

GIOVANNA VESSIA Curriculum Vitae et Studiorum

Giovanna Vessia took her Master Degree in Civil Engineering at Polytechnic of Bari on 14/07/1997 with the maximum qualification cum laude.

In 1998 she qualified as Professional Civil Engineer and she enrolled to Engineer Professional Order of Bari province in 1999.

In 2001 she took her PhD in Geotechnical Engineering at the Technical University of Ancona with the maximum qualification.

In 2012 she became Assistant Professor at University "G. d'Annunzio" of Chieti-Pescara as Engineering Geologist (04/A3 – Geo/05).

Since 1 April 2024 she works as Associate Professor at University "G. d'Annunzio" of Chieti-Pescara as Engineering Geologist. (Qualified as Full Professor in 2022).

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Scopus

Citations: 855 Index H: 18

Google Scholar

Citations: 1279 Index H: 23



Research activity

On 15/02/2001 she defended her PhD thesis on **“Numerical simulation of local seismic response of a confined domain of soil by means of stochastic boundary elements”**. In this thesis the influence of the inherent variability of soil physical and mechanical parameters of soil dynamic response was investigated by means of the spectral approach applied to stochastic simulation.

In 2002 she won a four year post-doc fellowship (June 2002-June 2006) at Technical University of Bari with the research programme titled **“Evaluation of seismic response of soils by means of stochastic approach. Evaluation of seismic soil slope stability”**.

From 2006 to 2009 she got seven fixed term research fellowships at the Polytechnic of Bari on the following issues:

1. Seismic microzonation of urban centres in Garfagnana and Lunigiana areas.
2. Numerical modelling of unstable slope for hazard estimates of seismic-induced land sliding phenomena in Garfagnana and Lunigiana areas.
3. Quantitative estimates of landsliding hazard at Troia urban center (FG - Italy).
4. Probabilistic approach for liquefaction hazard estimation.
5. Numerical simulations of seismic-induced landslides at Gramolazzo district (LU - Italy).
6. Investigation of Seismic Structure Interaction (SSI) for evaluating seismic response of buildings set in high seismic hazard territory.

7. Stability analyses of underground quarries placed within Bari district.

In 2008 she won (**first classified**) the international research fellowship spent at Universidad de Castilla-La Mancha supported by Apulia Region with the research project titled: **“Liquefaction analyses carried out in some European sites by means of statistical tools and considering the soil-structure interaction”**.

From September 2010 to February 2011 she won an International Research Fellowship with the financial support of the Apulia Region to perform laboratory tests on soil behaviour under dynamic loading at Universidad de Castilla-La Mancha (Ciudad Real - Spain).

In 2011 she won one year post-doc fellowship (**first classified**) at the Italian Council of National Research (CNR) – Institute of Research on Hydrogeological protection (IRPI) on a two-year research project titled: **“Intensity-duration thresholds for slope stability triggering”**.

From October to December 2011 she won the SNF (Swiss National Science Foundation) fellowship (Grant Number: IZKOZ2_139574). The project titled is **“In field CPTU tests used for estimating the horizontal permeability of varved clay: statistical tools for quantifying the measured parameter variability with a view to improving design for driven and bored piles”**.

From March 2012 to the present she has got a permanent position as Assistant Professor in Engineering Geology at University “G. d’Annunzio” of Chieti-Pescara.

From March 2012 to June 2016 she is Affiliated Researcher to the Italian National Council of Research (CNR), Institute of Research for Hydrogeological Protection (IRPI).

Main research projects she took part of as component or coordinator of the research group:

1) European research projects:

- Landslide Management Project «LAND-MAN»(2002-2003) – title: *“Development of Distance-learning activities relating to the Landslide stability phenomenon: hazard analysis, monitoring and stabilization methods”* (Position: **member**)
- International research fellowship – 6 months (2010-2011)- title: *“Estimation of potential damage on foundation structures due to liquefaction occurrence: a new approach”* (Position: **member**)
- Interreg IIIA Italia-Albania – title: *“TEKNICA EUROPIANE”* (2006-2007) – Asse IV – Measure 4.3 Institutional and cultural cooperation – Action 2 – WorkPackage 2.2 : *Technical code harmonization: volcanic, seismic and hydrogeological risk.* (Position: **member**)
- Italy-Spain Integrated action – 2 year project (2005-2006) – title: *“Study of liquefaction phenomenon by means of statistical and soil structure interaction approach applied at Italian and Spanish sites”*. (Position: **member**)

2) Italian research project:

- Technical University of Bari co-funded by Italian Ministry for Research – 2 year program (2005-2007) – title: *“Innovative methodologies for landsliding previsions in high seismicity areas”*. (Position: **member**)
- Technical University of Bari supported by STRAGO S.p.A. corporation (2007)– title: *“Two dimensional numerical simulations for seismic local response predictions. The case study of Pomigliano D’Arco (NA)”* (Position: **member**)
- Technical University of Bari supported by Tuscan Regional Office for for Protection and Mitigation of Seismic Risk – title: *“Evaluation of Local seismic effect within urban areas situated in Lunigiana and Garfagnana territories”* (VEL project) – five year project 2003-2008. (Position: **member**)
- Technical University of Bari supported by Troia city (FG) local administration (2008) – title: *“Assessment of hydrogeological upheaval around Troia village”* (Position: **member**)

- Technical University of Bari supported by Apulia Region – Office for Mining activity – 1 year project (2009) – title: *“Updating of Apulia plan for mining activity according to the Regional law 37/85”* (Position: **member**)
- CNR-IRPI Bari supported by the Municipal administration of Castelfranci city (AV) Italy (2014) – title: *“Landslide Susceptibility and Hazard Maps on Castelfranci territory”* (Position: **Research Coordinator**).
- University of Chieti-Pescara supported by the Tuscan Regional Office for Protection and Mitigation of Seismic Risk – 2 year project (2014-2015) – title: *“Local Seismic Response numerical analyses performed for microseismic studies of level 3 within the Tuscan Region territory”* (Position: **Research Coordinator**).
- University of Chieti-Pescara supported by The Italian Ministry for Research - 3 year National project of research (PRIN) 2012-2015 – title: *“Spatial and Temporal forecast of landslide phenomena of huge impact on territory and society triggered by the rainfall regimes affected by the climatic changes”* (Position: **member**)
- CNR-IRPI Perugia- 5 year project (2010-2015)- title: *“ Intensity-duration thresholds for slope stability triggering”* (Position: **member**)
- CNR-IRPI Bari supported by the Apulian Regional Office for Civil Protection – 1 year project (2014) – title: *“Empirical Rainfall threshold for shallow landslide onset within the Apulia Region and their validations for being used by the SANF system (National Alert System against Landslide)”* (Position: **member**)
- University “G.d’Annunzio” of Chieti-Pescara and Italian National Office for Civil Protection – 1 year project (2014) – title: *“Microzonation activities of Level 3 at Fivizzano town (LU)”* (Position: **member** – Scientific Consultant for Numerical Simulations)
- (2016 – 2017) University “G.d’Annunzio” of Chieti-Pescara and Avezzano local administration: *“Microzonation of the district territory with respect to the Liquefaction hazard at the Fucino Lake”* (Position: **Member**).
- (2016-2017) Department of Engineering and Geology (INGEO) of University “G.d’Annunzio” of Chieti-Pescara and The Abruzzi Regional Office : *“Microzonation of Level II in the Sulmona (AQ) district”* (Position: **Responsible for Liquefaction analyses**).
- (2017-2018) University “G.d’Annunzio” of Chieti-Pescara and CNR Office IGAG, *“Seismic Microzonation at level III of Central Italy after 2016-2017 seismic sequence”* (Position: **Member and Responsible for Dynamic Laboratory Testing**).
- (since 2019) University “G.d’Annunzio” of Chieti-Pescara and Avezzano local administration: *“Level III Microzonation studies at Avezzano district”* (Position: **Member**).
- (since 2019) Software house STACEC and Department of Engineering and Geology of University “G.d’Annunzio” of Chieti-Pescara: *“development of a simplified liquefaction estimation routine to be implemented within LSR2D commercial code”* (Position: **Research Coordinator**)
- (since 2019) National Institute of Oceanography and Applied Geophysics OGS and University “G.d’Annunzio” of Chieti-Pescara: *“Research agreement to develop studies on seismically-induced slope instability and local seismic amplification”* (Position: **Research Coordinator**)
- (since 2020), Bilateral agreement for teaching activity, research, education and training programs between São Paulo State University (UNESP) and University “G.d’Annunzio” of Chieti-Pescara, on *“hydrogeology, engineering geology, soil science, Geostatistics applied to soil and engineering geological variables, Natural and Human hazards”*.

- (from 2020 to 2023) Cooperation project named CASTES «Establecer y desarrollar la carrera de Licenciatura en Ciencias de la Tierra con énfasis en Geología en la Universidad de El Salvador» (Development of a Degree Course in Earth Science at the University of San Salvador) among the University of Chieti-Pescara, University of Palermo and University of San Salvador. This project is financed by AICS (Italian Agency for the Development and Cooperation) (Position: **Member**)

3) *Consulting service for public administration:*

- Regional Office for seismic risk prevention (Tuscany Region): 11 technical reports delivered on “2D and 1D numerical simulation of co-seismic effects: amplification, liquefaction and slope instability; 2D and 3D numerical simulation of seismic soil-structure interaction”.
- Troia city (FG) local administration. 1 technical report delivered on “Assessment of hydrogeological upheaval around Troia village”

4) *Consulting service for private corporation:*

- Bologna savings bank foundation (CARISBO) – professional advice on “ Seismic response studies at Rocchetta Mattei castle (BO)”
- DESA s.r.l. Engineering corporation – professional advice on “seismic effects on water purification plant for Conza dam (AV)”

5) *Consulting activity as Scientific coordinator of the Microzonation Activity to be held for 1 year in 21 city centres located in Apulia Region (Italy)- ASSET – Apulia Region Civil Protection Office – 2021-2022.*

6) *Other activities:*

- Level 1 post seismic event survey on the building practicability performed at L’Aquila and Sulmona city after seismic event of 6th April 2009 on behalf of Apulian Civil Protection. As volunteers, Civil Protection Department of Abruzzo Region asked qualified researchers to investigate on seismic effects suffered by the buildings (superstructures and their foundations) for people safety protection.

Teaching activity

Prof. Ing. Vessia teaching experience during the last fifteen years are listed below:

Degree courses

- From 2007 to 2009 she taught: “Probability and statistics” at the *Degree course of “Civil Engineering”*
- 2010 she taught “Engineering Geology of Seismic Territory” at the *Degree course of “Civil Engineering”*
- Since 2003 to the present she has Tutored about 40 degree theses discussed at Polytechnic of Bari – *Degree course of “Civil Engineering” and “Engineering for Territorial Management” and at University of Chieti-Pescara – Degree course of “Geology”, on the following issues:*
 - Estimation of the Reliability of foundation design;
 - Assessment of uncertainty and variability structure of different Italian soil formation;
 - Seismic risk analyses in ancient urban centres;
 - Local seismic effect prediction;
 - Soil-structure interaction numerical studies.

Master courses

From the Academic year 2015/16 to 2018/19 she was appointed Professor in the Master degree in “Geological Sciences and Technologies” for the module titled “Engineering Geology of seismic territories”. Starting from 2019/20 academic year to date, she teaches the modules “Seismic Microzoning and Seismic response analyses”

In 2019/20 academic course she taught “Rock Mechanics”.

Since 2021/22 academic year to date, she teaches “Hydrogeological risk” in the Master course of “Building Engineering – Structures and Risk”.

II level Master courses

Teaching activity within the following II level Master courses:

- Master in “Disaster Management” organized by the II Engineering Faculty of Polytechnic of Bari on “*Seismic risk*”. (2004)
- International Master in “Territorial and urban monitoring” organized by University of Lecce on “*Slope stability evaluation in seismic areas*”. ((Italian) - 2005)
- Master in “Territorio, Infraestructuras y Medio Ambiente” organized by Universidad de Castilla-La Mancha on “*Definition of seismic hazard; seismic microzonation activity; evaluation of dynamic stability of soil and rock slopes*”. (two-week lessons (English) – 40h, 2011).
- International Summer School on “Monitoring the historic buildings” organized by H₂CU Center – University of Rome La Sapienza, the module title is “*Microzonation studies for the preservation of historical centres and monuments*” (half day lessons (English) - 4h, 2018).
- European Master in Advanced Solid Mechanics “Strains” funded by Erasmus Mundus program, held at the University of Lille. I was selected as an “invited TRAINING speaker” and I delivered 8 h teaching module on “Seismic Site Effect: from observation to prediction” from 9 to 11 November 2021
- I was invited as “visiting professor” from Wroclaw University of Science and Technology Doctoral School” and I delivered 15 h teaching module on “1D and 2D Numerical Simulations of Seismic Wave Propagation in Soils”, from 24 to 26 October 2022.

From 2003 to 2019 she taught several professional training courses on seismic hazard and uncertainty in soil and rock characterization organized by the Geologist Professional Order.

Teaching Mobility within the Erasmus + Project

Giovanna Vessia participated to the ERASMUS+ teaching mobility to give 8h/16h lectures to Master Degree students and PhD students, on the following topics:

- 1) 2015: "Methods and criteria to recognize the spatial variability structure of soil properties. Theory and applications" given at Wroclaw Polytechnic (8h)
- 2) 2016: "Mechanical characterization of soil and rock in seismic territories" given at Wroclaw Polytechnic (8h)
- 3) 2017: "Local Seismic Response performed through one-dimensional numerical simulations" at Malta University (8h)
- 4) 2018: "Local Seismic Response performed through one-dimensional numerical simulations" at Wroclaw Polytechnic (8h)
- 5) 2023: "Seismically-induced slope instability" at Malta University, from 18 to 29 September (16 h)

Member of the examination and scientific boards

From 2007 to 2009 she was component of the examination board of the following Degree courses: Foundation design; Engineering geology applied to seismic areas; Rock mechanics at Polytechnic of Bari at the Degree course of "Civil Engineering" and "Engineering for the Territorial Management".

Since 2013 she is component of the examination board of the following Degree courses: Engineering geology, Hydrogeology, Applied Geophysics and Geological investigations at University of Chieti-Pescara for the Degree course of "Geology".

She was component of the three boards for assigning three post-doctoral fellowships in "Rainfall Empirical Thresholds for the onset of shallow landslide in Italy" at CNR-IRPI Research Office of Bari and Perugia.

In 2013 she was appointed expert in Earthquake Geotechnical Engineering by the Italian Research Ministry (MIUR) at the first step evaluation of 2 research projects submitted to the programme "Future in Research 2013".

In 2013 she was appointed independent expert by the Apulia Regional Agency for Innovation and Technology in the scientific board for final evaluation of 5 research projects aimed at protecting the territory and the environment.

In 2014 she was appointed expert by the Italian Book Association for the first step evaluation of the recently issued scientific books in Engineering and Applied Sciences.

Since 2007 she is a member of the **Geotechnical Safety Network (GEOSNet)**, that is a society that promotes, coordinates, and supports activities in the field of the Geotechnical Safety and Reliability.

From 2014 to 2021 she is a **member of the Technical Committee TC304** "Engineering Practice of Risk Assessment and Management" within the International Society for Soil Mechanics and Geotechnical Engineering.

Since 2014 she is a member of the Society of the European Crisis Management Community of Practice (SECriMaCoP) with the aim to share the best practices in post-crises activities of civil protection related to natural hazards like earthquakes, floods, etc.

Since 2020 she is Co-chair of the Committee C28: "Reliability quantification of the geological model in large civil engineering projects" of the International Association of Engineering Geology and the Environment

Since 2022 she is a member of the Scientific Board of the PhD Course in "Geosciences" of University "G.d'Annunzio" of Chieti-Pescara, Engineering and Geology Department (INGEO)..

Between 2017 and 2018 she was component of 2 scientific boards for research fellowships within the Italian Project "Microzonation studies of level III in the Central part of Italy after the 2016-2017 Earthquake sequence".

She worked as tutor of a PhD thesis (2014-2017) at University of Molise, titled “Spatial-temporal distribution of landslide phenomena in Molise Region territory analyzed through the changing in soil coverings” (in Italian).

She worked as tutor of Italian Post-doctoral fellow (2 years) given to Dr. Diego di Curzio at University of Chieti-Pescara, titled: “Approcci Geostatistici per la ricostruzione delle proprietà geologico tecniche ed idrogeologiche dei terreni e delle rocce e per la valutazione dei rischi naturali” (Geostatistical Approach applied to subsoil characterisation and hazard mapping)

She is working as Tutor of the PhD student Dr. Ilaria Primofiore at the Doctoral School of INGEO Department in ENGINEERING, EARTH AND PLANETARY SCIENCES (Cycle XXXVII- Academic year 2021-2022, 3 year PhD course).

She is working as Tutor of the Italian Research fellow (15 months), Dr. Chara Faraone, in CASTES project (2020-2023), titled: “Modellazioni numeriche di risposta sismica locale nelle aree del San Salvador e del centro America da modelli 1D, 2D e 3D geologico-sismo-tecnici del sottosuolo” (1D, 2D and 3D Numerical Simulations of Local Seismic Response at San Salvador municipality and other areas within the Central American territory).

In 2017 she was appointed external reviewer of the PhD thesis in Engineering Geology at University of Bari titled “Slope Stability assessment under seismic and post-seismic conditions at the South-Eastern sector of the Daunian Apennine “ (in Italian).

In 2020 she was appointed external examiner of a M.Sc. thesis by Geraldine Cutaja in Geosciences at University of Malta, titled: “An Investigation Of The Dynamic Properties Of Coastal And Other Geomorphological Features Using Ambient Vibrations”.

In 2021 she was appointed external reviewer of the PhD thesis by Chantelle Marie Dimech in Seismic Hazard assessment at University of Malta, titled: “High-Frequency Ground Motion Scaling and Ground Shaking Scenarios for Earthquakes in the Eastern Mediterranean Area”.

In 2022 she was appointed external reviewer of the M.Sc. thesis by Iregbeyen Peter in Geosciences at University of Malta, titled: “Geophysical Imaging Of Shallow Geological Structures In Malta”.

Invited TALK and CONTRIBUTION

In 2006 she delivered an invited talk titled “Statistical soil characterization of Italian sites for reliability analyses” during the 2nd International Workshop on Characterization and engineering properties of natural soils (University of Singapore)

In 2014 she was invited to deliver a Solicited Talk within the Soil System Science Division President's Scientific Session "Milestones in Soil Science: Senior and junior soil scientists share their perspectives on the leading problems of soil science today" , EGU General Assembly, Vienna, 3 May.

In 2017 she was invited to give a Lecture titled “From Geoengineering knowledge of the 2016 Central Italy earthquake to a new rationale in Seismic Engineering Designing: the Resilience” during the 40th Winter school of Geotechnics and Mechanics (Polytechnic of Wroclaw – Poland)

In 2018 she was invited to write the Chapter: “Lacustrine soils” within the Encyclopedia of Engineering

Geology.

In 2019 she gave an invited talk titled: “The 2009 L’Aquila earthquake: the experiences, the site effects and the open issues” (“Il terremoto del 6 aprile 2009: le esperienze, gli effetti di sito ed i problemi aperti”) (in Italian) at the 10th Anniversary conference of the 2009 L’Aquila earthquake, University “G. d’Annunzio” of Chieti-Pescara, April 12.

In 2020 she gave an invited talk titled: “Regionalized variables and geostatistical tools to enable a reliable geo-mechanical site characterization for civil engineering designing and natural hazard mapping” at the XXXII Conference on Computer Methods in Design and Analysis of Hydrotechnical Structures held from 24 to 27 February 2020 at Korbielow (Poland).

In 2021 she was invited by the Polish Science Academy, Geotechnics and Infrastructure Division, to deliver an on-line talk titled: “Geohazard mapping for urban planning and infrastructure designing”, 25 November 2021.

In 2022 she was invited as Visiting Professor at Wroclaw University of Science and Technology doctoral school and delivered 15h lectures titled: “1D and 2D numerical simulations of seismic wave propagation in soils”

In 2024 she delivered as Invited lecture titled “From Spatial Variability structure of soils to reliable geotechnical designing” in the III Scientific and Technical Conference ProGeotech 2024 “Geotechnical design – experiences and perspectives” (02 July 2024, Warsaw)

In 2025 she delivered a KeyNote speech titled “Neo Deterministic Seismic Hazard Approach (NDSHA) for Seismic Response Analyses in urban areas. A case history from Italian territory” at the 15th Asian Regional Conference (ARC-15) of IAEG - Geological Engineering for Societal and Sustainable Development, 27-29 novembre 2025, Kathmandu, Nepal.

Referee in peer review activity

Reviewer for the following International Journals: Bulletin of Earthquake Engineering, Soil Dynamics and Earthquake Engineering, Rock Mechanics and Rock Engineering, Civil and Mechanical Engineering, Acta Geotechnica and Mechanica, Geomorphology, Engineering Geology, Bulletin of Engineering Geology and the environment, Journal of Mountain Science, Journal of Seismology.

Reviewer for “Special Issues” of the American Society of Civil Engineering (ASCE), Structural Safety and Engineering Geology.

Scientific Conference organization

Giovanna Vessia was the Convener of the following sessions at the General Assembly of the European Geoscience Union within the Soil System Science Division:

- 1) EGU 2014, Session SSS11.8 “Measuring and modelling spatial and temporal variability of soil properties and processes related to human activities”, Co-Conveners: Kook Kwang Phoon, Wojciech Pula, Ana Maria Tarquis, Joanna Pieczyńska - Kozłowska, Vienna, 27 aprile – 2 maggio.
- 2) EGU 2015, Session SSS11.4 “Methods and Models to deal with spatial and temporal variability of natural soils in engineering applications, their management and related hazards”, Co-Conveners: Ana Maria Tarquis, Wojciech Pula, K.K. Phoon, Łukasz Zaskórski, Vienna, 12-17 aprile.
- 3) EGU 2015, the SHORT COURSE SESSION SSS0.13 “Methods and criteria to recognize the structure of the vertical variability of soil properties” Co-conveners: Prof. Wojciech Pula. (Organizing and Teaching activity).

- 4) EGU 2018, Session IE4.3/SSS13.73/AS5.19/BG1.20/ESS11.8 HS11.4/NH11.13 “Geostatistical and statistical tools to perform the data fusion of large datasets in geo-engineering and environmental studies” (Co-conveners: Di Curzio D., Castrignanò A., Micallef A., Rusi S., Viscarra Rossel R.)

2015 - At the 5th international Symposium on Geotechnical Safety and Risk, Giovanna Vessia was invited to be the Chairwoman of the:

Special Session “Uncertainty and reliability of landslide hazard models” within the (ISGSR, Rotterdam, 13-16 October 2015).

2018 - At the 36th General Assembly of the European Seismological Commission:

ESC 2018, Session S29 “Advances in seismic site response and microzonation for improving the resilience of urban centers” (Conveners: Laurenzano G., Pagliaroli A., Pilz M., Vessia G., Biswas R., Bora N.)

2019 - At the 29th European Safety and Reliability Conference (ESREL 2019, Sept 22-26, Hannover):

ISSMGE TC304 (Engineering Practice of Risk Assessment and Management) Student Contest Session for students (oral presentations and prizegiving to the best student group question solvers) (Conveners: W. Pula and G. Vessia)

2019 - At the 7th International Symposium on Geotechnical Safety and Risk (ISGSR 2019, Dec 11-13, Taipei):

IS10, Session title: “Numerical techniques for integrating the spatial variability of soil and groundwater parameters into designing and environmental management” (Conveners: G. Vessia, D. Di Curzio, W. Pula).

2021 – International Workshop of Machine Learning and Risk Assessment in Geoenvironment, 25-27 October, Wroclaw (Poland) (Chairmen: Wojciech PUŁA, Isam SHAHROUR, Giovanna VESSIA).

2022 – At the 13th International Conference on Structural Safety & Reliability (ICOSSAR 2021-2022), 13-17 September, (on-line):

Mini symposia MS14 (TC304): “Multi-source and Multi-methodological Data Fusion to Improve the Reliability of Geo-engineering and Environmental Characterization, Urban planning, and Geotechnical Designing” (Conveners: Di Curzio D., Castrignanò A., Pula W., Vessia G.).

2022 – At the 8th International Symposium for Geotechnical Safety & Risk, 14-16 December, New Castel (Australia):

IS4: “Reliability assessment of subsoil modelling in geoenvironment applications” (Conveners: W. Pula, G. Vessia, D. Di Curzio & M. Chwala).

2023 – At Geo-Risk 2023 - Advances in Theory & Innovation in Practice, 23-26 July, Arlington (Virginia):

Special Session: “Uncertainty Assessment of Geotechnical and Geological Models in Reliability Evaluation of Civil Engineering Structures” (Conveners: Pula Wojciech, Vessia Giovanna, Di Curzio Diego, Marcin Chwala)

2024 – 39th General Assembly of the European Seismological Commission ESC2024, 22-27 September, Corfù, Greece. **Session 38 “Geophysical testing and modelling of seismic site effects in complex geomorphological environments”** (Conveners: S. Bignardi, G. Vessia, C. Faraone).

2025 – 9th International Symposium for Geotechnical Safety and Risk, 25-28 August, Oslo, Norway.

Sessione IS2: Spatial variability assessment for engineering design and geohazard mapping
(Conveners: Giovanna Vessia, Wojciech Puła, Diego Di Curzio, Marcin Chwała, Joanna Pieczyńska-Kozłowska)

2025 - 15th Asian Regional Conference (ARC-15) of IAEG "Geological Engineering for Societal and Sustainable Development" 27-29 November, Kathmandu, Nepal. Sessione 7.4 "Conceiving Reliable Engineering Geological Models for mining activities, infrastructures and building design, risk and urban planning".

Editorial duties

Topic Editor of Geosciences Journal since 2020

Associate Editor of the following Scientific Journals :

1. ***Studia Geotechnica et Mechanica*** since May 2019 (ISSN: 2083-831X)
2. ***Engineering Geology*** from January 2024 to January 2026.

Topic editor of Geosciences (ISSN 2076-3263).

Member of the following Editorial Boards: Bulletin of Engineering Geology and the Environment (ISSN: 1435-9537), Georisk (ISSN: 1749-9526), Journal of Geological Resource and Engineering (ISSN: 2328-2193), Journal of Civil Engineering and Architecture (ISSN 1934-7359), Engineering Geology (ISSN: 0013-7952).

She worked as Chief Guest Editor team for the following Special Issues:

- 1) SI 2015 titled "Methods and models for dealing with spatial variability in soil and rock characterization: design, management and related hazards" on *Journal of Assessment and management of risk for Engineered systems and Geohazards (GEORISK)*;
- 2) SI 2017 titled "Method to assess the reliability of landslide hazard mapping" on *Bulletin of Engineering Geology and the Environment*;
- 3) SI 2018 titled "Computational Tools to Support Soil Management Decisions" on *Biosystems Engineering*.
- 4) SI 2019 titled "Seismic site response estimation for microzonation studies promoting the resilience of urban centers" on *Engineering Geology*.
- 5) SI 2026 titled "Geophysical investigation and numerical modeling to tackle Engineering Geological challenges" on Engineering Geology Journal

Prof. Ing. Giovanna Vessia published more than 100 papers on peer reviewed international and national journals and international and national conferences. In the list below there are papers issued in the last **15 years**:

1. Amelio A., Doria S., Pagliaro S., Pondrelli M., Ranieri B., **Vessia G.** (2025). Internal and external perspective on gender equity in STEM field. *Journal of Geoethics and Social Geosciences*, (3) Special Issue. DOI: 10.4401/jgsg-86
2. Di Curzio D., Castrignanò A., **Vessia G.** (2025). Assessing uncertainty propagation in CPTu-based hydro-mechanical subsoil characterization using a multivariate stochastic simulation approach. *Engineering Geology*, 352, 108064.
3. Faraone* C., Colantonio F., **Vessia G.** (2025). Local Seismic Effects Responsible for Differentiated Damages in Historical City Centers: The Case Study of San Giustino's Square (Chieti, Italy). 15(3), 76. <https://doi.org/10.3390/geosciences15030076>.
4. Ricci A., Romanelli F., Vaccari F., Boncio P., Venisti N., Faraone C., **Vessia G.***, Panza G.F. (2025). Comparison between the Neo-deterministic Seismic Hazard and FEM approach to assessing 2D local seismic response at Chieti's city site (Abruzzo, Italy). *Engineering Geology*, 347, 107891.
5. Faraone C., Caravaggio S., Chávez J.A., Castillo Ramos L.A., Rainone M.L., and **Vessia G.** (2023). 2D FEM Numerical Prediction of Local Seismic Effects at San Salvador Municipality (El Salvador) Induced by 2001 Earthquakes, *Geosciences* 2023, 13, 116. DOI: 10.3390/geosciences13040116.
6. Faraone C., Colantonio F., **Vessia G.** (2023). Seismic amplification effects induced by ancient shallow cavities underneath the urban area of the historical city center of Chieti, Italy, *Engineering Geology*, 324, 107259. Doi: 10.1016/j.enggeo.2023.107259.
7. Mancini F., D'Amico S., **Vessia G.** (2022). Are Synthetic Accelerograms Suitable for Local Seismic Response Analyses at Near-Field Sites?, *Bulletin of the Seismological Society of America*, 112 (2): 992-1007. Doi: 10.1785/0120210074.
8. Pieczyńska-Kozłowska J., **Vessia G.** (2022). Spatially variable soils affecting geotechnical strip foundation design, *Journal of Rock Mechanics and Geotechnical Engineering*, OPEN ACCESS, Doi: 10.1016/j.jrmge.2021.10.010.
9. Baron J., Primofiore I., Klin P., **Vessia G.**, Laurenzano G. (2022). Investigation of topographic site effects using 3D waveform modelling: amplification, polarization and torsional motions in the case study of Arquata del Tronto (Italy), *Bulletin of Earthquake Engineering*, 20, 677-710, OPEN ACCESS, Doi: 10.1007/s10518-021-01270-2.
10. **Vessia G.**, Laurenzano G., Pagliaroli A., Pilz M. (2021). Preface to the Special Issue: "Seismic site response estimation for microzonation studies promoting the resilience of urban centers". *Engineering Geology*, 106031.
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