



Jessica Barbe

Ecophysiology PhD Student

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UMR 5023 - CNRS - LEHNA Laboratoire d'Ecologie des Hydrosystèmes Naturels et Anthropisés
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CURRENT STATUS

2020 - 2023 PhD in Ecophysiology - (University of Lyon, France)

Title : **Molecular mechanisms underpinning flexibility of muscle mitochondrial efficiency in birds and mammals**

Thesis directors: Dr. Damien ROUSSEL and Prof. Yann VOITURON (Team Ecophysiology, Behaviour, Conservation)

EDUCATIONAL BACKGROUND

2019 ● **2nd year Master of Science Degree** « Integrative Physiology in Extreme Conditions PICE » (2/7)



2018 ● **1st year Master of Science Degree** « Integrative and Physiology Biology BIP » (3/46)

2015 ● **Bachelor of Science Degree in Ecology** (2/61)



2013 ● **1st year Bachelor of Science Degree in Medicine**



RESEARCH EXPERIENCES

2020 (5 months) Internship (2nd year of Master) - LEHNA - University of Lyon
Allometric relationships in birds: mitochondrial energy fluxes and body mass

Tutors: Dr. Damien ROUSSEL and Prof. Yann VOITURON

2019 (2 months) Internship (1st year of Master) - LEHNA - University of Lyon
Muscle ontogeny of energy metabolism in the king penguin chick (*Aptenodytes patagonicus*)

Tutor: Dr. Damien ROUSSEL

2018 Internship (3rd year of Bachelor) - UMR 5533 LECA - University of Savoie Mont Blanc
Biochemical research on the impact of herbivory on ecosystem functioning

Tutor: Dr. Sébastien IBANEZ



PRACTICAL AND THEORITICAL SKILLS

Laboratory

- **Mitochondrial isolation** (skeletal muscle, heart)
- **Measurement of mitochondrial respiration and mitochondrial efficiency** (Rank Brothers®)
- **Measurement of cellular respiration** (Respirometers Oroboros®)
- **Spectrophotometric assay** (tank, microplate)

Fieldwork

- Avian tissue sampling at the farm
- Monitoring of chamois population (Bauges massif)
- Sampling in lake and terrestrial ecosystems
- Counting of birds on the Bourget lake (LPO)

Theoretical

- Ecophysiology
- Metabolism- Bioenergetic
- Bird and mammal physiology and anatomy
- Basis of ecology

Softwares

Biostatistics: RStudio - Rcmdr
Metabolism: Datlab - Foxy
Informatics: PowerPoint / Excel / Word

Languages

- French (native)
- Spanish (native)
- English B1-TOEIC (740/990)



TEACHING

2020-2023 : Complementary teaching activities (ACE) 64h/year- University of Lyon1

- ❖ Practical work - **UE Physiological régulations** - « Thyroid hormones » (3rd year of BSc)
- ❖ Practical work - **UE Digestive and Energetic Physiology** - « Energy Expenditure » (3rd year of BSc)
- ❖ Practical work - **UE Enzymology and Metabolism** - « Oxygraphy » (2nd year of BSc)
- ❖ Tutorial work - **UE Transversales** - « Documentary research » (1st year of BSc)



COURSES

February 2020 (1,5h) : **Rendre actif les étudiants à distance** - Service ICAP

April 2020 (2h): **Webinaire, repérer le plagiat lors des évaluations** - Service ICAP



CONFERENCES

Muscular temperature effect on mitochondrial bioenergetics : a comparaison between birds and mammals - Jessica Barbe, Damien Roussel, Yann Voituron. Meeting of Animal Ecophysiology – 5th Edition, 2-4 November 2021 Montpellier, France - **Talk**.



GRANTS

2020 – 2023 : **PhD grants**, French Ministry of Higher Education and Research (France)



ADDITIONAL ACADEMIC ACTIVITIES

- **Member of the organisation of the Annual EDISS Meeting** - moderator of the oral communications and posters sessions
- **Organiser of e-seminar** : « Let's talk about antibiotic resistance »
with Vet. Jean-Yves Madec (September 2021)