



JOÃO MORAIS

Msc in Neurobiology

PROFILE

I am a Neurobiology MSc with strong expertise in animal experiments and theoretical background in molecular biology and neuroscience. I am looking forward to pursue a PhD in systems neuroscience that combines animal behavioral tasks with optogenetics, electrophysiology recordings and modelling.

I am driven by my passion for the subject of consciousness and the deconstruction of cognitive processes. I see myself as a highly motivated, very curious, and cooperative person who enjoys gathering and crossing information to approach technical and theoretical problems.

This is an interactive CV. Clicking in "curriculum", PDF or PUBMED will redirect you to an online pdf.

CONTACT INFORMATION

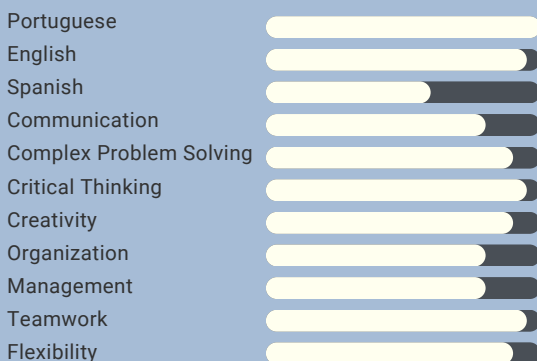
joaopfmorais@gmail.com

(+351) 937 316 419

www.linkedin.com/in/joaopfmorais

ORCID: 0000-0002-7448-6256

PERSONAL SKILLS



PROFESSIONAL REFERENCES

Fanny Cazettes

Postdoctoral Researcher

fanny.cazettes@neuro.fchampalimaud.org

António Avelino

Professor / Postdoctoral Researcher

aavelino@med.up.pt

PUBLICATIONS:

A repertoire of foraging decision variables in the mouse brain (Cazettes, 2023)

DOI: <https://doi.org/10.1038/s41593-023-01305-8> | Nature Neuroscience

Phasic Activation of Dorsal Raphe Serotonergic Neurons Increases Pupil Size (Cazettes, 2020)

DOI: [10.1016/j.cub.2020.09.090](https://doi.org/10.1016/j.cub.2020.09.090) | Current Biology

Bupivacaine treatment enhances the regeneration of the lesioned external urethral sphincter of the rat (Morais, 2017)

DOI: [10.1016/j.pbj.2017.07.068](https://doi.org/10.1016/j.pbj.2017.07.068) | Porto biomedical journal

RESEARCH EXPERIENCE:

RESEARCH TECHNICIAN (6 MONTHS)

Systems Neuroscience group (Puig Lab) | Universitat Autònoma de Barcelona

March 2022 - September 2022

Project title: "Neural substrates of procognitive actions mediated by serotonin receptors 5-HT₄ and 5-HT₇"

Supervisor: Victoria Puig

MASTER STUDENT / RESEARCH ASSISTANT (3 YEARS)

Systems Neuroscience group (Mainen Lab) | Champalimaud Centre for the Unknown

September 2018 - August 2021

Project title: "Effects of 5-HT DRN stimulation in decision making"

Supervisor: Fanny Cazettes

BACHELOR INTERNSHIP (1 YEAR)

Translational NeuroUrology group (Cruz Lab) | Research and Innovation in Health (i3S)

March, 2017 - December, 2017

Report title: "Bupivacaine on external urethral sphincter regeneration"

Supervisor: António Avelino

EDUCATION AND TRAINING

MASTER DEGREE IN NEUROBIOLOGY

Faculty of Medicine, University of Porto | September 2017 - November 2019

Curriculum [🔗](#)

Thesis: "Behavioral effects of DRN stimulation on a Head-fixed Foraging Task"

Supervisor: Fanny Cazettes

Grade: 18/20



BACHELOR DEGREE IN GENETICS AND BIOTECHNOLOGY

University of Trás-os-Montes e Alto Douro | September, 2014 - September, 2017

Curriculum [🔗](#)

Report title: Bupivacaine on external Urethral sphincter regeneration

Supervisor: António Avelino

Grade: 19/20



TECHNICAL SKILLS

Rodent procedures

- Mouse colony management
- Mouse handling and maintenance
- Standard Injections, Anaesthesia, Euthanasia
- Elaboration of customized SOPs
- Stereotaxic head bar implantation
- Stereotaxic intracranial microinjection
- Stereotaxic optic fiber implantation
- Transcardial perfusion
- In situ drug delivery (Rat)

Neuroscience

- Automated behavioral task setup with thorlabs and arduino boards
- Optogenetics
- Electrophysiology*

Histochemistry and Microscopy

- Tissue fixation
- Sample processing in paraffin and OCT
- Microtome and cryostat cutting
- Stainings (H&E, Trichrome, Methylene blue)
- Immunohistochemistry
- Custom protocol elaboration
- Axio Imager M2 (Microscope)
- ZEISS Axio Scan.Z1 Slide Scanner (Microscope)
- ImageJ (Fiji) (Software)
- QuPath (Software)

Software and programming

- Python 3
- Arduino
- ImageJ (Fiji)
- QuPath
- Colony management (Pyrat, Agendo, excel)

Other

- Digital drawing and graphic design
- Scientific Writing

CONFERENCES, COURSES AND WORKSHOPS

2023

- CNGG Summer School in Brain Disorders Research - University of Cardiff

2022

- Barcelona Computational, Cognitive and Systems Neuroscience conference [BARCCSYN 2022] - Poster Session (CRM, Barcelona)
- Data scientist in python: Python introduction | Dataquest online course (Online)

2021

- Neuromatch Academy: Computational Neuroscience (Online, international)

2019

- XVI Meeting of the Portuguese Society for Neuroscience - Presenting student (Lisbon)

2018

- Laboratory animal science course for Function A (+D) (Former FELASA B) (Champalimaud, Lisbon)

2017

- 12th Young European Scientists Meeting - Presenting student (FMUP, Porto)
- XIX Journeys of genetics and biotechnology (UTAD, Vila Real)

2016

- VIII Journeys of genetics and biotechnology (UTAD, Vila Real)

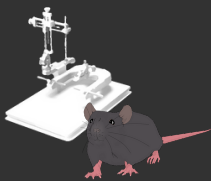
2015

- VII Journeys of genetics and biotechnology (UTAD, Vila Real)
- Bioethics meeting (ICBAS, Porto)

PROJECTS OVERVIEW

PROJECT:

EFFECTS OF 5-HT DRN STIMULATION IN DECISION MAKING

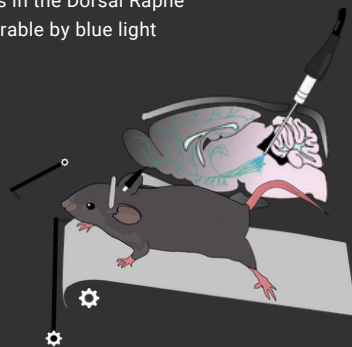


1 - INJECTION OF DIO CHR2 IN SERT-CRE TRANSGENIC MICE

Serotonin neurons in the Dorsal Raphe become triggerable by blue light

2 - MICE PERFORM A TASK WHICH REQUIRES THEM TO MAKE DECISIONS UNDER UNCERTAINTY.

Blue light is shed in the Dorsal raphe in a subset of trials stimulating serotonin neurons



3- DATA IS COLLECTED, PROCESSED AND ANALYZED



Histology Data



Behaviour Data



Video Data

PUBLICATION:

PHASIC ACTIVATION OF DORSAL RAPHE SEROTONERGIC NEURONS INCREASES PUPIL SIZE (CAZETTES, 2020)

DOI: 10.1016/J.CUB.2020.09.090 | CURRENT BIOLOGY



PROJECT:

URETHRAL MUSCLE REGENERATION THROUGH BUPIVACAINE



1 - Surgical lesion of urethral muscle



2 - Injection of Bupivacaine



3 - Immunohistochemistry
Histology
Acquiring and Data analysis

PUBLICATION:

BUPIVACAINE TREATMENT ENHANCES THE REGENERATION OF THE LESIONED EXTERNAL URETHRAL SPHINCTER OF THE RAT (MORAIS, 2017)

DOI: 10.1016/J.PBJ.2017.07.068 | PORTO BIOMEDICAL JOURNAL

