

ELISABETTA RAMPONE - CURRICULUM VITAE (updated June 2018)

Personal data

Born: May 16, 1962 in Lavagna (Genova, Italy),

Position: Full Professor (Petrology)

Affiliation: Dipartimento di Scienze della Terra, dell'Ambiente e della Vita (DISTAV), Università degli Studi di Genova, Corso Europa 26, 16132 Genova, Italy

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Education

29/7/1992: Doctorate Degree in Earth Sciences at the University of Genova

8/7/1987: Degree in Geological Sciences, at the University of Genova

Positions

Since 1/11/2013: Full Professor in Petrology (GEO/07) at the University of Genova.

1/11/2001 – 31/10/2013: Associate Professor in Petrology at the University of Genova.

1/10/1998 – 31/10/2001: Associate Professor in Petrology at the University of Milano – Bicocca.

3/09/1996 - 31/10/1998: Permanent Research position in Petrology at the Department of Earth Sciences of the University of Milano.

January 1994 – December 1995: Postdoctoral Research fellowship at the University of Genova.

November 1991 – October 1993: C.N.R. fellowship at the University of Genova

Scientific Interests and Research Lines

The scientific activity of Elisabetta Rampone is focused on the **petrology and geochemistry of mantle peridotites and ophiolites**. This research is primarily addressed to the understanding of the petrologic and geodynamic processes acting on the lithosphere-asthenosphere system during the distinct stages of evolution of an oceanic basin (from continental rifting to ultraslow spreading). The field-based research is oriented to the understanding of (1) the origin and geodynamic significance of the Alpine-Apennine Jurassic ophiolites, through the comparison with modern oceanic analogues (passive continental margins versus slow- and ultraslow- spreading ridges) (2) the mechanisms of magma production, melt percolation and melt-peridotite interaction acting in the asthenospheric and lithospheric mantle at oceanic conditions and (3) the metamorphic evolution of the lithospheric mantle at extensional settings. These studies are carried on ophiolitic sequences (mantle peridotites and associated gabbroic and basaltic crust) from the Northern Apennines (Italy), Ligurian Alps (Italy) and Alpine Corsica (France), remnants of the oceanic lithosphere of the Jurassic Ligurian Tethys. The scientific activity of Elisabetta Rampone has been also addressed to define the metasomatic processes in the supra-subduction mantle, by petrologic and geochemical investigations on garnet peridotites from the Ulten Zone (Oriental Alps) and mantle xenoliths from the Betic Cordillera (Southern Spain).

Current collaborations:

- A.W. Hofmann, Max Planck Institut für Chemie, (Mainz, Germany) and Lamont Doherty Earth Observatory (New York, USA)
- S. Goldstein e C. Class, Lamont Doherty Earth Observatory (New York, USA)
- A. Zanetti, IGG-CNR Pavia (Italy)
- P. Fumagalli and G. Borghini, Università di Milano (Italy)
- Dr. B. Ildefonse e M. Godard (Géosciences Montpellier, Université Montpellier, France)
- A. Stracke (Inst. für Mineralogie, Universität Münster, Germany)
- A. Lugué (Steinmann Inst., Universität Bonn, Germany)

Publications

E. Rampone published 62 papers (51 of which on Scopus database) that received up to date 2119 citations (Scopus). She has an H-index (Scopus) = 27.

Funded Projects

- Principal Investigator of the project PRIN-MIUR 2015: "Melt-rock reaction and melt migration in the MORB mantle through combined natural and experimental studies", Prot. 2015C5LN35 (Principal Investigator).

- Responsible of the Genova Unit research project: "Melt - rock interactions in the oceanic lithosphere: microstructural and petro-geochemical constraints from ophiolites", funded by EU in the context of Project FP7-PEOPLE-2013-ITN MARIE CURIE "Training network on reactive geological systems from the mantle to the abyssal sub-seafloor" (Multi-partner ITN).

Component of the following funded projects:

- MIUR-COFIN 2003 "Melt percolation and impregnation in ophiolitic peridotites"
- MIUR-COFIN 2005 "Lithosphere evolution induced by migration of mantle derived melts at different geodynamic settings".
- MIUR-COFIN 2007 "Garnet- and carbonate-bearing ultramafic rocks of high- and ultrahigh- pressure origin: monitors of COH fluid/mantle exchange at subduction environments".
- MIUR-COFIN 2007 "Phase relations and interaction with COH fluid in carbonate peridotites from subduction settings: from nature to experiments";
- MIUR-COFIN 2009 "Light element and LILE budgets of subduction fluids released from COH-bearing natural ultramafic systems at high and ultrahigh pressure".

Teaching

- Petrography, Earth Sciences, University of Genova (Bachelor Degree),
- Petrology, Earth Sciences, University of Genova, (Master Degree),
- Petrography, Environmental Sciences, University of Genova (Bachelor Degree)

Editorial Activity

2006-2013: Associated Editor of the European Journal of Mineralogy.

2014 to Present: Editor in Chief of the European Journal of Mineralogy.

Reviewer for international magazines (*Earth Planetary Science Letters*, *Lithos*, *Contributions to Mineralogy and Petrology*, *Journal of Petrology*, *Chemical Geology*, *G3*).

Istitutional Scientific and Research Evaluation Activity

2013-2015: member of the management board of the Italian Society of Mineralogy and Petrology (SIMP);

November 2012 – July 2017: member of the Research Observatory of the University of Genova;

November 2015 – December 2016: member of the Group of Expert of Evaluation (GEV 04) for the Earth Sciences (nominated by the Italian Ministry of University and Research MIUR) for the evaluation procedure of the research quality of Italian Universities and Research Institutions (VQR 2011-2014).

Stages

17/10/1990 – 17/6/1991: research stage at the Max Planck Institut fuer Chemie, Department of Geochemistry, Mainz, Germany, during the PhD thesis, to perform Sr and Nd isotope work on the Northern Apennine peridotites, by TIMS.

Lectures and Invited Talks

E. Rampone held seminars and invited talks in various Italian and international meetings and schools (Trieste, Siena, Pavia, Milano, Firenze, Modena, Potenza, Napoli, San Francisco, Boston, Davos, Potsdam). Most significant are:

13-17 September 1998: Invitation to the “Penrose Conference on ophiolites and oceanic lithosphere”, (organized by the Geological Society of America in San Francisco, CA, USA), and oral presentation “The ophiolites - oceanic lithosphere analogue: new insights from the Northern Apennines”.

November 2001: Invited talk to the SGA annual meeting (title: Mantle petrology as key to the understanding of oceanic lithosphere formation: inferences from the Ligurian ophiolites), Boston, USA;

18-22 June 2007: lesson to the “International School of Isotope Geology”, held in Verbania, Italy (title: The isotopic composition of oceanic lithospheric mantle: insights from abyssal peridotites and ophiolites”);

September 2016: invited keynote at EMC2016 meeting held in Rimini, Italy (title: “Melt migration and melt-rock reaction in the Alpine-Apennine peridotites: insights on mantle dynamics in extending lithosphere”);

Organization

- Member of the Organizing and Scientific Committees of the “International Conference on Orogenic Lherzolites and Mantle Processes”, held at the University of Pavia, Italy, 10-15 September 1999.

- “Convenor” of the Session 105 “Melt and fluid flow in evolution of oceanic lithosphere”, 32nd IGC, Florence, August 2004:

- Member of the Steering committee and chief organizer of the InterRidge Polar Meeting and Workshop, held in Sestri Levante (Genova, Italy), 20-22 September 2006.

- Member of the Organizing and Scientific Committees of the “International School of Isotope Geology: frontiers in petrogenesis and magmatology, and application to archaeometry and environmental sciences”, held in Verbania, 18-22 June 2007.

- Member of the Organizing Committee of the National Meeting of the Italian Society of Mineralogy and Petrology, SIMP 2008, held in Sestri Levante Genova, September 7-12, 2008 .

- Member of the Scientific Committee of the International Meeting “Alpine Ophiolites and Modern Analogues”, Parma, 30 September – 2 October 2009, co-organizer and field leader of the pre-conference field trip on the Ligurian ophiolites.

- Convenor of scientific Session 1.4 “Magmatismo e Geodinamica” at the National Meeting of the Italian Society of Mineralogy and Petrology, SIMP 2010.

- Convenor of scientific Session 37 “Petrologia e Petrografia” at the National Meeting FIST GEOITALIA 2011.

- Team Member of theme “Mantle Geochemistry” at the Goldschmidt Conference 2013, Florence 25-30 Agosto 2013. Within this theme, Convenor of Session 5a: “Building the oceanic lithosphere: from mantle melting to magma chambers”. Field Leader of post-meeting excursion: “Ligurian Ophiolites: a journey through the building and evolution of slow spreading oceanic lithosphere”. Sestri Levante 31 Agosto – 1 Settembre 2013.

- Convenor of scientific Session S2 “Mantle processes and crustal genesis in extensional environments” of the National SIMP Meeting 2015, Florence.

- Chief Organizer and member of scientific committee of Mid-term Meeting n.2 of European project Marie-Curie ITN ABYSS, Sestri Levante, 7-10 Aprile 2016.

- Convenor of Session S10 “Controls of mantle depletion/enrichment on geological processes” at SGI 2016 Meeting, Naples, Italy

- Member of the Scientific Committee of the International PhD School “*International Winter School on Melting and fluid/melt-rock reactions in the mantle*”, MEREMA, held at the University of Pavia, Italy, 13-18 February 2017.

- Convenor of Session GMPV2.7/BG9.63/GD5.10 - Reactive Geological Systems from the Mantle to the Abyssal sub-seafloor, EGU 2017, Vienna.
- Member of the scientific Committee of the EMAW 2018 Meeting, held in Pavia (Italy), June 26-28 June 2018.

Scientific Awards

- Award “**Angelo Bianchi**”, 1993, assigned by the Italian Society of Mineralogy and Petrology.
- Award “**Giuseppe Borgia**” for research in Geology, 1996, assigned by the “Accademia Nazionale dei Lincei”.

Training

E. Rampone has trained numerous master thesis and PhD students. Worth noting are i) Giulio Borghini, who is presently researcher (RTDA) at the University of Milano, ii) Carlotta Ferrando, who got the PhD at the University of Montpellier in December 2017 (ITN project ABYSS), participated to the International Ocean Discovery Program “SW Indian Ridge Lower Crust and Moho” Expedition 360 (November 2015 - January 2016) and is presently post-doc at the University of Nancy, iii) Valentin Basch, who got the PhD at the University of Genova in May 2018 (ITN project ABYSS), and is presently post-doc at the same University.

Publications since 2010

- Rampone E., Vissers R.L.M., Poggio M., Scambelluri M., Zanetti A. (2010) - Melt Migration and intrusion during exhumation of the Alboran lithosphere: the Tallante mantle xenolith record (Betic Cordillera, SE Spain). *Journal of Petrology*, 51 (1,2), 295-325.
- Borghini G., Fumagalli P., Rampone E. (2010) - The Stability of Plagioclase in the Upper Mantle: Subsolidus Experiments on Fertile and Depleted Lherzolite. *Journal of Petrology*, 51 (1,2), 229-254.
- Scambelluri, M., Rampone, E., Braga, R., Malaspina, N. (2010) - The Variscan garnet peridotites from the Eastern Alps (Ulten Zone): records of subduction metasomatism in the mantle wedge. In: (Eds.) M. Beltrando, A. Peccerillo, M. Mattei, S. Conticelli, and C. Doglioni, The Geology of Italy, *Journal of the Virtual Explorer*, Electronic Edition, ISSN 1441-8142, volume 36, paper 28.
- Borghini G., Fumagalli P., Rampone E. (2011) - The geobarometric significance of plagioclase in mantle peridotites: A link between nature and experiments. *Lithos* 126, 42–53.
- Rampone E., Hofmann A.W. (2012) - A global overview of isotopic heterogeneities in the oceanic mantle. *Lithos*, 148, 247-261.
- Borghini G., Rampone E., Zanetti A., Class C., Cipriani A., Hofmann A.W., Goldstein S.L. (2013) - Meter-scale Nd isotopic heterogeneity in pyroxenite-bearing Ligurian peridotites encompasses global-scale upper mantle variability. *Geology*, 41(10), 1055-1058.
- Scambelluri M., Pettke T., Rampone E., Godard M., Reusser E. (2014) Petrology and Trace Element Budgets of High-pressure Peridotites Indicate Subduction Dehydration of Serpentinized Mantle (Cima di Gagnone, Central Alps, Switzerland). *Journal of Petrology*, 55 (3) 459-498.
- Rampone E., Borghini G., Romairone A., Abouchami W., Class C., Goldstein S. (2014) Sm–Nd geochronology of the Erro-Tobbio gabbros (Ligurian Alps, Italy): Insights into the evolution of the Alpine Tethys. *Lithos* 205, 236-246.
- Sanfilippo A., Borghini G, Rampone E., Tribuzio R. (2014) - The Ligurian Ophiolites: a journey through the building and evolution of slow spreading oceanic lithosphere. *Geological Field Trips* Vol.6 No.2.3, 46 pp., 37 figs. (DOI 10.3301/GFT.2014.06), ISSN: 2038-4947 [online].
- Borghini G., Rampone E., Zanetti A., Class C., Cipriani A., Hofmann A.W., Goldstein S.L. (2016) Pyroxenite Layers in the Northern Apennines’ Upper Mantle (Italy) – Generation by Pyroxenite Melting and Melt-infiltration. *Journal of Petrology* 57 (4), 625-653.

- Rampone E., Borghini G., Godard M., Ildefonse B., Crispini L., Fumagalli P. (2016) Melt/rock reaction at oceanic peridotite/gabbro transition as revealed by trace element chemistry of olivine. *Geochim. Cosmochim. Acta*, 190, 309-331.
- Fumagalli P., Borghini G., Rampone E., Poli S. (2017) - Experimental calibration of Forsterite Anorthite–Ca-Tschermak–Enstatite (FACE) geobarometer for mantle peridotites. *Contribution to Mineralogy and Petrology* 172: 38. DOI 10.1007/s00410-017-1352-2
- Borghini G., Fumagalli P., Rampone E. (2017) - Partial melting of secondary pyroxenite at 1 and 1.5 GPa, and its role in upwelling heterogeneous mantle. *Contribution to Mineralogy and Petrology* 172: 70. DOI 10.1007/s00410-017-1387-4.
- Rampone E. (2017) - Melt-rock reaction and melt migration in the MORB mantle through combined natural and experimental studies. *Impact*, 2017 (7), 29-31. DOI: 10.21820/23987073.2017.7.29. ISSN 2398-7073 (Print); ISSN 2398-7081 (Online).
- Ferrando C., Godard M., Ildefonse B., Rampone E. (2018) Melt transport and mantle assimilation at Atlantis massif (IODP site U1309): Constraints from geochemical modeling. *Lithos*, published on-line, DOI 10.1016/j.lithos.2018.01.012.
- Basch V., Rampone E., Crispini L., Ferrando C., Ildefonse B., Godard M. (2018) - From mantle peridotites to hybrid troctolites: textural and chemical evolution during melt-rock interaction history (Mt.Maggiore, Corsica, France). *Lithos*, published on-line, DOI 10.1016/j.lithos.2018.02.025.