

# Manon Dalaison

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## EDUCATION

### ÉCOLE NORMALE SUPÉRIEURE (ENS)

PHD IN GEOPHYSICS  
Expected Oct. 2021 | Paris

### ÉCOLE NORMALE SUPÉRIEURE (ENS) & INSTITUT DE PHYSIQUE DU GLOBE DE PARIS (IPGP)

MASTER IN GEOSCIENCES  
Gr ad. July 2018 | Paris  
Combined with the ENS Diploma

### AUSTRALIAN NATIONAL UNIVERSITY (ANU)

HONOURS IN EARTH SCIENCE  
Grad. Dec 2016 | Canberra  
Research project in Geodynamic  
Final grade: 91 / 100

BACHELOR OF SCIENCE  
Grad. Dec 2015 | Canberra  
Earth Science Major  
Earth Physics Specialisation  
Mathematics Minor  
Cum. GPA: 6.708 / 7.0

### MAISON D'EDUCATION DE LA LEGION D'HONNEUR

Grad. June 2012 | St Denis,  
France  
Scientific French Baccalaureat with  
High Distinction

## COURSEWORK

Structural Geology & Field mapping  
Sedimentology & Petrology  
Magmatism & Metamorphism  
Fluid & Solid Mechanics  
Ordinary & Partial Diff. equations  
Machine learning

## RESEARCH PROJECTS

### ENS GEOSCIENCES DEPARTMENT | POSTGRAD

- **DATA ASSIMILATION APPLIED TO INSAR PROCESSING** | Feb - Jun 2018  
Implementation of a Kalman Filter for the processing of interferometric Synthetic Aperture Radar (InSAR) data and time series analysis. Supervised by **Dr Romain Jolivet**
- **KINEMATICS & DYNAMICS OF THE NATRON BASIN (EARS, TANZANIA)** | Mar - Jul 2017  
Getting the velocity field on the western branch of the rift from GPS measurement processed with GAMIT/GLOBK softwares. Followed by its interpretation with the help of viscoelastic models of post-dyking relaxation. Supervised by **Pr Eric Calais**

### ANU RESEARCH SCHOOL OF EARTH SCIENCES | UNDERGRAD

- **SMALL-SCALE CONVECTION UNDER THE LITHOSPHERE** | Jan - Sep 2016  
2-D and 3-D numerical modelling of the evolution of the oceanic lithosphere and of how a mantle plume interacts with it using the *Fluidity* framework. Supervised by **Dr Rhodri Davies**
- **INVESTIGATION OF THE NATURE OF WEATHERED SUBSURFACE AT MAJORS CREEK (NSW)** | Jun - Nov 2015  
Use of geophysical inversion techniques and of the mineralogy of auger samples. Field component (400m resistivity line and augering) and Laboratory component (data processing with Res2DInv and XRD analysis). Supervised by **Dr Eva Papp**. Sponsored by the Australian Society of Exploration Geophysicist
- **A QUANTITATIVE COMPARISON OF THE OBSERVED AND PREDICTED MASS FLUX OF MANTLE PLUMES** | Feb - Jun 2015  
Critical review of the academic literature and trend studies on existing measurements. Comparison with a global mantle circulation model elaborated by **Dr Rhodri Davies** and data plot in Python Basemap.

## SCIENTIFIC COMMUNICATION

### PUBLICATIONS

**A Kalman Filter Time Series Analysis method for InSAR** M. Dalaison, R. Jolivet; *Journal of Geophysical Research - Solid Earth*, 2020

## SKILLS

### GEOLOGY

Structural measurements • Hand samples and Mineral identification • field mapping • stratigraphic column • cross section

### GEOPHYSICS

Mantle Dynamics • Resistivity survey • Global and regional Tectonic • GPS and InSAR processing • Inverse problem

### COMPUTING

Python • MatLab • Unix • Generic Mapping Tools (GMT) • Bash • Microsoft Excel •  $\text{\LaTeX}$

### LANGUAGES

French	<i>native proficiency</i>
English	<i>bilingual proficiency</i>
Spanish	<i>upper intermediate</i>
German	<i>elementary</i>

## EXPERIENCE

### TEACHING EXPERIENCE

TEACHER FOR F93 PHYSICS OF NATURAL DISASTERS PROJECT  
2019-2020 | Paris & Suburb

MATHS AND PHYSICS TUTOR  
2014 – 2018 | Canberra & Paris

### FIELD EXPERIENCES

GPS Campaign in the southern East African Rift System  
Jul 2017 | Natron Basin (Tanzania)

Living Fault Field course  
May 2018 | Corinth Gulf and Peloponese (Greece)

Geological mapping courses  
Jul 2015, Mar 2019 | Mount Isa, Queensland (Australia) & Cevennes (France)

Archaeological excavations  
Jul 2009, Aug 2011, Jul 2012 | Bibracte & Altenberg Silver Mines (France)

### ASSOCIATIONS AND VOLUNTEERING

- Co-founder of *Horizon* (2020) : cultural weekends for high-school students
- Active member of *ASLIVE* (2018-2020) : weekends and holiday camps for adults with disabilities.
- Vice President of the *Earth and Marine Sciences Society* of ANU (2015)
- Photographer for *Woroni*, ANU Student journal (2014 - 2015)

## AWARDS

- |      |  |
|------|--|
| 2016 | A.L. Hales Honours Year Scholarship  |
| 2015 | GSA Mike Rickard Third Year Prize<br>Best results in 3rd year Earth Sciences           |
| 2015 | Anthony Seelaf Memorial Prize in Geology<br>Best results in 3rd year Geology fieldwork |
| 2014 | W B Clarke Prize in Earth Sciences<br>Best results in 2nd year Earth Sciences          |
| 2013 | First Year Prospectors Earth Science Prize   |