

## PERSONAL INFORMATION

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## WORK INTERESTS

My main scientific interest focuses on the understanding of micro- and mesoscale processes and their link to macro-scale phenomena. To achieve this, it is essential the use of a multidisciplinary approach in order to observe, interpret and evaluate processes in the Earth. In particular, I work on high pressure and high temperature rocks from the middle to lower crust from Western Alps localities. My studies concern geological processes occurring in correspondence of shear zones or of compositional and structural heterogeneous rock boundaries. Investigate the relationships between petrological and deformation processes is of great interest in my research.

## CURRENT POSITION

**Pavia, Italy**  
*Feb 2022 - Present*

**Postdoc in Earth and Environmental Sciences (GEO/03)**  
University of Pavia, Department of Earth and Environmental Sciences

Project title: Structural analysis of tectonic lineaments in the crystalline basement of the Insubria lakes.  
Supervisor: Prof. Matteo Maino

## ACADEMIC CAREER

*Oct 2018 - Dec 2021*

**PhD in Earth and Environmental Sciences (XXXIV series)**  
University of Pavia, Department of Earth and Environmental Sciences

Title of thesis: Multidisciplinary investigations on the relationships between deformation and metamorphism across crustal rheological boundaries.  
Supervisors: Prof. Matteo Maino, Prof. Antonio Langone, Prof. Sandra Piazzolo

*Mar 2018 - Sep 2018*

**Postgraduate Research Fellow**  
Institute of Geosciences and Earth Resources - National Research Council of Italy (IGG-CNR, Pavia)

Title of project: Geochemical characterisation (LA-ICP-MS and FTIR) of nominally anhydrous minerals (NAMs) of peridotitic bodies in the Ivrea-Verbano zone (Southern Alps).  
Supervisors: Dr. Alberto Zanetti, Dr. Antonio Langone, Dr. José Alberto Padrón-Navarta

*Oct 2015 - Sep 2017*

**Master's Degree in Applied Earth Sciences to Civil and Environment Engineering**  
University of Pavia, Department of Earth and Environmental Sciences

Title of thesis: Water content in nominally anhydrous minerals (NAMs) from the Finero complex (Italy).  
Supervisors: Dr. Alberto Zanetti, Dr. José Alberto Padrón-Navarta, Dr. Antonio Langone  
Degree mark: 110/110 cum Laude

*Oct 2012 - Oct 2015*

**Bachelor's Degree in Earth Sciences**  
University of Genova, Department of Earth and Environmental Sciences

Title of thesis: Determination of natural land values in the landslide area of Prato Casarile (Genova): environmental aspects in order to reinstate the site.  
Supervisors: Prof. Pietro Marescotti, Dr. Geol. Eugenio Poggi, Prof. Gerardo Brancucci  
Degree mark: 110/110 cum Laude

*Sep 2008 - Jun 2012*

**Scientific High School Diploma**  
Leonardo da Vinci, Genova

Degree mark: 96/100

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## LINGUISTIC SKILLS

### English

Intermediate. FIRST B2

### French

Intermediate. DELF B1

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## GENERAL SKILLS

### Geology

Metamorphic petrology

Structural geology

Tectonics and geodynamic

### Field and lab work

Problem solving

Team working

Self-organization

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## TECHNICAL SKILLS

Good knowledge in:

- thin sections and samples preparation (cutting, polishing, coating).
  - the use of specific instruments for petrographic, microstructural, geochemical and geochronological analysis, such as: **SEM-TESCAN VEGA** (*scanning electron microscopy*), **SEM-FEG** (*field emission gun scanning electron microscopy*), **EBS**D (*electron back-scattered diffraction*), **LA-ICP-MS** (*Laser Ablation Inductively Coupled Plasma Mass Spectrometry*), **FTIR** (*Fourier Transform InfraRed spectroscopy*), **EMPA** (*Electron Microprobe*).
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## COMPUTER & MODELLING SOFTWARE SKILLS

Good knowledge of:

- Microsoft Office tools, Internet and e-mail.
  - Operating systems (Windows and Linux).
  - Applications (Word, Excel, PowerPoint; Adobe tools such as Photoshop, Illustrator, InDesign).
  - Software for data processing and charts elaborating for publications (Matlab, MTEX, Sigma Plot, Q-GIS).
  - Software for data treatments and modelling of geological processes (GLITTER, AztecICE, AztecCrystal, PerpleX).
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## PUBLICATIONS

- Casini L., Maino M., Langone A., Oggiano G., **Corvò S.**, Reche J., Liesa M. **(2022)**. HT-LP metamorphism and fluid-fluxed melting during multi-stage anatexis of continental crust (N Sardinia, Italy). *Journal of Metamorphic Geology*.
  - **Corvò S.**, Maino M., Piazzolo S., Seno S., Langone A. **(2022)**. Role of inherited compositional and structural heterogeneity in shear zone development at mid-low levels of the continental crust (the Anzola shear zone; Ivrea-Verbano Zone, Southern Alps). *Lithos*, 106745.
  - Simonetti M., Langone A., **Corvò S.**, Bonazzi M. **(2021)**. Triassic-Jurassic rift-related deformation and temperature-time evolution of the fossil Adriatic margin: A review from Ossola and Strona di Omegna valleys (Ivrea-Verbano Zone). *Ofioliti*, 46 (2), 147-161.
  - **Corvò S.**, Maino M., Langone A., Schenker F. L., Piazzolo S., Casini, L., Seno S. **(2021)**. Local variations of metamorphic record from compositionally heterogeneous rocks (Cima di Gagnone, Central Alps): Inferences on exhumation processes of (U)HP/HT rocks. *Lithos*, 106126.
  - **Corvò S.**, Langone A., Padrón-Navarta J.A., Tommasi A., Zanetti A. **(2020)**. Porphyroclasts: Source and Sink of Major and Trace Elements During Deformation-Induced Metasomatism (Finero, Ivrea-Verbano Zone, Italy). *Geosciences*, 10, 196.
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## REVIEWER EXPERIENCE

Arabian Journal of Geosciences, MDPI geosciences.

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## AWARDS

- **Best Student Poster Presentation** at the Metamorphic Studies Group Meeting (MSG-RIP-2021). Released by Mineralogical Society.
- **Grant award** for the attendance at the SIMP-SGI-SoGel 2019 Parma. Released by SIMP society.
- Giuseppe Schiavinato Award 2018 for the **Best Italian Master Thesis** in the Mineralogic Sciences field with links to petrological applications. Released by Accademia Nazionale dei Lincei, Rome.

### PhD Mobility Periods at University of Leeds (UK)

- 1° period: February 2019 – March 2019 (two months);
- 2° period: October 2019 – December 2019 (two months).

Tasks: Microstructural studies by the electron backscattered diffraction analysis (EBSD) and scanning electron microscope (SEM) on HP-HT metamorphic rock samples for the development of the PhD research.

### Erasmus Traineeship at CNRS Geosciences, Montpellier (France)

- March 2017 – July 2017 (4 months)

Tasks: Water content (OH) studies by means of FTIR technique in nominally anhydrous minerals (NAMs) such as olivine and pyroxene of Finero peridotite (Southern Alps, Italy).

## CONFERENCES & SEMINARS

### Conference of SGI-SIMP societies - Geosciences for a sustainable future (19-21/09/2022)

- **Convener** of the Session S44: Faults and shear zones from near the surface to the deep crust: clues from micro-structural analyses, geochronology and geochemistry
- Abstract submission (oral): Role of fluids and inherited compositional and structural heterogeneities in shear zone development at mid-low crustal levels: from meso- to micro-scale structural and petrological investigations
- Abstract submission (oral): Dating Triassic-Jurassic rift-related deformation through microstructural and petrochronological analyses: insights on the evolution of a middle continental crustal shear zone (Ivrea-Verbano Zone, Italian Southern Alps)

### 15th Emile Argand Conference on Alpine Geological Studies (12-14/09/2022)

- Abstract submission (oral): Multiscale lithological and structural heterogeneity control on the nucleation of a crustal shear zone: petro- structural investigation and U-Pb titanite dating from the Anzola shear zone (Ivrea-Verbano Zone, Southern Alps)

### EGU General Assembly 2022 (23-27/05/2022)

- Abstract submission (oral): Local variations of metamorphic record from compositionally heterogeneous rocks: Inferences on exhumation processes of (U)HP-HT rocks (Cima di Gagnone, Adula-Cima Lunga unit)

### Metamorphic Studies Group 41th anniversary Meeting Research in Progress (14/04/2022)

- Abstract submission (poster): Titanite-based microstructural and petrochronological characterization of a major rift-related shear zone in the middle continental crust (Val d'Ossola, Western Alps, Italy)

### BeGeoScientists 2021 - 1° Congresso Nazionale dei Giovani Geoscientisti (7-10/10/2021)

- Abstract submission (flash talk): A multidisciplinary approach to unravel the rocks heterogeneities: link between deformation and metamorphic processes from lithospheric crust
- **Convener** of the Session Petrology to the rescue: multidisciplinary investigations from human activities to the Deep Earth

### 90th Conference of the Italian Geological Society - Geology Without Borders (14-16/09/2021)

- Abstract submission (oral): Local variations of metamorphic record from compositionally heterogeneous rocks: Inferences on exhumation processes of HP rocks from the Adula-Cima Lunga unit
- Abstract submission (poster): Microstructural and petrological characterization of a major extensional shear zone in the middle crust (Val d'Ossola, Ivrea-Verbano Zone, Western Alps)

### 3rd European Mineralogical Conference (29-02/08-09/2021)

- Abstract submission (oral): Titanite as powerful petrochronometer for unravelling the evolution of a major extensional shear zone in the middle crust (Val d'Ossola, Ivrea-Verbano Zone, Western Alps)

### Waiting for Yorsget (Young Research in Structural geology and Tectonics (21-22/06/2021)

- Abstract submission (poster): Local variations of metamorphic record from compositionally heterogeneous rocks: Inferences on exhumation processes of continental (U)HP-HT unit (Cima di Gagnone, Central Alps)
- Abstract submission (poster): Evolution of a major extensional shear zone in the middle crust (Val d'Ossola, Ivrea-Verbano Zone, Western Alps)

#### **Metamorphic Studies Group 40th anniversary Meeting Research in Progress (29-31/03/2021)**

- Abstract submission (poster): Unravelling the evolution of a major extensional shear zone from middle crust (Val d'Ossola, Ivrea-Verbano Zone, Western Alps, Italy)

#### **EGU General Assembly 2020 (04-08/05/2020)**

- Abstract submission (oral): Timing of HP/HT alpine metamorphism: new data from Cima di Gagnone (Central Alps)

#### **GLOM (Gruppo di Lavoro sulle Ofoliti Mediterranee) Meeting (30/01/2020)**

- Abstract submission (oral): Dating of HP/HT alpine metamorphism: New petrological, chronological and micro-structural data from Cima di Gagnone (Central Alps)

#### **Oral presentation to the group seminar on the PhD project (2 mobility period in Leeds, 22/11/2019)**

- Entitled Determination of P-T-t-d paths from lithospheric shear zones: Links between deformation, magmatism and metamorphism

#### **International School "Structure and Composition of the Lower Continental Crust" (7-10/10/2019)**

- Abstract submission (poster): Timing and deformation features of shear zones at different crustal levels (Val d'Ossola, Ivrea-Verbano Zone, Western Alps)

#### **Il tempo del pianeta Terra e il tempo dell'uomo: Le geoscienze fra passato e futuro (16-19/09/2019)**

- Abstract submission (oral presentation): Determination of P-T-t-d path in a high-grade shear zone: petro-chronological and microstructural study from the Cima di Gagnone (Adula-Cima Lunga nappe, Central Alps)
- Abstract submission (oral presentation): Petrological and geochronological constraints of a shallow intrusion into the Variscan medium-grade metamorphic sequence of the Asinara Island (Sardinia)

#### **14th Emile Argand Conference on Alpine Geological Studies (04-08/09/2019)**

- Abstract submission (poster): Dating of HP/HT Alpine metamorphism: petro-chronological and micro-structural study from the Cima di Gagnone (Cima Lunga unit, Central Alps)

#### **Conference of SGI-SIMP societies - Geosciences for the environment natural hazards and cultural heritage (12-14/09/2018)**

- Abstract submission: Water content in nominally anhydrous minerals (NAMs) from subcontinental mantle bodies of the Ivrea-Verbano Zone (Southern Alps)

#### **EMAW2018 3rd European Mantle Workshop (26-28/06/2018)**

- Abstract submission (poster): A geochemical characterisation (EMPA and LAICPMS) of Finero peridotite (Southern Alps, Italy)
- Abstract submission (poster): Water content in nominally anhydrous minerals (NAMs) from peridotite bodies of the Ivrea-Verbano zone (Southern Alps, Italy)

#### **IGG-days (29-30/05/2018) - Institute of Geosciences and Earth Resources (IGG - CNR)**

- Abstract submission (oral presentation): Hydrogen content in nominally anhydrous minerals (NAMs) from upper mantle: petrological and geophysical implications

#### **Conference of SGI-SIMP societies - Geosciences: a tool in a changing world (06/09/2017)**

- Abstract submission (oral presentation): Hydrogen content in nominally anhydrous minerals from Finero peridotite (Italy)

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## **EDUCATION COURSES**

- 27-29 June 2022 - **Field trip Course** in the Central Appennines: Vector Mountain. Organised by Department of Environment and Earth Sciences of Pavia.
- 21-23 June 2022 - **Summer School 2022** - Structural analysis of granites and their surroundings organised by University of Sassari, Regione Autonoma della Sardegna (RAS), University of Pavia, the Asinara National Park, and the Italian Group of Structural Geology (IGGS).
- 1 February 2021 - **Scientific Writing Course** held by Dr. Cristina Persano and organized by the PhD Program in Earth and Environmental Sciences of the University of Pavia.

- 2-3 December 2020 - **Workshop**: PTt trajectory of metamorphic processes from a combination of pseudosection calculations, nucleation and growth simulations, and diffusion modelling using different approaches. Organised by Geochemical Society
- 6 November 2020 - **Seminar**: La bellezza nel piccolo. Fotografare al microscopio presented by Bernardo Cesare. Organised by Museo Alto Garda (MAG).
- 17-20 February 2020 - Microtectonics **Course** held by Cees Passchier at Johannes Gutenberg University of Mainz.
- 20-23 January 2020 - **Course**: Principles of geological numerical modelling. Held by Dr. Leonardo Casini. Organised by Department of Environment and Earth Sciences of Pavia.
- 19-21 July 2019 - **Field trip Course** in the Western Alps, Chénaillet-Monginevre. Organised by Department of Environment and Earth Sciences of Pavia.
- 7-10 October 2019 - **International School** "Structural and Composition of the Lower Continental Crust". Organised by University of Pavia.
- 27 May 2019 - **Seminar**: Frontiers in ICP-MS/MS Application in Earth and Environmental Sciences Course. Organised by Department of Environment and Earth Sciences and IGG-CNR of Pavia.
- 23-24 May 2019 - **Field trip Course** on the Vajont landslide: The meaning of a disaster field course. Organised by Department of Environment and Earth Sciences of Pavia.
- 6 November 2019 - **Seminar**: Sulfide Differentiation at the Upper Mantle and Lower Crust: Ocean Research and Potential Implications for the Crust-Mantle Boundary in the Ivrea Zone presented by Jakub Ciazela. Organised by Department of Environment and Earth Sciences of Pavia.
- October 2019 - **Course**: Science communication course for the realization of scientific report and video. Organised by Department of Environment and Earth Sciences of Pavia in collaboration with Università Statale di Milano.
- October 2018 - January 2019 - **Master/PhD Course**: Physical properties of minerals and rocks held by Ross Angel (48 h) at Department of Environment and Earth Sciences of Pavia.

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## TEACHING AND TUTORING EXPERIENCE

### *March 2023 - June 2023:*

- Tutoring (30h), for Bachelor's degree course in Petrography and microscopy laboratory for rock thin sections identification. Supervisor: Prof. Riccardo Tribuzio
- Tutoring (15h), for Bachelor's degree course in Geological survey. Supervisor: Prof. Giovanni Toscani

### *March 2022 - June 2022:*

- Tutoring (25h), for Bachelor's degree course in Petrography and microscopy laboratory for rock thin sections identification. Supervisor: Prof. Riccardo Tribuzio
- Tutoring (15h), for Bachelor's degree course in Geological survey. Supervisor: Prof. Giovanni Toscani

### *March 2021 - June 2021:*

- Tutoring (20h), for Bachelor's degree course in Petrography and microscopy laboratory for rock thin sections identification. Supervisor: Prof. Riccardo Tribuzio
- Tutoring (20h), for Bachelor's degree course in Geological survey. Supervisor: Prof. Giovanni Toscani
- Tutoring in the field trip at Elba island of the Master course Seismic interpretation and geological modelling. Supervisor: Dr. Giovanni Toscani, Dr. Matteo Maino

### *March 2020 - June 2020:*

- Tutoring (30h), for Bachelor's degree course in Petrography and microscopy laboratory for rock thin sections identification. Supervisor: Prof. Riccardo Tribuzio

### *March 2019 - June 2019:*

- Tutoring (20h), for Bachelor's degree course in Petrography and microscopy laboratory for rock thin sections identification. Supervisor: Prof. Riccardo Tribuzio
- Tutoring in the field trip at Lago di Como of the Master course Seismic interpretation and geological modelling. Supervisor: Dr. Giovanni Toscani, Dr. Matteo Maino

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## THESIS COSUPERVISOR

2021

- Bachelor's Degree Co-tutor of Noemi Tosi, Bachelor Thesis: Variazioni geochemiche della Titanite attraverso una sezione di crosta continentale (Val d'Ossola; Zona Ivrea-Verbano)

2020

- Bachelor's Degree Co-tutor of Matilda Soldano, Bachelor Thesis: Analisi degli elementi maggiori dei granati e caratterizzazione petrografica del complesso metamorfico in Val d'Ossola (Zona Ivrea-Verbano).
- Master's Degree Co-tutor of Eleonora Zangara, Master thesis: Petrological and geochronological constraints of a shallow intrusion into the Variscan medium-grade metamorphic sequence of the Asinara Island (Sardinia).

2019

- Bachelor's Degree Co-tutor of Maria Vittoria Betuschi, Bachelor Thesis: Caratterizzazione petrografica del complesso metamorfico in Val d'Ossola (Zona Ivrea-Verbano): indagini geocronologiche preliminari.

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## ACADEMIC ACTIVITY AND MEMBERSHIPS

- Attendance as presenter at the *Settimana del Pianeta Terra 2021 - Maratona delle Geoscienze Pavia* (9a edition 3rd-10th October 2021)
- Attendance as sharper at the *Sharper Night 2021* in Pavia (24th September 2021)
- Occasional service assignment (130h) for activities related to the *Scientific Degree Plan* (Piano Lauree Scientifiche PLS - 2021)
- Member of the Earth and Environmental Science Department council of Pavia as Postdoc delegate (2022-2024)
- Member of the Earth and Environmental Science Department council of Pavia as PhD students delegate (2018-2020; 2020-2022)
- Member of the Earth and Environmental Science Department council of Genova as Bachelor students delegate (2013-2015)
- Membership with a collaboration assignment to the Institute of Geosciences and Earth Resources, Pavia (IGG - CNR) (2019-2021; 2021-2023)
- Membership of Begeo and Scientific Committee of Blog - BeGEO NET
- Membership of Gruppo Italiano di Geologia Strutturale: GIGS
- Membership of Società Italiana di Mineralogia e Petrologia: SIMP
- Membership of Metamorphic Studies Group - Mineralogical Society: MSG
- Membership of Società Geologica Italiana: SGI
- Membership of European Association of Geochemistry: EAG

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Date 18/07/2022

Signature

