

# Manuel Ares

## Academic Background

### LICENCIATURA IN BIOLOGICAL SCIENCES (EQUIVALENT TO BSc + MSc)

Faculty of Exact and Natural Sciences at the University of Buenos Aires(UBA).

**2019 - 2025.**

- Specialization: **Animal Physiology and Neurosciences.**
- GPA: **8.31/10** - Above program average.
- Program duration: 6 years, including an extra foundational year (CBC).
- Program structure: The licenciatura is an interdisciplinary degree with over 4500 hours and a mandatory, publicly defended research thesis. An MSc in Argentina is not required to apply for doctoral positions.
- Relevant Coursework: Biometrics, Behavioural Ecology, Animal Neuroethology, Insect Physiology and Behaviour, Comparative Animal Physiology, Animal Sensory Biology and Learning and Memory Neurobiology.

## Research Experience

### PhD Researcher

#### Research on gene expression and behavioral regulation in social insects

- Workplace: Julius-Maximilians-Universität Würzburg, Germany. From June 2026 – Present. Supervisors: Prof. Ricarda Scheiner.

### Undergraduate Thesis

**Title:** “Olfactory stimulation and its neurobiological correlates in the stingless bee *Tetragonisca fiebrigi*”. December 2023 – August 2025.

- The objective of the thesis was to study changes in gene expression and molecular pathways associated with olfactory processing under enriched or deprived chemosensory environments.
- Workplace: Social Insects – Integrative Biology Laboratory (IFIBYNE, CONICET-UBA). Supervisors: Dr. Walter M. Farina and Dr. Jose M. Latorre Estivalis.

### Research Internship

Social Insects – Integrative Biology Laboratory (IFIBYNE, CONICET-UBA) Role: Undergraduate research assistant February – December 2023.

#### Acquired Skills:

- Development of behavioral trials in native bees.
- Sample preparation and handling for molecular biology.
- RNA extractions, RNA quantification, and cDNA synthesis.
- Implementation and execution of qPCR(and PCR) and agarose gel electrophoresis.
- Target sequence identification, primer design, and gene expression quantification (qPCR).

## **Technical and Analytical Skills**

**Bioinformatics:** Processing of raw qPCR data, including quality control, filtering, normalization, and preparation of datasets for statistical modeling using custom R scripts (GLMM).

**Software:** RStudio (data handling, visualization, statistics) and Microsoft Office.

## **Presentations**

“Olfactory stimulation and its neurobiological correlates in the stingless bee *Tetragonisca fiebrigi*”

Poster presentation, XII Argentine Entomology Conference - September 2025.

## **Courses & Certifications**

Course in Ecotoxicology of Terrestrial Arthropods - September 2025

## **Research Interests**

- Sensory, chemical, and neural mechanisms underlying behaviour and cognition in insects.
- Molecular and genetic bases of behavioural plasticity in social insects, particularly how environmental and social cues modulate gene expression.
- Chemical communication and task specialization in eusocial insects.

## **Languages**

**SPANISH** Native

**ENGLISH** Advanced