



Lorène J. Marchand, Postdoctoral candidate

I am 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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https://lormarchand.github.io/my_project/

PhD COURSES

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

TEACHING (88h)

- 1st, 2nd and 3rd year of bachelor
- Field excursion, tutorials and practical work
- Botany, plant anatomy, adaptation and reproduction

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 composition of the soil microbiome and rhizomicrobiome in the Kerguelen Islands: relationship to necrosis extant of a long-lived endemic plant. *The ISME journal*

L. Marchand, M. Tarayre, L. Chambrin, D. Verfaillie, V. Favier and F. Hennion Necrosis extent of *Lyallia kerguelensis* related to winter climate and plant morphology in the Kerguelen Islands. *Journal of applied ecology*

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.**, 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*, DOI:10.1007/s00300-020-02768-2

2020 **Marchand L.J.** Dox I, Gričar J, Prislán 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*, DOI:10.1093/treephys/tpaa171

2020 **Marchand L.J.**, Dox I., Gričar J., Prislán 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., Prislán 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

COMMUNICATIONS

2021 World Microbe Forum (i-poster) 20th of June: 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 (oral presentation): 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

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

2019 GDR plasphen: 28-29th November 2019 Paris, France (oral presentation): 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