in 2014 on “Data Fusion of Risk-related Remotely Sensed and Geospatial Data” all of which were very successful and appreciated. This edition will **merge into the IEEE Geoscience and Remote Sensing Society 2015 Summer School (GR4S)**, on the occasion of the IEEE International Geoscience and Remote Sensing Symposium 2015, or **IGARSS 2015** – “Remote Sensing: Understanding the Earth for a Safer World”, which will be held the following week (July 26-31) in Milan.

The GR4S aims at providing to the attending students the opportunity to gain excellent introductory knowledge on:

- the exploitation of **remotely sensed from different sources for purposes of mapping risk and its components**, i.e. hazard, vulnerability, exposure, in a geospatial environment;
- **QGIS open-source tools** and environment for geospatial information handling.

Rationale

In an ever-changing and dynamic world, high-resolution and timely geospatial information with global access and coverage becomes increasingly important for our society's needs. Remote sensing can represent a valuable tool for the large-scale mapping of indicators related to vulnerability, as well as for recovery and reconstruction processes and their evolution over time. Although generally less accurate than in-situ inspection and less rich in details about individual buildings, Remote Sensing can provide cost-effective information in terms of acquisition costs per sq.km and allows the capture of large geographical extents that in-situ inspections cannot compete with.

To address the problem of data fusion from different sources, innovative frameworks and tools to integrate space-based and in-situ sensing for dynamic vulnerability, recovery monitoring and geospatial information handling were developed: open-source software tools – integrated into a freely available and widely used GIS environment, such as QGIS – are meant to produce a multi-resolution, time-varying indicator monitoring framework that applies to the whole disaster cycle.

IGARSS 2015, the world's premier symposium on the subject of remote sensing, will be held in the same town of the EXPO 2015 exhibition, whose topic is "Feeding the planet: energy for life". The conference main theme highlights the role of remote sensing for assessing, monitoring, and managing risks related to natural disasters.

Thus, within the conference, this year's Geoscience and Remote Sensing Society School will offer to the attendees an exploration on data fusion capabilities and the opportunity to evaluate results concerning risk indicator collection and analysis in order to and to use data in a dynamic way to the purpose of mapping risk and its components. The School will be application-oriented and characterized by hands-on experience and examples.

The focus will be on Masters and early PhD students dealing with remote sensing and geosciences topics. The summer school is a contribution by the GRSS towards human capital development internationally, with a further objective of attracting the next generation of practitioners – today's students - to become aware of GRSS and its benefits.

The students will meet international experts in the field and will have the opportunity to develop professional connections.

Format

The summer school will run over two days - Thu 23rd and Fri 24th July - in the week before IGARSS 2015. Lectures will be a mix of **theoretical lessons** and **hands-on activities**.

Application

Interested students are encouraged to send their application to the following e-mail address:

paviaissaerospacedatafusion@gmail.com

and cc: to Fabio Dell'Acqua (fabio.dellacqua-at-unipv.it) including a short note on their motivations, and a CV, no later than 16th March 2015. Candidates will be selected based on the information provided, and accepted attendees will be notified before 31st March 2015.

A moderate registration fee is foreseen. **Convenient budget accommodation options will be available**; more details in future calls. Please specify your non-binding interest in this option when you submit your application.

All information about the program and venues, as well as registration details, will be disseminated through the IGARSS 2015 Web site (<http://www.igarss2015.org/>), under section "For Students".

Organization and Chair

Fabio Dell'Acqua

*Dipartimento di Ingegneria Industriale e dell'Informazione, University of Pavia
Via Ferrata, 1 – I-27100 Pavia, Italy*

e-mail: fabio.dellacqua-at-unipv.it

telephone: +39 0382 985664

fax: +39 0382 422583