



UNIVERSITÀ DEGLI STUDI DI MILANO

TO MAGNIFICO RETTORE OF UNIVERSITA' DEGLI STUDI DI MILANO

ID CODE 4014

I the undersigned asks to participate in the public selection, for qualifications and examinations, for the awarding of a type B fellowship at Dipartimento di Scienze della Terra, Scientist- in – charge **Prof. Marco Merlini**

Juliette Maurice

CURRICULUM VITAE

PERSONAL INFORMATION

Surname MAURICE
Name Juliette
Date of birth 06/02/1988

PRESENT OCCUPATION

Postdoctoral Fellow Laboratoire Magmas et Volcans

EDUCATION AND TRAINING

PhD	Petrology	Université Clermont-Auvergne	2017
Master	Earth Sciences	Université Blaise Pascal, France	2012
Master	Earth Sciences	University at Buffalo, NY, USA	2012
Bachelor	Earth, Universe and Environment Sciences	Université de Strasbourg, France	2010
C.P.G.E. <i>Class preparing for engineering schools</i>	Superior Mathematics and Specialized Mathematics, Physics and Chemistry.	Lycée Alain Fournier, Bourges, France	2008

FOREIGN LANGUAGES



French Native Speaker
English Written, spoken, fluent

AWARDS, ACKNOWLEDGEMENTS, SCHOLARSHIPS

2010-2012 **INVOGE scholarship: double master's degree in France & USA:**

- Laboratoire Magmas et Volcans, Clermont-Ferrand, France (2010-2011). Theoretical classes on volcanology, Petrology and geochemistry.
- University at Buffalo NY, USA (2011-2012). Specialization in volcanology and research project conducted on the magma storage of Llaima volcano (Chile), based on thermodynamic models for fractional crystallization in the plumbing system (using Melts software).

2011 (April-June) Erasmus at Milano Bicocca, Italy: research project for the first year of Master's conducted on flanks related geomorphologic features associated with Llaima volcano main edifice.

TRAINING OR RESEARCH ACTIVITY

Partial melting and crystallization processes and their related mechanisms.

Melts models performed for fractional crystallization of magma in the Llaima volcano chamber (second year of master, University at Buffalo).

Hydrous partial melting experiments conducted at the Laboratoire Magmas et Volcans, Clermont Ferrand during PhD thesis, using a multi anvil apparatus.

Phase equilibria in a melt/fluid – rock (mantle residue) interaction setting.

Hydrous partial melting experiments and subsolidus experiments in hydrated system (conducted during PhD thesis, using a multi anvil apparatus).

Redox effect on partial melting conditions (P, T, melt composition, volatiles incorporation) & ferric iron partitioning during melting processes.

Synchrotron X-Ray Absorption Near Edge Spectroscopy (at ESRF: id21/ Soleil: Lucia) performed on the recovered samples for iron speciation measurements (during PhD thesis).

Water transportation in subduction environment.

Serpentine dehydration experiments at high pressure (to 11 GPa) conducted during PhD thesis, and evaluation of H₂O storage capacity in product phase assemblages.

“High pressure experimental techniques and applications to the Earth interior”, short course at the Bayerisches Geoinstitut, Bayreuth, Germany, February 2015.



Experimental investigation of serpentine dehydration at 3 GPa. Multi-anvil experiments, sample characterization. 3 months internship at the Laboratoire Magmas et Volcans, Clermont-Ferrand, France prior to the PhD thesis (2013).

SCIENTIFIC SKILLS

Experimental

Multi-anvil apparatus experiments.

Assembly preparation techniques for drilled cores of natural rock samples (dehydration experiments) and for “sandwich” type (hydrous partial melting) experiments, using both synthetic reagent oxide powders and crushed natural peridotite.

Analytic:

Scanning Electron Microscopy:

Back scattered electron pictures for imaging and sample characterization; X-Ray energy dispersive spectrometry for chemical mapping allowing mineral phases identification.

Electron Backscattered diffraction:

Crystallographic structure for phase identification.

Electron Probe Micro Analyses:

Chemical composition of silicate mineral phases, hydrous silicate minerals and hydrous melts.

Raman spectroscopy:

Spectra acquisition at ambient conditions for hydrous silicate phases identification and water quantification in hydrous melts.

Synchrotron X-Ray Absorption Near Edge Structure spectroscopy:

Spectra acquisition at the Fe K-edge for iron speciation characterization in mineral phases and melts (beamline LUCIA at SOLEIL synchrotron Paris, France and beamline ID21 at ESRF Grenoble, France).

Informatics computer softwares:

XANES data treatment (ATHENA, PEAKFIT), Thermodynamic models (MELTS), calculation (MATLAB), use of basic softwares (Office package, Kaleidagraph), pictures editing (ADOBE ILLUSTRATOR).

CONGRESSES AND SEMINARS

2018

The stability of hydrous phases beyond antigorite breakdown for a magnetite-bearing natural serpentinite between 6.5 and 10 GPa

*EMPG conference,
Clermont Ferrand, France*



- 2017** Experimental investigation of ferric iron partitioning during hydrous melting:
Implication for the redox state of arc magmas *Goldschmidt conference, Paris, France*
- 2016** Experimental investigation of Phase A stability: implications for water transportation in the mantle *EMPG conference, ETH, Zurich, Switzerland*
- 2015** Experimental study of natural antigorite dehydration at 3 GPa *Goldschmidt conference Prague, Czech Republic*
- 2014** Experimental study of natural antigorite dehydration at 3 GPa *Lherzolite conference, Marrakech, Morocco*

FIELD TRAINING

- Alps & Massif Central** Magmatic and metamorphic petrography study
- Massif Central** Cartography in volcanic field in the region of Perrier in massif des Monts-Dore.
- Alps** Study of structures in the Prealps area of Digne (sedimentology)
- Elba Island, Italy** Study of magmatic and metamorphic structures, Elba Island, Italy

PUBLICATIONS

In review :

The stability of hydrous phases beyond antigorite breakdown for a magnetite-bearing natural serpentinite between 6.5 and 11 Gpa, in review in Contributions to Mineralogy and Petrology, July 2018.

In preparation :

Experimental study of natural antigorite dehydration at 3 GPa: Implications for the oxygen fugacity conditions of slab dehydration, *in preparation, to be submitted to Lithos, 2018*



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Natural serpentinite destabilization to 8.5 GPa: The role of balangeroite in water transfer to the upper mantle, *in preparation, to be submitted to American Mineralogist, 2018.*

Experimental investigation of ferric iron partitioning during hydrous melting: Implication for the redox state of arc magmas, *in preparation..*

Declarations given in the present curriculum must be considered released according to art. 46 and 47 of DPR n. 445/2000.

The present curriculum does not contain confidential and legal information according to art. 4, paragraph 1, points d) and e) of D.Lgs. 30.06.2003 n. 196.

Place and date: Grenoble, 18/07/18

SIGNATURE