

# PAOLA VANNUCCHI

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November 23

## PROFESSIONAL EXPERIENCE

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|------------|--|
| 2020-today | Full Professor in Tectonics and Structural Geology, University of Florence, Italy                                      |
| 2017-2020  | Full Professor in Marine Science and Tectonics at Royal Holloway, University of London                                 |
| 2015-2016  | Reader in Marine Science and Tectonics at Royal Holloway, University of London   |
| 2012-2015  | Senior Lecturer in Marine Science and Tectonics at Royal Holloway, University of London                                |
| 2007-2020  | Researcher in Structural Geology and Tectonics, University of Florence   |
| 2012-2013  | Guest Researcher at IFREE/Jamstec, Japan   |
| 2005-2007  | Lecturer (Structural Geology and Tectonics) at University of Modena and Reggio Emilia                                  |
| 2003–2007  | Research Scientist at the University of Florence   |
| 2003-2004  | Visiting Scientist at Pennsylvania State University, PA, USA fellowship by the Italian National Research Council (CNR) |
| 1999-2003  | Research Scientist the University of Modena and Reggio Emilia  |
| 1998-1999  | Post-doctoral researcher at University of Wales – Aberystwyth  |

## EDUCATION

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1998 – Ph.D. in Earth Sciences - Tectonics and Structural Geology – Doctorate Consortium of the Universities of Bologna and Modena: Syn-diagenetic deformation of clay rich sediments in convergence zones: examples from the Northern Apennines and Costa Rica.

1996: Visiting Ph.D. student at Department of Earth Sciences, University of California at Santa Cruz

1993 – B.S. + M.S. Geology, University of Florence – 110/110: Tectonic-kinematic evolution of calcite veins related to the emplacement of the Cervarola Thrust, Northern Apennines, Ital

1992: Visiting UG student at Department of Earth Sciences, University of California at Santa Cruz

## AWARDS

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2014/2015 European Consortium for Oceanic Research Drilling - ECORD Distinguished Lecturer

2005-06 IODP-Italia Distinguished Lecturer

2004 “OUTSTANDING YOUNG SCIENTIST AWARD” – European Geosciences Union

2000 “BEST YOUNG AUTHOR AWARD” – and Elected Fellow of the Geological Society of London

paper: Insights into shallow-level processes of mountain building from the Northern Apennines, Italy. Journal of the Geological Society of London, 157, pp. 105-120.

## CRUISES

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**RRV James Cook Leg 228A “Bend Faulting on the Cocos Plate offshore Costa Rica”,** PI and Shipboard Scientist - 10 January-22 January 2023

**INTEGRATED OCEAN DRILLING PROGRAM EXP.362 Sumatra Seismogenesis Zone,** Shipboard Scientist (Structural Geologist) - Colombo, 6 August–6 October 2016,

**INTEGRATED OCEAN DRILLING PROGRAM EXP.344 Costa Rica Seismogenesis Project (CRISP) A-2,** PI and Shipboard Scientist (Structural Geologist) - Costa Rica, 23 October–11 December 2012

**INTEGRATED OCEAN DRILLING PROGRAM EXP.334 Costa Rica Seismogenesis Project (CRISP) A-1,** PI and Co-chief Scientist - Costa Rica, 13 March–14 April 2011

**Sonne SO-173/2 Subduction Erosion in Costa Rica and Guatemala,** Shipboard Scientist - 3 August-1 September 2003

**OCEAN DRILLING PROGRAM LEG 205 “Fluid flow and subduction fluxes across the Costa Rica convergent margin: implications for the seismogenic zone and subduction factory”,** Shipboard Scientist (Structural Geologist) - Costa Rica, September - November 2002

**OCEAN DRILLING PROGRAM LEG 170 “Costa Rica Accretionary Wedge”**, Shipboard Scientist (Structural Geologist)  
- Costa Rica. 17 October - 18 December 1996

## **ORGANIZATION OF CONFERENCES, WORKSHOPS, SHORT COURSES**

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Programme committee member EGU General Assembly 2021, 2022, 2023

- Convener: ECORD MagellanPlus Workshop “CosNica” – Graz, Austria, 28-30 October 2022.
- Convener: ECORD MagellanPlus Workshop “Scylla” – Bologna, Italy, 21-23 September, 2022
- Co-Convener: *Workshop “RELICT” - The role of lithospheric inheritance on subduction initiation* Lisbon, Portugal, 12-13 September, 2019
- EGU2019 General Assembly – Vienna, Austria, 7-12 April, 2018
  - Co-convener Session: TS2.2/EMRP1.9/GMPV7.25/SM2.9 – Earthquakes: from slow to fast, from the field to the laboratory and models
- EGU2018 General Assembly – Vienna, Austria, 8-13 April, 2018
  - Co-convener Session: TS9.2/GD5.7/GMPV8.4/SM1.09 Subduction interface properties and large subduction earthquakes: integrating geological and geophysical observations, laboratory results, and numerical modeling
- EGU2017 General Assembly – Vienna, Austria, 23-28 April, 2017
  - Co-convener Session: TS9.2 Oceanic and continental transform plate boundaries: nucleation, evolution and tectonic significance
- Scientific Committee: *Workshop “Subduction Interface Processes - SIP”* – Barcelona, Spain, 18-21 April 2017
- Convener: ECORD MagellanPlus Workshop “Bend-Fault Serpentinization” -- London, United Kingdom, 18-20 June 2016
- EGU General Assembly 2016 – Vienna, 17-22 April, 2016
  - Co-convener session TS8.3/GD6.8: The Ocean Frontier: from continental margins to the deep ocean (PICO)
- Convener: ECORD MagellanPlus Workshop “BEM II: The Brazilian Equatorial Margin” - Ubatuba, São Paulo, Brazil, 30 March-1 April 2016
- Convener: Workshop “BEM: The Brazilian Equatorial Margin” - Maresias, São Paulo, Brazil, 4-6 February 2014
- EGU General Assembly 2014 – Vienna, 27 April-2 May, 2014
  - Co-convener session TS7.2/GD5.6/GMPV24/SM6.8: On and through the plate interface: zooming into subduction zone processes
- *AGU Fall Meeting 2013 – San Francisco, USA, 9-13 December 2013*
  - Co-convener Session T31
- Goldschmidt 2013 – Firenze 25-30 August
  - Co-Convener Session 07h: Biogeochemical Cycling, Hydrogeology and Deformation in the Forearc of Subduction Zones
- Convener: IODP Exp. 334 Second Post Cruise Meeting – Heredia (Costa Rica). 10-15 March, 2013
- *AGU Fall Meeting 2011 – San Francisco, USA, 5-11 December 2011*
  - Co-convener Session T25
  - GeoPrism Mini-workshop convener and keynote speaker: Integrating CRISP IODP Drilling and 3D Seismic Study.
- *Convener of GSA Penrose Conference “Fluid flow, material transfer and deformation in the forearcs of convergent margins” Il Ciocco, Lucca, 25-31 March, 2012*
- EGU10 General Assembly – Vienna, Austria, 2-7 May, 2010
  - Co-convener Session: TS6.8/GD5.6/NH4.14/SM3.6 Caribbean and South American subduction zones: subduction processes and resulting tectonics, seismogenesis and fore-arc evolution
- Short Courses in Geodynamics and Computational Geodynamics held by Prof. Jason Phipps Morgan– Modena, Italy, 22-26 Feb. and 22-26 March 2010
  - Organising Committee
- EGU09 General Assembly – Vienna, Austria, 19-24 April, 2009
  - Co-convener Session: TS7.2 Earthquakes, fluids and metamorphism

- *AGU Fall Meeting 2007 – San Francisco, USA, 10-14 December 2007*
  - Convener Session T08 Tectonic erosion, sediment accretion and mass recycling in subduction zones (CoSponsor: Volcanology, Geochemistry, and Petrology)
- EGU07 General Assembly – Vienna, Austria, 15-20 April, 2007
  - Co-convener Session TS01 Open Session
  - Co-convener Session: The tectonics and dynamics of subduction: from shallow to deep processes
- EGU06 General Assembly – Vienna, Austria, 2-7 April, 2006
  - Co-convener Session TS01 Open Session
- AGU Fall Meeting 2005 – San Francisco, USA, 5-9 December, 2005
  - Co-convener Session S12 Fault-zone properties and earthquake rupture dynamics (co-listed in T and MR)
- EGU05 General Assembly – Vienna, Austria, 23-29 April, 2005
  - Convener Session TS18 Lithospheric scale shear zones: mechanical behavior, structural style and strain localization in the ductile and brittle field
  - Co-convener Session TS25 Deformation of soft sediment: interactions between gravity, compaction and tectonic stresses (co-listed in SSP)
- Host: ODP Leg 205 Second Post Cruise Meeting - Greve (Fi), Italy. 27-30 September, 2004
- 32<sup>nd</sup> IGC - Firenze, Italy. 20-28 August, 2004.
  - Co-Convener Session T01.2 - Transport of continental material toward the mantle at subduction zones, evidence from modern and ancient convergent margins.
  - Co-leader of field excursion: D09 Cruising along deformed Adria continental margin and Tethys rocks (La Spezia, Cinque Terre, Ligurian Sea, Central Italy)
- EGU04 General Assembly - Nice, France. 25-30 April, 2004
  - Co-Convener Session TS28 - In-situ studies of seismogenic zones: from survey and monitoring to drilling
- C.R.I.S.P. Workshop - Kiel, Germany. 20-22 October, 2003
  - Workshop Convener with R. von Huene and C.R. Ranero
- EGS-AGU-EUG Joint Assembly - Nice, France. 6-11 April, 2003
  - Co-Convener Session GD7 - The subduction factory; inputs, outputs and mantle recycling
- EGS XXV General Assembly - Nice, France. 25-29 April, 2000.
  - Co-convener Session SE11-01 - Convergent margins, Seismic images and geophysical signatures at subduction zones

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#### **SERVICE TO THE COMMUNITY**

- *President* of the Tectonics and Structural Geology Division of the European Geoscience Union (EGU) (2021-2025).
- Founder and Coordinator of the Equality, Diversity and Inclusivity Division of the Italian Geological Society (2021-2023).
- *ECORD member* of IODP Scientific Evaluation Panel SEP (2019-23).
- UKIODP Evaluation panel (2019-20).
- *Advisory Board Member* – “ZIP” (Zooming In between Plates)”, FP7-PEOPLE-2013-ITN, Grant agreement no.: 604713 <http://www.zip-itn.eu/> (2013-present).
- *Management Committee member- UK* – EU COST Action ES1301 “FLOWS” [http://www.cost.eu/domains\\_actions/essem/Actions/ES1301](http://www.cost.eu/domains_actions/essem/Actions/ES1301)
- *Moderator* of the “Active Fault” theme at the workshop Chikyū+10, Tokyo, Japan, 21-23 April 2013
- *Member* of the International Panel at the GeoPRISMS Implementation Workshop: Subduction Cycles and Deformation Austin, TX, January 5-7, 2011
- *Member* of the EGU Committee for the “Outstanding Young Scientist Award” (2010-2013)
- *Member* of the IODP ITALIA Committee (2005-2012).
- *Vice-president* of the Tectonics and Structural Geology Division of the European Geoscience Union (EGU) (2004-2007).

## EDITORSHIP OF JOURNALS

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- *Associate Editor* of TECTONICS (2012-present)  
[http://onlinelibrary.wiley.com/journal/10.1002/%28ISSN%291944-9194/homepage/associate\\_editors.htm](http://onlinelibrary.wiley.com/journal/10.1002/%28ISSN%291944-9194/homepage/associate_editors.htm).
- *Editorial Board* for GEOLOGY (2008-2011) and (2020-2022)  
[https://www.geosociety.org/GSA/Publications/Journals/geology/gsa/pubs/geology/edBoard\\_Geology.aspx](https://www.geosociety.org/GSA/Publications/Journals/geology/gsa/pubs/geology/edBoard_Geology.aspx)
- *Associate Editor* of GEOCHEMISTRY, GEOPHYSICS, GEOSYSTEMS Special Section: Subduction processes in Central America with an emphasis on CRISP results (2013-present)  
(<http://onlinelibrary.wiley.com/journal/10.1002/%28ISSN%291525-2027/specialsection/SUBDUCT2.>)
- *Guest editor* Sedimentary Geology Special Issue “Deformation of soft sediments in nature and laboratory”  
Sedimentary Geology, 196, 1-4, 278 pg, 2007  
<http://www.sciencedirect.com/science/article/pii/S0037073806002946>.

## INVITED TALKS AT INTERNATIONAL CONGRESSES

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- Keynote: Wilson cycle: *From rifted margins to continental collision*. Earth’s History, Dynamic and Planetary Habitability, Sundvollen (Oslo) 13-19 November, 2022.
- Plenary conference: *Understanding the Earth System through scientific drilling*. 90<sup>o</sup> Congresso della Società Geologica Italiana, Trieste, September 2021.
- Invited talk: *Transform faults are forever*. EGU21, April, 2021.
- Invited talk: *Zone di Subduzione tra passato e futuro*. 4<sup>o</sup>Convegno dei Geologi Marini Italiani, February 2021
- Invited talk: The impact of shallow rheological transition along the subduction plate interface on tremor and earthquake nucleation. 2019 AGU Fall Meeting, San Francisco, USA, December, 2019
- Invited talk: Controlling factors for the mode of slip in the shallowest portions of megathrusts. SGI-SIMP 2018, Catania, 12-14 September, 2018
- Invited talk: Past slip to the trench recorded in Central America and its global significance. 2016 JpGU Meeting, Chiba, Japan, May 2016
- Invited talk: Frictional properties of the biogenic oozes from the CRISP drilling project: possible evidence of past slip-to-the-trench. 2015 AGU Fall Meeting, San Francisco, USA, December, 2016.
- Keynote presentation: *Understanding megathrust earthquakes through ocean drilling*. Kiyi Ve Deniz Jeolojisi Sempozyumu, IODP-ECORD Toplantisi Teknik Programi, Istanbul, Turkey, 15-16 October, 2015
- Invited talk: *Costa Rica subduction zone drilling* UKIODP Conference, London, UK, 5 November, 2014.
- Keynote presentation: CRISP: IODP Exp. 334 and 344 results and the focus on seismogenesis at an extremely erosive margin. ECORD Council-ESSAC Meeting #2, Zurich, Switzerland, 9-10 October, 2014.
- Invited talk: *CRISP: Seismogenesis at an Extremely Erosive Margin*. AOGS 2014, Sapporo, Japan, 28 July-1 August, 2014
- Keynote presentation: IODP Insights on Forearc Destruction in Central America and its Implications for the Evolution of Continents. Goldschmidt2014, Sacramento, California, June 8-13, 2014
- Keynote presentation: The Alps/Apennines boundary: Structures and kinematics of interfering orogens and comparisons with modern analogues. 11<sup>th</sup> Workshop on Alpine Geological Studies, Schladming, Austria, 9-11 September, 2013
- CRISP A expeditions: synthesis of key results from IODP Exp. 334 and introduction to IODP Exp. 344, Final colloquium of SFB 574, Lubeck, May 23-25, 2012
- *IODP exp. 334 CRISP A: The first step toward drilling the Seismogenic Zone in Central America*, GeoPrism Mini-workshop Integrating CRISP IODP Drilling and 3D Seismic Study, December 7, 2011
- *The role of subduction erosion in material transfer at convergent margins*, INSTOC Symposium on the Origin and Evolution of the Continental Crust, Cornell University September 26, 2011
- ESSAC Highlights: IODP Expedition 334. 16<sup>th</sup> ESSAC Meeting. Leuven, Belgium, 11-12th May 2011
- GeoPRISMS Implementation Workshop: Subduction Cycles and Deformation. Member of the International Panel. Austin, TX, January 5-7, 2011
- *IODP CRISP Program A: the first step toward drilling the Seismogenic Zone in Central America*. 2010 AGU Fall Meeting, San Francisco, USA. Session T22B. From Sediment Inputs to Seismogenesis at Subduction Zones II, December 2010

- *How do subduction plate boundaries move?* Workshop: Physico-chemical processes in seismic faults. November 18-20, 2010, Padova, Italy
- *The role of near trench extension at convergent plate boundaries.* EGU09, Vienna, Austria. Session TS6.4 Subduction zone seismotectonics: Temporal and spatial observations and models, April 2009
- Estimating long term recycling at subduction zones and their contribution to the growth of continental crust. GEOITALIA 2007. September 12-14, 2007, Rimini, Italy.
- Subduction mega-thrusts: field, borehole and geophysical observations on shear and fluid flow in clay-rich sediments. GEOITALIA 2007. September 12-14, 2007, Rimini, Italy.
- *Tectonic erosion in Central America: implications for material flux along the seismogenic zone and future IODP drilling plans.* Workshop to Integrate Subduction Factory and Seismogenic Zone Studies in Central America. June 18-22, 2007 Heredia, Costa Rica
- Double décollement zone bordering the subduction channel in an ancient erosive subduction complex: implications for seismogenesis. EGU 07, Vienna, Austria. Session TS3.2 Seismogenic coupling zones - state and processes – April, 2007.
- *Internal fabric and fault zone character of an erosive subduction channel.* GFZ Potsdam workshop on “Deformation at convergent plate margins”, Nov. 2-3, 2006.
- Dynamic interaction between dewatering and faulting along the Costa Rica Décollement. SFB 574 Retreat 2006, Kiel, Germany, Sept. 27-29, 2006.
- Keynote presentation: *From tectonic accretion to erosion: the effect of the Cocos Ridge subduction along the Middle America Trench* – Penrose Conference: Lessons in Tectonics, Climate and Eustasy from the Stratigraphic Record in Arc Collision Zones, Price, Utah - 10-14th October 2005.
- Direct and indirect evidence of material transfer from the upper to the lower plate: the integration between fossil and modern convergent erosional margins – EGU 05, Vienna, Austria - Session TS3 Ocean plates at subduction zones: from trenches to deep slabs – April 2005
- Award Lecture: *The Osa Mélangé: a fossil accretionary complex as a plate boundary zone of an erosive compressive margin* - EGU 04, Nice, France - April 27, 2004

#### **RECENT INVITED SEMINARS AND SHORT COURSES AT OTHER INSTITUTIONS**

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- Rift and Rifted Margins Online Seminar, 28 June 2021.
- Institute of Marine Sciences, Barcelona, 4 December 2020
- GFZ Potsdam, 21 October 2020
- School of Earth and Environmental Sciences, Cardiff University, 23 January, 2020
- Woods Hole Oceanographic Institution, 16 November 2017
- Department of Earth and Planetary Sciences, University of Harvard, 24 October 2017
- Institut für Geologische Wissenschaften, University of Berlin, Germany. 14 January 2016
- ECORD Distinguished Lecturer 2014/2015: *Understanding megathrust earthquakes through ocean drilling*
  - University of Graz, Austria, 10-3-2015
  - Plymouth University, UK, 20-3-2015
  - University of Durham, UK 28-4-2015
  - Haifa and Ben Gurion Universities, Israel, 5-5-2015
  - Università di Modena, Italy 25-5-2015
  - Geosciences Montpellier, France, 4-6-2015
  - University of Victoria, Canada, 15-9-2015
  - University of Gent, Belgium 26-10-2015
  - Institut de Physique du Globe de Paris, France, 28-10-2015
  - GEOMAR, Kiel, Germany 27-11-2015
- Geological Institute, ETH Zurich, Switzerland, 6 October, 2014
- Short course on Active Margins, Instituto Oceanográfico, Universidade de São Paulo, Brazil, 5-9 August 2013
- Geology & Petroleum Geology Dept, University of Aberdeen, UK. 26 March 2013.
- Institute of Geological Sciences, University of Bern, Switzerland. 31 May 2011
- Dipartimento di Scienze della Terra, Università di Modena e Reggio Emilia. 28 April 2011.

- Institut de Ciències de la Terra Jaume Almera, CSIC, Barcelona, Spain. 8 June 2010
- Department of Earth Sciences, University of Oxford, UK. 7 July 2010
- IODP-Italia Distinguished Lecturer: Dinamica delle zone di subduzione: sismogenesi e limiti di placca nell'esplorazione IODP "Subduction zone dynamics: seismogenesis and plate boundaries in IODP exploration"– Autumn 2005/Spring 2006

### **Visiting Scientist**

- 2017: University of Harvard, Cambridge, Ma, USA. Host: Prof. Jerry Mitrovica
- 2012: Jamstec, Yokohama, Japan – Host: Prof. Arito Sakaguchi
- 9/2003-9/2004: Pennsylvania State University, PA, USA – Host: Prof. Donald Fisher
- 2001: New Mexico Tech, Socorro, USA– Host: Prof. Harold Tobin

### **TEACHING**

- Since 2021 –Geology II with laboratory - University of Florence
- 2007/2012-and since 2022 –Geodynamics - University of Florence
- 2013/2020 – GL 1100 Global Tectonics – Royal Holloway, University of London
- 2013/2020 – GL2901/2930 Field Methods in geology - 2<sup>nd</sup> year Field Trip – SE Spain – 2 weeks – RHUL
- 2014/2019 - GL3951/3901 Independent Field Mapping – Royal Holloway, University of London
- 2014/2015 – GL 1700 Maths for Geologists – Royal Holloway, University of London
- 2013/2015 – Pyrenees Field Course – MSc Petroleum Geoscience – 10 days – RHUL
- 2005/2007 – Structural Geology - University of Modena and Reggio Emilia
- 2005/2007 – Geostructural Mapping at the University of Modena and Reggio Emilia
- 2001 – Quaternary Geology and Neotectonics at the University of Modena and Reggio Emilia

### **STUDENT SUPERVISION**

|                             |   |   |
|-----------------------------|---|---|
| Ongoing – Nadia Padovani    | Junior Thesis supervisor  | Università di Firenze                     |
| Ongoing – Dede Melhilli     | Junior Thesis supervisor  | Università di Firenze                     |
| Ongoing – Edoardo Baroncini | Junior Thesis supervisor  | Università di Firenze                     |
| Ongoing – Laretta Kaerger   | Ph.D. supervisor  | Università di Firenze                     |
| Ongoing – Julia Carvalho    | Ph.D. supervisor  | Università di Firenze                     |
| 2022 – Giacomo Cammozzo     | Junior Thesis supervisor  | Università di Firenze – 103/110           |
| 2019 – Sibel Bulkan         | Ph.D. supervisor  | Royal Holloway, University of London      |
| -                           | Now at GeoSmart Information, Shrewsbury, UK                     |   |
| 2018 – Alexander Clarke     | Ph.D. supervisor  | Royal Holloway, University of London      |
|                             | Now Lecturer at UCL, UK   |   |
| 2014 - Ava Walentowicz      | 4 <sup>th</sup> year project supervisor                         | Royal Holloway, University of London      |
| 2010 – Giovanni Pezzati     | Diploma Thesis supervisor                                       | Università di Firenze – 110/110 cum laude |
| 2010 – Damiano della Lunga  | Diploma Thesis supervisor                                       | Università di Firenze – 110/110 cum laude |
| 2007 – Thomas Pinter        | Junior Thesis supervisor  | Università di Mo e Re – 110/110 cum laude |
| 2006 – Mirko Carlini        | Junior Thesis supervisor  | Università di Mo e Re – 110/110 cum laude |
| 2005 – Francesca Remitti    | Ph.D. co-supervisor   | Università di Modena e Reggio Emilia      |
|                             | Now Associate Professor at Università di Modena e Reggio Emilia |   |
| 2005 – Lorenzo Leoni        | Diploma Thesis co-supervisor                                    | Università di Firenze – 110/110           |

### **PROFESSIONAL CERTIFICATIONS**

Navigation Licence "over 12 miles" (motorboats and sailingboats)  
 STCW-95 Personal Survival Techniques  
 Consulting Geologist habilitation

## PUBLICATIONS

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### PEER REVIEWED ARTICLES and book chapters

2023

- E. Spagnuolo, S. Aretusini, G. Di Toro, **P. Vannucchi**. Shallow transient fault slip and frictional instabilities at the Sumatra-Andaman subduction zone – Science Advances-In Review
- M. Coli, R. Compagnoni, R. Cossio, C. Del Ventisette, **P. Vannucchi** (2023). The Monteferrato serpentized peridotite (Figline di Prato) in the Northern Apennine, Italy: A witness of the Ligurian ocean Margin in the monumental religious buildings of Tuscany. *Ofioliti* 48 (2), doi: <https://doi.org/10.4454/ofioliti.v48i2.564> .
- J.P. Morgan, **P. Vannucchi** (2023). Energetics of the Solid Earth: Implications for the Structure of Mantle Convection. In J. Duarte (Ed.) *Dynamics of Plate Tectonics and Mantle Convection*, Elsevier, 35-66, doi: 10.1016/B978-0-323-85733-8.00001-9

2022

- S. Papeschi, **P. Vannucchi**, T. Hirose, K. Okazaki (2022), Deformation and material transfer in a fossil subduction channel: Evidence from the Island of Elba (Italy). *Tectonics*, 41 (7), doi 10.1029/2021TC007164.
- **P. Vannucchi**, A. Clarke, A. Ougier-Simonin, A. de Montserrat, L. Aldega, J. P. Morgan. (2022) A strength inversion origin for non-volcanic tremor. *Nature Communication*, 13 (1), doi 10.1038/s41467-022-29944-8.
- J.P. Morgan, **P. Vannucchi** (2022). Transmogrification of ocean into continent: implications for continental evolution. *Proceedings of the National Academy of Sciences of the United States of America*, 119 (15) e2122694119, <https://doi.org/10.1073/pnas.2122694119>.
- H. Perea, S. Martínez-Loriente, J. Maloney, F.E. Maesano, **P. Vannucchi** (2022). Submarine Active Faults: From Regional Observations to Seismic Hazard Characterization. *Frontiers in Earth Science*, 9, 809205, DOI 10.3389/feart.2021.809205.

2021

- M Webb, A Gough, **P Vannucchi**, NK Lünsdorf, J McNeil (2021). Sedimentary provenance of the Plio-Pleistocene Nicobar Fan: Complex sourcing revealed through Raman spectroscopy heavy mineral analysis. *Marine and Petroleum Geology* 125, doi:10.1016/j.marpetgeo.2020.104874.

2020

- **P. Vannucchi**, J.P. Morgan, A. Polonia, G. Molli (2020). The life cycle of subcontinental peridotites: From rifted continental margins to mountains via subduction processes. *Geology*, 48, 1149-1153, doi 10.1130/G47717.1.
- S.M. Straub, A. Gómez-Tuena, **P. Vannucchi** (2020). *Subduction erosion and arc volcanism*. *Nature Reviews Earth & Environment*, 1-16, doi 10.1038/s43017-020-0095-1.
- S. Bulkan, **P. Vannucchi**, L. Gasperini, A. Polonia, C. Cavozi (2020). *Modelling tectonic deformation along the North-Anatolian Fault in the Sea of Marmara*. *Tectonophysics*, 228612, doi 10.1016/j.tecto.2020.228612
- A.C. Tavares, D.L. de Castro, F.H.R. Bezerra, D.C. Oliveira, **P. Vannucchi**, D. Iacopini, L. Jovane, H. Vital (2020). *The Romanche fracture zone influences the segmentation of the equatorial margin of Brazil*. *Journal of South American Earth Sciences* 103, 102738, doi 10.1016/j.jsames.2020.102738.
- D. Maestrelli, V. Maselli, B. Kneller, D. Chiarella, N. Scarselli, **P. Vannucchi**, L. Jovane, D. Iacopini (2020). Characterisation of submarine depression trails driven by upslope migrating cyclic steps: Insights from the Ceara Basin (Brazil). *Marine and Petroleum Geology*, 115, Article Number: UNSP 104291 DOI: 10.1016/j.marpetgeo.2020.104291
- Clarke, and **P. Vannucchi** (2020). *Structural anisotropy: Using image analysis to quantify block-in-matrix fabrics*. *Journal of Structural Geology*, 131, Article Number: 103939, doi 10.1016/j.jsg.2019.103939

2019

- **P. Vannucchi** (2019) *Scaly fabric and slip within fault zones*. *Geosphere*, 15(2), pp. 342-356, doi 10.1130/GES01651.1.
- N. Riedinger, M.E. Torres, E. Scream, E.A. Solomon, S. Kutterolf, J. Schindlbeck-Belo, M.J. Formolo, T.W. Lyons, **P. Vannucchi**, (2019) *Interplay of subduction tectonics, sedimentation, and carbon cycling*. *Geochemistry, Geophysics, Geosystems*, 20, 4939-4955, doi: 10.1029/2019GC008613.
- C. Hensen, J.C. Duarte, **P. Vannucchi**, A. Mazzini, M.A. Lever, P. Terrinha, L. Géli, P. Henry, H. Villinger, J. Morgan, M. Schmidt, M.-A. Gutscher, R. Bartolome, Y. Tomonaga, A. Polonia, E. Gràcia, U. Tinivella, M. Lupi,

M.N. Çağatay, M. Elvert, D. Sakellariou, L. Matias, R. Kipfer, A.P. Karageorgis, L. Ruffine, V. Liebetrau, C. Pierre, C. Schmidt, L. Batista, L. Gasperini, E. Burwicz, M. Neres, M. Nuzzo (2019) *Marine transform faults and fracture zones: A joint perspective integrating seismicity, fluid flow and life*. *Frontiers in Earth Science*, 7, Article number 39, Pages 1-29, doi: 10.3389/feart.2019.00039

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