europass

Alessandro Regorda

Nationality: Italian (+39) 3285634106 **Date of birth:** 21/10/1982 **Gender:** Male

Email address: alessandro.regorda@protonmail.ch **Website:** https://github.com/aleregorda

Website: https://orcid.org/0000-0002-7677-4542 **Skype:** vundar

WORK EXPERIENCE

Post-Doc in Earth Science

Università degli Studi di Milano [01/07/2018 – 30/06/2022]

City: Milan

Country: Italy

'Numerical modelling of subduction systems and analysis of the corresponding gravimetric signatures' (supervisor Prof. Anna Maria Marotta), focusing on:

- analysis of metamorphic facies and deformation fabrics within subduction complexes;
- comparison between prediction of the models in terms of signatures on the gravity field and P-T(-t) condiitons with natural data from recent data of gravity anomalies and P-T estimates of Variscan metamorphism;
- Teaching assistance of the course 'Numerical modelling of geodynamic processes';
- development of a new 2D numerical code (FALCON) characterised by a non-linear visco-plastic behaviour.

Science and mathematics teacher lower secondary school

Public school 'Manzoni' [27/09/2017 – 30/06/2018]

City: Parabiago

Country: Italy

Independent contractor

Università degli Studi di Milano [27/09/2013 – 27/10/2013]

City: Milan

Country: Italy

Worked as an independent contractor at the Department of Earth Science 'Ardito Desio' for the construction of a database of natural P-T data of Variscan metamorphism in the Alps and comparison with data predicted by a thermo-mechanical model. (PI Prof. Roberto Sabadini and Prof. Anna Maria Marotta).

EDUCATION AND TRAINING

Ph.D.

Università degli Studi di Milano (Italy) - Université de Nice-Sophia Antipolis (France) [01/2014 – 12/2016]

Field(s) of study: Earth Sciences

Level in EQF: EQF level 8

Thesis: The thermo-mechanical evolution of the subduction-collision systems

Ph.D. did in co-tutorship between Università degli Studi di Milano and Université de Nice-Sophia Antipolis (tutors Prof. Anna Maria Marotta, Prof. Maria Iole Spalla and Prof. Jean-Marc Lardeaux), focused on:

- the implementation of Fortran code "SubMar" verifying the impact of various mechanisms on the thermo-dynamics of the subduction zones;
- the analysis of the distribution in time and space of P-T and metamorphic facies predicted by the models;

- the comparison with natural data of the Variscan metamorphism preserved in the Alps and in the French Central Massif.

M.Sc. in Earth Sciences

Università degli Studi di Milano [10/2010 – 04/2013]

Final grade : 110/110 cum laude – **Level in EQF:** EQF level 7

Thesis: Numerical model of oceanic and continental subduction and comparison with natural data of the Variscan orogenesis

- Thesis: The original Fortran code "SubMar" has been implemented with the introduction of new mechanisms taking place in the subduction systems during an ocean-continent active convergence (supervisors Prof. Anna Maria Marotta and Prof. Maria Iole Spalla).
- Internship: Georeferencing and digitalising of geological maps using ArcGis.
- Courses: English, Seismology, Fluid dynamics, Physics of the solid Earth, Geodynamics, Numerical modelling of geodynamics processes, Structural analysis, Microstructures of crystalline rocks.

B.Sc. in Geology

Università degli Studi di Milano [09/2007 – 10/2010]

Final grade : 108/110 – **Level in EQF:** EQF level 6

Thesis: Analysis and 3D modelling of a garnet pyroxene amphibolite sample of the Valpelline series (Western Alps, Italy)

- Thesis: A garnet pyroxene amphibolite sample has been studied by means of micro and mesostructural analysis, with focus on the relationship between mineral growth and deformation. A 3D model of the sample has been built using software Move2010.1 (supervisor Prof. Michele Zucali).
- Internship: Geoelectrical exploration (SEV and ERGI) of the hydrostratigraphy of an area in the Po plain (Northern Italy).
- Courses: Mathematics, Physics, Chemistry, Geochemistry, Geophysics exploration, Physics of the Earth, Petrology, Mineralogy. Field school (Dent Blanche nappe, Western Alps, Italy) focus on geological and structural maps.

LANGUAGE SKILLS

Mother tongue(s): **Italian**

Other language(s):

English

LISTENING B2 **READING** B2 **WRITING** B2

SPOKEN PRODUCTION B2 **SPOKEN INTERACTION** B2

DIGITAL SKILLS

My Digital Skills

Operating System

Proficient user of Linux (Debian, Ubuntu) and Windows / Independent user of Linux (Fedora)

Programming languages

Proficient user of Fortran / Basic user of Matlab/GNU Octave

Software

Independent user of Microsoft Office package, LaTeX Editor, ParaView, Gnuplot and GMT / Basic user of ArcGis/ QGis

PUBLICATIONS

Marco Filippi, Davide Zanoni, Gisella Rebay, Manuel Roda, Alessandro Regorda, Jean-Marc Lardeaux Maria Iole Spalla (2022). Quantification of Alpine Metamorphism in the Edolo Diabase, Central Southern Alps. Geosciences, 12(8), 312, doi:10.3390/geosciences12080312

[2022]
https://www.mdpi.com/2076-3263/12/8/312

Arcangela Bollino, Alessandro Regorda, Roberto Sabadini, Anna Maria Marotta (2022). From rifting to oceanization in the Gulf of Aden: Insights from 2D numerical models. Tectonophysics, 838, 229483, doi:10.1016/j.tecto.2022.229483

[2022]
https://www.sciencedirect.com/science/article/pii/S0040195122002773#!

Alessandro Regorda, Maria Iole Spalla, Manuel Roda, Jean-Marc Lardeaux, Anna Maria Marotta (2021). Metamorphic Facies and Deformation Fabrics Diagnostic of Subduction: Insights From 2D Numerical Models. Geochemistry, Geophysics, Geosystems, 2021, 22(10), doi: 10.1029/2021GC009899

[2021]
https://agupubs.onlinelibrary.wiley.com/doi/10.1029/2021GC009899

Anna Maria Marotta, Federica Restelli, Arcangela Bollino, Alessandro Regorda, Roberto Sabadini (2020). The static and time-dependent signature of ocean-continent and ocean-ocean subduction: the case studies of Sumatra and Mariana complexes. Geophysical Journal International, 221(2), 788–825, doi:10.1093/gji/ggaa029

[2020]
https://academic.oup.com/gji/article/221/2/788/5707408

Manuel Roda, Michele Zucali, Alessandro Regorda, Iole Spalla (2020). Formation and evolution of a subduction-related mélange: The example of the Rocca Canavese Thrust Sheets (Western Alps). GSA Bulletin, doi:10.1130/B35213.1

[2020]
https://pubs.geoscienceworld.org/gsa/gsabulletin/article-abstract/132/3-4/884/573579/Formation-and-evolution-of-a-subduction-related?redirectedFrom=fulltext

Alessandro Regorda, Jean-Marc Lardeaux, Manuel Roda, Anna Maria Marotta, Maria Iole Spalla (2020). How many subductions in the Variscan orogeny? Insights from numerical models. Geoscience Frontiers, doi:10.1016/j.gsf.2019.10.005

[2020]
https://www.sciencedirect.com/science/article/pii/S1674987119302002?via%3Dihub

Manuel Roda, Alessandro Regorda, Maria Iole Spalla, Anna Maria Marotta (2019). What drives Alpine Tethys opening: clues from the review of geological data and model predictions. Geological Journal, doi:10.1002/gj.3316

[2019]
https://onlinelibrary.wiley.com/doi/10.1002/gj.3316

Alessandro Regorda, Manuel Roda, Anna Maria Marotta, Maria Iole Spalla (2017). 2-D numerical study of hydrated wedge dynamics from subduction to post-collisional phases. Geophysical Journal International, 211, 974-1000, doi:10.1093/gji/ggx336

[2017]
https://academic.oup.com/gji/article/211/2/952/4062160

Alessandro Regorda, Anna Maria Marotta, Maria Iole Spalla (2013). Numerical model of an ocean/continent subduction and comparison with Variscan orogeny natural data. Rendiconti Online Societa Geologica Italiana, 29,142-145

[2013]
https://www.scopus.com/record/display.uri?eid=2-s2.0-84892711627&origin=inward&txGid=319c0a1f1351e93faaee95a497732c15

CONFERENCES AND SEMINARS

GIGS Annual meeting

[Milan, 28/10/2013 – 29/10/2013]

Oral presentation "Numerical modelling of an ocean/continent subduction and comparison with Variscan orogeny real data" - Regorda A., Marotta A.M. & Spalla M.I.

EGU General assembly

[Wien, 28/04/2014 – 02/05/2014]

Poster, "Numerical modelling of an ocean/continent subduction and comparison with Variscan orogeny real data" - Marotta A.M., Regorda A., Spalla M.I., Roda M. & Rebay G.

SGI-SIMP Annual congress

[Milan, 10/09/2014 – 12/09/2014]

Oral presentation, "2D numerical study of the effects of mantle hydration and viscous heating on the dynamics of the wedge area within an ocean/continent subduction complex: the case study of Variscan crust in the Alpine domain" - Regorda A., Marotta A.M., Spalla M.I., Roda M. & Rebay G.

Variscan 2015

[Rennes, 09/06/2015 – 11/06/2015]

Oral presentation, "Effects of mantle hydration and viscous heating on the dynamics of mantle wedge in a subduction system: differences and similarities of 2D model predictions with examples from the Variscan crust" - Regorda A., Marotta A.M., Roda M., Lardeaux J.M. & Spalla M.I.

GIGS Annual meeting

[Catania, 30/09/2015]

Oral presentation, "2D numerical model of an ocean/continent subduction system: examples from the Variscan crust" - Regorda A., Marotta A.M., Roda M., Lardeaux J.M. & Spalla M.I.

AGU Fall Meeting

[San Francisco, 14/12/2015 – 18/12/2015]

Oral presentation, "NEW INSIGHTS INTO THE DYNAMICS OF WEDGE AREAS FROM A 2D NUMERICAL STUDY OF THE EFFECTS OF SHEAR HEATING AND MANTLE HYDRATION ON AN OCEAN-CONTINENT SUBDUCTION SYSTEM" - Roda M., Regorda A., Marotta A.M. & Spalla M.I.

SGI-SIMP-SOGEI Annual congress

[Parma, 16/09/2019 – 19/09/2019]

Poster, "How many subductions in the Variscan orogeny? Insights from numerical models" - Regorda A., Lardeaux J.-M., Roda M., Marotta A.M. & Spalla M.I.

GNGTS Annual congress

[Rome, 12/11/2019 – 14/11/2019]

Oral presentation, "How many subductions in the Variscan orogeny? Insights from numerical models" - Regorda A., Lardeaux J.-M., Roda M., Marotta A.M. & Spalla M.I.

GNGTS Annual congress

[Online, 22/06/2021 – 24/06/2021]

Poster, "Metamorphic and deformation patterns produced during an oceanic subduction: insights from 2D numerical models" - Regorda A., Spalla M.I., Roda M., Lardeaux J.-M. & Marotta A.M.

SGI Annual congress

[Online, 14/09/2021 – 16/09/2021]

Oral presentation, "Metamorphic P-T conditions characteristic of subduction/collision systems: insights from 2D numerical models" - Regorda A., Spalla M.I., Roda M., Lardeaux J.-M. & Marotta A.M.

Réunion des Sciences de la Terre Annual congress

[Lyon, 01/11/2021 – 05/11/2021]

Oral presentation, "How many subductions in the Variscan orogeny? Insights from numerical models" - Regorda A., Lardeaux J.-M., Roda M., Marotta A.M. & Spalla M.I.

GNGTS Annual congress

[Trieste, 27/06/2022 – 29/06/2022]

Poster, "Parametric study of the effects of micro-continents collision in a oceanic subduction systems by 2D numerical simulations" - Regorda A., Roda M. & Thieulot C.

PARTICIPATION IN FUNDED PROJECTS

Gravitational Seismology, ESA Endorsement (Principal Investigator Prof. Roberto Sabadini)
[2018 – 2019]

MIUR-PRIN 2011 project 'Birth and death of oceanic basins: geodynamic processes from rifting to continental collision in Mediterranean and Circum-Mediterranean orogens' (Principal Investigator Prof. Maria Iole Spalla)
[2013 – 2016]

SISMA (Seismic Information System for Monitoring and Alert), funded by the Italian Space Agency (Principal Investigator Prof. Roberto Sabadini)
[2007 – 2012]

REVIEWING ACTIVITIES

January 2022 reviewer of Scientific Report

Reviewer of Geophysical Journal International
[01/2022]

Reviewer of Frontiers in Earth Science
[07/2022]

TEACHING AND TUTORING ACTIVITIES

Co-tutor of Arcangela Bollino, Ph.D. student, Università degli Studi di Milano - 'Quasi static gravity signatures in slow tectonic zones: assimilation of novel aerospace data and geophysical modeling'
[01/10/2019 – Current]

Co-supervisor of Federica Restelli, M.Sc. student, Università degli Studi di Milano - 'Effetti statici e dinamici della subduzione sul campo gravitazionale terrestre'
[2019]

Teaching assistance of the M.Sc. course 'Numerical modelling of geodynamic processes' (Prof. Anna Maria Marotta) - Università degli Studi di Milano.
[10/2019 – 12/2019]

INSTITUTIONAL ROLES

PhD students representative at the Department of Earth Science 'Ardito Desio', Università degli Studi di Milano
[2014 – 2016]

Research fellows representative at the Department of Earth Science 'Ardito Desio', Università degli Studi di Milano
[2018 – Current]

Representative for the Department of Earth Science and Board member at the Council of Research Fellows of the Università degli Studi di Milano
[2020 – Current]

SHORT COURSES AND FIELD TRIPS

“Continental construction of Paleozoic orogens, mechanisms of continental deformation from macro to micro- scales” – Prof. K. Schulmann.

[24/03/2014 – 28/03/2014]

Short course organised by Dipartimento di Scienze della Terra “Ardito Desio”, Università degli Studi di Milano

“Intraplate tectonics and sedimentary basin dynamics: mild inversion to intraplate orogenesis” – Prof. R.A. Stephenson.

[22/04/2014 – 24/09/2014]

Short course organised byDipartimento di Scienze e Tecnologie, Università degli Studi del Sannio

“Plates and disaster” – Prof. D. Bercovici.

[29/10/2014 – 31/10/2014]

Short course organized by Dipartimento di Scienze Geologiche, Università degli Studi di Roma 3

"Il ruolo della geologia strutturale nella ricerca petrolifera: dalla tettonica delle placche alla scala di pozzo" – Dr. Corrado Magistroni

[25/02/2015]

Workshop organized by Dipartimento di Scienze della Terra “Ardito Desio”, Università degli Studi di Milano

"Slow earthquakes and intermediate timescale events for geodynamics" – Prof. David A. Yuen

[19/03/2015]

Workshop organized by Dipartimento di Scienze della Terra “Ardito Desio”, Università degli Studi di Milano

"Giornata di studio dedicata alla modellistica analogica in Italia" – GEOMOD.it

[03/06/2015]

Workshop organized by Dipartimento di Scienze della Terra, Università degli Studi di Firenze

“Armorican Massif: Nappe stacking and oceanic suture zone” – Prof. M. Ballèvre and Prof. P. Pitra

[11/06/2015 – 12/06/2015]

Field trip related to Variscan 2015 – Université de Rennes 1

"Petrologic Evidence for Rapid Exhumation of Alpine UHP Rocks from >100 km Depth" – Prof. Robert J. Tracy

[13/11/2015]

Workshop organized by Dipartimento di Scienze della Terra, Università di Torino

Multiscale structural analysis and tectonic interpretation of crystalline basaments – Prof. J.M. Lardeaux, Prof. M.I. Spalla.2

[21/04/2016 – 24/04/2016]

Field work on the Maures-Tanneron Massif organised by 1) Géoazur – Faculty of Science, University of Nice “Sophia Antipolis” and 2) Department of Earth Science “Ardito Desio”, Università degli Studi di Milano

"Linking deep Earth and surface processes through geodynamic and landscape evolution numerical modeling: from mantle flow to glacial erosion" – Dr. Pietro Sternai

[21/06/2016]

Workshop organized by Géoazur, Université de Nice-Sophia Antipolis

HOBBIES AND INTERESTS

Since 1998 to present play basketball for amateur associations. Enjoy mountaineering, hiking, climbing, skiing, camping.