

# CURRICULUM VITAE MARGHERITA RIGHINI

## PERSONAL INFORMATION:

Name: Margherita Righini  
Nationality/citizenship: Italy  
Gender: Female  
Tel.:  
Skype:  
[margherita.righini@iusspavia.it](mailto:margherita.righini@iusspavia.it)  
[margherita.righini@pec.libero.it](mailto:margherita.righini@pec.libero.it)



## WORK EXPERIENCE:

### Post-Doctoral. February 2020-July 2021

IUSS, School of Advanced Studies, Pavia.

**Project name:** EFLIP project (Economic impacts of flood risk in Lombardy and innovative risk mitigation policy)

**Role:** study on urban flooding exposure and vulnerability through the use of Earth Observation products and the application of remote sensing techniques.

**Supervisor:** Prof. Andrea Taramelli

### Research fellow. July 2019-October 2019

IUSS, School of Advanced Studies, Pavia.

**Project name:** Po River Deltaic vulnerability assessment using Bayesian Belief Network approach

**Supervisor:** Prof. Andrea Taramelli

## TEACHING EXPERIENCE

### Teaching assistant. March 2020

Lecturer in Hydromorphology course as part of the Civil Engineering for Mitigation of Risk from Natural Hazards: Hydrogeological Risk Assessment and Mitigation MSc at the University of Pavia, Italy

### Teaching assistant. April- June 2016

Physical Geography and Geomorphology, Teaching assistant in Cartography Laboratory, Natural Sciences Department, University of Padua, Italy

### Co-supervision of graduate students

Bachelor and Master's Thesis supervision.

## EDUCATION AND TRAINING:

### PhD in Earth Science, Department of Geoscience, University of Padua. Cycle XXIX

**Research field:** Fluvial Geomorphology

**Project name:** Geomorphic response to extreme flood events in alluvial and semi-alluvial rivers

**Tutor:** Prof. Nicola Surian<sup>1</sup>

**Co-Tutor:** Prof. Francesco Comiti<sup>2</sup>, Dr. Lorenzo Marchi<sup>3</sup>, Prof. Ellen Wohl<sup>4</sup>

(1) Department of Geosciences, University of Padova, Italy, (2) Faculty of Science and Technology, Free University of Bozen-Bolzano, Italy (3) CNR IRPI, Padova, Italy, (4) Department of Geosciences, Colorado State University, Fort Collins, Colorado, USA.

*La sottoscritta Margherita Righini, ai sensi degli art.46 e 47 DPR 445/2000, consapevole delle sanzioni penali previste dall'art.76 del DPR 445/2000 e successive modificazioni ed integrazioni per le ipotesi di falsità in atti e dichiarazioni mendaci, dichiara sotto la propria responsabilità che le informazioni riportate nel CV corrispondono a verità. La sottoscritta autorizza il trattamento dei dati personali forniti ai sensi del D. Lgs. 196/2003*



## **Attendance to courses:**

R. ANGEL: "Scientific Communication", Geosciences Department, University of Padova. October-November 2014; 12 hours.

L. GULICK: "Scientific English", Geosciences Department, University of Padova. May 2014, 10 hours.

M. BORG: "Consolidating skills in English: A Multimedial Approach", Università degli Studi di Padova. April 2014, 14 hours.

L. CARNIELLO: "Fluvial Hydraulics", Civil Engineering Department, University of Padova. March-June 2014, 72 hours.

L. SALMASO, L. WU: "Statistics for Engineers", Industrial Engineering Department, University of Padova. January-February 2014, 45 hours.

F. FERRARESE, N. SURIAN: "Advance GIS course", Geosciences Department, University of Padova. February-March 2015; 18 hours.

K. THIELEN: "English as a 2<sup>nd</sup> Language-Academic ESL 6-2", FRCC Center for Adult Learning, Fort Collins (Colorado, USA). August-December 2015; 64 hours.

J. ANDERSON: "STAT 511-Design and Data Analysis for Researchers I", Clark Building, Colorado State University, Fort Collins (Colorado, USA). August-December 2015; 85 hours.

E. WOHL: "G-652 Fluvial Geomorphology", Department of Geosciences, Colorado State University, Fort Collins (Colorado, USA). August-December 2015; 45 hours.

## **Attendance to summer schools:**

Joint Training School: Sediment and Water Connectivity in Mountain Drainage Basins. 25-29 July 2016, Lasa, Bolzano, Italy, 36 hours.

## **Main Activities:**

- Acquisition of practical tools for evaluating connectivity in mountain environments in the context of hazard and risk assessment;
- Use of SedInConnect application for the characterization of sediment dynamics for landscape management;
- Field works;

## **Visiting Researcher at Colorado State University, Geosciences Department, Fort Collins, Colorado, USA: June-December 2015 - 6 months**

**Supervisor:** Prof. Ellen Wohl

## **Main Activities:**

- Remote sensing;
- Flume experiments;
- Field works.

## **M.A. Geological Sciences and Technologies**

Department of Chemical and Geological Science, University of Modena and Reggio Emilia, Italy.

**Name of the course of study:** Geological Sciences and Technologies

**Final degree mark:** 110/110 cum laude

**Dissertation/thesis title:** Forward simulation of groundwater level changes induced by deep drainage wells in Succiso earth slide (Northern Apennines, Italy).

**Dissertation/thesis Subject:** HYDROGEOLOGY

**Internship during studies:** Characterization and analysis techniques of contaminated sites (d.lgs.152/2006). 156 hours at: GEODES S.r.l. (in a private sector Company)

## European Union program (ERASMUS) (6 months)

**Place:** University of Malta, Malta.

**Relevant courses:** Geology, Environmental Impact Assessment, Geographic Information Systems, Mediterranean Sustainability and Development.

## B.A. Geological Sciences

Department of Chemical and Geological Science, University of Modena and Reggio Emilia, Italy.

**Name of the course of study:** Geological Sciences

**Specific field of the degree course:** Geomorphological and Geological Techniques Application for The Study of The Natural Hazard and the Environmental Impact.

**Final degree mark:** 105/110

**Dissertation/thesis title:** Geological Study On The abandoned Varicoloured Shale Quarry 'Il Casolare', Pavullo District (Northern Apennines, Italy)

**Dissertation/thesis subject:** Applied Geology

## PROFILE

- Experience in environmental remote sensing, with high experience in satellite/aerial images analysis;
- High experience in processing high resolution remotely sensed data (i.e., DEM, satellite or aerial images) used for mapping and geospatial analysis;
- Rich ability with collection, processing, analysis, and storage of Geospatial data sets through GIS;
- Rich experience in modeling geospatial data through R and in large database administrator;
- Experience in statistical analysis (scenarios, models, trend analysis);
- Experience in integrated hydrogeological risk assessment, especially in flood hazard and vulnerability assessment;
- Experience in using the European Earth Observation Program (Copernicus) products;
- Experience in field work and samples collection;
- Basic experience in the use of Bayesian Belief network model;
- Experience in drafting and producing written reports and scientific papers;
- Highly self-motivated, excellent analytical and problem-solving skills, and a proactive approach;
- Dedication and enthusiasm to work independently and in a team;
- **Language skills:** Good proficiency both in English and Italian; elementary proficiency in Spanish.
- **Communication skills:** Very good communication and organization skills in working independently. Worked closely with research colleagues and external contacts; flexibility, goal oriented, willingness to learn. Highly self-motivated, excellent analytical and problem-solving skills, and a proactive approach.
- **Computer skills:** Very good/Excellent command of ArcGIS, Microsoft Office™tools, Feflow, QGIS, ENVI, SWAT, STATGRAPHICS centurion XVI; R - The R Project for Statistical Computing; base level of Python; SNAP; NETICA; Google Engine.

## SCIENTIFIC COMMUNICATIONS (POSTERS AND TALKS):

**Righini M., Caputo G., Cervi F., Corsini A. & Ronchetti F., 2013.** Forward simulation of groundwater level changes induced by deep drainage wells in Succiso earth slide (northern Apennines, Italy). Associazione Italiana di Geologia Applicata e Ambientale (AIGA). IX Convegno nazionale dei Giovani Ricercatori di Geologia Applicata, Napoli. Poster.

**Righini M.**, 2014. Geomorphic response to extreme flood events in alluvial rivers, Symposium “Fluvial System” 2<sup>nd</sup> Edition, Dipartimento di Ingegneria Civile, Ambientale e Meccanica, 11<sup>th</sup> June 2014, Trento, Italy. Oral.

**Righini M.**, Surian N., Comiti F., Marchi L., 2014. Geomorphic response to extreme flood events in alluvial rivers. International Conference: Analysis and Management of Changing Risks for Natural Hazards, 18-19 November 2014, Padua, Italy. Poster.

**Righini M.**, 2015. Geomorphic response to extreme flood events in alluvial and semi-alluvial rivers. Colorado State University, Geosciences Department. 2<sup>nd</sup> December 2015. Oral.

**Righini M.**, Surian N., Wohl E.E., Amponsah W., Marchi L., Borga M., 2016. Geomorphic response to an extreme flood in two mountain rivers (northeastern Sardinia, Italy): the role of geomorphic and hydraulic controlling factors. EGU General Assembly, 17–22 April 2016, Wien, Austria. PICO presentation.

Amponsah W., **Righini M.**, Borga M., Marchi L., Rathburn S.L., Surian N., Wohl E.E., Zoccatelli D., 2016. Geomorphically Effective Energy Expenditure for Extreme Floods. EGU General Assembly, 17–22 April 2016, Wien, Austria. Poster.

Brenna A., Comiti F., **Righini M.**, Scorpio V., Surian N., 2016. Risposta geomorfologica degli alvei fluviali alla piena del 14 settembre 2015, Giornata di studio “L’evento alluvionale del 14 settembre 2015 nel Piacentino”. Autorità di Bacino, Parma, 12<sup>th</sup> May 2016. Oral.

**Righini M.**, 2016. Channel geomorphic response to extreme floods: the event of November 2013 in NE Sardinia and the role of geomorphic and hydraulic controlling factors, Symposium “Fluvial System” 4<sup>th</sup> Edition, CNR-IRPI Area della Ricerca, 20<sup>th</sup> May 2016, Padova, Italy. Oral.

Comiti F., **Righini M.**, Nardi L., Lucia A., Amposah W., Borga M., Cavalli M., Marchi L., Rinaldi M., Surian N., 2016. Channel widening during extreme floods: how to integrate it within river corridor planning?. 13<sup>th</sup> Congress Interpraevent 2016. 30<sup>th</sup> May-2<sup>nd</sup> June 2016, Lucerne, Switzerland. Talk.

Scorpio V., **Righini M.**, Amponsah W., Crema S., Ciccarese G., Nardi L., Zoccatelli D., Borga M., Cavalli M., Comiti F., Corsini A., Marchi L., Rinaldi M., and Surian N. Effects of large floods on channel width: recent insights from Italian rivers. EGU2017-9183, 2017 EGU General Assembly 2017, Wien, Austria. Oral.

Geraldini S., Taramelli A., Valentini E., **Righini M.**, Nguyen Xuan A., Filipponi F., Zucca F. (2019). Po River Deltaic Vulnerability Assessment Using Bayesian Belief Network Approach. EP31A-07, American geophysical Union (AGU) Fall Meeting 2019, San Francisco (USA) 09-13/12/2019. Oral.

**Righini M.**, Taramelli A., Valentini E., Schiavon E., Gabellani S., Armaroli C. (2020). A Copernicus GIS-based characterization of flood vulnerability patterns in Lombardy Region (Italy). NH016, American geophysical Union (AGU) Fall Meeting 2020, San Francisco (USA) 01-17/12/2019. iPoster.

Piedelobo L., Cappucci S., Valentini E., **Righini M.**, Taramelli A., (2020). Identification of Ecosystem-level indicators to assess the state transition dynamics in a coastal wetland: Case study of a shallow tidal basin of Venice lagoon. American geophysical Union (AGU) Fall Meeting 2020, San Francisco (USA) 01-17/12/2019. iPoster.

## LIST OF SCIENTIFIC PUBLICATIONS:

Taramelli A., Valentini E., Piedelobo L., **Righini M.**, Cappucci S. Assessment of State Transition Dynamics of Coastal Wetlands in Northern Venice Lagoon, Italy. Sustainability. 2021; 13(8):4102. <https://doi.org/10.3390/su13084102>

Taramelli A., Valentini E., **Righini M.**, Filipponi F., Geraldini S., Nguyen Xuan A. Assessing Po River Deltaic Vulnerability Using Earth Observation and a Bayesian Belief Network Model. *Water*. 2020; 12(10):2830. <https://doi.org/10.3390/w12102830>

Scorpio V., Crema S., Marra F., **Righini M.**, Ciccarese G., Borga M., Cavalli M., Corsini A., Marchi L., Surian N., Comiti F., 2018. Basin-scale analysis of the geomorphic effectiveness of flash floods: A study in the northern Apennines (Italy). *Science of The Total Environment*, Volumes 640–641, Pages 337-351. DOI: 10.1016/j.scitotenv.2018.05.252

**Righini M.**, Surian N., 2017. Remote sensing as a tool for channel dynamics and geomorphic response to flood analysis detection: overview and applications. *Flood Monitoring through Remote Sensing*, Springer Remote Sensing/Photogrammetry Ed., Refice A., D'Addabbo A., Capolongo D., pp 27-59. DOI:10.1007/978-3-319-63959-8.

**Righini M.**, Surian N., Wohl E., Marchi L., Comiti F., Amponsah W., Borga M., 2017. Geomorphic response to an extreme flood in two Mediterranean rivers (northeastern Sardinia, Italy): Analysis of controlling factors, *Geomorphology*, Volume 290, pp. 184-199. <http://dx.doi.org/10.1016/j.geomorph.2017.04.014>

Comiti F., **Righini M.**, Nardi, L., Lucìa A., Amposah W., Borga M., Cavalli M., Marchi L., Rinaldi M., Surian N. 2016. Channel widening during extreme floods: how to integrate it within river corridor planning? *Proceedings of the 13th Congress Interpraevent 2016*. 30th-May 2nd June 2016, Lucerne, Switzerland, 477-486.

Surian N., **Righini M.**, Lucìa A., Nardi L., Amponsah M., Benvenuti, Borga M., M., Cavalli M., Comiti F., Marchi L., Rinaldi M., Viero A., 2016. Channel response to extreme floods: insights on controlling factors from six mountain rivers in northern Apennines, Italy. *Geomorphology* 272, 78-91. doi:10.1016/j.geomorph.2016.02.002

Rinaldi M., Amponsah W., Benvenuti M., Borga M., Comiti F., Lucìa A., Marchi L., Nardi L., **Righini M.**, Surian N., 2016. An integrated approach for investigating geomorphic response to extreme events: methodological framework and application to the October 2011 flood in the Magra River catchment, Italy. *Earth Surface Processes and Landforms*, 41, 835-846. doi: 10.1002/esp.3902

**Righini M.**, G. Caputo, F. Cervi, A. Corsini, F. Ronchetti, 2013. Foward simulation of groundwater level changes induced by deep drainage wells in Succiso earth slide (Northen Apennines, Italy). *Rend. Online Soc. Geol. It.*, Vol. 24, pp. 269-272. doi: 10.3301/Rol.2012.