**Dr. Mélanie Barboni November 2017**

School of Earth and Space Exploration

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**Professional experience**

Starting April 1st 2018 **Assistant Professor,** Arizona State University, School or Earth and Space Exploration

September 2016 **Assistant Researcher**, University of California Los Angeles (UCLA) - Department of

to March 2018Earth, Planetary, and Space Sciences

June 2014 **Post-doctoral** **researcher**, University of California Los Angeles (UCLA) –

to August 2016Department of Earth, Planetary, and Space Sciences

September 2011 **Post-doctoral** **researcher**, Princeton University - Department of Geosciences

to May 2014

**Education**

2011 **PhD in Geosciences and Environment (Earth Sciences)**, University of Lausanne,

 Switzerland

1. **Master’s of Science (Geology),** University of Lausanne, Switzerland

**Analytical experience**

* **Laser Ablation Inductively Coupled Plasma Mass Spectrometry** (quadrupole spectrometer Elan 6100 DRC and sector-field spectrometer Element XR)
* **Isotope Dilution Thermal Ionization Mass Spectrometry** (Finnigan TRITON and Isotopix PHOENIX thermal ionization mass spectrometers)
* **Laser Ablation Multi Collector Inductively Coupled Plasma Mass Spectrometry** (Finnigan NEPTUNE).
* **Electron Microprobe** (EPMA JEOL 8200 superprobe)
* **Secondary Ionization Mass Spectrometry** (Cameca 1270 and 1290 ion probe)
* **Scanning Electron Microscopy** (FEI XL30 FEG-SEM, Tescan Vega-3 XMU)

**Professional services and invited talks**

Reviewer: National Science Foundation, Lithos, Chemical Geology, Contributions to Mineralogy and

 Petrology, Geosphere, Earth and Planetary Science Letters, Geology, Nature Geoscience.

Invited talks: University of Colorado, Boulder (2014), University of Lausanne, Switzerland (2014),

 University of Geneva, Switzerland (2014), National Autonomous University of Mexico

 (2015); SMU-Dallas (2015); AGU (2015); Royal Holloway University London (2015);

 University of Nevada, Reno (2015); Caltech (2016); MIT (2016); University of Georgia

 (2017); University of Utah (2017); Arizona State University (2017); University of Southern

 California (2017); Paul Scherrer Institut (PSI, Switzerland; 2017), University of Nevada

 Las Vegas (November 2017).

**Awards and Grants**

* ELSTE Augustin Lombard prize of excellence 2007 (Master thesis)
* Prix de Faculté 2011 granted by the University of Lausanne (PhD thesis)
* Paul Niggli Medal 2017
* Swiss National Foundation (SNF) Early Postdoc mobility fellowship: *“A new method fingerprinting*

 *Magmatic and* *plutonic emplacement processes using combined U/Pb ID-TIMS geochronology and*

 *accessory minerals geochemistry* *(TIMS-TEA)”.* (2011-2013)**$50k**

* Swiss National Foundation (SNF) Advanced Postdoc mobility fellowship: *“Coupling high-spatial*

 *resolution (SIMS) and high-temporal resolution (TIMS) techniques on zircons to track the plutonic*

 *volcanic connection”.* (2014-2015)**$73k**

* NASA Emerging Worlds grant “*A closure age for crystallization of the Lunar Magma Ocean: Re-*

 *examination by high precision zircon chronology”* (2016-2018) **$343k**

* UCMEXUS small grant*: “U/Th Zircon chronometry of Holocene eruptions in the Salton Sea geothermal*

 *system (California, USA) using a new high-spatial resolution dating technique”* (2014-2015) **$1500**

**Peer-reviewed Publications**

* **Barboni, M.,** Bussy, F. and Chiaradia, M. (2011): Origin of Early Carboniferous pseudo-adakites in Northern Brittany (France) through massive amphibole fractionation from hydrous basalt. *Terra Nova, 23, 1-10.*
* **Barboni, M.,** Bussy, F., Ovtcharova, M., Schoene, B., Schaltegger, U. and Gerdes, A. (2013)*.* Timing of incremental pluton construction and magmatic activity in a back-arc setting revealed by ID-TIMS U/Pb and Hf isotopes on complex zircons. *Chemical Geology, 340, 76-93.*
* **Barboni, M.** and Bussy, F. (2013)*.* Petrogenesis of magmatic albite granites associated to cogenetic A-type granites: Na-rich residual melt extraction from a partially crystallized A-type granite mush. *Lithos, 177, 328-351.*
* **Barboni, M.** and Schoene, B. (2014)*:* Short eruption window revealed by absolute crystal growth rates in a granitic magma. *Nature Geoscience, 7, 524-528.*
* Keller, C.B., Schoene, B., **Barboni, M.,** Samperton, K. and Husson, J. (2015). Volcanic-plutonic parity and the evolution of the continental crust. *Nature, 523, 501-507.*
* **Barboni, M**., Schoene, B. and Annen, C. (2015): Evaluating the construction and evolution of upper crustal reservoirs with coupled U/Pb zircon geochronology and thermal modeling: A case study from the Mt. Capanne pluton (Elba, Italy). *Earth and Planetary Science Letters, 432, 436-448.*
* Boehnke, **P., Barboni, M.** and Bell, E.A.(2016):Zircon U/Th Model Ages in the Presence of Melt Heterogeneity. *Quaternary Geochronology, 34, 69-74.*
* **Barboni, M.,** Boehnke, P., Schmitt, A., Harrison, T.M., Shane, P., Bouvier, A.S. and Baumgartner, L. (2016): Warm storage for arc magmas. *Proceedings of the National Academy of Sciences, 113, 13959-13964.*
* **Barboni, M.,** Boehnke, P., Keller, B., Kohl, I., Schoene, B., Young, E.D. and McKeegan K.D. (2017): Early formation of the Moon 4.51 billion years ago. *Science Advances, 3, e1602365.*
* Samperton, K.M., Bell, E.A., **Barboni, M.,** Keller, C.B. and Schoene, B.(accepted). Zircon age-temperature-compositional spectra in plutonic rocks. *Geology, 45, 983-986.*