

## **Short CV for Prof. Alessandro Maria Michetti**

### **Biographical sketch**

Born in Roma, Italy, on February 25th, 1961; married, father of 3.

Office Address: Università degli Studi dell'Insubria, Dipartimento di Scienza e Alta Tecnologia,  
Via Valleggio, 11, 22100, Como, Italy.

Direct Calls: ++39-0312386650

email: [alessandro.michetti@uninsubria.it](mailto:alessandro.michetti@uninsubria.it)

Web Page: <https://www.uninsubria.it/hpp/alessandro-maria.michetti>

Lab Home Page: <https://perigeo.uninsubria.it/>

### **Educational, Academic and Professional Career**

#### **Academic Career**

- 2018, Novembre 1st: Full Professor, Structural Geology, Dipartimento di Scienza e Alta Tecnologia (Science and High Technology Dept.), Università degli Studi dell'Insubria, Como, Italy;
- 2000, October 1st, Associate Professor, Structural Geology, Dipartimento di Scienza e Alta Tecnologia (Science and High Technology Dept.), Università degli Studi dell'Insubria, Como, Italy
- 1989 – 1999 Research Geologist in Natural Hazard Assessment and Paleoseismology, CNR - GNDT (National Group for Protection Against Earthquakes) at ANPA (National Agency for Environmental Protection, Roma);
- 1986 May 20, Doctor in Geology, University "La Sapienza" of Roma, Department of Earth Sciences.

#### **Institutional Duties**

- 2000, October 1st, Associate Professor, Structural Geology, Dipartimento di Scienza e Alta Tecnologia (Science and High Technology Dept.), Università degli Studi dell'Insubria, Como, Italy;
- 10 2022 – today : Deputy President, Degree and Master's Degree Courses in Environmental and Natural Sciences and Environmental Sciences, Faculty Board;
- 07.2022 – today: Member of the PNRR Funds Coordination Working Group, Rectoral Decree 28 06 2022;
- 08 2019 – today : Coordinator of the Academic Board of the PhD in Chemical and Environmental Sciences;
- 05 2016 – today : Member of the Supervisory Committee of the Interreg V-A Italy-Switzerland cooperation programme, Delegate of the Coordination of Lombardia Region University Rectors, INTERREG V-A 2014 - 2020 and INTERREG V-A 2021 – 2027;
- 02 2016 – today : Member of the Council of the Department of Science and High Technology - DISAT; Coordinator of the DISAT Environment, Health, Safety and Territory Section; Coordinator of the DISAT Environmental Laboratories Via Valleggio, Como
- 06 2013 – 12 2018 Member of the University Commission for Cultural Heritage
- 15 11 2012 – 01 11 2018 Member of the Academic Senate, elected as Associate Professors representative for the Como Campus;

- 09.2011 – 09.2012 Deputy President, Degree and Master's Degree Courses in Environmental and Natural Sciences and Environmental Sciences, Faculty Board;
- 02.2008 – 09.2011 Deputy Director, Department of Chemical and Environmental Sciences

## Scientific Research

Most of my research is focused on the reconstruction of the recent environmental evolution of an area, and on the definition of geological criteria for the assessment and mitigation of natural risks, in particular those related to strong seismic energy releases. This includes the integration of historical seismicity data with those of structural geology, Quaternary stratigraphy, geomorphology, hydrogeology and regional tectonics, to characterize the styles and rates of crustal deformation active in the study area, and with this information define the seismic potential both at a regional and local scale. The experimental verification of this path typically requires the use of Paleoseismology methodologies and techniques.

This research takes advantage from a wide range of investigative approaches, starting from laboratory analyses of aerial and satellite coverage, to geological and geomorphological field mapping, to the reconstruction of slip rates and palaeoseismic histories of capable faults, also coupled with boreholes and exploratory trenches, to detect and analyze evidence of Holocene surface faulting.

Of particular interest for my research is the study of environmental coseismic effects and their use as diagnostic indicators of the degree of macroseismic intensity. Thanks to this research, it was possible to define a new Intensity Scale, Environmental Seismic Intensity Scale ESI-2007, now adopted in over 20 countries on all continents.

This type of investigation also forms the basis for applications in the nuclear industry, and safety evaluation of critical facilities. In particular, for the definition of seismic hazard and the risks associated with surface faulting phenomena according to the guidelines defined by the International Atomic Energy Agency (IAEA). In the last 15 years I have been called to take part as an IAEA Expert in the missions organized for the evaluation of the seismic and hydrogeological safety of nuclear sites. I was involved in the projects of the IAEA-ISSC (International Seismic Safety Center) for the development of a worldwide database on environmental seismic effects (Global Catalog of Earthquake Environmental Effects), on the application of the ESI 2007 scale, and for the preparation of the 2014 Technical Document IAEA TECDOC on Paleoseismology, on the use of Paleoseismology in studies for the siting and site evaluation of nuclear power plants.

Author of over 120 publications, of which 106 indexed Scopus (Scopus Author ID: 7003739295, 3,508 citations), according to Google Scholar cited 6251 times; h index Scopus = 34, Google Scholar = 43; I have mainly published in JCR journals, such as Tectonophysics, Sci. Rep., Earth Plan. Sci. Lett., JGR Solid Earth, Nature Communications, J. of Struct. Geol., BSSA, Journal of Geodynamics, Natural Hazards, Sedimentary Geology; Orcid ID: 0000-0002-1775-1340

My research relies on a vast network of international collaborations, 150 co-authors including: Young-Seog Kim (Busan, S. Korea), P. Victor (GFZ, Potsdam), R. Walters (Durham, UK), R. Amit (GSI, Jerusalem), K. Reicherter (Aachen); S.G. Wesnousky (Reno, NV, USA), G. Roberts (Birkbeck, London), R. Tatevossian (R. Acad. Sci., Moscow), K. McCaffrey (Durham), P. Noble (Reno, NV, USA), F. Audemard (FUNVISIS, Caracas), P. Silva (Avila), A. Agnon (Hebrew Univ., Jerusalem), S. Marco (Tel Aviv), P. Sammonds (UCL, London), S. Leroy (Aix-en-Provence), K. Mueller (Boulder, CO, USA), S. Ivy-Ochs (ETH, Zurich), I. Papanikolaou (Athens), K. Nicoll (Salt Lake City, UT, USA), J. McCalpin (GeoHaz, Crestone).

From 06.1992 to 06.1993, NATO Fellowship in Active Tectonics and Paleoseismicity at the Center for Neotectonic Studies, University of Nevada, Reno, USA, S.G. Wesnousky Lab

Associate Editor, Quaternary International (2013- ); Review Editor, Frontiers Earth Sciences, Structural Geology and Tectonics Specialty Section Board (2015-); Editorial Board, Alpine and Mediterranean Quaternary (2017- ); Associate Editor, Italian Journal of Geoscience (2008 – 2010)

I served as Editor for Special Volumes on Geological Society, London, Special Publications ; Geological Society of America Special Papers; and Special Issues on Tectonophysics, Journal of Geodynamics, Isr. J. Earth Sci., Quaternary International.

I act as referee for numerous international journals, including Tectonophysics, Tectonics, Earth and Planetary Science Letters, Geomorphology, Geoph. jour. International, BSSA, Nat. Hazards Earth Syst. Sci., Geology, Bull.Soc.Geol.Am., J. of Struct. Geol., Geological Society of London, Terra Nova, Engineering Geology, Journal. Of Seism., Annals of Geophysics.

I regularly participate in international meetings, typically in the role of Convener and often with invited presentations. In recent years, the Int. Workshop on Paleoseismicity of Baelo Claudia, 2009, invited by Prof. Pablo Silva; the INQUA Congress in Bern in 2011; the Workshop of Morelia 2012, in Mexico, invited by Prof. Victor-Hugo Garduño; the Italian-Israeli Bilateral Seminar of Active Tectonics of 2013 in Maagan, invited by Prof. Amotz Agnon; the Palaeoseismology and Archaeoseismology Meeting in 2014 in Busan, Korea, invited by Prof. Kim Young-Seog; the Batsheva Rothschild Workshop in Jerusalem in 2015, invited by Prof. Rivka Amit; the INQUA Congress in Nagoya in 2015; the International Conference on seismic events in the Central Apennines, in July 2017, invited by Prof. Emanuele Tondi; the INQUA Congress in Dublin in 2019.

## **Teaching Activity**

I have been teaching continuously since 01/10/2000 at the University of Insubria, Department of Science and High Technology (previously: Faculty of Science MM.FF.NN. – Department of Chemical, Physics and Mathematics; from 29.12.2003, Department of Chemical and Environmental Sciences).

The following list shows the courses held in the first and second cycle degree courses in Environmental Evaluation and Control, Health, Occupational and Environmental Engineering, Environmental Sciences, and Environmental and Natural Sciences

- o Lithology and Geology with Elements of Hydrogeology (01/10/2000 – 01/10/2001)
- o Physical Geography and Climatology (30/10/2000 – 22/06/2001)
- o Structural Geology (02/10/2001 – 31/10/2002)
- o Holocene Geology and Geomorphology Laboratory (02/10/2001 – 31/10/2002)
- o Geology and Lithology Laboratory (01/11/2001 – 31/10/2002)
- o Morphogenesis and Holocene Stratigraphy (30/09/2001 – 30/09/2010)
- o Geology Laboratory (02/10/2007 – 31/10/2011)
- o Applied Structural Geology (02/10/2009 – 31/10/2010)
- o Environmental Geology (02/10/2011 – 31/10/2015)
- o Geology and Lithology (02/10/2010 – 31/05/2022)
- o Seismic, Volcanic Risk and Civil Protection Plans (02/10/2013 – 31/05/2022)
- o Elements of Geology, Hydrogeology and Seismic Risk (20/02/2023 – 31/05/2023)

In the A.Y. 2014/2015 and 2017/2018 I also held the course of "Geological criteria for the siting of critical facilities" for the PhD in Chemical and Environmental Sciences.

I have been supervisor and co-supervisor of over 50 degree and master's degree theses, from the University of Insubria, as well as from the University of Milan and the "La Sapienza" University of Rome

I am a member of the Faculty Board of the Master Course in Environmental Sciences, Bachelor in Environmental and Natural Sciences, Bachelor in Safety, Occupational and Environmental Engineering, Master in Environmental Engineering and for the Sustainability of Work Environments.

### **Scientific Activity, Funded Projects, International and National Research, Expert Panels**

- February 2025, Member of the Scientific Program Committee for the XXII INQUA Congress, Lucknow, 2027
- 01 06 2023 Member of Project «Comprehensive Assessment of Seismic Hazard by Crustal Faults, Statistical and Historical Seismicity, Geodesy and Earthquake Geology in Mexico», (IG101823); Funding: UNAM-PAPIIT Group Project (3 million pesos over 3 years, almost 150.000 Euros), Period: 2023-2025; Project leaders: Pierre Lacan, Ramon Zuñiga (CGeo-UNAM), Gerardo Suarez (IGEF-UNAM)
- 03 11 2002 Scientific Responsible, Technical-Scientific collaboration ISPRA - University of Insubria, «Issues concerning the capable faults of the Italian territory for the implementation of the ITHACA catalogue », duration 48 months (50 keuro)
- From June 2022, "Geosciences I.R." Project, Scientific Co-Proponent, University of Insubria, PNRR MC4213.1, ESFRI PSE scope, code IR0000037 ; project proposals for "Strengthening and creating Research Infrastructures", funded under the PNRR, duration 30 months (854 keuro)
- From 04.01.2022, Scientific Responsible, INGV - University of Insubria Scientific Collaboration Agreement for the redefinition of the Attention Zones of the Active and Capable Faults that emerged from the seismic microzonation studies carried out in the Municipalities affected by the seismic events that occurred after 24 August 2016, Phase 3 (21.76 keuro)
- From December 2021, Coordinator of the Scientific Program Committee for the XXI INQUA Congress, Rome 2023
- 09.2021 – present, Research Associate at INGV, Osservatorio Vesuviano, Napoli
- 06 2020 – 03 2021, Scientific consultancy for Ground Engineering S.r.l., "Active and capable fault characterization at the Ponte Cola Dam site (BS)"
- 05.2020 – 03.2021 Scientific Consultant, TRACTEBEL Engineering S.A., Project “Maximum Credible Earthquake (MCE) spectra definition for Tihange Nuclear Power Plant, Belgium”
- 02.2020 – 08.2024: International Advisory Committee, 37th International Geological Congress, 2024 IGC, Busan, Korea, Member
- 2019 – present, Advisory Board Member, INQUA Commission on Terrestrial Processes, Deposits and History – TERPRO;
- 04.2016 – 08.2019, INQUA “SURface FAulting Catalog – Earthquakes (SURFACE)”, Task 1 Geomorphology in Active Tectonics
- 09 2017 – 11 2018, Scientific consultancy for the University of Camerino for the review of the study "Identification and characterization of active and capable faults in the Campotosto area (AQ)"

- 2017 October – present, Member of the Advisory Working Group for Active Fault Survey, Ministry of the Interior and Safety, South Korea
- 07.01.2016 – 31.01.2018, Project “Lungolago Como, Evolution of the coastline from the Holocene to the modern era”, funded by the Como Foundation (FOCOCO), Scientific Director (120 keuro)
- 2014 November –2018, January, Sinop Nuclear Power Plant Feasibility Study, TRACTEBEL Engineering S.A., SSHAC level 3, SSC Evaluator Expert
- 07.2011 – 08.2019 President of the “Commission on Terrestrial Processes, Deposits and History – TERPRO”, International Union of Quaternary Research
- 2014 September – 2016 June, Research Contrat SOGIN S.p.A., “Studio del quadro conoscitivo relativo alla pericolosità da fagliazione superficiale su aree selezionate” (Study of the surface faulting hazard on selected areas in Italy), Scientific Coordinator (330 keuro)
- 2013 September – 2015 January, Poland Nuclear Power Plant Project, WorleyParsons Nuclear Services, Technical Advisory Board Member
- 2012 – 2013, Evaluation of the surface faulting hazard for the Bagnolo Mella Gas Storage Project, Comune di Capriano del Colle
- 12.2012 – 06-2013 Scientific Coordinator, Agreement between the University of Insubria and the Municipality of Como for the Review of the Design of Anti-Flood Defense Works on the Lakefront of the City of Como
- 07.2012 – 01.2015 Member of the Working Group for the preparation of the new IAEA TECDOC on Paleoseismology ;
- 20.12.2012 – 20.01.2014 SOGIN S.p.A., Contract "Research activities aimed at assessing the dangerousness of surface faulting in the national territory", Scientific Coordinator (110 keuro)
- 01.2009 – 12.2011 INGV-DPC Contract, Progetto Sismologico S1 (Task C), Scientific Coordinator Unit UR 3.07, "Active Shortening and Evidence for Paleoseismicity along the Po Plain - Southern Alps border between Varese and Brescia" (20 keuro)
- 01.2008 – 12.2011, Programma di Cooperazione Transfrontaliera Italia-Svizzera 2007-2013, Progetto “Sitinet - Censimento, Messa in Rete e Valorizzazione di Siti Geologici e Archeologici" (ID 7621984), Scientific Coordinator (320 keuro);
- July 2009 – June 2010, Geological, geotechnical and surface faulting hazards for the Rivara Gas Storage Project, Erg Rivara Storage S.r.l.
- 01.2008 – 12.2011 INQUA Project #0811 “A global catalog and mapping of earthquake environmental effects", Project Leader (25 keuro)
- 10.2005 – 05.2007, Contract for geological-geotechnical characterization, site surveys, management of geognostic investigations, relating to the evaluation of the geological stability of the landfill at Filippa di Cairo Montenotte site (SV), Scientific Coordinator (120 keuro)
- PRIN 2005-2007 National Coordinator of the Project "Active Compressive Tectonics along the Southern Alps between Lake Garda and Lake Maggiore" (29 keuro)
- 02 2004 – 01-2008, Project Leader of the INQUA Scale Project (INQUA Project #0418), four-year project approved by the INQUA Executive Committee (20 keuro)
- 2004 – 2008, “CARG-Cartografia Geologica” Project, Scientific Coordinator for the field mapping, execution and publication of Sheet 75 “Como”, Geological Map of Italy at 1:50.000 scale (410 keuro);
- 2007 – 2011, Chairman, INQUA Focus Group on Paleoseismology and Active Tectonics;
- 2005 – 2009, Member of the Geological Committee of the Geological Survey of Italy;

- 2004 – 2005 University of Insubria Research Contract with APAT-Geological Survey of Italy, Updating and revision of the ITHACA – Italian Hazard from Capable faulting database, Scientific Coordinator (50 keuro);
- June 2003 to present, IAEA missions for NPP siting as Expert in Geology; Paleoseismology and Seismotectonics, and Hydrogeology, at several sites such as Cernavoda (Romania), El Dabaa (Egypt), Visaginas (Lithuania), Sinop and Akkuyu (Turkey), Abuja (Nigeria), Minsk (Belarus), Kashiwazaki-Kariwa (Japan), Montevideo (Uruguay), Hanoi (Vietnam), Tehran (Iran), Ust-Kamenogorsk (Kazakhstan) , Jakarta (Indonesia);

## PhD Programs

07.2022, Member of the Academic Board of the Associated Doctorate "Natural hazards and disaster risk reduction", University of Camerino - INFN - INGV - GSSI  
 11.2019, Member of the PhD Commission, Birkbeck, University of London, Birkbeck Graduate Research School (BGRS);  
 08.2019 – today, Coordinator of the PhD Board in Chemical and Environmental Sciences, University of Insubria  
 07.2013, Member of the PhD Commission in Science, RWT Aachen University, Faculty of Earth Resources and Materials Engineering “Rheinisch-Westfälische Technische Hochschule Aachen”  
 10.2012 – 01.2023, Member of the Academic Board of the PhD in Chemical and Environmental Sciences, University of Insubria; Responsible for 8 PhD Projects;  
 10.2000 – 10.2012 Member of the Academic Board of the PhD in Environmental Sciences, Como, University of Insubria, Responsible for 12 PhD Projects;

My PhD students include:

Valerio Comerci, Researcher, ISPRA (Rome)  
 Franz Livio, Associate Professor, University of Insubria  
 Kervin Chunga, Associate Professor, Universidad Estatal Península de Santa Elena, Ecuador  
 Livio Bonadeo, Post-Doc, INGV-Rome  
 Elisa Martinelli, Post-Doc, University of Insubria  
 Maria Francesca Ferrario, Rtd-a, University of Insubria  
 Nicoletta Nappo, Post-Doc, TU Delft

Como, 24 02 2025

*Alexandro Maria Micheli*