



# Juan Camilo Barbosa-Caro

Biologist  
PhD candidate  
Institute for Molecular Physiology  
Heinrich Heine University

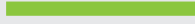

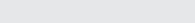
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 [www.linkedin.com/in/juan-camilo-barbosa-caro](https://www.linkedin.com/in/juan-camilo-barbosa-caro)

Results-driven researcher and leader with strong background in plant physiology, computational tools, and science communication.  
Passionate about food production sustainability through effective knowledge transfer and interdisciplinary collaboration.

## Core competencies

- Data-driven and result oriented thinking
- Project management
- Team work capacity
- Creative & multidisciplinary problem solving
- Scientific communication skills

## Language proficiency

Spanish   
English   
German   
Italian   
Russian 

## Computational skills



- FAIR-focused data management
- scalable pipeline construction and automation
- signal processing
- imaging data analysis

## Publications

Research



3D designs



0000-0002-4101-6450

## Professional experience

### Research Scientist - Physiology of plant stress-response signaling

Heinrich Heine Universität, Düsseldorf - Germany  
Since September 2021

### Group coordinator - virtual learning material generation for Taiz & Zeiger 7th ed. Plant Physiology text book.

Remote, Maryland - USA  
January 2022 - June 2022

### Teaching assistant - Lab coordination and guidance of university students.

University of Maryland, College Park - USA  
August 2018 - August 2021

### Science trainer - Colombian science olympic team

Antonio Nariño University, Bogotá - Colombia  
January 2016 - September 2018

## Education

### PhD. in Plant Biology

Heinrich Heine University, Düsseldorf - Germany  
since September 2021

### MSc. in Plant Biology

University of Maryland, College Park, USA  
August 2018 - August 2021

### Bsc. in biology

Colombia National University, Bogota - Colombia  
September 2017

## References

### Dr. Michael Wudick

wudick@hhu.de  
Heinrich Heine Universität  
Düsseldorf - Germany

### Prof. Jose Feijo

jfeijo@umd.edu  
University of Maryland  
College Park - USA

# Laboratory skills

## Plant in vitro culture

- protoplasting and regeneration of plant tissue
- maintenance of cell suspension cultures

## Animal cell in vitro culture

- maintenance of cultured mammalian cells

## Fungus cultivation

- mycelium maintenance in solid and liquid media
- scalable inoculus production
- development of novel spawn mix
- growth conditions automation - green house automation

## Molecular biology

- DNA extraction for genotyping, sequencing, and cloning
- genotyping using known molecular markers
- molecular cloning
- RNA in vitro synthesis

## Electrophysiology

- patch-clamp in mammalian and protoplasted plant cells
- patch clamp in living brain slices
- plant cell impalement - current clamp
- Two-Electrode Voltage Clamp in *Xenopus laevis* oocytes
- Multi-Electrode Array recording of surface potential plant tissues

# Workshops & Courses

## Statistics and Modelling for Biology

*Prof. Phillip Johnson*

*University of Maryland, USA*

*2020*

Probability theory, statistical inference, and hypothesis testing with likelihood, Bayesian methods and other statistical tests. Hands on course using the software R.

## Programming for Biology

*Prof. Steve Mount, Prof. Najib El-Sayed*

*University of Maryland, USA*

*2020*

Manipulation and analysis of large data files in a unix environment using awk, python and R

## Biology of lichens and fungi

*National University of Colombia*

*2014*

University course on general biology of fungi and lichens, with emphasis on industrial usage and a practical training on *P. ostreatus* culture.

## Identification of Basidiomycota fungi

*VII Latinamerican mycology congress*

*November 2014*

Macro- and microscopic techniques for identification of basidiomycetes families.

## Bioprospection of colombian macromycetes

*National University of Colombia*

*April 2018*

Identification and characterization of fungi, aiming to determine possible use in pharmacological, cosmetic, or food industries.