

## PERSONAL INFORMATION

## Alfredo Reder

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Sex Male | Date of birth 27/08/1987 | Nationality Italian

Fiscal Code RDRLRD87M27F839W

VAT number 08276151217

## WORK EXPERIENCE

October 2018 – on going

## Junior Scientist at CMCC Foundation

REMHI (REgional Models and geo-Hydrological Impacts) Division - -via Maiorise I, Capua (CE) – 80143

February 2016 – October 2018

## Freelance Professional

Scientific Advice at CMCC Foundation - via Maiorise I, Capua (CE) – 80143

**Topic of the activities carried out:** 1) Analysis of very high resolution simulations (2.2 km) on the Alpine region for the current climate; development of stochastic tools for downscaling of scenarios to 8 km in the Alpine region (NextData Project); 2) Post processing analysis aimed at using climate data for health impact analysis (Planetary Health Project); 3) Rainfall analysis at sub-daily scale for impact assessment on urban areas (Strategic Project); 4) Characterization and modeling of urban heat island phenomenon using experimental measurements and 1D physical models (Strategic Project); 5) Implementation of the TEB code in 1D stand alone mode and study of the sensitivity of this model to the geometries and construction materials of the urban environment; 6) Analysis and preprocessing of mass flow data (CO<sub>2</sub> and H<sub>2</sub>O) and of energy of the main meteorological variables on the Northern Sardinia area; 7) Contribution to the activities of the REMHI division as part of the PNACC project (National Climate Change Adaptation Plan): contribution to the report on impacts and sectoral vulnerability envisaged in the context of geological, hydrological and hydraulic instability; 8) Contribution to Deliverable D 2.5 "Summary report" Project FP 7 INTACT - European Union Seventh Framework Program (FP7 / 2007-2013) under grant agreement n ° FP7-SEC-2013-1-606799 - <http://www.intact-project.eu/index.cfm> - Development of analysis tools for climate change assessment in European areas identified by project test houses

May 2017 – September 2017

## COCOCO contract winner

DICEA – Federico II – Napoli  
PRIN 2015 project - Innovative monitoring and design strategies for sustainable landslide risk mitigation - COCODICEA 02/17.

February 2017 – April 2017

## Scholarship winner

DICEA – Federico II – Napoli  
Research Agreement with the Direzione Generale Dighe - BORS 25 DICEA/2016  
Interpretation of monitoring data on earth dams with empirical and numerical approaches

July 2016 – October 2016

## Scholarship winner

DICEA – Federico II – Napoli  
DPC/RELUIS 2016 PROJECT – CUP E66D16002180005 - BORS 06 DICEA/2016  
Investigation on the seismic behavior of earth dams

April 2015-December 2015

## Project Contract on Gemina

CMCC - via Maiorise I, Capua (CE) – 80143

**Topic:** Estimation of the variation induced by Climate Change in the occurrence and magnitude of landslide phenomena in the Mediterranean area

## EDUCATION AND TRAINING

November 2012 – May 2016

## PhD in Geotechnical Engineering

University of Naples "Federico II" - STRAGO spa, Pozzuoli (NA) (Italia) - Scholarship winner

QE-Q 8

October 2010 – 18 October 2012	<b>Master's Degree in Structural and Geotechnical Civil Engineering</b> University of Naples "Federico II" - Final Grade: 110/110 cum laude	QE-Q 7
October 2006 – 21 June 2010	<b>Bachelor's Degree in Projects and Infrastructures Management Engineering</b> University of Naples "Federico II" - Final Grade: 106/110	QE-Q 6
September 2001 – July 2006	<b>Scientific high school degree.</b>	QE-Q 4

**PERSONAL SKILLS**

Mother Tongue  
Other languages

Italian

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	B2	C1	B2	C1	C1
French	B1	B1	A2	A2	B1

Levels: A1/2 Basic user - B1/2 Independent user - C1/2 Proficient user  
Common European Framework of Reference for Languages

English ESOL International (CEFB2) certification

Communication skills

Excellent ability to work in groups  
Good skills to work in complex conditions

Organisational / managerial skills

Excellent ability to organize work: respect of the established terms; respect for authority; sbility to subdivide commitments with colleagues

Job-related skills

Excellent ability in the FEM numerical modeling; in the planning and management of data acquisition systems; sensors for determining the hydraulic balance and the thermal balance between soil and atmosphere; interpretation of the results concerning the urban climate with particular reference to urban heat islands and the role of uncertainties in climate projections for impact studies

Digital skills

Office suite; Geo-studio; HELP; Matlab; Autocad; TEB 1D; Hydrus

Driver License

B-A2

**ADDITIONAL INFORMATION**

Some Publications

- Padulano R., Reder A., Rianna G. (2019) - An ensemble approach for the analysis of extreme rainfall under climate change in Naples (Italy) – Hydrological Processes, doi: <https://doi.org/10.1002/hyp.13449>
- Rianna G., Comegna L., Pagano L., Picarelli L., Reder A. (2019) - The Role of Hydraulic Hysteresis on the Hydrological Response of Pyroclastic Silty Covers - Water 2019, 11(3), 628; <https://doi.org/10.3390/w11030628>
- Reder A., Rianna G., Pagano L. (2018) - Physically based approaches incorporating evaporation for early warning predictions of rainfall-induced landslides - Nat. Hazards Earth Syst. Sci., 18:613-631, doi: 10.5194/nhess-18-613-2018, 2018
- Reder A., Iturbide M., Herrera S., Rianna G., Mercogliano P., Gutiérrez J.M. (2018) - Assessing variations of extreme indices inducing weather-hazards on critical infrastructures over Europe—the INTACT framework – Climatic Change, 148(1):123-138, doi 10.1007/s10584-018-2184-4
- Reder A., Rianna G., Mercogliano P., Castellari, S. (2018) - Parametric investigation of Urban Heat Island dynamics through TEB 1D model for a case study: Assessment of adaptation measures - Sustainable Cities and Society, 39: 662-673, doi: 10.1016/j.scs.2018.03.023.
- Rianna G., Reder A., Pagano L. (2018) - Estimating actual and potential bare soil evaporation from silty pyroclastic soils: Towards improved landslide prediction – Journal

- of Hydrology, 562: 193-209, doi: 10.1016/j.jhydrol.2018.05.005
- Pagano L., Reder A., Rianna G. (2018) - The effects of vegetation on the hydrological response of silty volcanic covers - Canadian Geotechnical Journal, doi: 10.1139/cgj-2017-0625
  - Rianna G., Comegna L., Reder A., Pagano L., Picarelli L. (2017) - Ruolo del percorso di saturazione sulle condizioni di innesco di frane in terreni piroclastici - Incontro Annuale dei Ricercatori di Geotecnica (IARG) 2017 – 5-7 luglio 2017. Matera, Italia.
  - Reder A., Pagano L., Picarelli L., Rianna G. (2017) - The role of the lowermost boundary conditions in the hydrological response of shallow sloping covers – Landslides 14(3), pp 861–873; doi:10.1007/s10346-016-0753-z.
  - Rianna G., Reder A., Mercogliano P., Pagano L. (2017) - Evaluation of variations in frequency of landslide events affecting pyroclastic covers in Campania Region under the effect of Climate Changes – Hydrology 4(3), 34; doi:10.3390/hydrology4030034
  - Rianna G., Reder A., Villani V., Mercogliano P. (2017) Variations in Landslide Frequency Due to Climate Changes Through High Resolution Euro-CORDEX Ensemble. In: Mikoš M., Casagli N., Yin Y., Sassa K. (eds) Advancing Culture of Living with Landslides. WLF 2017. Springer, Cham; pp 237-242 - doi: 10.1007/978-3-319-53485-5\_27
  - Pagano L., Reder A., Rianna G., (2017) - Soil-atmosphere interaction in landslide triggering - Proceedings of the First JTC1 Workshop Advances in Landslide Understanding Barcelona, Spain May 24th - 26th, 2017 - ISBN: 978-84-946909-1-4
  - Rianna G., Reder A., Pagano L., Comegna L. (2017) - Hysteresis processes and effective rainfall histories - Proceedings of the First JTC1 Workshop Advances in Landslide Understanding Barcelona, Spain May 24th - 26th, 2017 - ISBN: 978-84-946909-1-4
  - Reder A., Chiaradonna A. (2017) - Influenza delle condizioni iniziali sulla verifica a liquefazione di un rilevato arginale danneggiato dal sisma del 20 maggio 2012 – Incontro Annuale Giovani Ingegneri Geotecnici – Catania, maggio 2017
  - Rianna G., Collell M.R., Uzielli M., van Ruiten K., Mercogliano P., Ciervo F., Reder A. (2017) - An experience of knowledge co-production for setting up landslide risk management processes in a critical infrastructure: the case of Campania Region (Southern Italy) - Geophysical Research Abstracts Vol. 19, EGU2017-15417, 2017 EGU General Assembly 2017
  - Reder A., Rianna G., Pagano L. (2016) - Some aspects of water and energy budget of a pyroclastic cover – Environmental Geotechnics 1-14; doi: 10.1680/jenge.15.00076.
  - Pagano L., Reder A., Rianna G. (2014) – Processi di infiltrazione ed evaporazione nei terreni piroclastici illustrati attraverso la selezione di alcuni eventi rappresentativi. – Rivista Italiana di Geotecnica (RIG), 1/2014, pp. 56-70.
  - Pirone, M., Rianna, G., Reder, A., Pagano, L., Urciuoli, G. (2016). Two Applications of Soil Water Balance in Unsaturated Pyroclastic Soils - Procedia Engineering 158, pp. 188-193.
  - Reder A., Rianna G., Pagano L. (2016) – Evaluation of the effect of land vegetation cover on water and energy balance of an unsaturated pyroclastic cover – E3S Web Conf. Volume 9, 3rd European Conference on Unsaturated Soils – “E-UNSAT 2016”.
  - Reder A., Rianna G., Pagano L. (2014) – Calibration of TDRs and heat dissipation probes in pyroclastic soils – Procedia Earth and Planetary Science, 9: 171-179.
  - Reder A., Rianna G., Pagano L. (2014) – Prediction of suction evolution of silty pyroclastic covers in flume tests and field monitoring – Procedia Earth and Planetary Science, 9: 214-221.
  - Pagano L., Reder A., Rianna G. (2014) – Experiments to investigate the hydrological behaviour of volcanic covers – Procedia Earth and Planetary Science, 9: 14-22.
  - Pagano L., Reder A., Rianna G. (2016) - Differences in Results Yielded by Different Approaches Adopted for the Interpretation of a Rapid Flowslide in a Pyroclastic Cover - Procedia Earth and Planetary Science, 16:81-88.
  - Reder A., Rianna G., Mercogliano P., Pagano L. (2016) - Assessing the Potential Effects of Climate Changes on Landslide Phenomena Affecting Pyroclastic Covers in Nocera Area (Southern Italy) - Procedia Earth and Planetary Science, 16:166-176.
  - Reder A., Rianna G., Vezzoli R., Mercogliano P. (2016) - Assessment of possible impacts of climate change on the hydrological regimes of different regions in China -Advances in Climate Change Research, 7:169-184.
  - Reder A., Rianna G., Pagano L. (2015) - Approaches for estimating soil-atmosphere interaction fluxes in a pyroclastic cover – WSEAS: Advances in Environmental and Geological Science and Engineering, pp. 273-280 ISBN: 978-1-61804-314-6.
  - Reder A., Pagano L., Picarelli L., Rianna G. (2013) – Prove d’infiltrazione nei terreni piroclastici finalizzate allo studio della condizione al contorno inferiore. – Incontro Annuale dei Ricercatori di Geotecnica (IARG) 2013 – 16-18 settembre 2013. Perugia, Italia.
  - Pagano L., Reder A., Rianna G. (2014) – Metodi per la stima dei flussi all’interfaccia

suolo-atmosfera nelle piroclastiti limose. – Incontro Annuale dei Ricercatori di Geotecnica (IARG) 2014 – 14-16 luglio 2014. Chieti, Italia.

- Reder A., Autiero M., Pagano L., Mannara G. (2014) – Realizzazione di un nuovo sensore tensio-inclinometrico basato su tecnologia MEMS per il monitoraggio di pendii. – Incontro Annuale dei Ricercatori di Geotecnica (IARG) 2014 – 14-16 luglio 2014. Chieti, Italia.
- Reder A., Pagano L., Rianna G. (2015) - Un confronto tra due approcci per la modellazione dell'interazione terreno-atmosfera in terreni piroclastici – Incontro Annuale dei Ricercatori di Geotecnica (IARG) 2015 – 24-26 giugno 2015. Cagliari, Italia.

Link Researchgate: [https://www.researchgate.net/profile/Alfredo\\_Reder/contributions](https://www.researchgate.net/profile/Alfredo_Reder/contributions)

Link Google Scholar: <https://scholar.google.it/citations?user=3rio4MMAAAAJ&hl=it>

23/04/2019

Signature

