

FEDERICO FARINA
CURRICULUM VITAE

Part I - GENERAL INFORMATION

Full Name: **Federico Farina**

Date of birth: 21.04.1980

Citizenship: Italian

E-mail: federico.farina@unimi.it

Language skills: Italian (native speaker), English (fluent), Portuguese (good), Spanish (intermediate), French (basic)

Part II - EDUCATION

- University of Pisa, Italy.
PhD in Earth Sciences.
Thesis: *"Building the Monte Capanne pluton (Elba Island, Italy) by multiple magma batches: emplacement and petrogenetic implications"*. Defence: 28/03/2008.
- University of Pisa, Italy.
Master in Earth Sciences *cum laude*.
Thesis: *"I megacristalli di K-feldspato del plutone del Monte Capanne: studio geochimico-isotopico e implicazioni petrogenetiche"*. Defense 22/10/2004.
- Universidad Complutense de Madrid, Spain.
Europe's Erasmus Student exchange Program, nine months scholarship (October 2002- June 2003)

Main attended short Courses:

- 9-12 September 2013: International School – *"Zircon: a key mineral for dating and tracking geological processes"*. Pavia, Italy.
- 22-28 August 2012 - Second EGU Summer School - *"Structural analysis of crystalline rocks – Advanced techniques of quantitative structural analysis in deformed basement rocks"*. South Tyrol, Italy.
- 19-29 August 2007 - Marie Curie Summer School- Knowledge Based Materials- *"Partial Melts and Amorphous Solids"*. Estremoz, Portugal.
- 18-22 June 2007 - International School of Isotope Geology: *"Frontiers in petrology and magmatology and applications to archaeometry and environmental sciences"*. Verbania - Pallanza, Italy.

Part III –APPOINTMENTS

IIIA- Academic Appointments

- 1st of May 2018 – 28th of December 2018.
Maitre-assistant (lecturer) at the department of Earth Sciences of the University of Geneva (Switzerland).
- 1st of May 2016 – 30th of April 2018.
Post-doctoral fellowship at the department of Earth Sciences of the University of Geneva (Switzerland). The post-doctoral position has been awarded by the European Union through the Horizon 2020 program "Marie Skłodowska-Curie - Individual Fellowship".
- 1st of January 2013 – 30th of November 2015.
Post-doctoral fellowship at the Department of Earth Sciences of the Federal University of Ouro Preto (Brazil). The post-doctoral position has been awarded by the Brazilian National Council for Scientific and Technological Development (Conselho Nacional de Desenvolvimento Científico e Tecnológico; CNPq) in the frame of the project "Atração de Jovens Talentos" (program: Young Talent Researcher).
- 1st of January 2009 – 30th of June 2012.
Post-doctoral fellowship at the department of Geology, Geography and Environmental Studies of the

University of Stellenbosch, South Africa.

Current Position

University of Geneva, Switzerland.

Research associate (05.2016-Present).

Post-doctoral position funded by the European Union through the Horizon 2020 program "Marie Skłodowska-Curie - Individual Fellowship.

IIIB- Other Appointments

- 1st of September 2008 – 15th December 2008
Mining geologist for the R.E.D. GRANITI SpA (Massa, Italy).

Part IV – TEACHING EXPERIENCE

Course of Igneous Petrology.

Field assistant during undergraduate field trips to the Cape Granite Suite (Western Cape- South Africa). Years 2009, 2011, 2012.

Co-supervisor of the following Master thesis:

- 1) Genesis of igneous layering in granitoid plutons: an insight on magma chamber formation. Student: Priscilla Ramphaka. Status: completed, Stellenbosch University (South Africa).
- 2) The petrogenesis of ignimbrites exposed at Saldanha west coast, South Africa. Student: Cedric, S. A. Joseph. Status: completed, Stellenbosch University (South Africa).
- 3) Petrogenesis of the Buddusò pluton (Sardinia, Italy) Student: Roxanne Soorajlal. Status: completed, Stellenbosch University (South Africa).

Co-supervisor of the following PhD thesis:

- 1) Production and emplacement of potassic magmas as a mechanism of stabilization for the Southern São Francisco Craton, SE Brazil. Student: Capucine Albert. Status: Completed. Federal University of Ouro Preto (Brazil).
- 2) Genesis and evolution of a Neoproterozoic magmatic arc: the Cordilleran-type granitoids of the Araçuaí Belt, Brazil. Student: Francesco Narduzzi. Status: Forth year. Federal University of Ouro Preto (Brazil)

Part V – GRANTS AND AWARDS

Science without borders (Ciencia sem Fronteiras; Brazilian government programme) grant: **Young Talent Researcher**. Title of the project funded: *Production and emplacement of potassic magmas as a mechanism of stabilization for the Southern São Francisco Craton, SE Brazil*. Grant value: 300000 R (ca. 70000 Euros). January 2013- December 2015.

Horizon 2020 **Marie Skłodowska-Curie Action - Individual Fellowship** (IF). Title of the project funded: *Mineral-scale heterogeneity of granites: a new approach integrating microchemical analysis and thermo-mechanical modelling to disclose the thermochemical evolution of the continental crust*. Proposal acronym: MIGRATE. Grant value: 187000 Euros. May 2016- April 2018.

Part VI – OTHER ACADEMIC AND PROFESSIONAL ACTIVITIES

Field-trip leader

Leader of the field-trip: "Tectonomagmatic evolution of the Archean basement of the Quadrilátero Ferrífero province (Minas Gerais, Brazil): the tonalite-trondhjemitegranodiorite (TTG) to calc-alkaline granodioritegranite transition". Pre-meeting field-trip (15-19th September 2015) organized within the context of the 8th Hutton Symposium on Granites and Related Rocks.

Convener of sessions in international conferences

Goldschmidt 2017, Paris 13th-19th August 2017. Session 06h: "Making granites: petrogenetic processes,

tectonic environments and secular variations”.

Review activity

Review Editor for *Frontiers in Earth Sciences*. Research topic: Petrology.

Reviewer for the following journals: *Lithos*, *Journal of Petrology*, *Precambrian Research*, *Chemical Geology*, *International Journal of Earth Sciences*.

SCIENTIFIC PRODUCTION

LIST OF PUBLISHED PAPERS:

- Di Rosa, M., **Farina, F.**, Marroni, M., Pandolfi, L., Göncüoğlu, M.C., Ellero, A., Ottria, G., in press. U-Pb zircon geochronology of intrusive rocks from an exotic block in the Late Cretaceous – Paleocene Taraklı Flysch (northern Turkey): Constraints on the tectonics of the Intrapontide suture zone. *Journal of Asian Earth Science*, in press.
- Farina F., Dini, A., Ovtcharova, M., Davies, J.H.F.L., Greber, N.D., Bouvier, A-S., Baumgartner, L., Ulianov A., Schaltegger, U. 2018. Zircon petrochronology reveals the timescale and mechanism of anatectic magma formation. *Earth and Planetary Science Letter*, 495, 213-223. DOI: 10.1016/j.epsl.2018.05.021.
- Lana C., **Farina F.**, Gerdes A., Alkmim A., Gonçalves G.O., Jardim A.J., 2017. Characterization of zircon reference materials via high precision U–Pb LA-MC-ICP-MS. *Journal of Analytical Atomic Spectrometry*, 10, 2011-2023. DOI: 10.1039/c7ja00167c.
- Narduzzi F., **Farina F.**, Stevens G., Lana C., Nalini Jr H.A., 2017. Magmatic garnet in the Cordilleran-type Galiléia granitoids of the Araçuaí belt (Brazil): Evidence for crystallization in the lower crust. *Lithos*, 282-283, 82-97.
- Aguilar C., Alkmim FF., Lana C., **Farina F.**, 2017. Palaeoproterozoic assembly of the São Francisco craton, SE Brazil: New insights from U–Pb titanite and monazite dating. *Precambrian Research*, 289, 95-115.
- Albert C., **Farina F.**, Lana C., Stevens, G., Storey, C., Gerdes, A., Martínez Dopico C., 2016. Archean crustal evolution in the Southern São Francisco craton, Brazil: Constraints from U-Pb, Lu-Hf and O isotope analyses. *Lithos*, 266-267, 64-86.
- **Farina F.**, Albert C., Martínez Dopico C., Aguilar Gil C., Moreira H., Hippert J.P., Cutts K., Alkmim F.F., Lana C., 2016. The Archean–Paleoproterozoic evolution of the Quadrilátero Ferrífero (Brasil): Current models and open questions. *Journal of South American Earth Sciences*, 68, 4-21.
- Westerman D.S., Rocchi S., Dini A., **Farina F.**, Roni E., 2016. Rise and Fall of a Multi-sheet Intrusive Complex, Elba Island, Italy. In: *Physical Geology of Shallow Magmatic Systems. Dykes, Sills and Laccoliths*. Ed. C. Breitkreuz and S. Rocchi. Springer. Series ISSN: 2364-3277. *Advances in Volcanology*.
- **Farina F.**, Albert, C., Lana, C., 2015. The Neoproterozoic transition between medium- and high-K granitoids: Clues from the Southern São Francisco Craton (Brazil). *Precambrian Research*, 266, 375-394.
- **Farina F.**, Stevens G., Gerdes A., Frei D., 2014. Small-scale Hf isotopic variability in the Peninsula pluton (South Africa): the processes that control inheritance of source $^{176}\text{Hf}/^{177}\text{Hf}$ diversity in S-type granites. *Contributions to Mineralogy and Petrology*, 168, 1065. DOI: 10.1007/s00410-014-1065-8.

- **Farina F.**, Dini A., Rocchi S., Stevens G., 2014. Extreme mineral-scale Sr isotope heterogeneity in granites by disequilibrium melting of the crust. *Earth and Planetary Science Letters*, 399, 103-115. DOI: 10.1016/j.epsl.2014.05.018.
- Gonçalves L.E.S., **Farina F.**, Lana C., Pedrosa-Soares A.C., Alkmim F.F., Stevens G., Nalini Jr. H.A, 2014. Source diversity of a magmatic arc developed in a confined orogenic setting (Araçuaí orogen, southeastern Brazil). *Journal of South American Earth Sciences*, 52, 129-148.
- **Farina F.**, Stevens G., Villaros, A., 2012 Multi-batch, incremental assembly of a dynamic magma chamber: the case of the Peninsula pluton granite (Cape Granite Suite, South Africa). *Mineralogy and Petrology*, 106, 3-4, 193-216.
- **Farina F.**, Stevens G., Dini A., Rocchi S., 2012. Peritectic phases entrainment and magma mixing: origin of the chemical variability of the Elba Island granitic complex (Italy). *Lithos*, 153, 243-260. DOI: <http://dx.doi.org/10.1016/j.lithos.2012.05.011>
- Clemens J.D., Stevens G., **Farina F.** 2011. The enigmatic sources of I-type granites: the peritectic connexion. *Lithos*, 126, 174-181.
- **Farina F.**, Stevens G., 2011. Source controlled $^{87}\text{Sr}/^{86}\text{Sr}$ isotope variability in granitic magmas: the inevitable consequence of mineral-scale isotopic disequilibrium in the protolith. *Lithos*, 122, 189-200.
- Dini A., Rocchi S., Westerman S.D., **Farina F.**, 2010. The late Miocene intrusive complex of Elba Island: two centuries of studies from Savi to Innocenti. *Acta Vulcanologica*, 20- 21, 11-32.
- Rocchi S., Westerman S.D., Dini A., **Farina F.**, 2010. Intrusive sheets and sheeted intrusions at Elba Island (Italy). *Geosphere*, v. 6, 3, 225-236.
- **Farina F.**, Dini A., Innocenti F., Rocchi S., Westerman S.D., 2010. Rapid incremental assembly of the Monte Capanne pluton (Elba Island, Tuscany) by downward stacking of magma sheets. *Geological Society of America Bulletin*, 122, 1463-1479.
- **Farina F.**, 2008. Building the Monte Capanne pluton (Elba Island, Italy) by multiple magma batches. *Plinius*, 34.
- Dini A., **Farina F.**, Innocenti F., Rocchi S., Westerman S.D., 2007. Monte Capanne Pluton revisited 40 years after Giglia's contributions. *Rendiconti Società Geologica Italiana*, 5, 2.

LIST OF CONTRIBUTIONS TO CONFERENCES

Conference presentation (Talks)

- **Farina F.***, Dini, A., Ovtcharova, M., Davies J., Bouvier, A.S., Baumgartner, L., Schaltegger, U., 2017. Petrogenesis of the two-mica Larderello-Travale plutonic system by assembly of non-contemporaneous, isolated and isotopically distinct magma batches. Conference - *Geosciences: a tool in changing word*, 3-6 September 2017, Pisa (Italy).
- **Farina F.***, Dini A., Ovtcharova M., Bouvier A.S., Baumgartner, L., Schaltegger, U., 2016. Petrogenesis of the two mica-cordierite granites from the Larderello-Travale geothermal field revealed by oxygen isotopes and high-precision zircon U-Pb geochronology. 14th Swiss Geoscience Meeting, Geneva 2016. 18-19 November, Genève, Switzerland.
- **Farina F.***, 2014. The origin of radiogenic isotope variability in granites: intracrustal recycling and/or juvenile crust production? – Invited speaker. EGU General Assembly 2014, Vienna, Austria, 27 April-

02 May 2014. Conference Abstracts, Vol. 16, 1065.

- **Farina F.***, Stevens G., Gerdes A., Frei D., 2013. The scale of effective magma mixing and the inheritance of source Hf isotopic diversity in S-type granites. Goldschmidt Conference, 26-30 August 2013, Firenze, Italy. Goldschmidt 2013 Conference abstract pp. 1064. *Mineralogical Magazine*, 77, 5. DOI:10.1180/minmag.2013.077.5.6.
- **Farina F.***, Dini A., Rocchi S., Stevens G., 2012. Mineral-scale $^{87}\text{Sr}/^{86}\text{Sr}$ heterogeneities in the Elba Island intrusive complex: a consequence of prograde disequilibrium melting of the source. Goldschmidt Conference, 24-29 June 2012, Montréal, Canada.
- **Farina F.***, Stevens G., 2011. Source controlled $^{87}\text{Sr}/^{86}\text{Sr}$ isotope variability in granitic magmas: the inevitable consequence of mineral-scale isotopic disequilibrium in the protolith. 23rd Colloquium of African Geology, 8-14 January 2011, Johannesburg, South Africa. Book of abstracts.
- **Farina F.***, Stevens G., 2011. Magmatic structure in the Peninsula pluton (South Africa): Multi-batch assembly causing late stage mechanical instabilities. 3rd annual congress of the "Igneous & Metamorphic Studies Group", 16-18 January 2011, Stellenbosch, South Africa.
- **Farina F.***, Stevens G., 2010. Source controlled $^{87}\text{Sr}/^{86}\text{Sr}$ isotope variability in granitic magmas: the inevitable consequence of disequilibrium partial melting of the protolith. 89th SIMP meeting, Ferrara, Italy, 13-15 September 2010. Book of Abstracts, pp 134.
- **Farina F.***, Stevens G., 2010. Magmatic structures in the Peninsula Pluton (South Africa): multi-batch assembly causing late stage mechanical instabilities. 89th SIMP meeting, Ferrara, Italy, 13-15 September 2010. Book of Abstracts, pp 102.
- **Farina F.***, Stevens G., Dini A., 2010. Origin of $^{87}\text{Sr}/^{86}\text{Sr}$ variability in granitic magmas by fluid-absent melting of compositionally heterogeneous protoliths. EGU General Assembly 2010, Vienna, Austria, 02-07 May 2010. Geophysical Research Abstracts, Vol. 12, 2022.
- **Farina F.***, Stevens G., Dini A., Rocchi S., 2010. Origin of the major element chemical variability of the late Miocene Elba Island granitic complex (Italy) by peritectic phase entrainment and anatexis of a heterogeneous source. 2nd annual meeting of the Igneous and Metamorphic Studies Group. 18- 19 January 2010, Grahamstown, South Africa.
- **Farina F.***, Dini A., Innocenti F., Rocchi S., Westerman S.D., 2008. Rapid incremental assembly of the Monte Capanne pluton (Elba Island, Tuscany) by downward stacking of magma sheets. LASI III Conference, Abstract volume, pp 31-32, Elba Island (Italy), 15-18 September 2008.
- **Farina F.***, Dini A., Innocenti F., Rocchi S., Westerman S.D., 2007. Building the Monte Capanne pluton from multiple magma batches. Federazione Italiana di Scienze della Terra, Annual Meeting, vol. 2, pp 438, Rimini, Italy 12-14 September-2007.

Conference presentation (Poster)

- **Farina F. ***, Stevens G., Dini A., Schaltegger, U., 2017. Small-scale zircon age variability in the Monte Capanne pluton revealing the timescale of crustal melting and melt extraction. Goldschmidt Conference 2017, Paris 13-19 September 2017.
- **Farina F.***, Albert C., Aguilar C., Moreno J.A., Narduzzi F., Lana , 2016. From medium to high-K granitoids: towards stabilization of the Southern São Francisco craton. 2nd European Mineralogical Conference (EMC2), 11-15 September, 2016, Rimini, Italy.
- **Farina F.***, Cutts K., Lana C., 2015. Cryptic evidence of fluid-present partial melting of Archean banded gneisses in the Southern São Francisco craton (Brazil): implications for the evolution of the continental

crust. The 8th Hutton Symposium on Granites and Related Rocks, 20-25 September 2015, Florianopolis, Brazil.

- **Farina F.***, Albert C., Lana C., Stevens G., Moreira H., Hippertt J.P., 2014. Tectonomagmatic evolution of the Archaean basement of the Quadrilátero Ferrífero province (southeast Brazil): the tonalite-trondhjemitic-granodiorite (TTG) to calc-alkaline granodiorite-granite transition. EGU General Assembly 2014 Wien, Austria, 27 April-02 May 2014. Geophysical Research Abstracts Vol. 16, EGU2014-3919.
- **Farina F.**, Stevens G., Dini A.*, Rocchi S., 2011. Peritectic phase entrainment and magma mixing: the origin of the chemical variability of the late Miocene granitic complex from Elba Island (Italy). Geotalia, 19-23 September 2011, Torino, Italy. Book of abstracts.
- **Farina F.***, Stevens G., Villaros, A., 2011. Reconciling multi-batch pluton's incremental assembly with genesis of composite, dynamic magma chambers: the case of the Peninsula pluton granite (Cape Granite Suite, South Africa). VII Hutton Symposium on Granites and Related Rocks, Avila, Spain, 4-9 July 2011.
- **Farina F.***, Stevens G., Dini A., Rocchi S., 2010. Origin of the chemical variability of the late Miocene Elba Island granitic complex (Italy) by peritectic phase entrainment and anatexis of a heterogeneous source rock. EGU General Assembly 2010, Vienna, Austria, 2-7 May 2010. Geophysical Research Abstracts, Vol. 12, 2020.
- **Farina F.***, Dini A., Innocenti F., Rocchi S., Westerman S.D., 2008. Rapid incremental assembly of the Monte Capanne pluton (Elba Island, Tuscany) by downward stacking of magma sheets. EGU General Assembly 2008, Vienna, Austria, 13-18 April 2008. Geophysical Research Abstracts, Vol. 10, A-08860.
- **Farina F.***, Dini A., Innocenti F., Rocchi S., Westerman S.D., 2005. Sr and Nd isotopic investigation of K-feldspar Megacrysts from Monte Capanne pluton (Elba Island, Italy). Geotalia 2005, V forum di Scienze della Terra. Epitome vol.1, pp 248, Spoleto, Italy, 21- 23 September 2005.

Other conference contributions

- Narduzzi, F.* , **Farina F.**, Stevens, G., Lana, C. Nalini Jr, HA. 2015. Magmatic garnets in Cordilleran-type granitoids: evidence for crystallization in the lower crust. The 8th Hutton Symposium on Granites and Related Rocks, 20-25 September 2015, Florianopolis, Brazil.
- Albert, C.* , **Farina F.**, Lana, C., Gerdes, A. 2015. Archean crustal evolution in the Quadrilátero Ferrífero, Southern Sao Francisco craton (Brazil): constraints from U-Pb and Lu-Hf isotope analyses. The 8th Hutton Symposium on Granites and Related Rocks, 20-25 September 2015, Florianopolis, Brazil.
- Aguilar, C.* , **Farina F.**, Lana, C., 2015. Constraining the timing of the Transamazonian metamorphic event in the Southern São Francisco Craton (Brazil) by U–Pb titanite and monazite dating. The 8th Hutton Symposium on Granites and Related Rocks, 20-25 September 2015, Florianopolis, Brazil.
- Ruggieri G.* , Dini A., **Farina F.**, Liotta D., Mazzarini F., Rocchi S., 2013 - Very hightemperature fluids in geothermal systems: information from the study of fossil, magmatic-related, hydrothermal system in eastern Elba Island. FIST Geotalia 2013 – IX Forum di Scienze della Terra, Pisa, 16-18 Settembre 2013. Epitome 2013, pp 120.
- Joseph C.S.A.* , Stevens G., **Farina F.**, 2012. The petrogenesis of the ignimbrites and quartz porphyritic granites exposed along the Saldahna west coast, South Africa. LASI 5 Conference, South Africa, 29-30 October 2012.
- Ramphaka, P.L.* , Stevens G., **Farina, F.**, 2012. The origin of rhythmic magmatic layering in the S-type Peninsula Pluton, Cape Granite Suite, South Africa. LASI 5 Conference, South Africa, 29-30 October 2012.

- Stevens G.* , **Farina F.**, Gerdes A., Frei D., 2012. The inheritance of source Hf isotopic diversity in S-type granite magmas. LASI 5 Conference, South Africa, 29-30 October 2012.
- Dini A.* , **Farina F.**, 2011. Nature of granite source(s) in the Tuscan Magmatic Province: new insights from Sr-Nd isotope data of Paleozoic basement. *Geitalia*, 19-23 September 2011, Torino, Italy. Book of abstracts.
- Westerman S.D.* , Rocchi S., Dini A., **Farina F.**, Innocenti F., 2009. Intrusive sheets and sheeted intrusions at Elba Island (Italy). Geological Society of America *Abstracts with Programs*, Vol. 41, No. 3, p. 33. 44th Annual GSA Meeting, Northeastern Section, 22–24, March 2009.
- Rocchi S.* , Dini A., **Farina F.**, Innocenti F., Westerman S.D., 2008. Intrusive sheets and sheeted intrusions at Elba Island (Italy). LASI III Conference, Abstract volume, pp 71-72, Elba Island (Italy), 15-18 September 2008.
- Rocchi, S.* , Dini A., **Farina F.**, Innocenti F., Westerman S.D., 2008. Intrusive sheets and sheeted intrusions at Elba Island (Italy). EGU General Assembly 2008, Vienna, Austria, 04/13-18/2008. *Geophysical Research Abstracts*, Vol. 10, A-02593.

* presenter