

MARTIN DESSART

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1805 Shadow Lake Rd

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United States



Postdoctoral associate – Virginia Tech

Research and Engineer 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

RESEARCH IN NEUROETHOLOGY AND SENSORY ECOLOGY

How environmental pollutants can impact the learning and memory abilities of mosquito larvae and how these creatures can serve as biological indicators of freshwater ecosystem health

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 compared visual metrics

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 conducted Judgment Bias Test experiment on Kea
Recorded and 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 | Research assistant

Design and field experiment on fish gut microbiota and CH4 emissions

Supervisors: Dr Jean-Christophe Auguet and Dr Marie-Charlotte Cheutin

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

TUNISIA PLASTIC SYSTEMS

Sousse, Tunisia
07/2012 – 08/2012

INTERN IN PRODUCTION

Discovery of production, mechanical, logistics, and technical services

Supervisor: Marcel Guillet

Education

UNIVERSITY OF TOURS

02/2021 – 02/2024

PhD STUDENT – INSECT BIOLOGY RESEARCH INSTITUTE

Experimental design | Behavioural analysis | Ecotoxicology
Data handling | Statistical analysis | Scientific communication
Hard and software design | Field work | Teaching

UNIVERSITY OF STRASBOURG

09/2018 – 09/2020

MSc WITH HIGH HONOURS

Functional and evolutive ecology | Ecophysiology | Metabolism
Ethology, cognition and behaviour | Neurobiology of rhythms

UDACITY & GOOGLE

11/2017 – 08/2018

FRONT-END WEB DEVELOPER DEGREE

Website design: from basics to the use of libraries and frameworks

INSTITUT CATHOLIQUE DES ARTS ET METIERS

09/2014 – 09/2017

ENGINEER'S DEGREE | AUTOMATION - CONTROL SYSTEMS

Software and programming | Project management

INSTITUT CATHOLIQUE DES ARTS ET METIERS

09/2012 – 09/2014

PREPARATORY CLASS

Electrical engineering - Web technologies
Networks management - Industrial organization

Teaching and Mentoring 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)

Publications

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**

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. (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., Aguiar J.M.R., Tabacchi E., Guillaume 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., 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>.

Conference presentations

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

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

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

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

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

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

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

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

Awards

2024	Conference grant – SFECA 2024 – 150 euros
2023	Conference grant – Behaviour 2023 - Doctoral school – 250 euros
2019	Travel grant – Region Alsace GrandEst – 2640 euros
2017	UDACITY Scholarship – 2200 USD

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

References

Prof. Clement Vinauger
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Prof. Martin Giurfa
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