



# Lorène J. Marchand, PhD student

I'm interested in plant physiology in relation to the environment at both the phenotypic and the molecular levels, as well as microbial community in interaction with the plant.

## CONTACT

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## PhD COURSES

- Botany and plant anatomy Teaching (88h)
- Statistic for ecology (30h)
- Research reproducibility (20h)
- Vulgarisation and oral communication (14h)
- Photosynthesis measurement (7h)
- Botany (5h)
- Ethics in research (3h)

## TECHNICAL SKILLS

Statistics with R

Metagenomics analysis

DNA/RNA extraction

Metabolite dosage

## LANGUAGES

French

English

## CURRENT POSITION

- **PhD student** 2018 – Present  
*Ecole doctorale EGAAL, université de Rennes 1. Rennes. France.*  
Adaptive potential of Kerguelen's endemic species *Lyallia kerguelensis* to climate change  
Student supervision: 2020 Master 2  
**PhD director:** Dr F. Hennion (CNRS) and co-supervisor Dr M. Tarayre (University of Rennes 1)

## PREVIOUS RESEARCH

- **Erasmus+ Master thesis (8 months)** 2017 – 2018  
*University of Antwerp, Centre of Excellence Plants and Ecosystems (PLECO), Antwerp, Belgium and Slovenian forestry institute, Ljubljana, Slovenia*  
Inter-individual variability in spring phenology of temperate deciduous trees is related to tree size and previous year autumn phenology.  
**Supervisors:** Dr. Matteo Campioli and Dr. Jozica Gricar.
- **Internship Master 1 (2 months)** 2017  
*Université d'Orléans, Laboratoire des ligneux et des grandes cultures, Orléans, France*  
Dynamics of carbon storage in poplars with drought x fertilization interactions.  
**Supervisor:** Dr. Régis Fichot

## EDUCATION

- **Master 2: integrative biology and climate change** 2017-2018  
*Université d'Orléans, Orléans, France*
- **Master 1: Agri-sciences: forests and agrisystems** 2016-2017  
*Université d'Orléans, Orléans, France*
- **Bachelor: Biology of organisms, population and environment** 2013-2016  
*Université d'Orléans, Orléans, France*

## PUBLICATIONS

### In preparation

L.J. Marchand, F. Hennion, M. Tarayre, M.-C. Martin, B. R. Martins and C. Monard A specific rhizomicrobiome selected by a long-lived plant in the sub-Antarctic Kerguelen Islands. *The ISME journal*

L. Marchand, M. Tarayre, L. Chambrin, D. Verfaillie, V. Favier and F. Hennion Necrosis extent of *Lyallia kerguelensis* related to summed climate. *Global change biology*

Local adaptation in *L. kerguelensis* through the study of gene expression variability across contrasted environments. L.J. Marchand, F. Hennion, M. Tarayre and P. Lockhart

### Published

**2021** Marchand L.J. Dox I, Gričar J, Prislan P, van den Bulcke J, Fonti P, Campioli M. Timing of spring xylogenesis in temperate deciduous tree species relates to tree growth characteristics and previous autumn phenology. *Tree Physiology*,

**2021** Marchand L.J., Tarayre M., Dorey T., Rantier Y., Hennion F. Morphological variability of *Lyallia kerguelensis* in relation to environmental conditions and geographical distribution in the Kerguelen Islands. *Polar biology*,

**2020** Marchand L.J., Dox I., Gričar J., Prislan P., Sebastien Leys, Van den Bulcke J., Fonti P., Lange H., Matthysen E., Peñuelas J., Zuccarini P., Campioli M. *Agricultural and forest meteorology*. DOI:10.1016/j.agrformet.2020.108031

**2020** Dox I., Gričar J., Marchand L.J., Sebastien Leys, Zuccarini P., Geron C., Prislan P., Mariën B., Fonti P., Lange H., Peñuelas J., Van den Bulcke J., Campioli M.. Timeline of autumn phenology in temperate deciduous trees. *Tree physiology*. DOI:10.1093/treephys/tpaa058

**2019** Mariën B., Balzarolo M., Dox I., Leys S., Marchand L.J., Geron C., Portillo-Estrada M., AbdElgawad H, Asard H, Campioli M. Detecting the onset of autumn leaf senescence in deciduous forest trees of the temperate zone. *New Phytologist*. DOI: 10.1111/nph.15991

## ORAL COMMUNICATIONS

**2020** World Microbe Forum (online): A specific rhizomicrobiome selected by a long-lived plant in the sub-Antarctic Kerguelen Islands. L. Marchand, F. Hennion, M. Tarayre, M.-C. Martin, B. R. Martins and C. Monard

**2020** CNFRA 22-23th September 2020: Necrosis dynamics over time and space of *Lyallia kerguelensis* from individual to population scale. L. Marchand, M. Tarayre, L. Chambrin, D. Verfaillie, V. Favier and F. Hennion

PhD contest : Ma thèse en 180 secondes, March 2020, 1st place at Rennes sélection and access to the bi-regional final

**2019** GDR plasphen: 28-29th November 2019 Paris, France: Morphological variability in relation to environmental conditions in the endemic cushion plant *Lyallia kerguelensis* from Kerguelen Islands. L. Marchand, M. Tarayre, T. Dorey, Y. Rantier and F. Hennion