

Europass Curriculum Vitae

Personal information

Name / Surname

Michela Ravanelli

Research and professional activities

November 2017 - now

Main research subject

PhD student in Infrastructures and Transportation, XXX cycle, Infrastructures and Geomatics curriculum

Real-time analysis and detection of different kinds of ionospheric disturbances through GNSS signal

October 2020 - November 2020

Description

Visiting student researcher at Planétologie et Sciences Spatiales section of **Institut du Globe de Paris - Université de Paris** (Paris, France)

Investigation into new challenges of real-time GNSS ionosphere seismology

January 2020 - March 2020

Description

Visiting student researcher at Planétologie et Sciences Spatiales section of **Institut du Globe de Paris - Université de Paris** (Paris, France)

Investigation into new challenges of real-time GNSS ionosphere seismology

July 2019 - December 2019

Description

Visiting student researcher at the Ionospheric and Atmospheric Remote Sensing section of the **NASA Jet Propulsion Laboratory** (Pasadena, USA)

Analysis of earthquake induced ionospheric perturbations

June 2017 - July 2017

Description

Scholarship winner at the National Laboratories of Frascati of the Italian Institute of Nuclear physics

Activity carried out at the Satellite / Lunar / GNSS laser ranging / altimetry and Cube-sat / microsats Characterization Facilities (SCF) Laboratory: thermal and optical characterization of retroreflectors

Teaching Experience

November 2017 - now

Collaboration in lectures and exam sessions in *Positioning and Geomatics and Geographic Information Systems* courses in Environmental Engineering at the Civil and Industrial Engineering Faculty of the *Sapienza* University of Rome

November 2017 - now

Co-supervisor of 2 Bachelor Degree Thesis and 1 Master Degree Thesis in Geomatics at the Civil and Industrial Engineering Faculty of Sapienza University of Rome

March 2019 - March 2020

Temporary assistant professor of Numerical Analysis course for Energy Engineering - Sapienza University of Rome. Responsible for the MATLAB lectures.

February 2017 - June 2017

Co-Tutor of "Alteranza scuola-lavoro" projects

Generated an open-source database of indoor of classrooms using OpenStreetMap indoor viewer (OpenLevelUp)

March 2019 - May 2019

Analysis of Surface Urban Heat Island using Google Earth Engine

January - April 2018

Development crowdsourced mapping app for abandoned buildings in Rome neighbourhoods

Organization of international congresses

June 2018

Member of the Local Organizing Committee of the IX Hotine-Marussi Symposium

Awards and acknowledgements

November 2020

Second place at **Farming by Satellite Prize 2020** as part of GENUINE team

October 2020

Description

Selected for **Geo For Good Summit 2020**

The Geo for Good Summit is intended for technologists, GIS specialists, remote sensing specialists and others working on projects using Google Earth, Earth Engine and other Geo tools

July 2020

Selected for **2020 Regularization Methods for Machine Learning course** organized within the PhD Program in Computer Science of the University of Genova

Academic year 2019- 2020

Qualification of "**Cultore della materia**" at the Department of Civil, Building and Environmental Engineering of Sapienza University of Rome, for the academic year 2019/2020 in relation to the teachings of Positioning and Geomatics, (ICAR / 06 - Topography and Cartography)

September 2019

Description

Selected for **Geo For Good Summit 2019**

The Geo for Good Summit is intended for technologists, GIS specialists, remote sensing specialists and others working on projects using Google Earth, Earth Engine and other Geo tools

May 2019 - July 2019

Description

Selected for **Google Get Ahead program 2019**

Get Ahead is a study program for students interested in developing their coding technical skills

October 2017

Description

Selected for **Esa Academy's Earth Observation Satellite System Design Training course**

End-to-end design of an EO satellite system

June 2017

"Young author award" from Italian Society for Photogrammetry and Topography with a work extracted from the thesis and presented at the 62th Conference National SIFET held in Ragusa

May 2017

Sapienza University Excellent Student Award - Academic year 2015-2016

January 2017

Honours Programme - Master of Science in Environmental Engineering - Academic year 2015-2016

Education

January 2017

Final mark

Thesis title

Master of Science (M.S.) degree in Environmental Engineering

110/110 summa cum laude

The VARION approach for real-time detection of earthquake induced ionospheric disturbances: benefits, applications and open problems

Institute of Education

Sapienza University of Rome

December 2014

Final mark

Thesis title

Bachelor of Science (B.S.) degree in Environmental Engineering

110/110 summa cum laude

Zero-valent iron nanoparticles for chromium and atrazine decontamination of soils: innovative applications and potential risks

Institute of Education

Sapienza University of Rome

July 2011

Institute of Education

Scientific High School Diploma (bilingual experimentation)

Scientific High School *Tullio Levi Civita*, Roma

Competences

Mother tongue
Other language(s)

Italian

English, French (**DALF C2 certification**),

Self-assessment
European level^(*)

English

French

Understanding		Speaking				Writing			
Listening		Reading		Spoken interaction		Spoken production			
C1	Proficient user	C2	Proficient user	C1	Proficient user	C1	Proficient user	C1	Proficient user
C2	Proficient user	C2	Proficient user	C2	Proficient user	C2	Proficient user	C2	Proficient user

^(*) Common European Framework of Reference (CEF) level

Informatics skills

Professional qualification

January 2018

October 2017

Additional information

August 2014

Operating systems: Windows, Linux/Ubuntu, Mac OS X

Programming languages: Python, JavaScript, MATLAB, \LaTeX

Version control system: Git

Commercial Softwares: Microsoft Office, Quantum Gis, AutoCAD

Member of the Italian Civil and Environmental Engineering Society-Rome

Passed the qualification exam and licensed as a professional engineer

Voluntary experience: Participation in FAI (*Fondo Ambiente Italiano*) Voluntary Project for young students - Management and maintenance of *Bosco di San Francesco* in Assisi (PG)

In compliance with the Italian legislative Decree no. 196 dated 30/06/2003, I hereby authorize you to use and process my personal details contained in this document.

February 26, 2021

Michela Ravanelli

Articles and publications

Ravanelli, M., Occhipinti, G., Savastano, G., Komjathy, A., Shume, E. & Crespi, M. Real-time detection of tsunami ionospheric disturbances with a stand-alone GNSS receiver: A preliminary feasibility demonstration. Scientific reports, 2021, in press

Ravanelli, M., & Foster, J. & Crespi, M., "TIDs Detection From Ship-Based GNSS Receiver: First Test On 2010 Maule Tsunami " 2020 IEEE International Geoscience and Remote Sensing Symposium. IEEE, 2020

Ravanelli, Michela, and James Foster. "Detection of tsunami induced ionospheric perturbation with ship-based GNSS measurements: 2010 Maule tsunami case study." EGU General Assembly Conference Abstracts. 2020.

Mascitelli, A., Ravanelli, M., Mattoccia, S., Berardocco, C., & Mazzoni, A. (2020). a Complete FOS Approach for Indoor Crowdsourced Mapping: Case Study on Sapienza University of Rome Faculties. The International Archives of Photogrammetry, Remote Sensing and Spatial Information Sciences, 43, 361-365 <https://doi.org/10.5194/isprs-archives-XLIII-B4-2020-361-2020>

Savastano, G., Komjathy, A., Shume, E., Vergados, P., Ravanelli, M., Verkhoglyadova, O., Meng X. and Crespi, M. (2019), Advantages of Geostationary Satellites for Ionospheric Anomaly Studies: Ionospheric Plasma Depletion Following a Rocket Launch. Remote Sensing, 11(14), 1734; <https://doi.org/10.3390/rs11141734>

Fortunato, M., Ravanelli M. and Mazzoni A. (2019), Real-Time Geophysical Applications with Android GNSS Raw Measurements, *Remote Sensing*, 11(18), 2113; <https://doi.org/10.3390/rs11182113>

Meng, X., Komjathy, A., Verkhoglyadova, O., Savastano, G., Crespi, M., Ravanelli M., Modeling the Near-field Ionospheric Disturbances During Earthquakes, *Proceedings of the ION 2019 Pacific PNT Meeting*, Honolulu, Hawaii, April 2019, pp. 854-861. <https://doi.org/10.33012/2019.16844>

Ravanelli, M., Savastano G., and Crespi M. "A joint use of GNSS GEO and MEO satellites for earthquake and tsunami induced TIDs analysis: application to recent relevant events in the Pacific area." *Geophysical Research Abstracts*. Vol. 21. 2019

Crespi, Mattia, Michela Ravanelli, and Giorgio Savastano. "The VARION algorithm for moving GNSS receivers: preliminary tests and results." *Geophysical Research Abstracts*. Vol. 21. 2019.

G. Savastano and M. Ravanelli, Real-Time Monitoring of Ionospheric Irregularities and TEC Perturbations, *Ionospheric and Atmospheric Threats for GNSS and Satellite Telecommunications*, IntechOpen, 2019

F. Fratarcangeli, M. Ravanelli, A. Mazzoni, G. Colosimo, E. Benedetti, M. Branzanti, G. Savastano, O. Verkhoglyadova, A. Komjathy, M. Crespi, The variometric approach to real-time high-frequency geodesy, *Rendiconti Lincei. Scienze Fisiche e Naturali*, 2018, <https://doi.org/10.1007/s12210-018-0708-5>.

M. Ravanelli, G. Savastano, O. Verkhoglyadova, A. Komjathy, E. B. Shume and M. Crespi, A joint variometric approach for real-time analysis of earthquake driven ionospheric disturbances using a Stand-Alone GNSS Receiver: the 2015 Chile earthquake case study, *EGU General Assembly 2018, Vol.20*, 2018.

M. Ravanelli, VARION, un nuovo approccio per la stima in tempo reale di anomalie ionosferiche indotte dai terremoti: applicazioni, benefici e problemi aperti *BOLLETTINO SIFET n.1 – ANNO 2017: Sezione Scienza*