

# SARAH DIANE LANG



## PROFILE

Date and place of birth:  
20 September 1995  
Saint-Avold, France  
Nationality: French

Address: 3 rue Principale  
57450 Farschviller France  
Email address:  
sarah.lang@uniroma1.it

Languages:  
French (native)  
English (C1)  
German (basic)

## EMPLOYMENT

- 2018-2021 ● **Ph.D** - Università La Sapienza di Roma; Istituto Nazionale di Geofisica e Vulcanologia (INGV)- Centre de Recherches Pétrographiques et Géochimiques (CRPG) Nancy (France).  
Supervisor: Prof. **Silvio Mollo** (Sapienza university); Co-supervisor: Dr. **Lyderic France** (CRPG)  
Project: Kinetic aspects of major and trace element partitioning between olivine and melt during solidification of terrestrial basaltic materials.  
Research subjects:
- Experimental petrology
  - Olivine crystallization from molten basaltic material using: i) quick-press and ii) One-atmosphere vertical tube furnace apparatuses.
  - Major and minor elements analysis with Electron Probe Microanalyzer.
  - Transition and Rare Earth Elements analysis using Secondary Ion Mass Spectrometry and LA-ICP-MS analytical techniques.

## EXPERIENCES

- 2018 ● **Master's research project** (2<sup>nd</sup> year) -LMV (Laboratoire Magmas et Volcans) Clermont-Ferrand (France)  
Supervisor: Dr. Estelle Rose-Koga  
Subject: Sulphides in melt inclusions.
- 2017 ● **Master's research project** (1<sup>st</sup> year) - LMV (Laboratoire Magmas et Volcans) Clermont-Ferrand (France)  
Supervisor: Dr. Estelle Rose-Koga  
Subject: Procedure of precipitation of sulphide in magmatic basaltic inclusions of subduction zone, hot spot and MORB.
- 2016 ● **Voluntary internship as laboratory technician** - CRPG Nancy (France) – Magmas and deep Fluids department with Dr. Lyderic France – (July)  
Subject: Selection of minerals and preparation of volcanic rocks samples.
- 2016 ● **Bachelor's research project** (3rd year) - CRPG Nancy (France) – Magmas and deep Fluids department  
Supervisor: Dr. Lyderic France (CRPG, Nancy)  
Subject: Characterization of the oldest carbonatitic inclusions of the Ol Doinyo Lengai Volcano: geochemical analysis of two-phases inclusions.

- 2016 ● **Laboratory technician** – CRPG of Nancy (France) – Magmas and deep Fluids department with Dr. Lyderic France – (February to May)  
Subject: Selection of minerals and preparation of volcanic rocks samples for geochemical analysis.
- 2015 ● **Research/technician volunteer internship** – CRPG of Nancy (France) – Magmas and deep Fluids department with Dr. Lyderic France – (July)  
Subject: Study of samples from Ol Doinyo Lengai plumbing system and preparation of thin sections.

## EDUCATION

- 2017-2018 ● Master Sciences de la Terre et des Planètes, Environnement spécialité Magmas et Volcans  
**Second year of master's degree in Environment, Earth and Planets Sciences - specialization Magmas and Volcanoes**  
University Clermont Auvergne - OPGC – France
- 2016-2017 ● Master Géosciences Planètes Ressources et Environnement - spécialisation Système Terre Ressources  
**First year of master's Degree in Geosciences Planets Resources and Environment, specialization System Earth Resources**  
University of Lorraine - Nancy – France
- 2013-2016 ● Licence Sciences de la Terre et de l'Environnement  
**Bachelor's Degree in Sciences of the Earth and Environment**  
University of Lorraine - Nancy – France

## SKILLS

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>● <b>Experimental apparatuses:</b></li> </ul>         | <ul style="list-style-type: none"> <li>- One-atmosphere vertical tube furnace<br/>To homogenize and dehydrate melt inclusions to form sulphide crystals; equilibrium and disequilibrium olivine crystallisation at different oxygen fugacity and temperatures.</li> <li>- Piston cylinder<br/>Equilibrium and disequilibrium olivine crystallization at different pressures and temperatures.</li> <li>-Thermometric Vernadsky desk<br/>To homogenize and dehydrate melt inclusions to form sulphide droplets.</li> </ul>   |
| <ul style="list-style-type: none"> <li>● <b>Analytical techniques and imaging</b></li> </ul> | <ul style="list-style-type: none"> <li>- Secondary Ion Mass Spectrometry (SIMS)<br/>Quantitative analysis of transition and rare earth elements in olivine and glass.</li> <li>- Electron Probe Microanalyzer (EPMA)<br/>Major element composition of two-phase inclusions and composition profiles of pyroxene crystals (samples from Ol Doinyi Lengai); estimation of sulphur fugacity during sulphide formation process and analysis of their elementary spectrums; transects of major and minor oxides through olivine and glass, and chemical maps.</li> </ul> |

<ul style="list-style-type: none"> <li>• <b>Analytical techniques and imaging</b></li> </ul>	<ul style="list-style-type: none"> <li>- Scanning Electron Microscopy (SEM) Elementary spectrum, elementary maps in false colours and BSE imaging.</li> <li>- Laser La-ICP-MS Trace elements in sulphides, olivine and glass.</li> <li>- Raman Characterisation of the water spectrum after dehydration of samples and comparison with standards.</li> <li>- Optical petrographic microscope</li> </ul>
<ul style="list-style-type: none"> <li>• <b>Laboratory tools:</b></li> </ul>	<ul style="list-style-type: none"> <li>- Rock saw Thin sections preparation</li> <li>- Rotational lapping and polishing apparatuses Thin section preparation and, crystals and inclusions polishing</li> <li>- Arc welding unit (+argon) Platinum capsule preparation for quick-press experiments</li> </ul>
<ul style="list-style-type: none"> <li>• <b>Others:</b></li> </ul>	<ul style="list-style-type: none"> <li>- Office: Word, Excel, PowerPoint</li> <li>- Illustrator (basic)</li> <li>- Python (basic)</li> <li>- ArcGis (basic)</li> </ul>

## CONFERENCES

- May 2020 ● **European Geosciences Union (EGU) - Wien (Austria)**  
Sarah Lang, Silvio Mollo, Lyderic France, Manuela Nazzari, Valeria Misiti, Andrey A. Gurenko, Jean-Luc Devidal  
Poster presentation: *Kinetic aspects of major and trace elements in olivine from variably cooled basaltic melts*
- Dec 2020 ● **American Geophysical Union (AGU) Fall meeting - San Francisco (CA, USA)**  
Sarah Lang, Silvio Mollo, Lyderic France, Manuela Nazzari, Valeria Misiti  
Oral presentation: *Kinetic aspects of major and minor elements in olivine from variably cooled basaltic melts*