SARAH DIANE LANG

PROFILE

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

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Languages:
French (native)
English (upper intermediate)
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** (2nd year) -LMV (Laboratoire Magmas et Volcans) Clermont-Ferrand (France)
Supervisor: Dr. Estelle Rose-Koga
Subject: Sulphides in melt inclusions.

2017 **Master's research project** (1st 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 Lengaï Volcano: geochemical analysis of two-phases inclusions.

Updated the 06.12.19

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 Lengaï 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

- **Experimental apparatuses:**

  - One-atmosphere vertical tube furnace
    To homogenize and dehydrate melt inclusions to form sulphide crystals; equilibrium and disequilibrium olivine crystallisation at different oxygen fugacity and temperatures.

  - Piston cylinder
    Equilibrium and disequilibrium olivine crystallization at different pressures and temperatures.

  -Thermometric Vernadsky desk
    To homogenize and dehydrate melt inclusions to form sulphide droplets.

- **Analytical techniques and imaging**

  - Secondary Ion Mass Spectrometry (SIMS)
    Quantitative analysis of transition and rare earth elements in olivine and glass.

  - Electron Probe Microanalyzer (EPMA)
    Major element composition of two-phase inclusions and composition profiles of pyroxene crystals (samples from Ol Doinyi Lengaï); 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.

• **Analytical techniques and imaging**	- Scanning Electron Microscopy (SEM) Elementary spectrum, elementary maps in false colours and BSE imaging. - Laser La-ICP-MS Trace elements in sulphides, olivine and glass. - Raman Characterisation of the water spectrum after dehydration of samples and comparison with standards. - Optical petrographic microscope
• **Laboratory tools:**	- Rock saw Thin sections preparation - Rotational lapping and polishing apparatuses Thin section preparation and, crystals and inclusions polishing - Arc welding unit (+argon) Platinum capsule preparation for quick-press experiments
• **Others:**	- Office: Word, Excel, PowerPoint - Illustrator (basic) - Python (basic) - ArcGis (basic)