

Curriculum vitae

RODA Manuel

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Born the June,13 1979

Research fields:

- Geodynamics, Structural Geology, Numerical modeling, Mars morphology.

Appointments:

- **Post-Doc in Earth Sciences** – Numerical modeling, **November 2014 – in progress**, at Università degli Studi di Milano, with a project titled *Effects of continental collision and convergence angle on the dynamics and the thermal evolution of an ocean-continent subduction system: from numerical modelling to the natural case of the Alpine chain*, P.I.: Maria Iole Spalla and Anna Maria Marotta.
- **Post-Doc in Mars Sciences** - Numerical modeling, **January 2012 – October 2014**, at Utrecht University - Netherlands with a project titled *Chaotic Terrains on Mars: testing the subsurface lake hypothesis*, P.I.: Tanja E. Zegers and Rob Govers.

Education:

- **PhD in Earth Sciences** - Numerical modeling, **December 2007 – February 2011**, at the PhD school "Terra, Ambiente e Biodiversita" (University of Milan) with a thesis titled *Integration of natural data within a numerical model for the geodynamic reconstruction of an inner portion of the Alps*, tutors Prof.ssa Anna Maria Marotta and Prof.ssa Maria Iole Spalla.
- **Master Degree in Geology**, obtained in **2004**, December 17 (110/110), Università degli Studi di Milano, with the thesis titled *Meso and microstructural analysis of the Mont Morion granitic-dioritic complex (Dent Blanche nappe, Western Alps): pre-alpine and alpine evolution*.
- **Maturità Tecnica**, obtained in **1998**, Istituto Tecnico Industriale P. Carcano of Como (Italy).

Research articles:

2016

- **Manuel Roda**, Maarten G. Kleinhans, Tanja E. Zegers and Rob Govers: Origin of circular collapsed landforms in the Chryse region of Mars – *Icarus*, Volume 265 pp. 70–78, doi: 10.1016/j.icarus.2015.10.020
- Anna Maria Marotta, **Manuel Roda**, Katya Conte and Maria Iole Spalla: Thermo-mechanical numerical model of the transition from continental rifting to oceanic spreading: the case study of the Alpine Tethys – *Geological Magazine*, pp. 1-30, doi: 10.1017/S0016756816000856

2015

- Guido Gosso, Gisella Rebay, **Manuel Roda**, Maria Iole Spalla, Massimo Tarallo, Davide Zanoni, and Michele Zucali: Taking advantage of petrostructural heterogeneities in subduction- collisional orogens, and effect on the scale of analysis – *Periodico di Mineralogia*, Volume 84, pp. 779-825, doi: 10.2451/2015PM0452

2014

- Marra, W. A., E. Hauber, S. J. McLelland, B. J. Murphy, D. R. Parsons, S. J. Conway, **M. Roda**, R. Govers, and M. G. Kleinhans: Pressurized groundwater outflow experiments and numerical modeling for outflow channels on Mars - *J. Geophys. Res. Planets*, Volume 119, doi:10.1002/2014JE004701
- **Manuel Roda**, Maarten G. Kleinhans, Tanja E. Zegers and Jelmer H.P. Oosthoek: Catastrophic ice lake collapse in Aram Chaos, Mars – *Icarus*, Volume 236 pp. 104–121, doi: 10.1016/j.icarus.2014.03.023
- Maria Iole Spalla, Davide Zanoni, Anna Maria Marotta, Gisella Rebay, **Manuel Roda**, Michele Zucali, and Guido Gosso: The transition from Variscan collision to continental break-up in the Alps: advices from the comparison between natural data and numerical model prediction - *GSL Special Publications*, Volume 405, pp. 363-400, doi: 10.1144/SP405.11

2012

- **Manuel Roda**, Maria Iole Spalla and Anna Maria Marotta: Integration of natural data within a numerical model of ablative subduction: A possible interpretation for the Alpine dynamics of the Austroalpine crust - *Journal of Metamorphic Geology*, Volume 30, Issue 9, pp. 973–996.

2011

- **Manuel Roda** and Michele Zucali: Tectono-metamorphic map of the Mont Morion Permian metaintrusives (Mont Morion - Mont Collon - Matterhorn Complex, Dent-Blanche Unit), Valpelline - Western Italian Alps - *Journal of Maps*, Volume 2011, pp. 519-535.
- **Manuel Roda**, Anna Maria Marotta and Maria Iole Spalla: The effects of the overriding plate thermal state on the slab dip in an ocean-continent subduction system - *Comptes Rendus Geoscience*, Volume 343, pp. 323-330.

2010

- **Manuel Roda**, Anna Maria Marotta e Maria Iole Spalla: Numerical simulations of an ocean-continent convergent system: Influence of subduction geometry and mantle wedge hydration on crustal recycling - *Geochemistry Geophysics Geosystems*, Volume 11, Number 5.

2008

- **Manuel Roda** and Michele Zucali: Meso and microstructural evolution of the Mont Morion metaintrusive complex (Dent-Blanche nappe, Austroalpine domain, Valpelline, Western Italian Alps) - *Bollettino della Societa' Geologica Italiana*. Volume 12, pp. 105-123.

Teaching:

- **March-May 2016:** Teaching and Teaching assistance of course *Structural Geology, Tectonics and Lab*– Università di Milano.
- **April-July 2014:** Teaching and Teaching assistance of course *Planetology: an introduction* – Utrecht University.
- **April-July 2013:** Teaching assistance of course *Planetology: an introduction* – Utrecht University.
- **April-June 2012:** Teaching assistance of course *Planetology: an introduction* – Utrecht University.
- **April 2011:** Teaching assistance of course *Numerical modeling of geodynamics processes* – Università di Milano.
- **August-September 2010:** Teaching assistance during geodynamics field trip throughout the Central-Western Alps – Università di Milano.
- **March-June 2010:** Teaching assistance of course *Numerical modeling of geodynamics processes* – Università di Milano.

- **July 2009:** Teaching assistance during the structural geology field trip in Western Alpi Apuane – Università di Milano.
- **December 2008:** Teaching assistance of course *Microstructural analysis using the microscope* – Università di Milano.

Thesis advisor (Supervisor)

- **September 2016-April 2017:** Master Degree thesis of Francesca de Salvo *Evoluzione geodinamica di Rocca Canavese Thrust Sheet* – Università di Milano.
- **September 2016-April 2017:** Master Degree thesis of Tessa Donigaglia *Condizioni di intrusion del plutone di Biella* – Università di Milano.
- **April-July 2014:** Bachelor Degree thesis of Jan Westerweel *Simulating collapsing chaotic terrains on Mars using discrete element modeling* – Utrecht University.
- **September 2010-July 2011:** Master Degree thesis of Irene Borghesan *Phase changes impact on the mantle wedge dynamics* – Università di Milano.
- **February-July 2010:** Bachelor Degree thesis of Luca Ravagnani *Numerical model of conductive cooling of regular geometry intrusions: the Biella Plutons example* – Università di Milano.

Community Service:

- **Since 2016:** Reviewer for Journal of Maps.
- **Since 2013:** Reviewer for Journal of Virtual Explorer.
- **June 2012:** Organizer of GIGS conference “*Riunione Annuale Gruppo Italiano di Geologia Strutturale*” - Modena - Italy
- **Since 2010:** Reviewer for Geology (GSA Membership) and for Journal of Geodynamics (Elsevier).

Professional activities:

- **From May 2006 to July 2006:** training at EVA, Energie Valsabbia s.p.a. (Gavardo, BS - Italy) of design of hydroelectric plants (mini-hydro).
- **From August 2006 to March 2007:** member of engineering team at EVA, Energie Valsabbia s.p.a. (Gavardo, BS - Italy) as geologist to support the design and construction of hydroelectric plants (mini-hydro).
- **From January 2007 to June 2008:** member of scouting team at EVA, Energie Valsabbia s.p.a. (Gavardo, BS - Italy) to support the hydroelectric scouting in Italy.

- **From April 2007 to June 2008:** scouting team-manager at EVA, Energie Valsabbia s.p.a. (Gavardo, BS, - Italy).