MARTIN DESSART

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1805 Shadow Lake Rd
24060 Blacksburg, VA
United States

Postdoctoral associate – Virginia Tech

Research Experience

DPT OF BIOCHEMISTRY VIRGINIA TECH
Blacksburg, VA
10/2024 - Present

POSTDOCTORAL ASSOCIATE – NEUROETHOLOGY
Neuroethology and chronobiology of disease vectors
Mentor: Prof Clément Vinauger

IRBI – UMR 7261 UNIVERSITY OF TOURS
Tours, France
02/2021 – 02/2024

PhD CANDIDATE – SENSORY ECOLOGY
Experimental design | Behavioural analysis | Ecotoxicology
Data handling | statistical analysis | Scientific communication
Hard and software design | Field work | Teaching
Supervisors: Prof Claudio Lazzari and Dr Fernando Guerrieri

CRCA, GEODE
CNRS University Paul Sabatier
Toulouse, France
07/2020 – 10/2020

RESEARCH INTERNSHIP
Collected flower reflectance in the Pyrénées using a spectrophotometer
Modeled data using bee vision models and compare visual metrics
Wrote and published manuscript in Frontiers in Plant Science
Supervisors: Dr Sylvie Guillerme and Prof Martin Giurfa

ANIMAL MINDS LAB
The University of Auckland
Christchurch, New Zealand
01/2020 – 07/2020

MASTER'S FINAL PROJECT
Designed and conduct Judgment Bias Test experiment on Kea
Record processed bioacoustics data using Raven and Praat
Supervisors: Dr Alexander Taylor and Dr Amalia Bastos

UMR MARBEC
Montpellier, France
04/2019 – 06/2019

RESEARCH PROTOCOL DESIGN | PhD Candidate assistant
Design and field experiment on fish gut microbiota and CH4 emissions
Supervisors: Dr Jean-Christophe Auguet and Dr Marie-Charlotte Cheutin

Education

UNIVERSITY OF STRASBOURG
Strasbourg, France
09/2018 – 09/2020

MSc WITH HIGH HONOURS
Functional and evolutive ecology – Statistics analysis using R
Ethology, cognition and behaviour - Neurobiology of rhythms
Ecophysiology– Metabolism

UDACITY & GOOGLE
Distance learning
11/2017 – 08/2018

FRONT-END WEB DEVELOPER DEGREE
Website design: from basics to the use of libraries / frameworks
Community support

INSTITUT CATHOLIQUE DES ARTS ET METIERS
Toulouse, France
09/2014 – 09/2017

ENGINEER'S DEGREE | AUTOMATION - CONTROL SYSTEMS
Software and programming engineering
Project management – electrical and electronics

INSTITUT CATHOLIQUE DES ARTS ET METIERS
Toulouse, France
09/2012 – 09/2014

PREPARATORY CLASS
Electrical engineering - Web technologies
Networks management - Industrial organization

Engineer Experience

CLEMESSY AERONAUTICS & SPACE
Toulouse, France
09/2014 – 09/2017

APPRENTICE ENGINEER
Design and integration of hard and software for automatic cable testing
Managed customer-supplier relationships
Designed, planned, and supervised electrical testing processes
Supervisors: Jean Paul Herrgott

AUCKLAND UNIVERSITY
Auckland, New Zealand
09/2016 – 02/2017

ENGINEERING THESIS | PhD Candidate assistant
Quantitative analysis of electricity generation from wind farms in New Zealand. **Supervisors**: Prof Tek Tjing Lie and Dr. Gianni Goretti

TESEO | CLEMESSY Entity
Torino, Italy
05/2015 – 08/2015

INTERN IN COMPUTING DESIGN
Computing design using Excel VBA Macro
Radars and electronic cards calibration in anechoic chamber
Supervisors: Jean-Louis Menu

Teaching Experience

03/2021 - 05/2021

Tristan Robineau, MSc Evolutionary and Behavioural Ecology
"Effet des conditions de luminosité et de turbidité sur l'habituation des larves du moustique *Aedes aegypti*"

2021 - 2023

Arthropod identification – 32h Laboratory course (TP)
Neuroscience: conditioning and addiction - 6h Lecture (TD)
Arthropod systematic - 7.5h Lecture (TD)
Ethology -25h Laboratory course (TP)

Other Skills and Volunteering

LANGUAGES
English: fluent - TOEIC 840 – 2014
Spanish: basis

COMPUTING
Statistics and data treatment - R
Programming: Matlab – Python – SQL - VBA
Front End design – CSS – HTML – JS - React

VOLUNTEERING
- 03/18 – 04/18: **Kafue National Park, Zambia**
Veterinary activities - Interviews with farming communities
- Proposed new fencing to protect cattle from predators

- 01/18-02/18: **AVA Sanctuary, France**
PhD Candidate field assistant: Telemetry, RFID

- 2014 - 2017: **Terres en Mêlées**
 Activity leader in France, Morocco and Madagascar

Publications

Dessart M., Piñeirúa M., Lazzari C.R., Guerrieri F.J. (**2023**) Assessing learning in mosquito larvae using video-tracking. Journal of Insect Physiology https://doi.org/10.1016/j.jinsphys.2023.104535.

Dessart M., Aguiar J.M.R., Tabacchi E., Guillerme S., Giurfa M. (**2024**) Color-Advertising Strategies of Invasive Plants through the Bee Eye.Frontiers in Plant Science.
https://doi.org/10.3389/fpls.2024.1393204

Dessart M., Lazzari C.R., Guerrieri F.J. (**2024**) Habituation leads to short but not long term memory formation in mosquito larvae. Journal of Insect Physiology. 155:104650.
https://doi.org/10.1016/j.jinsphys.2024.104650

Dessart M., Lazzari C.R., Guerrieri F.J. Acute and chronic sublethal chemical pollution affects locomotion, learning and memory in mosquito larvae. **In review** – Proceedings of the Royal Society B

Dessart M., Lazzari C.R., Guerrieri F.J. In the wild or in the lab: how do environmental conditions affect the cognitive abilities of mosquito larvae? **In preparation**

Conference presentations

Aug 2020   "Effects of the Warble Call on Optimism in Kea (Nestor notabilis)" - **Laboratory seminar** - Research Center on Animal Cognition | University Paul Sabatier -Toulouse III

Oct 2021   "The influence of physico-chemical characteristics of aquatic ecosystems on prey-predator interactions. A behavioural-neuroanatomical approach" – **Laboratory seminar** - IRBI UMR 7261 CNRS | University of Tours, France

Oct 2021   "Invasive plant species through the bee eye: an analysis of flower coloration in the French Pyrenees" - **Laboratory seminar** - IPHC UMR 7178 CNRS | Strasbourg, France

Nov 2021   "Visual learning abilities in mosquito larvae are not impaired neither by light deprivation nor by turbidity" – **Oral presentation** - European PhD Network "Insect Science" - XII Annual Meeting – Florence, Italy

Mar 2022   "A tracking system to assess activity and learning in mosquito larvae" – **Poster presentation** - Ecology & Behaviour Meetings – 15th Edition – Strasbourg, France

Oct 2022   "Effect of two herbicides and one medical drug on locomotor activity and learning in *Aedes aegypti*" – **Oral presentation** – 34° Colloque Biotechnocentre – Centre Val de Loire

May 2023   "Chemical pollution affects the behaviour of mosquito larvae" – **Poster presentation** - 52ème Colloque of SFECA – Tours, France

Jun 2023   "Chemical pollution affects the behaviour of mosquito larvae" – **Oral presentation** – DiPEE "Biodiversité et territoires: une recherche engagée" – CEBC Chizé, France

Aug 2023   "Cognitive abilities in mosquito larvae as indicators of environmental quality" – **Oral presentation** – Behaviour 2023 – Bielefeld, Germany

May 2024   "The cognition of mosquito larvae as a biological indicator of environmental quality" – **Oral presentation** – *Rencontre annuelle du Club de Neuroéthologie – Société des Neurosciences* – Albi, France

References

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Pr Martin Giurfa
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