

## Francesca CASINI

### PERSONAL DETAILS

Date of Birth December 8, 1976  
Nationality Italian  
Address Università di Roma Tor Vergata  
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### EDUCATION

- 2008 PhD in Geotechnical Engineering, Università degli Studi di Roma La Sapienza, Roma, IT  
Thesis: Effetti del grado di saturazione sul comportamento meccanico del limo (Effects of the degree of saturation on the mechanical behaviour of silt)
- 2003 Laurea in Environmental Engineering (5 year degree roughly equivalent to a Master),  
Università di Roma Tor Vergata, Roma, Italy  
Thesis: *Analisi della stabilità dei pendii in condizioni di parziale saturazione* (Slope stability analysis in unsaturated conditions)

### CURRENT POSITION

2015 – to date Associate Professor. DICII, Università di Roma Tor Vergata, Roma, Italy

### ACADEMIC CAREER

- 2017 - Habilitation for the role of Full Professor, third round ASN
- 2014 – 2015 Ricercatore t.d. tipo b (Assistant Professor) - Programma Giovani Ricercatori "Rita Levi Montalcini". DICII, Università di Roma Tor Vergata, Roma, Italy
- 2014 Habilitation for the role of Associate Professor, first round ASN
- 2012 – 2014 Experienced Researcher Marie Curie ETCG, Universitat Politecnica de Catalunya/ Spain
- 2008 – 2012 Research Fellow IGT, ETH-Zurich / Switzerland
- 2006 – 2007 Early Stage Researcher Marie Curie ETCG, Universitat Politecnica de Catalunya/ Spain

### VISITING POSITIONS

- 2006 ENPC, Paris, France (2 months)
- 2014 University of Newcastle, Newcastle, Australia (1 month)
- 2018 University of Sydney, Sydney, Australia (1 month)
- 2018 KAUST, Saudi Arabia (2 weeks)

### FELLOWSHIPS AND AWARDS

- 2015 ERC Starting Grant 2015, passed to second stage (not retained for funding)
- 2014 MIUR-Programma per Giovani Ricercatori Rita Levi Montalcini (call 2012)
- 2013 MIUR-Programma per Giovani Ricercatori Rita Levi Montalcini (call 2010)
- 2013 Best prediction The Round Robin Test on Landslide Hydrological Modelling at IWL2013
- 2013 Canadian Geotechnical Journal, Editor's Choice February
- 2011 EU Marie Curie FP7 Intra European Fellowship (IEF) . Host: UPC Barcelona
- 2005 EU Marie Curie FP6 ITN-MUSE. Host: UPC Barcelona

### SUPERVISION OF GRADUATE STUDENTS AND POSTDOCTORAL FELLOWS

- 2014 to date Supervisor of 20 Master theses (12 of them in laboratory), 3 PhD students (experimental and theoretical)
- 2012 – 2014 UPC Barcelona Supervisor of 1 PhD thesis, 3 master theses
- 2008 – 2012 ETH Zurich Supervisor of 6 Master theses, 13 Bachelor theses

#### **SERVICE**

- 2018 – . Head of the Board of Studies in Civil Engineering Master, Roma Tor Vergata
- 2017 – .Erasmus Coordinator For Civil Engineering, Roma Tor Vergata
- 2017 – . Member of the Board of the Dipartimento di Ingegneria Civile e Ingegneria Informatica, Roma Tor Vergata
- 2017 --- Head of the Geotechnical Laboratory, Roma Tor Vergata
- 2016 – 2018 External Examiner for PhD at Universitat Politecnica de Catalunya, Barcelona, Spain
- 2012 – 2014 Member of the Examining Committee of the PhD students candidate end of 1<sup>st</sup> year, DEA, UPC, Barcelona, Spain
- 2008 – 2011 Member of the Examining Committee of the International Master in Natural Hazards, ETHZ, Zurich, Switzerland

#### **TEACHING ACTIVITIES**

- 2019- Università di Roma Tor Vergata. Scavi e Opere di Sostegno (Earth Pressures and Earth Retaining Structures)
- 2014- Università di Roma Tor Vergata. Fondazioni (Foundation Engineering)
- 2014-15 Università di Roma Tor Vergata. Postgraduate master in geoinformation and geographic information systems supporting sustainable management of territory and territorial safety
- Tutorial for the courses:
- 2013-14 Università di Roma Tor Vergata. Fondazioni (Foundations)
- 2008-12 ETH Zurigo. Soil Mechanics for Geophysics, MAS Natural Hazards, Physical Modelling in Geotechnics, Bodenmechanik and Bodendynamics
- 2004-08 Università di Roma La Sapienza. Elementi di Geotecnica (Elements of Geotechnics) and Fondamenti di Geotecnica (Fundamental of Geotechnics)
- 2004-06 Università di Roma Tor Vergata. Scavi e Opere di Sostegno (Earth Pressures and Earth Retaining Structures)

#### **CONFERENCES (ORGANIZATION and Committee)**

- 2020 2nd International Conference on Energy Geotechnics, 20-23 September 2020, La Jolla, USA. International Advisory Board
- 2020 4th European Conference on Unsaturated Soils, 24-26 June 2020, Lisboa, Portugal. International Scientific Committee
- 2020 XXVII Convegno Nazionale di Geotecnica, 22-24 June 2020, Reggio Calabria, Italy. Scientific Committee
- 2018 ALERT Workshop, 1<sup>st</sup> October, Aussois, France. Organizer
- 2017 Workshop FROZEN, 11 December 2017, Roma, Italy. Organizer (<http://frozen.uniroma2.it/>)
- 2017 Winter school ETHZ, 22-27 January 2017, Ascona, Switzerland. International Scientific Committee
- 2016 3rd European Conference on Unsaturated Soils, 12-14 September 2016, Paris, France. International Advisory Committee
- 2016 3rd European Conference on Physical Modelling on Geotechnics, 1-3 June 2016, Nantes, France. International Advisory Committee
- 2016 Workshop on Energy Geotechnics, 8 April 2016, Rome, Italy. Organizer
- 2014 IS-Cambridge 2014, International Symposium on Geomechanics from Micro to Macro, Cambridge, UK. International Advisory Committee

#### **MEMBERSHIPS OF SCIENTIFIC SOCIETIES**

- 2014 – ISSMGE Technical Committee TC308: "Energy Geotechnics"
- 2011 – 2015 Administrative Board "Women in science - officer" Marie Curie Fellowship Association

2010 –2014 ISSMGE Technical Committee TC105: "Geo-Mechanics from Micro to Macro"  
2014 –..... .Associazione Geotecnica Italiana (AGI) Italian Geotechnical Association  
2003 - .....Chartered engineer (Ordine degli Ingegneri di Roma)

## RESEARCH RECORD

Scientific impact

**22** Articles in peer-reviewed Journals (21 Scopus/ISI); 1 Discussion in ISI/Scopus Journal

**34** Articles in peer-reviewed International Conferences (23 Scopus/18 ISI)

IF=11 citations 428 (Scopus); IF=15 citations 699 (Scholar); IF=9 citations 284 (ISI)

**20** Communication or extended abstract in National and International workshop, **8** Technical Report

## Invited and Keynote Lectures

2019 Keynote lecture VII Convegno Nazionale Ricercatori Geotecnica, "Multiscale soil mechanics for landscape protection: from testing to modelling", Lecco, Italy

2019 Invited lecture Pattern in Geomechanics (PiG), "Placing the Fluid Retention Curve as the core of multiphase soils response under environmental loading", Q Station, Sydney, Australia

2018 Invited lecture Recovery of Difficult Hydrocarbons, "A coupled approach to address the formation of fingering in the hydrocarbon reservoirs", KAUST, Saudi Arabia

2017 Keynote lecture Winter school: From modelling towards better predictions in Geotechnics, "Numerical experiments: unde venis quo vodis?", Monteverità Ascona, Switzerland

2016 Invited lecture E-UNSAT, "Infiltration-induced Slope Instability: a multi scale approach", Paris, France

2015 Invited lecture IV IWL, "Landslides induced by rainfall: an interpretation at laboratory scale", Naples, Italy

2015 Invited lecture 7<sup>th</sup> Alert Olek Zienkiewicz Course Unsaturated Soil Mechanics: from fundamentals to application, "Shallow landslides induced by rainfall: from laboratory to field case", Barcelona, Spain

2014 Invited lecture Australian Geotechnical Society, "Artificial Ground Freezing-Engineering applications, tests and modelling", Newcastle, Australia

15 Contributed oral presentations in International Conferences; 7 Contributed poster presentations in International Conferences

## RESEARCH THEMES

Equipment development

Experimental procedures and interpretation of laboratory and *in situ* tests

Mechanical behaviour of soils in unsaturated conditions and under thermal loading

Modelling of unsaturated soils with emphasis on microstructure

Grain crushing in granular material: testing and modelling

Artificial and Natural Ground Freezing: measurement and interpretation

Triggering mechanisms of shallow landslides at multiscale

Low Enthalpy Geothermal system for retrofitting building

## FUNDING ID

### Principal Investigator:

2019-2020 Regione Lazio- Frozen Geolab, Call PreSeed Start-up and Spin-Off 100 K€

2017-2019 Mission Sustainability-Tor Vergata, "SMARTGSHP-Smartsizing the ground-source heat pumping systems taking into account the thermo-hydro-mechanical coupling with soil surrounding", 21 K€

2017-18 Joint project ETHZ-Tor Vergata, "3D Numerical Modelling of Shallow Landslides Induced by Rainfall", 38 K€

2015-17 Regione Lazio- Frozen: Experimental investigation on the mechanical behaviour of artificially frozen soils. 194 K€

2014-17 Programma Giovani Ricercatori "Rita Levi Montalcini" grant by the Italian Ministry of Education, University, and Research (MIUR). Role: P.I. Budget 208 K€, 24 grants for all disciplines in the whole of Italy,

grant reserved to researcher who spent at least 3 years abroad (eligibility between 3 and 6 years from PhD).

2012-14 Intra European Fellowship Marie Curie grant from EU/FP7. Role: P.I. Budget 157 K€ (16.6% success rate).

**Participation to funded projects:**

2008-12 Triggering of Rapid Mass Movements in Steep Terrain, "TRAMM" – ETHZ CCES.

Living with landslide risk in Europe, "SAFELAND", EC FP7, grant agreement no. 226479

Measuring soil moisture in Switzerland for climate research, "SwissSMEX", SNF.

2006-07 MUSE, EC FP6, grant agreement no. 507295. Role: Early Stage Researcher Marie Curie

2005-08 Comportamento statico e dinamico delle dighe in terra. PRIN 2005, MIUR.

**MEMBERSHIPS OF EDITORIAL BOARD**

2018-2020 "Géotechnique" ISSN 0016-8505

2015-..... "Studia Geotechnica et Mechanica" ISSN 0137-6365

REVIEWER for:

Géotechnique ISSN:0016-8505; Canadian Geotechnical Journal ISSN:1208-6010; Journal of Geotechnical and Geoenvironmental Engineering ASCE ISSN:1090-0241; Acta Geotechnica ISSN: 1861-1125; Geotechnique Letters E-ISSN:2045-2543; Engineering Geology ISSN:0013-7952; Water Resources Research ISSN:0043-1397; Transport in Porous Media ISSN:0169-3913; International Journal for Numerical and Analytical Methods in Geomechanics ISSN:1096-9853; Environmental Earth Science ISSN:1866-6280; Geotechnical Testing Journal ISSN:0149-6115; Rivista Italiana di Geotecnica ISSN:05571405; Journal of Zhejiang University-SCIENCE A ISSN: 1862-1775; Soils and Foundations ISSN: 0038-0806; Geomechanics and Engineering, ISSN: 2092-6219

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