

Europass Curriculum Vitae



Personal information

First name(s) / Surname(s) **Stefano Tinti**

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Nationality Italian

Date of birth 28 February 1949

Gender Male

Work experience

Dates 2019-Today

Occupation or position held Alma Mater Professor

Main activities and responsibilities Teaching and research

Name and address of employer Department of Physics and Astronomy "Augusto Righi", University of Bologna

Dates 2004-2019

Occupation or position held Full Professor of Geophysics (GEO/10)

Main activities and responsibilities Teaching and research

Name and address of employer Department of Physics and Astronomy, University of Bologna

Dates 2001-2004

Occupation or position held Associate Professor of Geophysics

Main activities and responsibilities Teaching and research

Name and address of employer Department of Physics, University of Bologna

Dates 1987-2001

Occupation or position held Associate Professor of Seismometry

Main activities and responsibilities Teaching and research

Name and address of employer Department of Physics, University of Bologna

Dates 1981-1987

Occupation or position held Research Associate

Main activities and responsibilities Research

Name and address of employer Department of Physics, University of Bologna

Dates 1979-1981
 Occupation or position held System Analyst
 Main activities and responsibilities Development and maintenance of digital communication software
 Name and address of employer CINECA, Computer Centre, Bologna

Dates 1979
 Occupation or position held Analyst
 Main activities and responsibilities User Support for Supercomputing
 Name and address of employer ECMWF, Reading, England

Dates 1978-1979
 Occupation or position held System Analyst
 Main activities and responsibilities Development and maintenance of digital communication software
 Name and address of employer CINECA, Computer Centre, Bologna

Dates 1975-1978
 Occupation or position held Postdoctoral Fellow
 Main activities and responsibilities
 Name and address of employer Institute of Physics, University of Bologna

Education and training

Dates 1972
 Title of qualification awarded Degree in Physics
 Name and type of organisation providing education and training University of Bologna, Italy

Personal skills and competences

Mother tongue(s) **Italian**

Other language(s) **English, French**

Self-assessment
European level ()*

English

French

Understanding				Speaking				Writing	
Listening		Reading		Spoken interaction		Spoken production			
C2	Proficient User	C2	Proficient User	C2	Proficient User	C2	Proficient User	C2	Proficient User
B2	Good	B2	Good	B2	Good	B2	Good	B2	Sufficient

(*) [Common European Framework of Reference for Languages](http://www.cedefop.europa.eu/en/files/quest_doc/CEFR/CEFR.pdf)

Organisational skills and competences Founder and Coordinator of the Tsunami Research Team of the Department of Physics of the University of Bologna, Coordinator of the EU funded 3-year project TRANSFER involving 29 European Partners, Chairman in the period 2005-2009 of the ICG/NEAMTWS (IOC-UNESCO), Co-chair of the ICG/NEAMTWS Working Group on "Public Awareness, Preparedness and Mitigation", Former President (2011-2015) of the Natural Hazards Division of the European Geosciences Union (EGU)

Computer skills and competences Vast experience in numerical modelling with different scientific languages (mainly FORTRAN, Matlab, C++)

Additional information

Bibliometric indices

178 publications in the Scopus Database

3965 Citations

22.27 Average citation per item

37 h-index

151 publications ISI Web of Science – Clarivate Database

3255 Citations

21.56 Average citation per item

34 h-index

Editorial Boards

2012-2016 **Editor-in-Chief** of the journal **Natural Hazards and Earth System Sciences** (NHES) open access journal of the European Geoscience Union.

2015-2019 **Editor of Pure and Applied Geophysics** published by Springer - Birkhäuser Geowissenschaften

2002- 2008 **Editor-in-Chief** of the journal **Physics and Chemistry of the Earth**, published by Pergamon Press.

Editor of the volume **Tsunamis in the World** (1993) published by **Kluwer Academic Publishers**.

Editor of the volumes **Tsunamis in the World Ocean Volume I** and **Volume II** (2011) published by **Springer**

Editor of the on-line Special issues of the Journal **Natural Hazards and Earth System Sciences**: “New developments in tsunami science: from hazard to risk” (2010), “Tsunami impacts on- and offshore in the Andaman Sea region” (2011), “Sea Hazards” (2011)

Guest Editor of two special issues of the journal **Science of Tsunami Hazards** in 1988 and 1991.

Guest Editor of five special issues of the journal **Physics and Chemistry of the Earth** in 1996, 2001, 2003, 2005 and 2009.

Referee of numerous international scientific journals such as: *Annali di Geofisica*, *Bulletin of Volcanology*, *Coastal Engineering*, *Continental Shelf Research*, *Disasters*, *Environmental and Modelling Software*, *Geophysical Journal International*, *Geophysical Research Letters*, *Il Nuovo Cimento*, *Journal of Geodynamics*, *Journal of Geophysical Research*, *Journal of Seismology*, *Natural Hazards*, *Natural Hazards and Earth System Sciences*, *Marine and Freshwater Research*, *Marine Geology*, *Ocean and Coastal management*, *Ocean Engineering*, *Proceedings of Mathematical Physical and Engineering Sciences of the Royal Society*, *Pure and Applied Geophysics*, *Science*, *Tectonophysics*, *Terra Nova*, *Zeitschrift für Geomorphologie*.

Expert Evaluator of research national and international projects in the field of Geophysics and Earth Sciences. He participated in the evaluation of projects for the national research agencies of the following countries: Cyprus (Research Promotion Foundation), France (Agence Nationale de la Recherche - ANR), Georgia (Shota Rustaveli National Science Foundation - SRNSF), Norway (Research Council of Norway), Switzerland (Swiss National Science Foundation - SNSF)

Research Responsibilities

- **Co-ordinator** of the project **GITEC** (Genesis and Impact of Tsunamis on the European Coasts) in the period 1992-1995. The project has been carried out in co-operation among Italy, United Kingdom, France, Portugal, Greece, Norway in the framework of the European programme on Environment
- **Co-ordinator** of the project **GITEC-TWO** (Genesis and Impact of Tsunamis on the European Coasts – Tsunami Warning and Observations) in the period 1996-1998. The project has been carried out in co-operation among Italy, United Kingdom, France, Portugal, Greece, Norway and Spain as a continuation of activities of GITEC
- **Co-ordinator** of the INTAS project entitled “**Tsunami hazard for the Mediterranean region**” in the period 1997-99, with laboratories involved from Russia (Novosibirsk and Moscow), Spain and Italy.
- **Co-ordinator** of the European project **TRANSFER** (Tsunami Risk ANd Strategies For the European Region) undertaken by a Consortium of 29 partners, which started in 2006 and ended in September 2009.

- **Leader** of the University of Bologna Team in the European projects **3HAZ-Corinth** (2004-2007), **DEWS** (Distant Early Warning System; 2006-2010), **SCHEMA** (Scenarios for Hazard-induced Emergencies Managements; 2007-2010).
- **Leader** of the University of Bologna Team in the European projects **TRIDEC** (2010-2013), **NearToWarn** (2102-2013) and **ASTARTE** (2013-2017)
- **Convenor and Co-convenor** of many international symposia on Natural Risks and related subjects.
- **Principal Investigator** of numerous national projects since 1982

Main Research Fields and Achievements

- Generation and propagation of tsunamis: generation by earthquakes, landslides and volcanic eruptions. Marine propagation of long waves in the near-coast zone and interaction with coastal structures. Analysis of hazard, vulnerability and risk associated with tsunamis
- Monitoring networks and early warning systems for tsunamis
- Analysis of macroseismic and instrumental data of a seismic catalogue through statistical techniques.
- Seismicity mainly of the Italian territory.
- Developing numerical models for the dynamical evolution of landslides.
- Modeling of displacements, stresses and deformations associated with earthquakes

Author of 295 papers, 195 of which published in peer-refereed journals

Other Responsibilities

- 2009- Co-chair of the Working Group on Public Awareness, Preparedness and Mitigation of the ICG/NEAMTWS.
- 2011-2015 President of the Natural Hazards Division of EGU (European Geosciences Union)
- 2005-2009 Chairman of the Intergovernmental Coordination Group for the North-East Atlantic, the Mediterranean and Connected Sea Tsunami Warning System (ICG/NEAMTWS), which is the subsidiary body of the Intergovernmental Oceanographic Commission (IOC-UNESCO) responsible for the coordination of the efforts to implement the Tsunami Warning System in the Euro-Mediterranean area.
- Member of the International Tsunami Commission (IUGG) and in 1995-2003 Vice-Chairman
- Science Officer of Sea and Ocean Hazards of the EGU Natural Hazards Division (2007-2011)
- Chairman of the Interdisciplinary Working Group on Natural Hazards of the EGS (1992-1996)
- Vice-President of the Tsunami Society (1991-1997)

Recent Publications

Books and Scientific Journals (since 2017)

Paparo M.A., Tinti S., 2017, Analysis of seismic-driven instability of Mt. Nuovo in the Ischia island, Italy, *Bull. Seism. Soc. Am.*, 107, 750-759, doi: 10.1785/0120160139.

Paparo M.A., Armigliato A., Pagnoni G., Zaniboni F., Tinti S., 2017, Earthquake-triggered landslides along the Hyblean-Malta Escarpment (off Augusta, eastern Sicily, Italy). Assessment of the related tsunamigenic potential, *Advances in Geosciences*, 44, 1-8, doi:10.5194/adgeo-44-1-2017.

Loreto M.F., Pagnoni G., Pettenati F., Armigliato A., Tinti S., Sandron D., Brutto F., Muto F., Facchin L., Zgur F., 2017, Reconstructed seismic and tsunami scenarios of the 1905 Calabria earthquake (SE Tyrrhenian sea) as a tool for geohazard assessment, *Engineering Geology*, 224, 1-14.

Šepić J., Vilibić I., Rabinovich A., Tinti S., 2018, Meteotsunami ("marrobbio") of 25-26 June 2014 on the southwestern coast of Sicily, Italy, *Pure Appl. Geophys.*, 175, 1573-1593.

Bressan L., Guerrero M., Petruzzelli V., Antonini A., Archetti R., Lamberti A., Tinti S., 2018, A laboratory experiment on the incipient motion of boulders by tsunami flows, *Earth Surface Processes*, 43, 2935-2947.

Zaniboni F., Tinti S., 2019, The 1963 Vajont Landslide: A Numerical Investigation on the Sliding Surface Heterogeneity, *Pure Appl. Geophys.*, 176, 279-295.

- Wang L.M.D., Zaniboni F., Tinti S., Zhang X., 2019, Reconstruction of the 1783 Scilla landslide, Italy: numerical investigations on the flow-like behaviour of landslides, *Landslides*, 16, 1065-1076.
- Gallotti G., Tinti S., 2019, Numerical solutions for point masses sliding over analytical surfaces: Part 1, *Theoretical and Applied Mechanics Letters*, 9, 84-95.
- Tinti S., Gallotti G., 2019, Numerical solutions for point masses sliding over analytical surfaces: Part 2, *Theoretical and Applied Mechanics Letters*, 9, 96-105.
- Zaniboni F., Pagnoni G., Gallotti G., Paparo M.A., Armigliato A., Tinti S., 2019, Assessment of the 1783 Scilla landslide-tsunami's effects on Calabria and Sicily coasts through numerical modeling, *Nat. Hazards Earth Syst. Sci.*, 19, 1585-1600, <https://doi.org/10.5194/nhess-19-1585-2019>.
- Wang L., Bressan L., Tinti S., 2019, Numerical investigations on the instability of boulders impacted by experimental coastal flows, *Water*, Special Issue on "Wave-structure Interaction Processes in Coastal Engineering", 11, 1557, doi:10.3390/w11081557.
- Triantafyllou I., Zaniboni F., Armigliato A., Tinti S., Papadopoulos G.A., 2020, The large earthquake (~M7) and its associated tsunami of 8 November 1905 in Mt Athos, Northern Greece, *Pure Appl. Geophys.*, 11, 1267-1293, <https://doi.org/10.1007/s00024-019-02363-5>.
- Zhang X., Wang L., Krabbenhoft K., Tinti S., 2020, A case study and implication: particle finite element modelling of the 2010 Saint-Jude sensitive clay landslide, *Landslides*, 17, 1117-1127, doi: 10.1007/s10346-019-01330-4.
- Gallotti G., Tinti S., 2020, A new approach for landslide modeling: application to the Scilla 1783 tsunamigenic landslide, South Italy, *Pure Appl. Geophys.*, 177, 3563-3576, doi:10.1007/s00024-020-02546-5.
- Gallotti G., Passaro S., Armigliato A., Zaniboni F., Pagnoni G., Wang L., Sacchi M., Tinti S., Ligi M., Ventura G., 2020, Potential mass movements on the Palinuro volcanic chain (southern Tyrrhenian Sea, Italy) and consequent tsunami generation, *J. Volcanol. Geoth. Res.*, 404, 107025. <https://doi.org/10.1016/j.jvolgeores.2020.107025>.
- Pagnoni G., Armigliato A., Tinti S., 2021, Estimation of human damage and economic loss of buildings related to tsunami inundation in the city of Augusta, Italy, *Special Publications*, 501, "Global and Societal Impact of Seismic and Tsunami Events", Geological Society of London, 327-342, <https://doi.org/10.1144/SP501-2019-134>.
- Gallotti G., Zaniboni F., Pagnoni G., Romagnoli C., Gamberi F., Marani M., Tinti S., 2021, Tsunamis from prospected mass failure on Marsili submarine volcano flanks and hints for tsunami hazard evaluation, *Bull. Volcanol.* 83, 2. <https://doi.org/10.1007/s00445-020-01425-0>.
- Wang L.M.D., Zhang X., Zaniboni F., Oñate E., Tinti S., 2021, Mathematical optimization problems for particle finite-element analysis applied to 2D landslide modeling, *Mathematical Geosciences*, 53, 81-103.
- Zaniboni F., Pagnoni G., Paparo M.A., Gauchery T., Rovere M., Argnani A., Armigliato A., Tinti S., 2021, Submarine landslides along the margin of the Eastern Gela Basin (Strait of Sicily): evaluation of the tsunami hazard with numerical methods, *Front. Earth Sci.*, <http://doi.org/10.3389/feart.2020.602171>.
- Wang L., Zhang X., Zhang S., Tinti S., 2021, A generalized Hellinger-Reissner variational principle and its PFEM formulation for large deformation dynamic analysis of saturated porous media, *Computers and Geotechnics*, 132, <https://doi.org/10.1016/j.compgeo.2020.103994>.
- Wang L., Zhang X., Tinti S., 2021, Large deformation dynamic analysis of progressive failure in layered clayey slopes under seismic loading using the particle finite element method, *Acta Geotechnica*, <https://doi.org/10.1007/s11440-021-01142-8>.

