# Curriculum Vitae of **STEFANO GRIMAZ** INCLUDING SCIENTIFIC AND EDUCATIONAL ACTIVITIES

updated as of April 2023

## **BIOGRAPHICAL INFORMATION**

Stefano Grimaz was born in Udine on August 3, 1965. In 1991, he graduated with honors in Civil Engineering for Land Defense and Territorial Planning from the University of Udine, with a thesis on "Seismic Vulnerability of Masonry Buildings belonging to Structural Aggregates, based on data from the Historic Center of Tarcento (Province of Udine - Northeast of Italy) damaged by the 1976 earthquake in Friuli". That same year, he obtained his professional engineer license.

In 1991, he participated in the Summer School on "Natural Risks" organized by the "European University of Summer" (Council of Europe and the European Alpine World Network).

From 1991 to 1992, he served as an Auxiliary Firefighter with training at the Central Fire School in Rome Capannelle, and later served at the Provincial Fire Department in Udine.

From 1992 to 1995, he worked as a civil engineer and co-owner of an engineering firm, specializing in civil engineering.

In 1994, he began working in technical roles at the University of Udine as head of the Design Department. He gradually assumed increasing responsibilities, becoming, at the request of the Rector, the Head of the Prevention and Protection Service (RSPP) for the University of Udine, the University Hospital of Udine, and the Experimental Agricultural Farm of the University of Udine.

Since his graduation, he has maintained contacts with the Polytechnic University of Milan and the Institute for Research on Seismic Risk of the National Research Council, with whom he had research collaboration contracts from 1992 to 1996 to develop research in the field of seismic risk.

In 1995, he obtained a Diploma in Accident Prevention and Occupational Health from the University of Rome Tor Vergata, with a thesis entitled "Evaluation and Organization of Safety in an Existing University Facilities". In 2000, he obtained a Master's Diploma in Ergonomics from the University of Udine, the Italian Society of Ergonomics, and the Friuli Training Consortium, with a thesis entitled "Ergonomic Design of Safety Systems and Emergency Management".

From 2003/04 to 2005/06 academic years, he was a lecturer in Safety and Environmental Protection of Industrial Chemical Plants at the Faculty of Engineering at the University of Udine, as an expert in analysis of relevant incident risks.

In 2005, he coordinated the university course on "Business Management of Prevention and Protection from Professional Risks - MAPP" organized by the Faculty of Engineering at the University of Udine.

In January 2005, he began working as a confirmed researcher in Applied Geophysics (SSD GEO/11) at the Faculty of Engineering, Department of Georesources and Territory at the University of Udine. He then became the Scientific Manager of the Applied Seismology Laboratory and developed research activities focused on applied geophysics in the field of seismic risk and civil and environmental protection.

From 2004 to 2011, he taught Applied Seismology and Environmental Safety and Protection in the Master's degree courses in Environmental and Territorial Engineering, and in Environmental and Energy Engineering at the University of Udine.

From 2006 to 2011, he was an Honorary Lecturer at Queen's University in Belfast (UK).

From 2011 to 2019, he was an Assistant Professor of Applied Seismology for Engineering and Safety and Civil Protection in the Master's degree courses in Environmental and Territorial Engineering at the University of Udine.

Since 2012, he has been the Director of the Intersectoral Safety and Protection Laboratory at the Department of Engineering and Architecture at the University of Udine.

In 2013, he was a promoter and founding member of the university spin-off SAFExpertise "Integrated Solutions for Safety of People, Built Environment, and Cultural Heritage from Fires, Earthquakes, and their Interaction".

Since 2018, he has been the Chairholder of the UNESCO Chair on Intersectoral Safety for Disaster Risk Reduction and Resilience at the University of Udine.

Since 2019, he has been Associate Professor of Applied Geophysics at the Department of Engineering and Architecture at the University of Udine. He teaches Applied Seismology for Engineering and Safety and Civil Protection in the Master's degree course in Environmental and Territorial Engineering and Safety Management and Resilience in the Master's degree course in Law for Business Innovation and Public Administration.

In 2019, for his scientific activities in the field of safety and emergency management, he was awarded with the Order of Merit of the Italian Republic (4th Class Officer) by the President of the Italian Republic.

#### **EDUCATION AND TRAINING**

- A.A. 1990/91 Master's degree in Civil engineering for soil defense and territorial planning at the University of Udine, with a grade of 110/110 cum laude, discussing the thesis titled "Seismic vulnerability of masonry buildings belonging to structural aggregates based on data related to the historic center of Tarcento (North Est of Italy) damaged by the 1976 earthquake in Friuli" (June 19, 1991).
  - 1991 Summer School on "Natural Risks" organized by the European Summer University (Council of Europe and European Network of Alpine World) at the University of Udine.
  - 1991 Qualification to practice as an engineer state examination at the University of Udine and subsequent registration with the Order of Engineers of the Province of Udine with position no. 1626.
  - 1995 University course of specialization in Accident Prevention and Occupational Health at the University of Rome Tor Vergata. Discussing the thesis titled "Evaluation and organization of safety in an existing university structure".
  - 2000 Master diploma in Ergonomics issued by the University of Udine, Italian Ergonomics Society, and Consorzio Friuli Formazione. Discussing the thesis titled "Ergonomic design of safety systems and emergency management".
  - 2005 Course in "Project Design" organized by the Research Department of the University of Udine.

Course in "Project Management" organized by the Economic and Social Research Institute of Udine.

University course of specialization in Business Management of prevention and protection from professional risks - MAPP organized by the Faculty of Engineering of the University of Udine.

### INSTITUTIONAL POSITIONS AND APPOINTMENTS

## **Current position**

from 2019 to date Associate Professor. Scientific disciplinary sector GEO/11 - Applied Geophysics. Polytechnic Department of Engineering and Architecture - University of Udine.

### Posizioni precedenti

1994-1998	Technical Officer VIII q.f. of the University of Udine - Technical Services Area, Central Administration.
1998-2000	Technical Coordinator I R.S. of the University of Udine - Technical Services Area, Central Administration.
2000-2002	High-level Technician EP2 - Technical-Scientific and Data Processing Area of the University of Udine - Central Administration.
2002-2005	High-level Technician EP3 - Technical-Scientific and Data Processing Area of the University of Udine - Central Administration.
2005-2019	Confirmed Researcher of the Faculty of Engineering and belonging to the Department of Geo-resources and territory of the University of Udine, now Polytechnic Department of Engineering and Architecture. Scientific disciplinary sector GEO/11 - Applied Geophysics.

# Institutional positions and appointments

1993-2004	Subject Expert in Seismology and Applied Seismology at the Faculty of Engineering of the University of Udine.
1995-2009	Head of Prevention and Protection Service at the University of Udine.
1995-1997	Board Member of the University of Udine as a representative of technical-administrative personnel.
1995-1997	Member of the University of Udine Building Commission designated by the Board of Directors.
1998-2006	Head of Prevention and Protection Service at the University Hospital directly managed by the University of Udine.
1998-2009	Member of the University of Udine Permanent Coordination Commission for Prevention.
2002-2009	Member of the University of Udine Building Commission as an expert in safety and prevention.
2005-2006	Representative of Researchers in the Faculty of Engineering Council at the University of Udine.
2005-2010	Technical-Scientific Coordinator of the SPRINT Study and Research Center on the safety and protection against risks of natural and technological origin at the University of Udine.
from 2005 to date	Scientific Head of the Applied Seismology Laboratory at the Department of Geo-resources and Territory (now Polytechnic Department of Engineering and Architecture) of the University of Udine.
2006-2009	Representative of Researchers in the Unified Council of the Environmental and Territorial Engineering Degree Course at the Faculty of Engineering of the University of Udine.
	Head of Prevention and Protection Service at the A. Servadei Agricultural University Farm of the University of Udine.
2010	Vice Director of the SPRINT Study and Research Center on the safety and protection against risks of natural and technological origin at the University of Udine.
2010-2012	Director of the SPRINT Study and Research Center on the safety and protection against risks of natural and technological origin at the University of Udine.
	University Scientific Consultant for the definition and implementation of safety management policies at the University of Udine.
from 2012 to date	Director of the Research Laboratory on safety and protection against risks of natural and technological origin (Intersectoral Safety and Protection) - acronym SPRINT (formerly SPRINT Study and Research Center) - Department of Chemistry, Physics, and Environment (now Polytechnic Department of Engineering and Architecture) - University of Udine.
2012-2016	Delegate of the Rector for prevention, protection, and safety.
	Member of the University of Udine Single Guarantee Committee as an expert in safety and prevention.
from 2014 to date	Member of the Quality Assurance Commission of the Environmental and Territorial Engineering Degree Course Council.
2016	Delegate of the Rector for coordinating the initiatives of the University of Udine for the fortieth anniversary of the 1976 Friuli earthquake.
2016-2018	Delegate of the Rector for construction, instrumentation, and prevention.
2018-2019	Delegate of the Rector for relations with UNESCO.
from 2019 to datei	University Referent for relations with UNESCO
from 2022 to date	Scientific Coordinator of the ESPeRT project (Energy, Sustainability of Production Processes and Territorial Resilience for Ecological Transition). Interdepartmental project of the 2022-2025 Strategic Plan of the University of Udine, coordinated by the Polytechnic Department of Engineering and Architecture.

from

#### **SCIENTIFIC ACTIVITIES**

The research activity, focused on applied geophysics to civil engineering, particularly for the assessment of risks related to seismic events, has been developed within the emerging theme of Disaster Risk Reduction and Resilience, and extended, in an interdisciplinary way, to the emergency response phase as well as to earthquake-induced risks (NaTech, environmental and fire risks).

The research activities can be attributed to the following research areas:

# 1. Geophysics and seismic disaster risk reduction

- 1.1 Applied geophysics and seismic risk
  - 1.2 A posteriori analysis of seismic damage and seismic action
- 1.3 Geophysics & critical facilities
- 1.4 Seismic safety assessment
- 1.5 Seismic resilience and education
- 2. Safety and emergency response
  - 2.1 Seismic emergency response
  - 2.2 Seismic risk & fire safety
  - 2.3 Environmental safety

The entire research activity aimed at defining and systematizing a holistic and interdisciplinary approach to risk and safety assessment and management where the connection between geophysics and engineering plays a fundamental role.

The scientific activity developed with this approach has been recognized as cutting-edge by UNESCO - Disaster Risk Reduction and Resilience Earth Sciences and Geo-Hazards Risk Reduction Natural Science Sector - and considered functional to the United Nations Sustainable Development policies. Since 2018, it has led to the assignment of the **UNESCO Chair** in Intersectoral Safety for Disaster Risk Reduction and Resilience - Domains/disciplines concerned: Geo-hazards; Geophysics; Seismology; Multi-hazard risk assessment; Safety management; Disaster risk reduction; Disaster resilience. The Chair is part of a worldwide network of 877 UNESCO Chairs, 44 of which are in Italy.

#### **BIBLIOMETRIC INDICATORS**

BIBLIOMETRIC INDICATORS	n. articles	n. citations	H index
	in the last 10 years	in the last 15 years	15 years
situation simulated by IRIS-CINECA at 24.04.2023 Stefano Grimaz: ORCID ID 0000-0002-4245-6183	36	357	11
Exceeding thresholds Full Professor for SSD GEO/11	~	1	✓
Exceeding thresholds Commissioner for SSD GEO/11	~	1	✓

	Full professor - I Level			Commissioner		
REFERENCE THRESHOLDS D.M. 8 AGOSTO 2018, N. 589	n. articles in the last 10 years	n. citations in the last 15 years	H index 15 years	n. articles in the last 10 years	n. citations in the last 15 years	H index 15 years
SC: 04/A4 – SSD: GEO/11 Applied Geophysics	12	162	7	17	293	10

The values obtained satisfy all three thresholds of the indicators related to the impact of scientific production set for the Commissioners of SC 04/A4 SSD GEO/11.

In possession of the National Scientific Qualification for Full Professor in SC 04/A4 SSD GEO/11 obtained in the IV four-month period of the ASN2021-2023 with 9 titles out of 9 required and with a unanimous positive suitability judgment of the members of the Commission. Validity of qualification: from 27.01.2023 to 27.01.2033.

#### EDITORIAL RESPONSIBILITIES AND PEER-REVIEW ACTIVITIES

- Referee for the following INTERNATIONAL JOURNALS (indexed WoS/Scopus) form 2005 to date:
  - Annali di Geofisica. Istituto Nazionale di Geofisica e Vulcanologia. Roma;
  - Bulletin of Geophysics and Oceanography (formerly Bollettino di Geofisica Teorica Applicata. Istituto Nazionale di Oceanografia e Geofisica Sperimentale). OGS Trieste;
  - Bulletin of Earthquake Engineering. Springer;
  - Chemical Engineering Transactions. AIDIC, Milano;
  - Geosciences MDPI

- International Journal of Disaster Risk Reduction. Elsevier;
- International Journal of Cultural Heritage. Elsevier;
- Journal of Reliability Engineering & System Safety. Elsevier.
- Journal of Seismology Springer
- Natural Hazards Springer
- Rendiconti online Società Geologica Italiana. Roma
- Associate Editor of the Journal Bollettino di Geofisica Teorica e Applicata for the preparation of a monograph on the theme "Seismic safety of critical facilities". Guest Editors: S. Grimaz and D. Slejko. From 01-03-2012 to 31-03-2014.
- Guest Editor of the journal Bollettino di Geofisica Teorica e Applicata for the preparation of a monograph on the theme "Emergency management, outreach, and communication activities in earthquakes". Guest Editors: S. Grimaz and A. Masi. From 28-11-2014 to 30-06-2016.
- Co-Editor "Special Issue on School Safety in the Context of Disaster Risk Reduction". Edited by Ben Wisner, Marla Petal, Stefano Grimaz, Jair Torres. International Journal of Disaster Risk Reduction. Elsevier. From 01-10-2019 to 19-09-2020

#### AFFILIATION AND PARTICIPATION IN SCIENTIFIC COMMITTEES OF SCIENTIFIC ASSOCIATIONS

#### Affiliation with Scientific and Cultural Associations

- AIDIC Italian Association of Chemical Engineering
- ISI Italian Association of Earthquake Engineering

Member of Scientific Committees of Scientific and Cultural Associations

• Since 2014, he/she has been a member of the Scientific Committee of the Italian Earthquake Engineering Association (ISI).

## ORGANIZATION AND PARTICIPATION IN SCIENTIFIC CONFERENCES IN ITALY AND ABROAD (IN THE LAST 15 YEARS)

•	Speaker	20
•	Invited speaker	16
•	Keynote speaker	2
•	Invited Panelist	2
•	Member of the Scientific Committee	6
•	Organization, Chairman, or Co-Chairman	5

## ROLES IN NATIONAL AND INTERNATIONAL RESEARCH GROUPS

- Research collaborator at the National Research Council Institute for Seismic Risk Research (CNR-IRRS) within the National Group for Earthquake Defense, in the field of seismic vulnerability and risk. From 20-06-1991 to 31-12-1999.
- Research collaborator at CNR-IRRS in the EU project "SERGISAI- SEismic Risk Evaluation through integrated use of Geographical Information System and Artificial Intelligence techniques", funded by the European Commission, Directorate General XII for Science, Research and Development under the ENVIRONMENT AND CLIMATE Programme (1994-1998), Climatology and Natural Hazards. From 01-01-1997 to 31-12-1998.
- Member of the Research Unit of the University of Udine for the "Study for the realization of the seismic risk map of Friuli Venezia Giulia" funded by the Regional Directorate of Civil Protection of Friuli Venezia Giulia. From 01-01-2000 to 31-12-2003.
- Member of the Research Unit of the University of Udine for the project "Seismic damage scenarios in the Veneto-Friuli area (NE Italy)" funded by the CNR GNDT - National Group for Earthquake Defense. From 01-01-2000 to 31-12-2002.
- Member of the Research Unit of the University of Udine for the "Study of the seismic reclassification of Friuli Venezia Giulia" funded by the Regional Directorate of Civil Protection of Friuli Venezia Giulia. From 01-01-2003 to 31-12-2006.
- Technical-Scientific Coordinator of the SPRINT study and research center for safety and protection against risks of natural and technological origin at the University of Udine. From 25-02-2005 to 27-07-2010.
- Scientific Manager of the Applied Seismology Laboratory at the Department of Georesources and Territory (now Department of Engineering and Architecture) of the University of Udine. From 31-03-2005 to date.
- Scientific Manager of the Bilateral agreement Life Long Learning Programme Higher Education Erasmus Studio Programme 2010/2011 between COVENTRY UNIVERSITY (UK) and University of Udine (Italy) for student mobility

(sector: Risk assessment and management) and teaching staff mobility (sector: Natural and technological risks). From 01-04-2010 to 31-10-2011.

- Vice-Director of the SPRINT study and research center for safety and protection against risks of natural and technological origin at the University of Udine. From 28-07-2010 to 10-10-2010.
- Director of the Research Laboratory in Safety and protection against risks of natural and technological origins (intersectoral safety and protection) SPRINT-Lab (formerly SPRINT study and research center) Department of Physical Chemistry and Environment (now Department of Engineering and Architecture) University of Udine. From 11-10-2010 to date.
- Scientific Manager of the Erasmus bilateral agreement Life Long Learning Programme 2010/2013 between QUEEN'S UNIVERSITY OF BELFAST (UK) and University of Udine (Italy) for short-term teaching staff mobility. From 01-12-2010 to 31-10-2013.
- Scientific Manager of the Collaboration Agreement between the University of Udine and the MINISTRY OF INTERIOR NATIONAL FIRE CORPS for the development of joint studies and research on safety and emergency management issues. From 02-02-2012 to date.
- Expert Observer in the full-scale exercise in Patras (GR) for the development of the European Civil Protection module BuildSAFE within the European project DR-HOUSE DPC-CNVVF-EuCENTRE 7th FP European Commission. From 02-10-2012 to 08-10-2012.
- Participation, by invitation, as an expert in seismic risk for critical evaluations within the KULTURisk project -Knowledge-based approach to develop a cULTUre of Risk prevention- 7th FP European Commission. From 19-09-2013 to 20-09-2013
- Scientific Collaboration with UNIVERSIDAD DE EL SALVADOR FACULTAD DE INGENIERIA Y ARQUITECTURA for the implementation of the VISUS methodology. UNESCO pilot project. From 01-01-2014 to 31-12-2016.
- Participation, by invitation, as an Expert in Emergency Management in the ELITE project Elicit to learn crucial post-crisis lessons. Organized by I.S.A.R. GERMANY STIFTUNG GGMBH. Weeze, Germany. 7th FP European Commission. From 28-01-2014 to 29-01-2014.
- Scientific Coordinator of the Memorandum of Understanding between the University of Udine and the RUSSIAN ACADEMY OF SCIENCES (RUSSIA) Schmidt Institute of Physics of the Earth Moscow for research cooperation in the field of seismic hazard and seismic risk reduction, engineering applications of geophysics, and characterization of local seismic response. From 03-07-2014 to 02-07-2019
- Steering Committee Member for UNESCO (HQ-UNESCO Paris) for the development of the CSS suite for school safety assessment, as part of the Comprehensive School Safety Framework. Global Alliance for Disaster Risk Reduction and Resilience in the Education Sector (GADRRRES) - United Nations Office for Disaster Risk Reduction (UNISDR). From 01-01-2015 to date
- Scientific Coordinator for the implementation of the Collaboration Agreement between the ISTITUTO NAZIONALE DI OCEANOGRAFIA E GEOFISICA SPERIMENTALE of Trieste and the University of Udine for the activation of an inter-institutional research center on territorial seismic resilience. PoloRESIST. From 27-04-2015 to date
- Scientific Collaboration with BANDUNG TECHNOLOGICAL INSTITUTE FACULTY OF CIVIL ENGINEERING AND ENVIRONMENTAL (INDONESIA) for the implementation of the VISUS methodology. UNESCO pilot project. From 07-09-2015 to 06-09-2020.
- Expert Consultant for UNESCO for capacity building activities: training and field assessment on school safety
  assessment tool VISUS. Vientiane, Laos, 4-10 October 2015 UNESCO Programme main line of action 4:
  "Fostering international science collaboration for earth systems, biodiversity, and disaster risk reduction".
  Collaboration with SAVE THE CHILDREN LAOS Country Offices. From 04-10-2015 to 10-10-2015.
- Expert Consultant for UNESCO for capacity building activities: training and field assessment on school safety
  assessment tool VISUS. Bandung, Indonesia, 2-8 November 2015. UNESCO Programme main line of action 4:
  "Fostering international science collaboration for earth systems, biodiversity, and disaster risk reduction".
  Collaboration with FACULTY OF CIVIL ENGINEERING AND ENVIRONMENT OF BANDUNG TECHNOLOGICAL
  INSTITUTE (INDONESIA). From 02-11-2015 to 08-11-2015
- Expert Trainer in the ModEX full-scale exercise at Tritolwerk (A). 8-11 June 2016. European project MATILDA (MultinATIonaL module on Damage Assessment and countermeasures). DPC-CNVVF-EuCENTRE. From 08-06-2016 to 11-06-2016.
- Scientific Collaboration with the FACULTY OF TECHNIC-CIVIL ENGINEERING MAJOR OF UNIVERSITY PATTIMURA and PUBLIC POLYTECHNIC OF AMBON (INDONESIA) for the implementation of the VISUS methodology. UNESCO pilot project. From 20-06-2016 to 31-12-2017.
- Scientific Collaboration with NATIONAL UNIVERSITY OF ENGINEERING OF PERU FACULTY OF CIVIL ENGINEERING and JAPAN-PERU CENTER FOR EARTHQUAKE ENGINEERING AND DISASTER MITIGATION (CISMID) for the implementation of the VISUS methodology - CISMID-UNI Lima Peru. UNESCO pilot project. From 12-08-2016 to 11-08-2019.

- Involvement as an Expert in the ICOMOS Workshop "Reconstruction in World Heritage Properties" at the ICOMOS Headquarters, Charenton le Pont, Paris (F), 19–21 September 2016 for the writing of a guide to post-trauma reconstruction of UNESCO-protected sites. From 19-09-2016 to 21-09-2016.
- Scientific Collaboration with STATE UNIVERSITY OF HAITI CAMPUS OF LIMONADE for the implementation of the VISUS methodology UNESCO pilot project "Stengthening the Resilience to Disasters in Northern and Northeastern Haiti Communities". From 23-02-2017 to 03-03-2017.
- Chairholder of UNESCO Chair in Intersectoral Safety for Disaster Risk Reduction and Resilience at the University of Udine. UNESCO international selection Disaster Risk Reduction and Resilience Earth Sciences and Geo-Hazards Risk Reduction Natural Science Sector, under the UNITWIN-UNESCO program. Domains/disciplines concerned: Geo-hazards; Geophysics; Seismology; Multi-hazard risk assessment; Safety management; Disaster risk reduction; Disaster resilience. From 01-03-2018 to date.
- Scientific Coordinator of the Memorandum of Understanding between the University of Udine, Department of Engineering and Architecture, SPRINT-Lab and the State University of St. Petersburg Fire Service EMERCOM Russian (Russia) for research cooperation in the field of Safety and Emergency Engineering. From 05-04-2018 to 04-04-2021
- Scientific Coordinator of the Framework Agreement between the Executive Secretariat of the European Centre Initiative (CEI) and the University of Udine for the implementation of a program of coordinated initiatives aimed at developing methodological references and guidelines for the development of strategies and tools aimed at strengthening disaster resilience for sustainable development. From 21-04-2022 to date.

## RESPONSIBILITIES FOR STUDIES AND SCIENTIFIC RESEARCH ENTRUSTED BY QUALIFIED PUBLIC OR PRIVATE INSTITUTIONS

- Regional Directorate of Civil Protection FVG Scientific Responsible of the UNIUD Research Unit "Analysis of Landslides" within the study for the Analysis of the dynamics of the landslide of the town of Prato Carnico (UD). From 01-01-2006 to 31-12-2006.
- *Province of Udine* Responsible for geophysical survey activities within the project "Dynamic methods for assessing the seismic safety of provincial strategic structures". From 10-07-2007 to 09-01-2008.
- Regional Directorate of Civil Protection FVG General Coordinator of the ASSESS research project for the Analysis of Seismic Scenarios of School Buildings in the Friuli Venezia Giulia region and the definition of intervention priorities for earthquake risk reduction. Partners: University of Udine (coordinator), University of Trieste and National Institute of Oceanography and Experimental Geophysics of Trieste. From 11-04-2008 to 10-04-2011.
- Italian Ministry of the Interior National Fire Brigade Corps Scientific Coordinator of the working group of the National Fire Brigade Corps for the preparation of Technical Sheets for provisional works for post-earthquake safety of buildings. Vademecum and STOP Manual. From 15-06-2009 to 15-06-2010.
- *HQ-UNESCO Paris (F)* Individual specialist for scientific consultancy for the project "Providing decision making information and tools for enhancing school safety in El Salvador through school facilities assessment and OpenStreetMap sourcing". From 29-10-2013 to 31-12-2013.
- *HQ-UNESCO Paris (F)* Scientific Responsible for the project for the implementation of the VISUS methodology El Salvador pilot project. From 12-11-2013 to 31-12-2013.
- Italian University Seismic Engineering Laboratories Network Italian National Department of Civil Protection Scientific Responsible of the Research Unit of the University of Udine of the special RS5 project Provisional Works AQ DPC/ReLUIS Convention 2014-2018. From 07-04-2014 to 06-04-2018.
- National Institute of Oceanography and Experimental Geophysics of Trieste Scientific Responsible for the research activity "Definition of criteria for determining seismic design actions in relation to the functional vulnerability characteristics and seismic risk scenarios of the structures and infrastructure of the port of Kribi Cameroon" within the project "Seismicity study: potential seismic risk and hazard of the area affected by the industrial and port complex of Kribi (Cameroon)." From 27-06-2014 to 26-12-2014.
- HQ-UNESCO Paris (F) Scientific Responsible for the Implementation Partner Agreement UNESCO-SPRINT/UniUD for the development of the joint project: "Providing decision-making information and tools for enhancing school safety worldwide through school facility assessment. Upgrade and equalize the VISUS methodology for making technical triage with multi-hazard prospective (considering: Earthquake, Flood, Wind, Fire and Ordinary safety)." From 26-03-2015 to 31-12-2016.
- *Regional Directorate of Civil Protection FVG* Scientific Responsible for the project for the establishment of an international training school on emergency seismic response management. Seismic Emergency Response Management SERM Academy. From 11-05-2016 to date.
- Regional Directorate of Civil Protection FVG Scientific Responsible for the Research Unit of the University of Udine in the "Project for the widespread monitoring of sentinel buildings in the regional territory to support earthquake prevention and emergency management in the Friuli Venezia Giulia region." From 27-07-2016 to 26-07-2019.
- Regional Health Directorate FVG Integrated University Healthcare Company of Udine Scientific Responsible for the research line "Methodologies for situational analysis and integrated safety management" of the ASSIST

project "Modernization of healthcare facilities with the support of technical-economic situational indicators." From 27-09-2016 to 26-09-2019.

- UNESCO Office Maputo Mozambique Scientific Responsible for the Contract for Service SPRINT-Lab University of Udine. Project: "Fostering international science collaboration for earth system, biodiversity, and disaster risk reduction. VISUS (Visual inspection for defining the Safety Upgrading Strategies) Adaptation for Earthquake School Safety in Indonesia and Mozambique." From 18-12-2017 to 31-03-2018.
- HQ-UNESCO Paris (F) Scientific Responsible for the Implementation partner agreement UNESCO-SPRINT-Lab UniUD Project: "Providing decision-making information and tools for enhancing school safety worldwide through school facilities assessment." From 01-09-2020 to 31-12-2020.
- UNESCO Office Harare Zimbabwe Scientific Responsible for the Contract for Service SPRINT-Lab University of Udine project "Comprehensive Resilience Building in the Chimanimani and Chipinge districts of Zimbabwe in a multi-hazard perspective." From 21-07-2021 to 21-10-2021.
- UNESCO Office Venice Antenna Office of Sarajevo Bosnia Herzegovina Scientific Responsible for the Implementation Partner Agreement UNESCO-SPRINT-LAb UniUD: "Disaster Risk Reduction for Sustainable Development in Bosnia and Herzegovina." From 05-11-2021 to 28-08-2022.
- ANSFISA National Agency for the Safety of Railways and Road and Motorway Infrastructures Scientific Responsible for the research project "Safety inspection visits of road infrastructures VISIVIA." From 01-12-2021 to date.
- *CEI Executive Secretariat of the Central European Initiative Scientific Responsible* for the Resilienhance project aimed at developing expert recommendations for strengthening territorial resilience to extreme events and critical situations. From 22-04-2022 to date.

# Scientific roles in international and national research projects, funded through competitive calls for proposals

- FSE-Measure D4 Scientific Responsible for the project "Prediction of environmental damage in the event of the occurrence of major accidents involving oil spills on land" research developed at the School of Chemistry and Chemical Engineering and the QUESTOR (Queen's University Environmental Science and Technologies Research Centre) of the Queen's University of Belfast (UK). From 15-06-2006 to 07-05-2007.
- *PRIN 2007* Member of the Research Unit of the University of Udine in the project "Validation of simplified techniques for estimating site seismic amplification" Coordinated by the University of Basilicata. From 22-09-2008 to 22-09-2010.
- *TEMPUS IV* Member of the Research Unit of the University of Udine in the European project TEMPUSIV CIBELES Curriculum Invoking Bologna-aligned Education Leading to reform in Environmental Studies. Coordinated by the University of Gottingen. Germany. From 01-01-2010 to 31-12-2013.
- S2 DPC INGV Project Scientific Responsible for the Research Unit of the University of Udine in the project "Constraining Observations into seismic hazard (COBAS). S2-Seismic Hazard. From 05-10-2012 to 12-06-2015.
- *MIUR* L. 6/2000 Scientific Responsible for the Research Unit of the University of Udine in the project "Seismic safety in school education (SISIFO)". From 11-03-2013 to 10-03-2014.
- DPC/ReLUIS. Programs 2014, 2015, and 2016 Scientific Responsible for the Research Unit of the University of Udine in the Special Project "Provisional Works for Safety Measures". From 04-08-2014 to 31-01-2019.
- INTERREG V-A Italy-Austria 2014-2020 Scientific Responsible for the Research Unit of the University of Udine in the project "Accelerometric Real-time Monitoring of sites & buildings Network in Italy and Austria (ARMONIA). Lead partner National Institute of Oceanography and Experimental Geophysics of Trieste. From 01-02-2018 to 30-06-2021.
- UNI-TWIN UNESCO PROGRAM Scientific Responsible for the activities of the UNESCO Chair in Intersectoral Safety for Disaster Risk Reduction and Resilience at the University of Udine. Disciplines: Geo-hazards; Geophysics; Seismology; Multi-hazard risk assessment; Safety management; Disaster risk reduction; Disaster resilience. From 01-03-2018 to date.

## OTHER APPOINTMENTS AND ROLES RELATED TO SCIENTIFIC ACTIVITIES

1996-1997 Member, as Scientific Coordinator, of the ministerial commission for the "Project for the evaluation and management of fire safety in Venice" – Italian Ministry of the Interior - composed of representatives from the Venice Fire Brigade Command, the Superintendence for Environmental and Architectural Heritage of Venice, and the City of Venice. Within this project, the Gri.S.U. method (Grids of Utilization Scenarios Method) is developed and perfected for the evaluation of fire safety of existing activities.

- 1997-1998 Collaborator of the Ministry of Education, University and Research (then Ministry of Scientific and Technological Research and University) for the drafting of the implementing regulation of Legislative Decree 626/94 in universities, providing preparatory work and technical support in fire prevention matters.
- 1997-2002 National Coordinator of CNSPP-Universities and Research (National Coordination of Prevention and Protection Services in Universities and Research Institutions).
- 2003-2009 President of the Technical-Scientific Committee of CNSPP National Coordination of Prevention and Protection Services in Universities and Research Institutions.
- 2007-2010 Member of the "University Safety Group" established at the Conference of Italian University Rectors Rome.
- 2009-2010 Scientific Coordinator of the working group of the National Fire Brigade for the drafting of technical sheets for provisional works for post-earthquake safety of buildings. Appointment with note prot. EM3064/5001/11 of June 15, 2009, signed by the Central Director for Emergency.
- 2010-2012 Scientific Coordinator of the Permanent Observatory on provisional works and interventions for the safety of buildings to be carried out by the Fire Brigade Ministry of the Interior, Department of Fire Brigade, Public Rescue, and Civil Defense, Rome (Italy).
- from 2012 Scientific Coordinator of the Technical-Scientific Committee on provisional works and urgent technical to date interventions for safety to be carried out by the Fire Brigade Ministry of the Interior, Department of Fire Brigade, Public Rescue, and Civil Defense, Rome (Italy).
- 2010-2012 Scientific Coordinator of the working group for the drafting of "Guidelines for reducing seismic vulnerability of firefighting systems" - Ministry of the Interior, Department of Fire Brigade, Public Rescue, and Civil Defense, Rome (Italy).
  - 2012 Scientific Coordinator of the Coordinating Unit for provisional works established by the Ministry of the Interior -National Fire Brigade for the safety of buildings damaged by the Emilia 2012 earthquake.
- 2013-2017 Member of the Regional Technical Committee for Seismic Microzoning of Friuli Venezia Giulia as a scientific expert of the University of Udine on appointment by the President of the Friuli Venezia Giulia Region.

Scientific Coordinator of the coordination committee between the Fire Brigade, Public Rescue, and Civil Defense Department and the Civil Protection Department for post-earthquake safety assessment procedures. Appointment by the Head of the Fire Brigade and Public Rescue and Civil Defense Department - Ministry of the Interior.

- 2013-2014 Member, with functions of scientific support, of the steering committee of the project for the drafting of horizontal technical rules and member, with functions of scientific coordinator, of the working group for the identification of simplified alternative solutions to conforming solutions. National Fire Brigade Italian Ministry of the Interior. Rome.
- 2013-2018 Scientific Director of the academic spin-off of the University of Udine: SAFEXPERTISE. Integrated and innovative solutions for protection from natural and anthropic risks. Udine (Italy)
- from 2018 Member, as an expert, of the UNI "civil protection" working group, on appointment by the National Council of to date Engineers.

## **TECHNOLOGY TRANSFER ACTIVITIES**

• Promoter and Co-founder of the academic spin-off of the University of Udine "Safexpertise s.r.l." Field of activity: Integrated solutions for the protection of people, built environment, and cultural heritage from fires, earthquakes, and their interaction. Role: Scientific Director from 04-11-2013 to 10-11-2021.

#### AWARDS AND RECOGNITIONS FOR SCIENTIFIC ACTIVITY

- Diploma of Merit with medal issued by the Minister of the Interior in recognition of the work and commitment carried out in the emergency activities in the regions of Umbria and Marche affected by the seismic crisis of September-October 1997. Issued by the Minister of the Interior on 03-07-1998.
- Honorary Lecturer at the School of Chemistry and Chemical Engineering of Queen's University Belfast (UK). From 01-11-2006 to 31-10-2011.
- Certificate of Public Merit under D.P.C.M. December 19, 2008, and subsequent amendments for the activity carried out during the seismic emergency following the Abruzzo 2009 earthquake. ID 98984 pos.71137. Issued by the Presidency of the Council of Ministers. Department of Civil Protection. Date of award 11-04-2011.
- Honor of Officer of the Order of Merit of the Italian Republic for scientific support to institutions operating in the field of security and emergency management. Conferred by the President of the Italian Republic on the proposal of the Presidency of the Council of Ministers. Date of award 27.12.2019.

## **TEACHING ACTIVITIES**

## **CURRENT POSITION**

Chairholder of the UNESCO Chair on Intersectoral Safety for Disaster Risk reduction and Resilience established at the University of Udine.

Professor of "Applied Seismology for Engineering" - Master's degree course in Environment and Territory - Polytechnic Department of Engineering and Architecture - University of Udine.

Professor of "Safety and Civil Protection" - Master's degree course in Environment and Territory - Polytechnic Department of Engineering and Architecture - University of Udine

Professor of "Safety Management and Resilience" - Master's degree course in Law for Business and Public Administration Innovation - Department of Law - University of Udine.

## **TEACHING ACTIVITIES**

#### a) at University of Udine

	Lecturer of "Environmental Safety and Protection in Industrial Chemical Processes" - Master's degree course in Environment and Resources - Faculty of Engineering - University of Udine.
	Lecturer of "Applied Seismology I" - Master's degree course in Environmental and Resource Engineering - Faculty of Engineering - University of Udine.
	Lecturer of "Applied Seismology II" - Master's degree course in Environmental and Resource Engineering - Faculty of Engineering - University of Udine.
	Lecturer of "Environmental Safety and Protection" - Bachelor's degree course in Prevention Techniques in the Environment and Workplace - Faculty of Medicine and Surgery - University of Trieste and Udine
	Lecturer of "Analysis and Cataloging of Natural and Environmental Resources and Risks" as part of the first- level Master's degree course in "Territorial Information Systems" - University of Udine.
	Lecturer of "Techniques for Mitigating Natural and Environmental Risks" as part of the first-level Master's degree course in "Territorial Information Systems" - University of Udine.
2009	Lecturer of "Risk Analysis Related to the Introduction of New Technologies" as part of the EGE Advanced Training University Course in Energy Management. University of Udine.
A.A. 2010/11	Assistant Professor of "Safety Engineering" - Bachelor's degree course in Environment and Territory - Faculty of Engineering - University of Udine.
A.A. 2013/14	Assistant Professor of "Seismic Risk and Civil Protection" - Master's degree course in Environmental and Resource Engineering - Faculty of Engineering - University of Udine.
	Professor of "Applied Seismology for Engineering" - Master's degree course in Environment and Territory - Polytechnic Department of Engineering and Architecture - University of Udine.
	Professor of "Safety and Civil Protection" - Master's degree course in Environment and Territory - Polytechnic Department of Engineering and Architecture - University of Udine.
	Professor of "Safety Management and Resilience" - Master's degree course in Law for Business and Public Administration Innovation - Department of Law - University of Udine.
	b) at other Italian Universities
2004	Lecturer of "Risk Analysis and Assessment" as part of the first-level Master's degree course in "Expert in Safety Culture, Health, Social Quality of Work, and Responsible for Prevention and Protection Service." University of Verona.
A.A. 2005/06 A.A. 2006/07	Lecturer of "Fire Risk Analysis and Assessment" as part of the first-level Master's degree course in "Integrated Management of Environment, Health and Safety in the Industrial Sector (GIASSI)." University of Insubria.
2007-2010	Lecturer of "Analysis of Disasters in the Immediate Post-Earthquake Phase. AeDES Forms with Examples of Evaluation and Interpretation with AeDES Forms Referring to Real Cases" as part of the second-level Master's degree course in "Antiseismic Design of Buildings" - MUPAC. University of Trieste.
2009	Lecturer for the teaching unit "Emergency Management Models and Evacuation. Applications and Examples" in the PhD program in Fire Prevention Engineering. Polytechnic University of Bari.

2012 Lecturer of "Seismic Risk and Seismic Risk Management" as part of the "Territorial Risk due to Earthquake" Excellence Path. Safety and Civil Protection Engineering Course. Sapienza University and the Higher Institute for Firefighting in Rome.

c) at foreing Universities

- 2009-2010 Invited Lecturer of "Seismic Risk Assessment of Buildings. L'Aquila Earthquake: A Recent Experience in the Field" at Coventry University (UK) in the courses 2009GED Technologies for Relief and Development (undergraduate module) and M43GED Risk Assessment (postgraduate module).
  - 2013 Invited Lecturer at the "School on Earthquake and Tsunami Hazard and Risk" organized by the Centre de Recherche and Astronomie Astrophysique et Geophysique (CRAAG), the University of Science and Technology Hoouari Bouediene (USTHB), and the International Centre for Theoretical Physics (ICTP, Trieste, Italy). Theme: "Seismic Risk Assessment and Disaster Management." USTHB, Algiers, Algeria, December 9-20.
  - 2014 Lecturer as an expert in Seismic Risk Assessment at the Universidad de El Salvador Facultad de Ingeniera Y Architectura Escuela de Ingenieria Civil. February 3-9, 2014. Invitation letter: Universidad de El Salvador Facultad de Ingeniera Y Architectura Escuela de Ingenieria Civil, January 17, 2014, from 03-02-2014 to 09-02-2014.
  - 2015 Lecturer at the Faculty of Civil Engineering and Environment of Bandung Technological Institute. Theme: "Training on the VISUS Methodology." Invitation letter: UNESCO Jakarta Jak/OIC-D/L/15/001026 of September 7, 2015, from 02-11-2015 to 08-11-2015.
  - 2016 Lecturer at the Faculty of Technic-Civil Engineering Major University Pattimura and Public Polytechnic of Ambon, Indonesia. Theme: "Training on the VISUS Methodology." Invitation letter: UNESCO Jakarta Jak/DRR/L/16/00908 of June 20, 2016, from 30-07-2016 to 10-08-2016.

Lecturer at the Faculty of Civil Engineering of the National University of Peru – Japan-Peru Center for Earthquake Engineering and Disaster Mitigation (CISMID), Lima. Theme: "Training on the VISUS Methodology." Invitation letter: UNESCO Headquarters Paris of August 12, 2016, from 20-08-2016 to 02-09-2016

2017 Lecturer at the State University of Haiti, Port-au-Prince, and at the Campus of Limonade, Cape Haitian - Haiti. Theme: "Training on the VISUS Methodology." Invitation letter: UNESCO Headquarters Paris of January 13, 2017, from 23-02-2017 to 03-03-2017

## ORGANIZATIONAL ROLES RELATED TO TEACHING ACTIVITIES IN AN ACADEMIC SETTING

- A.A. 1999-2000 Director of the university training course on "Fire Risk Analysis, Assessment, and Management in Civil Activities" organized by the University of Udine in collaboration with the Provincial Fire Brigade Command of Treviso and the Order of Architects of Treviso.
- A.A. 1999-2000 Head of the Methodological-Technical Area in organizing the integrated professional development course "GEMEX - Management of Extra-Hospital Multiple Emergencies" - University of Udine - University Polyclinic Hospital.
- A.A. 2003-2004 Head of the Ergonomics thematic area in organizing the first-level Master's degree course in "Expert in Safety Culture, Health, Social Quality of Work, and Responsible for Prevention and Protection Service" -University of Verona, Scientific Coordinator Prof. Paola Maria Fiocco.
  - A.A. 2005-06 Teaching Coordinator and member of the Council of the advanced training course "MAPP Business
- A.A. 2004-05 Management of Prevention and Protection from Occupational Risks" organized by the Faculty of A.A. 2005-06 Engineering of the University of Udine in collaboration with the Regional Directorate for Labor, Training, Research, and University, the Regional Directorate of Firefighters of Friuli Venezia Giulia, the Italian Association of Safety Officers, and the association Opificium Utinensis.
- A.A.2007-2008 Director of the Advanced Courses of the SERM Summer School in Seismic Risk Management Faculty of A.A.2008-2009 Engineering Department of Georesources and Territory SPRINT Study and Research Center of the A.A.2009-2010 University of Udine
- A.A.2010-2011 Member of the Scientific Council of the first-level Master's degree course in Occupational Safety in Public Administration. Faculty of Mathematical, Physical, and Natural Sciences - University of Insubria Varese.
- A.A. 2012-13 Director of the PROGRES advanced training course in Promotion, Organization, and Management of Responsible and Ethical Safety - Department of Legal Sciences - Department of Chemical, Physical, and Environmental Sciences - SPRINT Study and Research Center of the University of Udine.
- from A.A. 2016-17 Director of the SERM Academy Safety and Emergency Response Management International School. Friuli to date Venezia Giulia Region Ministry of the Interior University of Udine.

#### THESIS SUPERVISION

**63** thesis supervisions, of which 40 as a supervisor and 23 as a co-supervisor. Of these, 17 were at the University of Udine and 6 at IUAV in Venice

## ATTIVITÀ CONNESSE A SCUOLE DI DOTTORATO DI RICERCA

- 2008 Scientific referee for the Ph.D. thesis "Modelling of Enclosure Fires" Ph.D. Course in Chemical Engineering (VII Cycle - New Series). Department of Chemical and Food Engineering, University of Salerno. Ph.D. candidate: Maria Grazia Di Meo. Supervisor: Prof. S. Vaccaro. Ph.D. Course Coordinator: Prof. P. Ciambelli.
- 2010/11 Member of the Teaching Board of the Ph.D. in Chemical and Energy Technologies, University of Udine. From 26th to 27th cycle..
  - 2011 Scientific referee for the Ph.D. thesis "Thermal Remote Sensing Systems for Monitoring and Prevention of Natural Risks: The Seismic Case." Ph.D. School in Civil and Architectural Engineering - Department of Territorial Engineering, University of Cagliari, XXIII Cycle. Ph.D. candidate: Luca Piroddi. Ph.D. Course Coordinator: Prof. G. Querzoli. Supervisor: Prof. G. Ranieri.

Supervisor of Internship and Development Research on the topic: "Seismic Criticalities of Infrastructures and Plants. Examples Derived from the Experience Gained in the Recent Earthquake in L'Aquila on April 6, 2009. Master's degree in Emergency Engineering, University of Rome La Sapienza. Responsible professor: Salvatore Monaco. Candidate: Alberto Maiolo.

- 2009 Organization and teaching of the intensive course "Management of Territorial Risks and Emergencies GeRET." Ph.D. School in Civil and Architectural Engineering, University of Cagliari. Lecturer for the didactic unit "Emergency Management and Evacuation Models: Applications and Examples." Ph.D. in Fire Prevention Engineering - Polytechnic of Bari.
- 2012-2019 *Member of the Board of Experts* of the Ph.D. in Energy and Environmental Engineering Sciences, University of Udine, from 28th to 34th cycle.
- from 2019 to date *Member of the Teaching Board* of the Ph.D. in Energy and Environmental Engineering Sciences, University of Udine, from 35th cycle to date.

#### Supervised Ph.D. Thesis

2013 "Emergency and Safety in Complex Activities" - Ph.D. in Chemical and Energy Technologies, XXV Cycle, University of Udine. Ph.D. candidate: Elia Tosolini. Supervisor: Stefano Grimaz.

"Rescue of People in Case of Fire in Crowded Places" - Ph.D. in Chemical and Energy Technologies, XXV Cycle, University of Udine. Ph.D. candidate: Lilia Pecile. Supervisor: Stefano Grimaz.

- 2015 "Decision Support Tools in Emergency Management: The Case of Fire" Ph.D. in Energy and Environmental Engineering Sciences, XXVII Cycle, University of Udine. Ph.D. candidate: Andrea Dusso. Supervisor: Stefano Grimaz.
- 2017 "Characterization of Elementary Scenarios for Multihazard Safety Assessment of Learning Facilities" Ph.D. in Energy and Environmental Engineering Sciences, XXVIII Cycle, University of Udine. Ph.D. candidate: Petra Malisan. Supervisor: Stefano Grimaz.
- 2017 "Territorial Characterization of Seismic Safety of Critical and Relevant Structures and Infrastructures" Ph.D. in Energy and Environmental Engineering Sciences, XXX Cycle, University of Udine. Ph.D. candidate: Alberto Tamaro. Supervisor: Stefano Grimaz.
- 2018 "Seismic Deconvolution Interferometry Applied to the Monitoring of Dam Structural Integrity" Ph.D. in Energy and Environmental Engineering Sciences, XXX Cycle, University of Udine. Ph.D. candidate: Giulia Massolino. Supervisor: Stefano Grimaz.

#### Ph.D. Examination Committees

A.A. 2013/14 Member of the Examination Committee for the Ph.D. in Geosciences at the University of Trieste, academic year 2013/14.