

Extrait du Arnaud Villaros

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# Curriculum vitae [En]

- Publications - Autres -

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## **Description :**

Petrologist and Geochemist - Geological Mapping of igneous and metamorphic rocks - Modelling of petrological Processes

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**Arnaud Villaros**

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## Competences

- Petrology : Thin-sections description, micro-structural studies, and Modelling (Perple\_X ; thermocalc)
- Geochemistry : geochemical data interpretation, whole rock and in-situ analysis Major and trace elements, isotopic ratios (XrF, LA-(MC)-ICPMS, SEM-EDS and WDS, EPMA)
- Geological mapping : Field work and sampling ; GIS ; Satellite images interpretations
- Numerical Modelling of geochemical process on igneous rocks ; and mineral stability, self diffusion and assimilation.
- Computer software : Arcview, Mapinfo, IDL-ENVI ; R (GCDkit) ; Adobe illustrator ; Adobe Photoshop, Microsoft office suite.
- Programming : R, IDL language, website development
- Languages : French ; English (fluent) ; Spanish ; Catalan (knowledges) ; Afrikaans (knowledges)

## Professional Experience

- ATER - Department of Geology - Université Jean Monnet St Etienne - Laboratoire Magmas et Volcans
- Senior Analyst (Stellenbosch University) : Central Analytical facilities, Environmental Analysis Unit. In Charge of XrF- Spectrometer Development of Trace element mapping using SEM-WDS.
- PhD Research Project : Cape Granite Suite (South Africa) : The petrogenesis of S-type Granite with particular emphasis on source processes : Example from the Cape Granite Suite.
- Internship at the BRGM : Mapping in the French Massif Central (Livradois-Forez - Velay Massif) July and August 2004, St Germain Lembron sheet (1:50000) (University Henry Poincare, Nancy - BRGM).
- MSc research Project : Mapping in the French Alps (Argentera - Mercantour) : Partial melting of a heterogeneous continental crust at medium to low pressure and high temperature conditions. Field example : the Argentera Mercantour External Crystalline Massif. (MSc Thesis) June to September 2003 mapping and Sampling (internship at the BRGM) - update of the St Martin Vesubie Sheet (1:50000) (BRGM).
- BSc research Project : Eastern of the Velay Massif (French Massif Central) : Granitic dykes relationship in the Leptyno-Amphibolitic Complex of Tournon (French Massif Central).

## University Education :

- PhD Student (2005-2009) : Centre for Crustal Petrology - Department of Geology, Geography and environmental Sciences, Stellenbosch University (Western Cape, South Africa).
- Master of Science (2003-2004) University Joseph Fourier of Grenoble and University Claude Bernard Lyon (France)

## Scientific Publications

Villaros A., Stevens G., Buick I.S., Moyen J.-F. (2009) Granites are not melt : a consistent major and traces elements model, *Contrib. Mineral. Petrol.* 158:543-561 - doi:10.1007/s00410-009-0396-3

Villaros A., Stevens G., Buick I.S. (2009) : Tracking S-type granite from source to emplacement : Clues from garnet in the Cape Granite Suite, *Lithos.* 112:217-235 - doi:10.1016/j.lithos.2009.02.011

Stevens G., Villaros A., Moyen J.-F. (2007) Selective peritectic garnet entrainment as the origin of geochemical diversity in S-type granites, *Geology*, 35:9-12.

Villaros A., Buick I.S., Stevens G. Isotopic variation in S-type granites : magma mixing or dirty sources ? Example from the Cape Granite Suite (Submitted to Contrib. Mineral. Petrol.).

### *International Conferences*

Villaros A., Stevens G., Buick I.S., 2007, The role and fate of peritectic garnet in S-type granite Petrogenesis : The example of the Cape Granite Suite (South Africa), AGU fall meeting, San Francisco, USA - Poster

Villaros A. Buick I.S., Stevens G., 2007, Zircon U-Pb-Hf isotope and trace element geochemistry as constraints on the petrogenesis of S-type granites of the Cape Granite Suite. Hutton symposium, Stellenbosch, South Africa - Oral communication

Villaros A., Stevens G., Buick I. 2006 Origin of the S-type Cape Granite : insights from Xenolithic material. Goldschmidt conference, Melbourne, Australia - Oral communication

Villaros, A., Ledru, P., Gardien, V., Moyen, J.-F., Fernandez, A., et Lardeaux, J.-M. 2004, Fusion Partielle d'une croûte hétérogène (pélitique et orthogneissique) dans les conditions du faciès granulite de basse à moyenne pression. Réunion des Sciences de la Terre, Strasbourg, France - Oral communication.

### *Geological maps*

St Martin Vésubie - (1:50000), 06 France, New Edition (BRGM). Patrick Ledru.

St Germain-Lembron - (1:50000), 63 France (Livradois-Forez) (BRGM - University Henri Poincaré, Nancy) Olivier Vanderhaeghe.