

## DANILO MAURO PALLADINO

### Curriculum Vitae

Place: Rome, Italy

Date: December 5<sup>th</sup>, 2021

#### **Part I – General Information**

Full Name	Daniilo Mauro Palladino
Spoken Languages	Italian, English

#### **Part II – Education**

Type	Year	Institution	Notes (Degree, Experience,...)
University graduation	1986	Sapienza University of Rome	Geological Sciences (110/110 <i>cum Laude</i> ); master thesis in Volcanology
Post-graduate training	1988	National Research Council of Italy (CNR) c/o Department of Earth Sciences, Sapienza University of Rome	Winner of a CNR scholarship on experimental igneous petrology (“ <i>Esperienze nel campo della petrologia del magmatico tali da permettere lo sviluppo di ricerche di petrologia sperimentale su sistemi sintetici e naturali</i> ”; Bando n. 201.05.12, 3-10-1987).
Doctorate training	1988-1991	PhD Programme in Earth Sciences (IV cycle), Sapienza University of Rome	Attendance to the PhD course in Earth Sciences, including a research period (2 months) on pyroclastic flow modelling at Los Alamos National Laboratory - Geoanalysis Group (NM, USA)
PhD	1992	Sapienza University of Rome	Achievement of the PhD in Earth Sciences; PhD dissertation in Volcanology, on pyroclastic flow dynamics, entitled: “ <i>Dinamica dei processi di trasporto e deposizione delle colate piroclastiche con applicazioni alle sequenze eruttive del Complesso Vulcanico di Latera (Monti Vulsini)</i> ”, pp. 341.

## **Part III – Appointments**

### **III A – Academic Appointments**

Start	End	Institution	Position
1991	1994	Department of Earth Sciences, Sapienza University of Rome	University Researcher, on trial (Ricercatore Universitario non confermato)
1994	2001	Department of Earth Sciences, Sapienza University of Rome	University Researcher, permanent (Ricercatore Universitario Confermato)
1995	2001	Department of Earth Sciences, Sapienza University of Rome	Responsible for Departmental Laboratories: “Laboratorio Trattamento Rocce” and “Laboratorio di Microscopia Ottica a Scansione (SEM)”
2000	2006	PhD Programme in Earth Sciences, Sapienza University of Rome	Member of the PhD Programme Committee (Collegio dei Docenti)
2000	present	PhD Programme, Sapienza University of Rome, University of Roma Tre, University of Naples Federico II	President/Member of examining committees for final examination sessions to award the PhD Degree; external reviewer of PhD dissertations
2001	present	Department of Earth Sciences, Sapienza University of Rome	Associate Professor (Professore II fascia, SSD GEO-08), full time regime
2001	present	Department of Earth Sciences, Sapienza University of Rome	Member of departmental commissions: e.g., “Autovalutazione e Rapporti con il Personale”; “Commissione di Coordinamento CAD”; “Commissione di Gestione di Assicurazione della Qualità”, CdS-Laurea Magistrale Geologia di Esplorazione; Advisor for “Placement-Orientamento in Uscita”, CdS-Laurea Magistrale Geologia di Esplorazione
,2001	present	Sapienza University of Rome and other Italian universities (e.g., Bologna, Messina, Bari)	Member of examining committees for academic positions (i.e., University Researcher, PhD course, Assegno di Ricerca, etc.)
2009	2012	Department of Earth Sciences, Sapienza University of Rome	Responsible for the “Geodynamics and Volcanology” Section
2009	present	PhD Programme in Earth Sciences, Sapienza University of Rome	Member of the PhD Programme Committee (Collegio dei Docenti)
2012	2014	Department of Earth Sciences, Sapienza University of Rome	Coordinator of “CdS-Laurea Magistrale in Geologia di Esplorazione” (CAD Scienze Geologiche)
2016	present	Sapienza University of Rome	Member of “Commissione di Ateneo per borse di studio per la frequenza di

			corsi o attività di perfezionamento all'estero (area CUN04-Scienze della Terra)"
2017	present	Italian Ministry of Education, University and Research	Achievement of the National Scientific Qualification for Full Professor (ASN 2016, SC 04/A1, Professore I fascia)
2018		Sapienza University of Rome, University of Roma Tre	Member of the examining committee for Professional Geologist (Esami di Stato)
2021	present	Sapienza University of Rome	CIVIS supervisor for Marie Skłodowska-Curie Postdoctoral Fellowships

### **III B – Organization of scientific conferences and workshops**

Year	Conference/Workshop	Role
1995-present	National and international conferences and workshops (e.g., IAVCEI, A. Rittmann, A. Rittman-Young Researchers)	Convener of scientific sessions
1995	"Volcanoes in Town", IAVCEI Conference on Volcanic Hazard in Densely Populated Regions, September 27-30, 1995, Rome, Italy	Member of the conference organizing committee
2008	70 <sup>th</sup> EAGE Conference & Exhibition incorporating SPE EUROPEC 2008, Rome, Italy	Field trip leader of Field Excursion FT1 Vesuvius-Campi Flegrei (7-8 June 2008)
2012	2 <sup>nd</sup> International Course on Collapse Calderas, IAVCEI, September 19-22, 2012, Bolsena, Italy	Co-Organizer of the course
2012	4 <sup>th</sup> International Workshop on Collapse Calderas, IAVCEI, September 23-29, 2012, Bolsena, Italy	Co-Organizer of the workshop
2015	XX INQUA (International Union for Quaternary Research) Congress	Co-author of the proposal for the candidacy of Rome 2019 (discussed at Nagoya 2015)
2019	34 <sup>th</sup> IAS (International Association of Sedimentologists) Meeting of Sedimentology, September 10-13, 2019, Rome, Italy	Co-organizer of the field trip IM7- "Eruption and emplacement mechanisms of pyroclastic sediments: examples from the Vulsini Volcanoes"
2019	AIV-INGV 3 <sup>rd</sup> Conference A. Rittmann-Young researchers, January 30-February 1, 2019, Rome, Italy	Member of the conference organizing committee
2021	XXI INQUA Congress (to be held in Rome, 13-20 July 2023)	Co-organizer of the field trip "The Colli Albani: a quiescent volcano on the outskirts of Rome"

### **III C - Editorial activity for international scientific journals**

Start	End	Journal	Role
1995	present	International journals (e.g., Journal of Volcanology and Geothermal Research, Bulletin of Volcanology, Geophysical Research Letters, Scientific Reports, Periodico di Mineralogia, Journal of Mediterranean Earth Sciences)	Reviewer of scientific articles
2012	2015	Periodico di Mineralogia (ISSN: 0369-8963), Sapienza University of Rome	Member of the Editorial Board
2015	present	Periodico di Mineralogia (ISSN: 0369-8963), Sapienza University of Rome	Section Editor-Volcanology
2016	present	Journal of Mediterranean Earth Sciences (ISSN: 2037-2272), Sapienza University of Rome	Member of the Editorial Board

### **III D – Other appointments**

Years	Institution	
1987-1988	Aeronautica Militare (Italian Air Force), CIGA-Pratica di Mare (RM)	Air Force Officer: analysis of aerial photographs and cartography
1993	Los Alamos National Laboratory - Geoanalysis Group (NM, USA)	“Guest Scientist” for pyroclastic flow modeling
2010	University at Buffalo - ECLIPSE Campus (NY, USA)	“Invited Scientist” for developing a User Facility for Natural Hazards Research (UB 3E Grant; PI Prof. G.A. Valentine)
2014-2017	Italian Research Institutions (i.e., CNR-IGAG, INGV)	President/Member of examining committees for research positions

## **Part IV – Teaching experience**

### **IV A – Academic courses**

Years	Institution	Course
1991-1995	Department of Earth Sciences, Sapienza University of Rome	Support teaching activities (lectures, laboratory exercises, field excursions, exams) as Assistant Professor for several courses (e.g., Volcanology, Petrography, Field Geology, etc.) for B.S. and M.S. in Geological Sciences and Natural Sciences
1991-present	Department of Earth Sciences, Sapienza University of Rome	Tutor of 45 master theses in Geological Sciences (Lauree quadriennali, quinquennali, specialistiche, magistrali; CAD Scienze

		Geologiche) on volcanological topics
		Co-tutor of 1 thesis for M.S. in Physics (Department of Physics)
		Tutor of nearly 40 short theses (tesine) and theses for B.S. in Geological Sciences and Natural Sciences (CAD Scienze Geologiche; CAD Scienze Naturali)
1991-present	Department of Earth Sciences, Sapienza University of Rome	President/Member of examining committees for university courses
		Member of examining committees to award B.S. and M.S. degrees (CAD Scienze Geologiche, CAD Scienze Naturali; CAD Physics, Department of Physics).
1995-2001	Department of Earth Sciences, Sapienza University of Rome	Holder of the “Rilevamento Petrografico Giacimentologico” course for M.S. in Geological Sciences (Corso di Laurea in Scienze Geologiche-quinquennale) as Assistant Professor
2001-2004	Department of Earth Sciences, Sapienza University of Rome	Holder of the “Rilevamento Petrografico Giacimentologico” course for M.S. in Geological Sciences (Corso di Laurea in Scienze Geologiche-quinquennale) as Associate Professor
2001-present	Department of Earth Sciences, Sapienza University of Rome	Support teaching activities (lectures, laboratory exercises, field excursions, exams) within several courses (e.g., Introduction to Volcanology, Physical Volcanology, Volcanic Risk, Magmatology and Experimental Volcanology, Petrography, Applied Petrography, Field Geology, etc.) for B.S. and M.S. in Geological Sciences and Natural Sciences (CAD Scienze Geologiche, CAD Scienze Naturali)
2003-2007	Department of Earth Sciences, Sapienza University of Rome	Holder of the Volcanology course (“Vulcanologia”, 4 CFU) for B.S. in Natural Sciences (Corso di Laurea in Scienze Naturali-triennale)
2005-2009	Department of Earth Sciences, Sapienza University of Rome	Holder of the Volcanic geology and field volcanology course (“Geologia e Rilevamento del Vulcanico”, 12 CFU) for Laurea Specialistica in Geodynamics, Geophysics and Volcanology
2009-2011	Department of Earth Sciences, Sapienza University of Rome	Holder of the Volcanology course (“Vulcanologia”, 6 CFU) for Laurea Magistrale in Geologia Applicata all’Ingegneria, Territorio e Rischi
2009-2011	Department of Earth Sciences, Sapienza University of Rome	Holder of the Volcanic geology and field volcanology course (“Geologia e Rilevamento del Vulcanico”) for Laurea Magistrale in

		Geologia Applicata all'Ingegneria, Territorio e Rischi (8 CFU) and for Laurea Magistrale in Geologia di Esplorazione (6 CFU)
2011-present	Department of Earth Sciences, Sapienza University of Rome	Holder of the Volcanology course ("Vulcanologia", 9 CFU) for Laurea Magistrale in Geologia di Esplorazione and Laurea Magistrale in Geologia Applicata all'Ingegneria, Territorio e Rischi (CAD Scienze Geologiche)
2011-present	Department of Earth Sciences, Sapienza University of Rome	Holder of the Volcanic geology and field volcanology course ("Geologia e Rilevamento del Vulcanico", 6 CFU) for Laurea Magistrale in Geologia Applicata all'Ingegneria, Territorio e Rischi and Laurea Magistrale in Geologia di Esplorazione (CAD Scienze Geologiche)

#### **IV B - PhD Programmes**

Years	Institution	Activity
2000-2006; 2009-present	PhD Programme in Earth Sciences, Sapienza University of Rome	Member of the PhD Programme Committee (Collegio dei Docenti)
2001-present	PhD Programme in Earth Sciences, Sapienza University of Rome	Supervisor (Docente Guida) of 8 PhD theses in Earth Sciences; including one within the Marie Curie European project "VERTIGO" (Volcanic ash: FiEld, experimental and numerical investigations of processes during its lifecycle); Co-supervisor of additional PhD theses in Earth Sciences (e.g., PhD Programme, University of Perugia).
	PhD Programme in Earth Sciences, Sapienza University of Rome	Teaching activities: lectures, seminars; organization of field excursions in Italy and abroad.
	PhD Programme in Earth Sciences, Sapienza University of Rome	Reviewer of final reports of research activities of 3 <sup>rd</sup> year PhD students (within the PhD Programme Committee).

#### **IV C – Formal assignment of teaching activity abroad**

Years	Institution	Activity
2005-2007	National and Kapodistrian University of Athens (G ATHINE01, Greece)	Formal teaching activities within the Erasmus-Socrates joint programme (Teaching Staff Mobility; Sapienza University of Rome-G ATHINE01)
2010-2013	National and Kapodistrian University of Athens (G ATHINE01, Greece)	Formal Teaching activities, including teaching activities in the field (Santorini, Kos, Tilos,

Nysiros) and co-tutoring of master theses, within the LLP-Lifelong Learning Programme: higher education (Erasmus), Teaching Staff Mobility-Teaching Programme (Sapienza University of Rome-G ATHINE01)

#### **IV D – Other teaching activities**

Years	Institution	Activity
1991-present	Sapienza University of Rome	Seminars and faculty conferences on volcanological topics Cycles of seminars on volcanic risk within Civil Protection courses for Social Medicine Dissemination activities (Volcanology lessons and field excursions) for middle and high schools “Scientific Trekkings” for the European Research Night, etc.
2002	Italian Group for Volcanology (GIV-Gruppo Italiano di Vulcanologia)	Teaching (lessons and field exercitations) at the GIV School: “Processes of fragmentation, transport and deposition of explosive eruptions: theoretical aspects, survey methods and techniques”; Naples, 17-21 June 2002.
2008-2019	Italian Association for Volcanology (AIV-Associazione Italiana di Vulcanologia)	Teaching (lessons and field exercitations) and co-organizer of AIV-Annual School of Volcanology “Bruno Capaccioni”, Bolsena, Italy, for University students

#### **Part V - Society memberships**

Years	Society membership
1990-present	IAVCEI (International Association of Volcanology and Chemistry of the Earth's Interior); member of the IAVCEI-Commission on Explosive Volcanism and IAVCEI-Commission on Collapse Calderas
2000-2006	Italian Group for Volcanology (GIV-Gruppo Italiano di Vulcanologia)
2006-present	National Group for Petrography (GNP-Gruppo Nazionale di Petrografia)
2006-present	Italian Association for Volcanology (AIV-Associazione Italiana di Vulcanologia)

#### **Part VI – Funded research projects** [Scientific responsibility as PI-principal investigator or participation as I-investigator]

Year	Title/Topic	Institution/Program	Role
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1992-1995	Magma evolution at Santorini, Greece	Sapienza University of Rome: Faculty (Scienze MFN, former 60%); PI Prof. R. Trigila	I
1993	Stratigraphy and volcanology of southern Vulsini	CNR-GNV (National Group for Volcanology); PI Prof. R. Trigila; grant value 7,230 €	I
1995-1998	Relationships between potassic magmatism and tectonic setting: comparison among volcanoes of Central Italy and Indonesian arcs	Sapienza University of Rome, Faculty of Scienze MFN (former 60%); PI Prof. R. Trigila; grant value 20,658 €	I
1996-1999	Volcanological and sedimentological study of pyroclastic deposits of the western sector of the Vulsini Volcanic District	Sapienza University of Rome, Faculty of Scienze MFN (former 60%)	PI
1996-1999	National Project Active and Recent Volcanism	MURST (Italian Ministry of University and Scientific and Technological Research), CUN-40%; PI Prof. R. Trigila	I
1997-1999	Structure and evolution of volcanic systems: geological, geophysical and magmatological approach	MURST (Italian Ministry of University and Scientific and Technological Research)-cofin, Inter-university; PI Prof. P.L. Rossi	I
2000-2001	Volcanological and Geo-archaeological studies in the Campania region (Somma-Vesuvius and Procida)	National Research Council CNR-former Centro di Studio per gli Equilibri Sperimentali in Minerali e Rocce (later Istituto di Geoscienze e Georisorse), Rome	PI
2000-2002	Eruptive scenarios through physical modeling and experimental volcanology researches (Santorini; Indonesia-Gunung Colo)	INGV-GNV (National Group for Volcanology)-Civil Protection – Framework Programme for the surveillance and research activities on Italian volcanoes (Coordinator Prof. P. Gasparini): 2-Eruptive scenarios and hazard evaluation - Project 9 (PI Prof. R. Trigila)	I
2001	Petrographic and geotechnical features of the sedimentary substrate and of the volcanic cover of the city of Rome	Sapienza University of Rome, Faculty of Scienze MFN (former 60%); PI Dr. M. Gaeta; grant value 5,681 €	I
2002	Magma evolution at Colli Albani	Sapienza University of Rome, Ateneo-former 40% (PI Prof. R. Trigila)	I



2002-present	1:50,000 Sheet 344-Tuscania	1:50,000 Geological Map of Italy (CARG project, Italian Geological Survey/APAT/ISPRA; Regione Lazio; Sapienza University of Rome; Scientific Coordinator Prof. R. Trigila); funding 346,000 €	Responsible for geological survey (Direttore di Rilevamento)
2002-2019	1:50,000 Sheet 402-Ceccano	1:50,000 Geological Map of Italy (CARG project, Italian Geological Survey/APAT/ISPRA; Regione Lazio; Sapienza University of Rome; Scientific Coordinator Prof. E. Centamore); funding ca. 346,000 €	Responsible for geological survey of volcanic terrains (Direttore di Rilevamento dei terreni vulcanici)
2003-2007	Stratigraphy and Geochronology of the Sabatini Volcanic District	Fondazione Banca Nazionale delle Comunicazioni; grant value 20,000 €	PI
2004	Mineralogical, volcanological and environmental investigation in the Biancavilla area (SW Etna) and chemical-physical and experimental petrological aspects related to the occurrence of high-F mineral phases	Sapienza University of Rome, Ateneo-former 60% (PI Prof. A. Gianfagna)	I
2004	Roman Province magmatism	Sapienza University of Rome, Faculty of Scienze MFN (former 60%); PI Dr. M. Gaeta	I
2004-2006	Colli Albani. Magmatic System	Civil Protection-National Institute of Geophysics and Volcanology (DPC-INGV): Sub-Project V3_1 Colli Albani; PI Dr. P. Scarlato and Dr. M. Gaeta)	I
2005-2007	Bilateral agreement Socrates-Erasmus	Socrates-Erasmus, Teaching Staff Mobility; Sapienza University of Rome, National and Kapodistrian University of Athens (G ATHINE01; Greece)	Academic responsible of the bi-lateral agreement
2005	Trigger mechanisms of magma ascent dynamics through the crust	PRIN, Italian Ministry of University and Research (MIUR)-Area 4 Earth Sciences; PI Prof. R. Trigila	I
2006	Roman Province volcanoes	Sapienza University of Rome, Faculty of Scienze MFN	I

		(former 60%); PI Dr. M. Gaeta; grant value 9,000 €	
2007	Ghost magma chambers and volcanic eruption forecast. Experimental studies and numerical modeling on the re-activation of magma chambers due to syngenetic fluids, with applications to Campanian and Latium volcanoes	Sapienza University of Rome, Ateneo (PI Prof. R. Trigila)	I
2007	Quaternary magmatism of central Italy	Sapienza University of Rome, Ateneo Federato della Scienza e Tecnologia (AST) (PI Prof. M. Gaeta); grant value 12,000 €	I
2008	Volcano flank instability in active or recent volcanic areas	Sapienza University of Rome, Ateneo Federato della Scienza e Tecnologia (AST) (PI Prof. F. Bozzano)	I
2009	Magmatology	Sapienza University of Rome, Ateneo Federato della Scienza e Tecnologia (AST) (PI Prof. M. Lustrino); grant value 10,000 €	I
2010	Geomorphology	Sapienza University of Rome, Ateneo Federato della Scienza e Tecnologia (AST) (PI Prof. M. Del Monte)	I
2010-2013	Bilateral agreement Erasmus	LLP-Lifelong Learning Programme: higher education (Erasmus), Teaching Staff Mobility-Teaching Programme; Sapienza University of Rome, National and Kapodistrian University of Athens (G ATHINE01; Greece)	Academic responsible of the bi-lateral agreement
2012	Landslide triggering in areas affected by intense morphodynamics due to volcanism, seismicity and erosional processes	Sapienza University of Rome, Ateneo (PI Dr. S. Martino); grant value 40,000 €	I
2013	Quantitative and integrated approach to the morpho-evolutionary analysis of tectonically active areas in central Apennines (Italy): morpho-chronological constraints and implications for natural hazards	Sapienza University of Rome, Ateneo-Grandi (PI Dr. M. Della Seta); grant value 35,000 €	I
2015	Origins and evolution of maars and calderas	Sapienza University of Rome, "Visiting Professor for Joint	Responsible for funding

		Research Activities": Prof. G.A. Valentine (University of Buffalo, NY, USA; 3 months); funding 9,000 €	proposal (Docente proponente)
2015	How volcanoes work: interactions among pre-eruptive systems, eruptive dynamics and volcanic morphologies	Sapienza University of Rome, Ateneo-Medi (PI Prof. M. Gaeta); grant value 13,300 €	I
2016	Quantitative understanding of magma reservoirs feeding large-scale volcanic eruptions at Campi Flegrei	Sapienza University of Rome, Ateneo-Medi (PI Prof. S. Mollo); grant value 12,460 €	I
2017	Reconstruction of the recent evolution of potassic volcanic districts of the Tyrrhenian margin in light of volcanological, geochronological and isotope-geochemical evidence	Sapienza University of Rome, Ateneo-Medi (PI Dr. G. Sottili); grant value 9,000 € + Assegno di ricerca 23,750 €	I
2018	Quantifying and modeling magma P-T-degassing path and violent gas liberation at Campi Flegrei	Sapienza University of Rome, Ateneo-Medi (PI Prof. S. Mollo); grant value 13,000 €	I
2019	Solubility of H <sub>2</sub> O+CO <sub>2</sub> fluids in alkali-basalt magmas: effects of CO <sub>2</sub> -flushing in volcanoes	Sapienza University of Rome, Ateneo-Medi (PI Prof. M. Gaeta); grant value 14,000 €	I
2019-2022	Fucino Tephrochronology Unites Quaternary Records (FUTURE)	PRIN 2017, Italian Ministry of University and Research (MIUR, grant PRIN No. 20177TKBXZ_003; PI Prof. G. Zanchetta); grant value 306,940 €	Scientific Responsible of Rome-Sapienza Research Unit; RU grant value 66,000 €
2020	Onset of potassic magmatism of central Italy: how, when, why?	Sapienza University of Rome, Ateneo-Medi (PI Prof. G. Sottili); grant value 12,000 €	I
2020	Tracing the proximal occurrences and modeling the largest Campi Flegrei explosive eruptions preceding the 40 ka Campanian Ignimbrite, southern Italy	Sapienza University of Rome, Progetto di Avvio Alla Ricerca – Tipo 1 2020 (Dott. L. Monaco); grant value 1,000 €	Reference Tutor
2020-2021	Elaboration of maps and indicators of volcanic hazard in proximal and distal areas of southern Italy	Scientific collaboration agreement within “P.O.N. RiSicO” - Support to Governance for mitigation of seismic and volcanic risks for civil protection; CNR-IGAG, INGV, DST-Sapienza University of Rome, DSTeG-University of Bari	Scientific Co-Responsible of Rome-Sapienza Research Unit; RU grant value 5,000 €
Since 2021	1:50,000 Sheet 414-Terracina	1:50,000 Geological Map of Italy (CARG project, Italian Geological	Responsible for geological survey of

		Survey/APAT/ISPRA; Regione Lazio; Sapienza University of Rome; Scientific Coordinator Prof. F. Chiocci)	volcanic terrains
2021	Ventotene: the missing link in the potassic magmatism of central Italy	Sapienza University of Rome, Ateneo-Medi (submitted in 2021; funding request 15,000 €)	PI
2021	Orogenic-like Magmatism in Anorogenic Settings (O-MAS)	PRIN 2020, Italian Ministry of University and Research (PI A. Zanetti) (submitted in 2021)	I

## **Part VII – Research Activities**

Keywords	Brief Description
Geology of volcanic terrains	Research activities, through the integration of field and laboratory investigations, theoretical modeling and experiments, adhere to the themes of the SSD GEO/08, with specific reference to those of Volcanology, i.e.:
Physical volcanology	Reconstruction of eruptive activity of volcanoes: geology, stratigraphy, geochronology, petrology, geochemistry and isotope geochemistry of volcanic terrains;
Tephrochronology	Dynamics of volcanic eruptions: origin and emplacement mechanisms of pyroclastic currents; eruptive parameters of Plinian eruptions; processes of magma vesiculation and fragmentation; role of volatiles on explosive eruptions; explosive magma-H <sub>2</sub> O interaction; CO <sub>2</sub> -driven large mafic eruptions;
Experimental Volcanology	Parametrization of eruptive and conduit dynamics of Strombolian activity (e.g., Stromboli, Yasur) by direct observations of eruptive activity, analyses of high-speed and thermal cameras, acoustic measurements and laboratory experiments;
Magmatology	Volcanic-structural evolution of caldera systems and maar-diatremes; dynamics of caldera-forming eruptions;
	Geological mapping of volcanic terrains (e.g., sheets 344-Tuscania, 402-Ceccano, 358-Pescorocchiano, 414-Terracina of the 1:50,000 Map of Italy, CARG project);
	Tephrostratigraphic correlations of Quaternary volcanics of central-southern Italy, with implications for paleoclimatological and sea level reconstructions;
	Time-space distribution of global volcanic activity; cause and effect relationships with astronomical and climate factors; tidal modulation of volcanic and seismic activities;
	Origin and evolution of magmas, e.g.: Quaternary Roman and Campanian potassic magmatism, Miocene calc-alkaline magmatism of SW Sardinia, Etna;
	Hazard and risk assessment in volcanic areas (Somma-Vesuvius, Campi Flegrei, Colli Albani, Monti Sabatini, Stromboli, Etna, Indonesia, Vanuatu)

related to eruptive activities and volcano instabilities, in light of geologic, volcanologic, petrologic, geochemical, geochronologic, geotechnical, and geoarchaeological evidence and of numerical modeling; hazard evaluation from fibrous minerals in the Etnean area.

Main study areas:

Roman and Campanian Provinces (Vulsini, Vico, Sabatini, Colli Albani, Volsci Volcanic Field, Pontine Islands, Campi Flegrei, Somma-Vesuvius), Etna, Eolian Islands (Vulcano, Stromboli), Sardinia (Sant'Antioco), Hellenic Arc (Santorini, Kos, Nysiros, Tilos), Indonesia (Gunung Colo-Una Una, Sangiang Api, Gunung Agung, Batur), Vanuatu (Yasur); distal tephra settings: Fucino, Sulmona, Ohrid.

**Main international scientific collaborations** (participation in joint research projects with foreign Universities and Research Institutions):

Years	Partner institution	Role/Project
1991-1998; 2007	Los Alamos National Laboratory - Geoanalysis Group (NM, USA)	Joint research projects with Dr. G.A. Valentine on pyroclastic flow modeling, volcanoclastic processes, magma-H <sub>2</sub> O-CO <sub>2</sub> interaction.
1997-2002	VSI-Volcanological Survey of Indonesia, Bandung; University of Padjadjaran, Bandung; supported by the Italian Ministry for Foreign Affairs	Italy-Indonesia Joint Research Cooperation Program "Volcanic hazard assessment of active Indonesian volcanoes through applied research in the field of physical-chemical volcanology and eruptive phenomena": participant in joint field campaigns on active volcanoes of Indonesia, i.e., Gunung Colo (Una Una), Sangiang Api (Sumbawa), Gunung Agung and Batur (Bali): direct observations of eruptive activity, sampling and analysis of eruptive products.
1999-2004; 2005-2013	National and Kapodistrian University of Athens (Greece)	Joint research projects on the geoarchaeological characterization of ancient materials; dynamics of volcanic eruptions of the Hellenic Arc (Kos, Nysiros, Tilos, Santorini)
2000-2010	Berkeley Geochronology Center, Berkeley, CA; Department of Earth and Planetary Sciences, University of California, Berkeley, CA (USA)	Joint research activities on the geochronology of Quaternary volcanic districts of the Roman Province (Colli Albani, Sabatini).
2010-2013	Institut für Mineralogie-Leibniz Universität; Hannover	"Foreign partner" of the DFG (Deutsche

	Universität; Tübingen Universität (Germany)	Forschungsgemeinschaft; BE 1720/28-1,2) research project, within the ICDP (Integrated Continental Drilling Program-SPP 1006): Pre-eruptive conditions of the Campanian Ignimbrite Eruption: experimental constraints from phase equilibria and volatile solubility studies and implication for the Campi Flegrei drilling project.
2010-2013	ECLIPSE Campus of University at Buffalo (NY, USA)	Member of the project "UB 3E Grant: User Facility for Natural Hazards Research", for large-scale experiments on natural hazards.
2010-2019	University of Buffalo, NY, USA	Joint research projects with Prof. G.A. Valentine, including periods as "Visiting Professor for Research Activities" and Guest researcher at Sapienza University of Rome: proximal pyroclastic flow processes; origins and evolution of maars and calderas.
2010-present	Department of Geoscience, University of Wisconsin- Madison (USA)	Joint research activities on the geochronology of Quaternary volcanic districts of the Roman Province (Vulsini, Vico, Sabatini, Colli Albani, Volsci, Pontine Islands).
2011	INGV-Rome; Vanuatu Geohazards Observatory	Participant in field campaign on active Yasur Volcano (Vanuatu): direct observations of eruptive activity, high-speed camera, thermal camera, acoustic measurements.
2015-2020	Abteilung Experimentelle und Angewandte Mineralogie, Georg-August-Universität Göttingen (Germany)	Member of the project "CO <sub>2</sub> heterogeneous bubble nucleation in silicate melts: case studies from the Campi Flegrei, Somma-Vesuvius and Colli Albani volcanoes (Italy)".
2018-present	Laboratoire de Sciences du Climat et de l'Environnement; Université de Paris-Saclay, Gif- sur-Yvette; CNRS-Orsay (France); Institute of Geology and Mineralogy, University of Cologne (Germany)	Joint research activities on the geochronology and tephrostratigraphic correlations of distal tephra archives (Fucino, Sulmona, Ohrid) and corresponding source volcanoes.

## **Part VIII – Summary of Scientific Achievements**

Product type	Number	Data Base	Start	End
Papers [international]	83*	Scopus*	1987/1990**	2021
Other Papers [articles in national journals, book chapters, explanatory notes of geological sheets, proceedings, guide-books, etc.]	35	Google Scholar; UGOV Sapienza-Iris	1991	2021
Geological sheets (CARG 1:50,000: 344-Tuscania, 402-Ceccano)	2	www.isprambiente.gov.it	2002	2021
Conference Abstracts	125	Conference abstract books and/or websites	1986	2021
PhD dissertation	1	National Libraries of Rome and Florence		1992

Total Impact factor	230.7***
Average Impact factor per Product	3.0***
Total Citations	1848 (Scopus)
	2243 (Google Scholar)
Average Citations per Product	22.3 (Scopus)
Hirsch (H) index	25 (Scopus)
	28 (Google Scholar)
Normalized H index****	0.83/0.81 (Scopus)****

### **NOTES**

\*Out of 83 international papers, 82 presently appear in Scopus; the most recent paper (i.e., Front. Earth Sci. doi: 10.3389/feart.2021.777548) is not yet reported in Scopus. Scopus actually reports 83 papers, as 1 paper is split in 2 citation records;

\*\*although reported and cited as 1987, the actual year of publication of the first paper is 1990;

\*\*\*based on the Journal Impact Factor (IF) for the year of publication, after Journal Citation Reports (in a few cases, where unavailable, after www.sci.journal.org); here calculated for 77 papers, for which IF data are available;

\*\*\*\*H index divided by the academic seniority; here referred to both 1991 (year of achievement of the earliest academic position) and 1990 (actual year of publication of the first paper).

## **Part IX– Selected Publications**

List of the publications selected for the evaluation. For each publication report authors, title, reference data, journal IF (if applicable), citations, press/media release (if any).

Note: IF = Journal Impact Factor for the year of publication, after Journal Citation Reports (except for publications 1 and 7, ^after www.sci.journal.org).

1) **PALLADINO D.M., Valentine G.A. (1995). *Coarse-tail vertical and lateral grading in pyroclastic flow deposits of the Latera Volcanic Complex (Vulsini, Central Italy): origin and implications for flow dynamics.* Journal of Volcanology and Geothermal**

Research, 69 (3-4): 343-364. DOI: 10.1016/0377-0273(95)00036-4. IF=1.161<sup>^</sup>; citations: 62 (Scopus)/83 (Google Scholar).

2) PALLADINO D.M., Gaeta M., Marra F. (2001). *A large K-foiditic hydromagmatic eruption from the early activity of the Alban Hills Volcanic District, Italy*. Bulletin of Volcanology, 63: 345-359. DOI: 10.1007/s004450100150. IF=1.671; citations: 55 (Scopus)/57 (Google Scholar).

3) PALLADINO D.M., Simei S. (2005). *Eruptive dynamics and caldera-collapse during the Onano eruption, Vulcini, Italy*. Bulletin of Volcanology, 67: 423-440. DOI: 10.1007/s00445-004-0385-3. IF=2.117; citations: 25 (Scopus)/37 (Google Scholar).

4) Freda C., Gaeta M., Giaccio B., Marra F., PALLADINO D.M., Scarlato P., Sottili G. (2011). *CO<sub>2</sub>-driven large mafic explosive eruptions: the Pozzolane Rosse case study from the Colli Albani Volcanic District (Italy)*. Bulletin of Volcanology, 73: 241-256. DOI: 10.1007/s00445-010-0406-3. IF=2.205; citations: 65 (Scopus)/73 (Google Scholar).

5) Taddeucci J., Scarlato P., Capponi A., Del Bello E., Cimarelli C., PALLADINO D.M., Küppers U. (2012). *High-speed imaging of Strombolian explosions: the ejection velocity of pyroclasts*. Geophysical Research Letters, 39, L02301. DOI: 10.1029/2011GL050404. IF=3.982; citations: 97 (Scopus)/123 (Google Scholar).

6) Acocella V., PALLADINO D.M., Cioni R., Russo P., Simei S. (2012). *Caldera structure, amount of collapse and erupted volumes: the case of Bolsena Caldera, Italy*. Geological Society of America Bulletin, 124 (9-10): 1562-1576. DOI: 10.1130/B30662.1. IF=4.286; citations: 21 (Scopus)/28 (Google Scholar).

7) Bozzano F., Gaeta M., Lenti L., Martino S., Paciello A., PALLADINO D.M., Sottili G. (2013). *Modeling the effects of eruptive and seismic activities on flank instability at Mt. Etna, Italy*. Journal of Geophysical Research Solid Earth, 118: 5252-5273. DOI:10.1002/jgrb.50377. IF<sup>^</sup>= 4.124; citations: 11 (Scopus)/13 (Google Scholar).

8) PALLADINO D.M., Gaeta M., Giaccio B., Sottili G. (2014). *On the anatomy of magma chamber and caldera collapse: the example of trachy-phonolitic explosive eruptions of the Roman Province (central Italy)*. Journal of Volcanology and Geothermal Research, 281: 12-26. DOI: 10.1016/j.jvolgeores.2014.05.020. IF=2.543; citations: 32 (Scopus)/34 (Google Scholar).

9) Colucci S., de' Michieli Vitturi M., Neri A., PALLADINO D.M. (2014). *An integrated model of magma chamber, conduit and column for the analysis of sustained explosive eruptions*. Earth and Planetary Science Letters, 404: 98-110. DOI: 10.1016/j.epsl.2014.07.034. IF=4.734; citations: 14 (Scopus)/20 (Google Scholar).

10) PALLADINO D.M. (2017). *Simply pyroclastic currents*. Bulletin of Volcanology, 79: 53. DOI: 10.1007/s00445-017-1139-3. IF=2.423; citations: 9 (Scopus)/10 (Google Scholar).

11) Fanara S., Sottili G., Silleni A., PALLADINO D.M., Schmidt B.C. (2017). *CO<sub>2</sub> bubble nucleation upon pressure release in potassium-rich silicate magmas*. Chemical



Geology, 461: 171-181. DOI: 10.1016/j.chemgeo.2016.12.033. IF=3.570; citations: 4 (Scopus).

**12)** PALLADINO D.M., Giordano G. (2019). *On the mobility of pyroclastic currents in light of deposit thickness and clast size trends*. Journal of Volcanology and Geothermal Research, 384: 64-74. DOI: 10.1016/j.jvolgeores.2019.07.014. IF=2.827; citations: 5 (Scopus).

**13)** Marra F., Castellano C., Cucci L., Florindo F., Gaeta M., Jicha B.R., PALLADINO D.M., Sottili G., Tertulliani A., Tolomei C. (2020). *Monti Sabatini and Colli Albani: the dormant twin volcanoes at the gates of Rome*. Scientific Reports, 10: 8666. DOI: 10.1038/s41598-020-65394-2. IF 4.379; citations: 7 (Scopus).

**14)** Salvatore V., Cigala V., Taddeucci J., Arciniega-Ceballos A., Peña Fernández J.J., Alatorre-Ibargüengoitia M.A., Gaudin D., PALLADINO D.M., Kueppers U., Scarlato P. (2020). *Gas-Pyroclast Motions in Volcanic Conduits During Strombolian Eruptions, in Light of Shock Tube Experiments*. Journal of Geophysical Research Solid Earth, 125: e2019JB019182. DOI: 10.1029/2019JB019182. IF=3.838; citations: 4 (Scopus).

**15)** Buono G., Fanara S., Macedonio G., PALLADINO D.M., Petrosino P., Sottili G., Pappalardo L. (2020). *Dynamics of degassing in evolved alkaline magmas: Petrological, experimental and theoretical insights*. Earth-Science Reviews, 211: 103402. DOI: 10.1016/j.earscirev.2020.103402. IF=12.413; citations: 2 (Scopus)/3 (Google Scholar).

**16)** Monaco L., PALLADINO D.M., Gaeta M., Marra F., Sottili G., Leicher N., Mannella G., Nomade S., Pereira A., Regattieri E., Wagner B., Zanchetta G., Albert P.G., Arienzo I., D'Antonio M., Petrosino P., Manning C.J., Giaccio B. (2021). *Mediterranean tephrostratigraphy and peri-Tyrrhenian explosive activity revaluated in light of the 430-365 ka record from Fucino Basin (central Italy)*. Earth-Science Reviews, 220: 103706. DOI: 10.1016/j.earscirev.2021.103706. IF 12.413; citations: 1 (Scopus).

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