



TO MAGNIFICO RETTORE OF UNIVERSITA' DEGLI STUDI DI MILANO

ID CODE 4793

I the undersigned asks to participate in the public selection, for qualifications and examinations, for the awarding of a type B fellowship at **Dipartimento di Dipartimento di Scienze e Politiche Ambientali**.

Scientist- in - charge: **Prof. Gentile Francesco Ficetola**

Isabel Cantera

CURRICULUM VITAE

PERSONAL INFORMATION

Surname	Cantera
Name	Isabel
Date of birth	27, October, 1991

PRESENT OCCUPATION

Appointment	Structure
Unemployed	

EDUCATION AND TRAINING

Degree	Course of studies	University	year of achievement of the degree
Degree	Bachelor's degree in Biology and Environment	Paul Sabatier, Toulouse	2014
Specialization			
PhD	Ecology	Paul Sabatier, Toulouse	2019
Master	Biodiversity, Ecology and Evolution	Paul Sabatier, Toulouse	2016
Degree of medical specialization			
Degree of European specialization			
Other			



REGISTRATION IN PROFESSIONAL ASSOCIATIONS

Date of registration	Association	City

FOREIGN LANGUAGES

Languages	level of knowledge
Spanish	Native
French	Native
English	Fluent
Italian	Begginer

AWARDS, ACKNOWLEDGEMENTS, SCHOLARSHIPS

Year	Description of award
2016-2019	PhD fellowship from the "Laboratoire d'excellence CEBA" (Centre d'étude de la biodiversité amazonienne).

TRAINING OR RESEARCH ACTIVITY

<p>2000: Postdoctoral researcher at EDB laboratory (Evolution et Diversité Biologique). Toulouse, France.</p> <p>Characterizing the spatial signal of environmental DNA (eDNA) in rivers using a community ecology approach. Beta-diversity patterns along upstream-downstream gradients in tropical rivers.</p> <p>Reference: Prof. Sébastien Brosse (sebastien.brosse@univ-tlse3.fr).</p>
<p>May 2017: 7th Metabarcoding School, Porto, Portugal, 2017.</p> <p>70h of lectures and practical lessons (bio-informatic analyses, DNA extraction, DNA amplification).</p>
<p>2016 - 2019: Ph. D. in community ecology at EDB laboratory.</p> <p>"Effects of human impacts on freshwater fish communities in French Guiana: an environmental DNA approach".</p> <ul style="list-style-type: none">• Sampling campaigns to filtrate water to collect eDNA.• Optimization of the eDNA sampling protocol to inventor species-rich rivers and streams.• Community ecology analyses statistics: null models, multivariate analyses to build functional spaces and functional indices (richness, divergence, evenness and identity). <p>Supervisor: Prof. Sébastien Brosse (sebastien.brosse@univ-tlse3.fr).</p>
<p>2016: Master project at EDB laboratory.</p> <p>Biogeography of the Olive family (Oleaceae).</p> <ul style="list-style-type: none">• Phylogenetic reconstruction and molecular dating with fossil data.• Inferences of ancestral geographic range. <p>Supervisor: Dr. Guillaume Besnard (guillaume.besnard@univ-tlse3.fr)</p>



2015: Internship at Auckland University, New Zealand.

Genomic differentiation between wild and re-introduced populations of an endangered bird, the New Zealand Hihi (*Notiomystis cincta*).

- Genome assembling (Rad sequencing) and analyses (Stacks pipeline and Unix).
- SNP detection and localisation using the *Zebra Finch* reference genome.

Reference: Dr. Anna Santure (a.santure@auckland.ac.nz).

2014: Internship at Centro de Investigación en Biodiversidad y Conservación, Universidad Autónoma del Estado de Morelos, Mexico.

Forest restoration effects on bird's behaviour in a dry forest reserve (Sierra de Huautla).

- Creation of the sampling design and video recording of bird's behaviour.

Reference: Prof. Marcela Osorio (mosorio@uaem.mx).

2013: Internship at ECOLAB (Laboratory of Functional Ecology and Environment), Toulouse, France and the Angling Association of Tolmin, Slovenia.

Diet characterization of the endangered marble trout (*Salmo marmoratus*).

- Surber sampling, identification and biomass estimation of aquatic invertebrates.
- Preparation of samples for isotopic analyses.

References: Dr. Camille Musseau (camille.musseau@gmail.com) and Dr. Alain Crivelli (a.crivelli@tourduvalat.org).

PROJECT ACTIVITY

Year	Project
2020	eDNA-DistDet: Quantifying the Detection Distance of Fish by Environmental DNA in French Guiana Rivers, funded by the DEAL Guyane (Direction de l'environnement, de l'aménagement et du logement). Owner of the project: Sébastien brosse.
2017-2019	DEBIT: DEcoupling Biodiversity dimensions In Tropical ecosystem, funded by the French National Research Agency (ANR). Owner of the project: Jérôme Murienne.

PATENTS

Patent

CONGRESSES AND SEMINARS

Date	Title	Place
2016	Annual meeting of the LabEx CEBA	Cayenne, French Guyana
2017	10 th Symposium for European Freshwater Sciences (SEFS)	Olomouc, Czech Republic
2016	Annual meeting of the LabEx CEBA	Cayenne, French Guyana
2019	14 th Ecology and behaviour conference	Toulouse, France
2019	2nd International Conference on Community Ecology	Bologna, Italy



PUBLICATIONS

Books

Articles in reviews
Coutant O., Cantera I. , Cilleros K., Dejean T., Valentini A., Murienne J. and Brosse, S. Detecting fish assemblages with environmental DNA: Does protocol matter? Testing eDNA metabarcoding method robustness. <i>Environmental DNA</i> , 00: 1- 12, 2020.
Cantera I. , Cilleros K., Valentini A., Cerdan A., Dejean T., Iribar A., Taberlet P., Vigouroux R. and Brosse S. Optimizing environmental DNA sampling effort for fish inventories in tropical streams and rivers. <i>Scientific reports</i> , 9(1), pp.1-11, 2019.
Olofsson J. K., Cantera I. , Van de Paer C., Hong-Wa C., Zedane L., Dunning L. T., ... & Besnard G. Phylogenomics using low-depth whole genome sequencing: A case study with the olive tribe. <i>Molecular ecology resources</i> , 19(4), 877-892, 2019.
Murienne J., Cantera I. , Cerdan A., Cilleros K., Decotte J.B., Dejean T., Vigouroux R. and Brosse S. Aquatic eDNA for monitoring French Guiana biodiversity. <i>Biodiversity data journal</i> , 2019.
Musseau C., Vincenzi S., Jesensek D., Cantera I. , Boulêtreau S., Santoul F., Crivelli A.J. Direct and indirect effects of environmental factors on dietary niches in size-structured populations of a wild salmonid. <i>Ecosphere</i> , 2015.

Congress proceedings
[title, structure, place, year]

OTHER INFORMATION

Teaching experience in Multivariate analyses in ecology. Master level (Ecology degree), Paul Sabatier University, 2017-2018.
Computer skills: Statistical analyses (R language), Phylogenetic and biogeographic analyses (BEAST, RAxML, <i>BioGeoBEARS</i>), Unix language and Basic use of Geographic Information Systems (QGIS) and LaTeX.

Declarations given in the present curriculum must be considered released according to art. 46 and 47 of DPR n. 445/2000.

The present curriculum does not contain confidential and legal information according to art. 4, paragraph 1, points d) and e) of D.Lgs. 30.06.2003 n. 196.

Place and date: Toulouse, 23/11/2020

SIGNATURE