

## SHORT CURRICULUM VITAE (UPDATE 26<sup>TH</sup> SEPTEMBER 2022) – SARA AMOROSO

### Carrier

Sara Amoroso is Associate Professor for the Academic Discipline “S.S.D. ICAR/07, Geotechnics” at the University of Chieti-Pescara (Italy) since February 2022 and she is research associate at the Istituto Nazionale di Geofisica e Vulcanologia (INGV) since June 2020. Formerly, from 2019 to 2022 she was Assistant Professor (RTD type B) Professor for the Academic Discipline “S.S.D. ICAR/07, Geotechnics” at the University of Chieti-Pescara, while from 2013 to 2019 she was a researcher at INGV in L'Aquila (Italy). She gained a three-year Bachelor's degree in Environmental Engineering in 2005, a two-year Master's degree in Environmental Engineering in 2007 followed by a PhD in Geotechnics on *G –  $\gamma$  decay curves by Seismic Dilatometer (SDMT)* in 2011, all at the University of L'Aquila. During her PhD she received three research grants which were spent on *Innovative Instruments and Methods for In Situ Geotechnical Characterization of Venice's Subsoil* at the University of Padua (Italy) and on *G –  $\gamma$  Decay Curves by Seismic Dilatometer* at the University of Western Australia (Perth, Australia). In April 2017 she obtained the National Scientific Qualification (ASN) to function as Associate Professor for the Academic Discipline “S.S.D. ICAR/07, Geotechnics” (Italian Ministry of Education, University and Research), in December 2020 she became member of the Executive Committee of the Department of Engineering and Geology (INGEO) at the University of Chieti-Pescara and in September 2021 she became member of the Executive Committee of the Italian Group of Geotechnical Engineering (GNIG). She spent a period from 2011 to 2013 as a consultant for Studio Prof. Marchetti, University of L'Aquila, and other engineering companies performing site characterization work at sites throughout the world.

### Teaching

She teaches Geotechnics (S.S.D. ICAR/07) for the Bachelor Degree in “Construction Engineering” (L23) and “Geological Sciences” (L34) at the University of Chieti-Pescara since 2019. She has been teaching at the University of L'Aquila from 2009 to 2011. In 2019, 2020, 2021 and 2022 she was Visiting Professor within the “Master in Geotecnia” provided by the Facultad de Ingenieria en Ciencias della Tierra, Escuela Superior Politécnica del Litoral (ESPOL), Guayaquil (Ecuador). From 2017 to 2022 she was tutor (9) and co-tutor (7) of Master's and Bachelor's theses in Geological Sciences and Construction Engineering at the University of Chieti-Pescara, while from 2020 to 2021 she was tutor of 4 theses in the “Master in Geotecnia” at ESPOL (Guayaquil, Ecuador), on topics related to geotechnical earthquake engineering and seismic microzonation. Moreover, in 2019 she was co-tutor of 1 Master's thesis in Civil Engineering at the University of Florence, while from 2020 to 2021 she was co-tutor of 2 Bachelor's theses in Geological Sciences at the University of Modena and Reggio Emilia. Finally, from 2009 to 2016 she was co-tutor of about 14 Master's and Bachelor's theses in Environmental Engineering and Civil Engineering at the University of L'Aquila. From 2016 to 2019 she was additionally co-tutor for a PhD Thesis in Geotechnics, and in 2017 she was co-tutor for an internship both at University of L'Aquila, while since 2019 she is co-tutor for a PhD Thesis in Geotechnics at the University of Lisbon (Portugal). Finally, in 2020 she was tutor for an internship, from 2022 she is tutor for 2 internships and from 2021 she is tutor for a post-doctoral position at University of Chieti-Pescara. She was “Cultore della Materia” for the Academic Discipline “Geotechnics” from 2011 to 2014, and for the Academic Discipline “Foundations and slope stability” from 2016 to 2019 at the University of L'Aquila. From November 2020 she is also Erasmus delegate of the Area of Engineering for INGEO Department at the University of Chieti-Pescara.

### Research

The research activity, documented by about 43 publications in peer-reviewed journals, 80 international and 46 national conferences, and of 12 books chapters, is mostly focused on use, interpretation and applications of in-situ tests, often regarding flat dilatometer and seismic dilatometer, liquefaction, ground improvement for liquefaction mitigation, blast liquefaction testing, G –  $\gamma$  decay curves, ground response analysis, and seismic microzonation. The related scientific production counts the following citations: 601 (WoS), 708 (Scopus) and 924 (Google Scholar) corresponding to H-index: 13 (WoS), 15 (Scopus) and 16 (Google Scholar).

She is Principal Investigator of *Evaluation and Improvement of Methods to Consider Influence of Surface Clay Layers on Liquefaction-Induced Settlement (CLIQUEST)*, funded by Search for Excellence” 2020 at the University of Chieti-Pescara. She is or she was Principal Investigator of the research experiment *Tapered pile group liquefaction downdrag test in silty sands*, supported by Geofondazioni srl (Italy), Brigham Young University (Provo, Utah, USA), INGV and University of Chieti-Pescara in 2021; *Blasting induced liquefaction to investigate liquefaction mitigation methods in silty*

sands, realized in collaboration between Geopier Foundation Company (Davidson, North Carolina, USA), Brigham Young University, INGV and University of Bologna (Italy) in 2018 and *Evaluation and prediction of blast-induced liquefaction settlements using geotechnical and geophysical methods*, supported by INGV in 2016. She was member of the Coordination structure for the Centre of Seismic Microzonation and its applications following the 2016-2017 Central Italy seismic sequence from 2017 to 2018. She participated in, and is still currently active with national and international research projects including: *Evaluation and Improvement of Methods to Consider Influence of Surface Clay Layers on Liquefaction-Induced Settlement from Large Database* (USGS grant); *Liquefaction assessment of gravelly deposits: historical data analyses and in situ testing at Italian trial sites to develop innovative methods* (LAGD) (progetto di ricerca libera INGV 2021); the *RAPID: Blast Testing to Investigate Resin-Injection Treatment for Liquefaction Mitigation in Christchurch, New Zealand* (NSF grant), the *Ground Improvement Trials in Christchurch, New Zealand* (NSF grant), the *Evaluation and optimization of dynamic cone penetration test (DPT) for deterministic and performance based assessment of liquefaction in gravel* (USGS grant), the *Earthquake hazards to bridge foundations following the liquefaction evidences after the M7.8 April 16, 2016 Ecuador earthquake*, the *RAPID: Downdrag Behavior of Piles & Drilled Shafts After Liquefaction in Arkansas* (NSF grant) in cooperation with Brigham Young University; the *Report on Liquefaction Phenomena and Shaking Causative Levels in Emilia Romagna*, in collaboration with the Working Group S2-UR4 (Project S2-2012 INGV-DPC); the *Slope Embankment Analysis in Emilia Romagna Post-Earthquake Conditions*, with the Italian Geotechnical Society and Emilia Romagna Region; the *Intercomparisons of Methods for Site Characterization at Mirandola, Emilia Romagna*, with the InterPacific Group; the *Site response and Liquefaction into the Network of Italian University Laboratories of Seismic Engineering (ReLUIS)*; the *Advanced simulation for optimal subsea geotechnical exploration* (Dirección General de Investigación Científica y Técnica Subdirección General de Proyectos de Investigación Grant), in collaboration with Universitat Politècnica de Catalunya, Barcelona (Spain); the *Liquefaction assessment protocols to Protect critical infrastructures against earthquake damage (LIQ2PROEARTH)* (Fundação para a Ciência e a Tecnologia - Ministry for Education and Science Grant) and the *LIQUEFACT – Assessment and mitigation of liquefaction potential across Europe: a holistic approach to protect structures / infrastructures for improved resilience to earthquake-induced liquefaction disasters* (European Project Grant), both in cooperation with the Faculdade de Engenharia da Universidade do Porto (Portugal).

She has participated as lecturer in more than 70 International conferences and seminars in Geotechnics since 2008 in addition to performing research activities at an International level in most of the continents. She also received a national nomination from the Italian Geotechnical Society to participate in the 5<sup>th</sup> International Young Geotechnical Engineers' Conference (31 August– 1 September 2013, Paris, France) with a selected presentation on the *Prediction of the shear wave velocity  $V_s$  from CPT and DMT*. She won the application "Search for Excellence" 2020 at University of Chieti-Pescara. She was also selected into the 1<sup>st</sup> phase of the 2014 SIR Program (Scientific Independence of young Researchers, Italian Ministry of Education, University and Research) with the maximum score "A" = excellent (232 selected over 1778 participants), while she was not selected into the 2<sup>nd</sup> phase with a score of 29/30 ("B class").

She is actually Academic Editor for the journal "Shock and Vibration". From 2018 to 2020 she was also Guest Editor for the Special Issue "Seismic Microzonation of Central Italy following the 2016-2017 seismic sequence" of the journal "Bulletin of Earthquake Engineering". She has been a peer-reviewer for several international scientific journals.

She served as organizer of the 4<sup>th</sup> Italian Conference of the Young Geotechnical Engineers (4<sup>th</sup> IAGIG 2014), that was carried out on 11-12 April 2014 in L'Aquila (Italy), and she was a member of the Scientific and/or Organizing Committees of the IAGIG from 2015 to 2021, of the 3<sup>rd</sup> International Conference on the Flat Dilatometer (DMT'15), of the Italian Conferences of the Young Geotechnical Engineers from 2014 to 2021, of the 5<sup>th</sup> International Symposium on Cone Penetration Testing (CPT'22) and of the 8<sup>th</sup> Italian Conference of the Researchers of Geotechnical Engineering (CNRIG'23).

She is a member of the Italian Geotechnical Society (AGI) since 2008, of the International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE) and Corresponding Member of the ISSMGE's Students and Younger Members Presidential Group (SYMPG) since 2013. She is also Nominated Member of the Technical Committee "TC102 In-Situ Testing" of ISSMGE for AGI since June 2018. In 2015 and 2016 she was member of the Standardization/Technical Committee UNI/CT021/SC07 "Geotechnical design" and of the Standardization/Technical Committee CEN/TC341/WG2 "Cone and piezocone penetration tests".