

PERSONAL INFORMATION

Alberto Zanetti



📍 Istituto di Geoscienze e Georisorse (IGG), Consiglio Nazionale delle Ricerche (CNR), Sede Secondaria di Pavia, Via Ferrata 1, I-27100 Pavia, Italy

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🔗 https://scholar.google.it/citations?user=pfE_pTYAAAAJ&hl=it&oi=ao

ORCID ID: <https://orcid.org/0000-0001-9026-1519>; Scopus Author ID: 7102201428; ResearcherID: E-1453-2015

📅 Date of birth October 6, 1965 | 🇮🇹 Nationality Italian

📍 Current Position Research Director at IGG-CNR Pavia

RESEARCH INTERESTS

Summary

My research focuses on the origin, evolution and geodynamic significance of mantle-derived magmatism, integrating petrology, mineralogy, elemental and isotope geochemistry, volcanology and advanced microanalytical techniques to investigate the processes controlling mantle melting, magma generation, melt–rock interaction, lithosphere evolution and crust–mantle recycling. My scientific activity aims to unravel the physical and chemical evolution of magmatic systems from their mantle source regions to magma emplacement within the crust, providing quantitative constraints on the links between deep Earth processes, continental tectonics and environmental change.

Over the past three decades, I have developed internationally recognized expertise in mantle petrology and igneous geochemistry through the investigation of mantle xenoliths, ultramafic rocks, ophiolites, mafic intrusions, volcanic sequences and Large Igneous Provinces. My research combines field observations with quantitative geochemical modelling and high-resolution mineral-scale analyses to reconstruct mantle source characteristics, melting processes, magma evolution and lithosphere–asthenosphere interactions across a wide range of geodynamic settings, including continental rifts, passive margins, convergent plate boundaries and oceanic lithosphere.

A major component of my research has been devoted to understanding the chemical and isotopic evolution of the Earth's mantle through integrated investigations of whole-rock compositions, mineral chemistry, trace and minor element distributions, radiogenic and stable isotope systematics, and volatile behaviour. These studies have provided new insights into mantle depletion and enrichment processes, mantle metasomatism, melt extraction and migration, magma differentiation, crustal assimilation and recycling of crustal materials into the mantle. My work has contributed significantly to defining the mechanisms responsible for mantle heterogeneity and their influence on the generation and evolution of basaltic magmas throughout Earth's history.

I have extensive experience in developing quantitative approaches to the modelling of high-temperature geochemical processes governing melt generation, melt–rock interaction and magma differentiation. These approaches integrate petrological constraints with elemental and isotopic tracers to quantify mass transfer processes operating within the mantle and lower crust, allowing reconstruction of the evolution of magmatic systems and the dynamics of lithospheric modification during major tectono-magmatic events.

My methodological expertise is centred on the development and application of advanced analytical techniques for the characterization of geological materials at micro- to nano-scale resolution. I have extensive experience in Secondary Ion Mass Spectrometry (SIMS), Laser Ablation ICP-MS, Triple Quadrupole LA-ICP-MS (LA-ICP-QQQMS), Time-of-Flight ICP-MS (TOF-ICP-MS) and SEM-EDS, contributing to the development of innovative analytical protocols for trace element and isotope analyses in mantle minerals, melt inclusions, volcanic products and accessory phases. For many years I have been responsible for the scientific coordination, technological upgrading and management of CNR microanalytical laboratories, promoting methodological innovation and providing analytical support to national and international research communities.

My research has increasingly focused on the petrogenesis and geodynamic significance of Large Igneous Provinces, investigating the relationships between mantle plume activity, lithospheric architecture, continental rifting and the generation of large volumes of basaltic magma. In this framework, I have explored the processes controlling mantle source heterogeneity, melting dynamics, magma storage, differentiation and volatile transfer, integrating mineral chemistry, trace element geochemistry, isotope systematics and geochronological constraints to reconstruct the evolution of complex magmatic systems.

A substantial part of my scientific activity has been carried out through extensive international

collaborations involving multidisciplinary field campaigns and geological sampling programs across Europe and South America, particularly in Italy, Argentina and Chile. These investigations encompass mantle sections, ophiolitic complexes, volcanic provinces, deep crustal exposures and active tectonic environments, providing unique opportunities to integrate field geology with laboratory-based geochemical investigations. My research has contributed to several international projects addressing mantle geodynamics, lithosphere evolution, volcanism and critical geological resources.

As Research Director at the Institute of Geosciences and Earth Resources (IGG) of the Italian National Research Council (CNR), and Head of the Pavia Research Unit, I coordinate research activities in mantle petrology, isotope geochemistry and analytical geosciences. I have played leading scientific and managerial roles in national and international research infrastructures and collaborative programs, including EPOS, ICDP-DIVE, PNRA and PNRR initiatives, contributing to laboratory development, transnational access, strategic planning and the implementation of advanced analytical infrastructures. Alongside fundamental research, I have promoted interdisciplinary collaborations linking Earth sciences with environmental studies, mineral resources and applied geochemistry, fostering technology transfer and methodological innovation.

My recent research is specifically focused on the Central Atlantic Magmatic Province (CAMP), one of the largest continental Large Igneous Provinces on Earth and a key natural laboratory for investigating the links between deep mantle processes, continental breakup and global environmental change at the Triassic–Jurassic transition. My work integrates field geology, petrography, mineral chemistry, whole-rock geochemistry, radiogenic isotope systematics and high-resolution microanalytical techniques to investigate mantle source heterogeneity, magma generation, magma chamber evolution, differentiation processes and volatile transfer within CAMP magmatic systems. Emphasis is placed on quantifying the temporal and spatial evolution of magmatism, identifying the relative roles of asthenospheric and lithospheric mantle components, and evaluating the relationships between magma emplacement, volatile release, climatic perturbations and the end-Triassic mass extinction. This multidisciplinary approach provides a comprehensive framework for understanding the petrogenetic evolution of CAMP magmatism and its broader implications for mantle dynamics, continental rifting, Large Igneous Province evolution and Earth system processes.

I have authored more than 170 peer-reviewed scientific publications covering mantle petrology, igneous geochemistry, mineralogy, volcanology, isotope geochemistry, geochronology and analytical methodology. My scientific activity combines fundamental research on mantle evolution and magmatic processes with the development of innovative analytical methodologies and research infrastructures, contributing to an improved understanding of the origin, evolution and environmental consequences of large-scale magmatism throughout Earth's history.

SCOPUS: h-index 44, citations 6026, documents 148

Bibliometric Indicators

ACADEMIC QUALIFICATIONS

05/11/2020 – 05/11/2029	National Scientific Qualification 2018-2020, Full Professor, Sector 04/A1, Geochemistry, Mineralogy, Petrology, Volcanology, Georesources and Applications.
06/02/2014 – 06/02/2023	National Scientific Qualification 2012, Associate Professor, Sector 04/A1, Geochemistry, Mineralogy, Petrology, Volcanology, Georesources and Applications.
01/10/1995 – 30/09/1997	Postdoctoral Fellowship at the Department of Earth Sciences, University of Pavia.
01/11/1990 – 31/10/1993	PhD in "Mineralogy and Crystallography", Faculty of Science MM. FF. NN., University of Modena, Italy, Cycle VI (Italy).
24/05/1990	Degree in Geological Sciences cum laude, Faculty of Science MM. FF. NN., University of Pavia, Italy.

WORKING CAREER

01/01/2021 - Today	Research Director at the National Research Council (CNR) - Institute of Geosciences and Georesources (IGG), Pavia Unit (Italy).
10/08/2001 – 31/12/2020	Prime Researcher at the CNR at CNR-Centro di Studio per la Cristallochimica e la Cristallografia (CSCC) in Pavia (then IGG-CNR, Pavia Unit) (Italy).
16/09/1998 – 09/08/2001	Researcher at the CNR-CSCC in Pavia (Italy).
01/08/1997 – 31/07/1998	Professional collaborator at the CNR-CSCC in Pavia (Italy)
01/05/1994 – 30/04/1995	CNR Fellowship, at the CSCC-CNR in Pavia, Italy.

- MANAGEMENT AND
COORDINATION ACTIVITIES
- PARTICIPATION IN
INSTITUTIONAL
ACTIVITIES AND

SUPPORT FOR THE INSTITUTE'S BODIES (LAST 10 YEARS)

2025–Present	Member of the “DSSTTA_scienza2025” Working Group for the definition of the strategic scientific lines of the DSSTTA-CNR
2024	Member of the Working Group for the preparation of a strategic document on Geosciences within the CNR
2023–Present	Member of the “Geodynamics” Working Group of the DSSTTA-CNR;
2024–Present	Head of the ICP-TOF-MS laboratory of IGG-CNR Pisa
2020–Present	Responsibility for Structure of Scientific Value. Head of the Critical Zone Observatory Val Grande National Park (Piedmont, Italy) of the CNR.
2019–Present	Responsibility of Research Group. IGG-CNR representative in the Project "Structuring of the EPOS Italy Laboratory Community", Joint Research Unit (JRU), European Plate Observing Systems (EPOS), Italy. Agreement between MUR, INGV and Research Institutions and Universities for the establishment of support of the H2020-EPOS Project, with MUR funds.
2018–Present	Responsibility of Research Group. Responsible for the National Research Council Project, DTA.AD003.351.001, Geodynamics Planetary and Geological Processes.
2017–Present	Responsible for the Secondary Unit. Head of the Pavia Branch of the Institute of Geosciences and Georesources, National Research Council.
2015–Present	Responsibility for Research Group. Responsible for the National Research Council Project, DTA.AD003.131.001, Geodynamics and Geological Processes.
2017–2018	Responsible for the Laboratory. Responsible for the technological upgrade of the LA-ICP-MS laboratory of IGG-CNR Pavia, with the acquisition of an Agilent Series 8900 QQQ-ICP-MS mass spectrometer.
2017–Present	Responsible for the Laboratory. Head of the Secondary Ion Mass Spectrometry Laboratory (SIMS) of the Institute of Geosciences and Georesources of the CNR.
2017–Present	Responsibility for Research Group. Member of the Executive Board of Work Package 16, Thematic Core Services, Multi Scale Laboratories of EPOS, H2020 project - European Plate Observing System (EPOS) as Representative of the Institute of Geosciences and Georesources, National Research Council.
2015–2016	Responsibility for the Laboratory. Responsible for the technological update of the LA-ICP-MS laboratory of IGG-CNR Pavia, with the acquisition of 1) LASER UP213 Universal Platform, Laser Ablation System, Nd:YAG deep UV (213 nm); 2) Perkin Elmer Elan DRC-e ICP-MS mass spectrometer.
2015–Present	Responsibility for the Laboratory. Scientific Director of the LA-ICP-MS and SEM-EDS laboratories of the Institute of Geosciences and Georesources of the National Research Council.
2014–2019	Responsibility for Research Group. Member of the Commission for the definition of the Thematic Lines of Development of the Institute of Geosciences and Georesources of the CNR for the five-year period 2014–2019.
2008–2019	Responsibility for Research Group. Elected Member and Secretary of the Institute Council of the Institute of Geosciences and Georesources of the National Research Council.

- TEACHING ACTIVITIES - TRAINING AND DISSEMINATION - ADVANCED TRAINING (LAST 10 YEARS)

2015–Present	Member of the Faculty Board of the PhD Program in Earth and Environmental Sciences (DSTA), University of Pavia (Italy).
2021–2022	Lecturer of the course “Petrogenetic Processes and Lithosphere Evolution”, DSTA, University of Pavia
2014–2021	Teaching of "Composition of the Lithosphere", Course in Applied Geological Sciences, DSTA, University of Pavia.
2017–2018	Teaching of "Geochemistry", Bachelor in Applied Geological Sciences, DSTA, University of Pavia (Italy).
2004–Present	Supervisor of N.7 PhD Theses: University of Pavia, Genova, Padova (Lopez Suarez, Ogonyele, Berno, Giovanardi, Poggi, Dencker, Raffone), Italy.
1997– Present	Supervisor of N.13 Master Thesis in Applied Geological Sciences and Geological Sciences, DSTA, University of Pavia, and DISTAV, University of Genova, Italy.
2004–Present	Tutor N.7 Bachelor Thesis in Applied Geological Sciences and Geological Sciences, DSTA, University of Pavia, and DISTAV, University of Genova.

- 2019 External Tutor for Internship Project with reference to the framework agreement between the University of Florence and IGG-CNR.
- 2019 Lecturer Doctoral School in Earth Sciences. Lecture entitled "New insights into the Permo-Triassic geodynamic evolution of the Africa-Europe boundary: evidence from the Ivrea-Verbanio Zone", CRPG/CNRS, Université de Lorraine, Nancy (France), 21-23 March 2019
- 2017 Lecturer Doctoral School in Earth Sciences. Lecture entitled "The lower crust in the northern Ivrea-Verbanio Zone: The case study of the Val Cannobina section". Institut des Sciences de la Terre, Faculté des géosciences et de l'environnement, Université de Lausanne, (Suisse), 30 October 2017
- 2017 Lecturer of the seminar "Formation, evolution and exhumation of the lower continental crust: the case study of the Ivrea-Verbanio Zone (Western Alps)", Distinguished Lecturers in Earth Sciences cycle, DISTAR, Federico II University, Naples, Italy, 6 April 2017.
- 2017 Lecturer on Invitation to the Workshop "Multidisciplinarity and stable isotopes: how to build the scientific databases of the future". Workshop organized by DSSTA-CNR, Pisa, 24 May 2017

- - PARTICIPATION IN COMMITTEES, EVALUATION COMMISSIONS (LAST 10 YEARS)

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- 2024 Member of the Selection Committee for a CNR Research Fellowship on the research project Study of Ancient Melting and Refertilization Events in the Peridotites of the Ivrea-Verbanio Zone, Western Italy (Scientific Disciplinary Sector GEO/07 – Petrography and Petrology), Department of Earth and Environmental Sciences.
 - 2023 Member of the PhD Examination Committee (Committee No. 164-2021) for the award of the PhD in Geosciences, XXXV Cycle, University of Padua
 - 2023 Member of the Selection Committee for Call No. 400.2 IGM PNRR, Researcher (Level III), Institute of Molecular Genetics 'Luigi Luca Cavalli Sforza'.
 - 2022 Chair of the Selection Committee for Public Competition Call No. 367.364 TEC IGG, recruitment of one Technologist (Professional Level III), Institute of Geosciences and Earth Resources, Pisa. Technological sector.
 - 2022 Chair of the Selection Committee for Public Competition Call No. 301.38, (Professional Level VII) reserved for candidates eligible under Article 1 of Italian Law No. 68/1999, to be assigned to CNR facilities in the Province of Pavia.
 - 2022 Chair of the Selection Committee for Public Competition Call No. 367.232, (Professional Level VI) on a permanent full-time contract at the Institute of Molecular Genetics 'Luigi Luca Cavalli Sforza', Pavia.
 - 2022 Chair of the Selection Committee for a CNR Research Fellowship at the Institute of Geosciences and Earth Resources, Pavia Unit (Call IGG/PV/AR/176/22), for research activities within the LIFEWATCH ITALIA and GEODINAMICA DEL PIANETA VIVENTE research program.
 - 2021 Full member of the Examining Committee for the award of the title of PhD in "Models and methods for material and environmental sciences" (Cycle XXXIII). University of Modena and Reggio Emilia.
 - 2019-Present Member of the Steering Committee for the Three-year and Master's Degree Courses in Geological Sciences, Department of Earth, Environmental and Life Sciences (DISTAV), University of Genoa, Italy..
 - 2014-2021 Member of the President's Council of the Gruppo Nazionale di Petrografia (GNP).
 - 2011-2014 2011-2014: Elected member of the President's Council of the Italian Society of Mineralogy and Petrography (SIMP).
 - 2018 Full member of the Examining Commission for the award of the title of PhD in Earth Sciences. Cycle XXX. Commission 2. University of Ferrara. Ferrara, 23/02/2018.
 - 2018 President of the Examining Committee for the award of n. 1 scholarship for graduates, at IGG-CNR Pavia, for the following subject: "Geochemical characterization (LA-ICPMS and FTIR) of nominally anhydrous minerals of peridotitic bodies of the Ivrea-Verbanio area (Southern Alps)".
 - 2018 Reviewer of Scientific Project submitted to the VINCI Programme, Call for proposals 2018, Université Italo-French/Université Franco-Italienne (UIF/UF1). 18th Vinci call.
 - 2016 Reviewer of Scientific Project submitted to the "Rita Levi Montalcini" Young Researchers Programme 2016.
 - 2016 Member of the Selection Committee appointed by the Italian Society of Mineralogy and Petrology (SIMP) for the Doctoral Thesis Award, the Scholarship Award and the "Ugo Panichi" Prize awarded in 2016.
 - 2016 Reviewer of research products within the VQR 2011-2014. Year 2016.
 - 2016 Reviewer of a scientific project submitted for funding to the Deutsche Forschungsgemeinschaft (German Research Foundation). Reference number: BE 1720/40-1; E-file: eBer-15-31829.
 - 2016 Full member of the commission for the final examination of the PhD School in Earth Sciences (XXVIII cycle), University of Ferrara.

PROJECTS (LAST 10 YEARS)

2026-2029	Member of the Project: LITHO-FLUCHS: A toolbox for constraining lithospheric-to-grainscale controls on fluid-rock interactions in Peridotite-Hosted Hydrothermal Systems (PHHSs). NERC project. UK.
2022-2026	Scientific Head of the IGG-CNR Unit, Project "Monitoring Earths' Evolution and Tectonics –MEET", Piano Nazionale di Ripresa e Resilienza (PNRR) - Missione 4, "Istruzione e Ricerca" - Componente 2, "Dalla ricerca all'impresa" - Linea di investimento 3.1, "Fondo per la realizzazione di un sistema integrato di infrastrutture di ricerca e innovazione" - codice progetto IR0000025. From 01/11/2022 to 30/06/2026. Total Budget: 43000000 Euro. Funds for IGG-CNR: 579273.20 Euro
2022-2026	Member of IGG-CNR unit. Project "ITINERIS - Monitoring Earths' Evolution and Tectonics", Funded by EU - Next Generation EU PNRR- Mission 4 "Education and Research" - Component 2: "From research to business" - Investment 3.1: "Fund for the realisation of an integrated system of research and innovation infrastructures" - Project Code: IR0000032. Start: 1 November 2022 (36 months, Extended to 30 June 2026). Total Funds: 155.000.000 Euro. Funds for the IGG-CNR action "Laboratory LA-ICP-ToF-MS": 763.310 Euro. Role: Head of the LA-ICP-ToF-MS action.
2015-Present	Principal Investigator of the Project "Drilling the Ivrea-Verbano Zone" (DIVE: http://www.icdp-online.org/projects/world/europe/ivrea-italy/details/) funded by the International Continental Scientific Drilling Program. Award letter 05 June 2020. Funding of \$ 1,000,000.
2022-2024	Scientific Head of the Project "CNR – ECORD - IODP-Italia 2021" (prot. AMMCEN n. 0052906/2021 del 26/07/2021) entitled "Isotopic heterogeneity and melt aggregation at the oceanic crust-mantle transition (ODP Site 895& IODP Site U1415, Hess Deep, East Pacific Rise). Prot. AMMCEN n. 0052906/2021 del 26/07/2021. Period: 01/01/2022 to 31/12/2023. Funds: 85.000 Euro.
2024-2027	National Coordinator of the Project related to the National Antarctic Research Programme, PNRA Call 25 May 2018, n. 1314, PNRA18_00079 - A.M.O.R.e, Line A..
2022-2026	Project partner; Progetto: Exploring lower continental crust: petrology, geochemistry, geophysics and the Ivrea drilling project (DIVE). Grant number: 204491; Swiss National Science Foundation (SNSF). Approved amount: 2,067,320 CHF, Research institution, University of Lausanne – LA, Institute; Institut des sciences de la Terre Université de Lausanne: Period: 01.09.2022 – 31.08.2026.
2017-2020	Scientific Responsible of IGG-CNR units in a scientific project funded by the call MIUR - PRIN YEAR 2015. Project title "Geochemical and isotopic budget of highly metasomatised sub-continental mantle in the Africa and Europe geodynamic systems: modern and fossil analogues".
2017-Present	Responsible of the Pavia Unit of the Project DTA.AD001.107, MIUR PNRA Annual Executive Programme (EEP) 2014, Sistema Interlaboratio Antartico (SIA) of the National Programme of Research in Antarctica. 2017.
2014-2016	Responsible of the Unit of IGG-CNR Pavia of a Project related to the National Program of Research in Antarctica, PNRA Call 11.3.2013, n. 417. Proposal for line B: "Stability of hydrated phases in the lithospheric mantle of large continental rift systems: an experimental petrological approach on nodules and lavas".
2019-Present	Component of IGG-CNR units in a scientific project funded by the call MIUR - PRIN ANNO 2017. Project title "Micro to Macro - How to unravel the nature of the Large Magmatic Events".
2018-2021	H2020-INFRAIA-2017. EUROVOLC: IGG-CNR participates as a linked third party of EPOS-WP11. Representative of IGG-CNR laboratories in Pavia. Coordinating Institution: Vedurstofa Islands Bustadarvegur;
2012-2018	Component Project of Interest NextData. Project CUP: B51J11000840001. Scientific Responsible Dr. Antonello Provenzale.
2015-2017	Participant in Project Participant in Project: CIAO - Central Iran Amphibole-bearing Ophiolite. MARIE SKŁODOWSKA-CURIE ACTIONS, Individual Fellowships (IF) Call: H2020-MSCA-IF-2014_ST.

CHAIRMANSHIP OR OTHER DECISION-MAKING ROLE IN NATIONAL OR INTERNATIONAL SCIENTIFIC CONGRESSES (LAST 10 YEARS)

2026	Member of the Scientific Committee of the International Winter School on Mantle Dynamics - MEREMA 3rd Edition. Volterra (Italy)
2025	Member of the Scientific Committee of the 5th European Mantle Workshop (EMAW2025), Wien, July 2025
2024	Organizer of the Granulites & Granulites Conference, Verbania (Italy), September 2024.
2022	Member of the Scientific Committee of the International Conference "16th European Geoparks Conference", Verbania (Italy), 26–30 September 2022.
2022	Member of the Scientific Committee of the 4th European Mantle Workshop (EMAW2018), Toulouse (France), September 2022.
2021	Organizer and Member of the Scientific Committee of the International Winter School on Mantle

- Dynamics - MEREMA 2nd Edition. Sestri Levante (Italy).
- 2019 Organizer and Member of the Scientific Committee of the International Doctoral School "Structure and Composition of the Lower Continental Crust: Geological, Petrological, Geochemical and Geophysical Perspectives". Earth and Environmental Sciences, PhD Program, Department of Earth and Environmental Sciences, University of Pavia. Pavia, 7-10 October 2019.
- 2019 Organizer of the PhD School "Frontiers in ICPMS/MS application in Earth and Environmental Sciences", Earth and Environmental Sciences, PhD Program, Department of Earth and Environmental Sciences, University of Pavia. Pavia, 27 May 2019.
- 2018 Pre-Conference field trip (1 day) "Dunite to harzburgite melt conduits in Lanzo South mantle peridotites (western Alps)". 3rd European Mantle Workshop (EMAW2018), Pavia, June 26th-28th, 2018.
- 2018 Post-Conference field trip (2 days) "Emplacement mechanisms of mantle peridotites at crustal levels and multi-stage igneous evolution of the continental crust". 3rd European Mantle Workshop (EMAW2018), Pavia, June 26th-28th, 2018.
- 2018 Organizer and Member of the Scientific Committee of the 3rd European Mantle Workshop (EMAW2018), Pavia, June 26th-28th, 2018.
- 2017 Organizer of the IGG-CNR Study Excursion "La Zona Ivrea-Verbanò". 18-20 September 2017
- 2017 Organizer of the session "Geodynamic systems from western Mediterranean to Himalaya: a natural laboratory for a multidisciplinary approach". SIMP-SGI-AIV-SoGel 2017 "Geosciences: a tool in a changing world" Pisa, 3-6 September 2017.
- 2017 Organizer of the International Continental Scientific Drilling Program (ICDP) Workshop entitled "Drilling of the continental crust to the Moho transition zone (Ivrea-Verbanò Zone, Italy), 1-5 May, Baveno (Vb).
- 2017 Organizer CNR Study Day on Ivrea-Verbanò Zone. Pavia, 6 March 2017.
- 2017 Organizer and Member of the Scientific Committee of the International Winter School "Melting and fluid/melt-rock Reactions in the MANTle - MEREMA. Pavia, 13-17 February 2017.

ATTACHMENT

- List of the top publications in the main research field

Personal data

According to law 679/2016 of the Regulation of the European Parliament of 27th April 2016, I hereby express my consent to process and use my data provided in this CV

Date: Pavia, July 8, 2026

Signature: Alberto Zanetti

SELECTED PUBLICATIONS (LAST 10 YEARS)

- 2026 Mazzucchelli Maurizio, Giovanardi Tommaso, Wilhelm Stefan, Altenberger Uwe, Oberhänsli, Roland, Zanetti, Alberto (2026). Carbonatites in the Ivrea-Verbanò Zone? A critical reassessment of field, petrographic and geochemical evidence supporting crustal rather than mantle origin. *Lithos Letter*, Open Access, Volume 536-537, Article number 108563, DOI: 10.1016/j.lithos.2026.108563
- 2026 Mariani Davide, Tribuzio Riccardo, Liu Tong, Wu Fu-Yuan, Zanetti Alberto (2026). Underplating of H₂O-rich magmas in post-collisional tectonic settings. *Geochimica et Cosmochimica Acta*, Volume 414, Pages 295 – 314, Publication date: 1 February 2026, Elsevier Ltd, Journal ISSN: 00167037; DOI: 10.1016/j.gca.2025.12.018.
- 2025 Velicogna Matteo, Boscaini Andrea, Ogunyele Abimbola Chris, De Min Angelo, Chiaradia Massimo, Bonazzi Mattia, Zanetti Alberto, Marzoli Andrea (2025). The source of mafic post-collisional magmatism in the Southern Variscan domain: Insights from the Permian dyke swarms of northern Sardinia. *Lithos* Article, Volume 514-515, Article number, 108158, DOI: 10.1016/j.lithos.2025.108158.
- 2024 Basch Valentin, Sanfilippo Alessio, Genske Felix, Böhnke Mischa, Zanetti Alberto, Stracke Andreas (2025). Inefficient melt mixing below a fast-spreading ridge revealed by Hess Deep lower gabbros (ODP Leg 147 and IODP Expedition 345). *Science Advances*, Article Open Access, Volume 11, Issue 16, Article number eadu2044, DOI: 10.1126/sciadv.adu2044.
- 2024 Bonazzi Mattia, Ogunyele Abimbola C., Giovanardi Tommaso, Mazzucchelli Maurizio, Decarlis Alessandro, Sanfilippo Alessio, Zanetti Alberto. Triassic-Jurassic alkaline magmatism in the Ivrea-Verbanò Zone, Southern Alps: A zircon perspective on mantle sources and geodynamic significance. *Lithos*, Volume 490-491, Article number 107854, DOI: 10.1016/j.lithos.2024.107854.
- 2024 Ogunyele Abimbola C., Sanfilippo Alessio, Salters Vincent J. M., Bonazzi Mattia, Zanetti Alberto (2024). Accretion of "young" Phanerozoic subcontinental lithospheric mantle triggered by back-arc extension—the case of the Ivrea-Verbanò Zone. *Scientific Reports*, Volume 14, Issue 1, Article number 11805, DOI:

- 10.1038/s41598-024-61763-3.
- 2024 Abimbola C. Ogunyele, Mattia Bonazzi, Tommaso Giovanardi, Maurizio Mazzucchelli, Vincent J.M. Salters, Alessandro Decarlis, Alessio Sanfilippo, Alberto Zanetti (2024). Transition from orogenic-like to anorogenic magmatism in the Southern Alps during the Early Mesozoic: Evidence from elemental and Nd-Sr-Hf-Pb isotope geochemistry of alkali-rich dykes from the Finero Phlogopite Peridotite, Ivrea–Verbano Zone. *Gondwana Research*, 129, 201–219. <https://doi.org/10.1016/j.gr.2023.12.011>
- 2024 L. Notini, M. Scambelluri, A. Tommasi, A. Zanetti, F. Ferri, A. Rodríguez-Vargas, E. Rampone (2024). Probing the deep mantle wedge in an active subduction zone: Xenoliths from the Mercaderes Volcanic District, Southern Colombia. *Lithos*, 464–465, article number 107401. <https://doi.org/10.1016/j.lithos.2023.107401>
- 2023 Alessandro Decarlis, Alberto Zanetti, Abimbola Chris Ogunyele, Andrea Ceriani, Riccardo Tribuzio (2023). The Ivrea-Verbano tectonic evolution: The role of the crust-mantle interactions in rifting localization. *Earth-Science Reviews*, 238 (2023) 104318. <https://doi.org/10.1016/j.earscirev.2023.104318>. Received 8 October 2022; Received in revised form 7 January 2023; Accepted 9 January 2023. Available online 11 January 2023
- 2023 Trond Ryberg, Christian Haberland, Britta Wawerzinek, Manfred Stiller, Klaus Bauer, Alberto Zanetti, Luca Zibera, Gyorgy Hetényi, Othmar Müntener, Michael M. Weber, Charlotte M. Krawczyk (2023). 3-D imaging of the Balmuccia peridotite body (Ivrea–Verbano zone, NW-Italy) using controlled source seismic data. *Geophysical Journal International*. (2023), 234, 1985–1998 <https://doi.org/10.1093/gji/ggad182> Advance Access publication 2023 May 4 GJI Geodynamics and Tectonics
- 2023 A. Sanfilippo, C.Z. Liu, V. Salters, A. Mosconi, A. Zanetti, R. Tribuzio (2024). Preserved Nd-Hf-Os isotope variability in replacive channels from the Lanzo ophiolite: Traces of incomplete melt aggregation in the shallow mantle. *Chemical Geology*, Volume 641, 20 December 2023, 121779. <https://doi.org/10.1016/j.chemgeo.2023.121779>
- 2021 Casetta F., Ickert R.B., Mark D.F., Giacomoni P.P., Bonadiman C., Ntafos T., Zanetti A., Coltorti M. (2021). The Variscan subduction inheritance in the Southern Alps Sub-Continental Lithospheric Mantle: Clues from the Middle Triassic shoshonitic magmatism of the Dolomites (NE Italy). *Lithos. Open Access* Volume 380-381 January 2021 Article number 105856)
- 2020 Giovanardi, T., Zanetti, A., Dallai, L., Morishita, T., Hémond, C., Mazzucchelli, M. (2020). Evidence of subduction-related components in sapphirine-bearing gabbroic dykes (Finero phlogopite–peridotite): Insights into the source of the Triassic–Jurassic magmatism at the Europe–Africa boundary. *Lithos*, Volume 356-357, March 2020, Article number 105366. doi:10.1016/j.lithos.2020.105366
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