

# Juan David

## ORJUELA ZÚÑIGA

### PERSONAL INFORMATION

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PHONE NUMBER: +57 300 481 5575 (Bogotá, Colombia)  
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GITHUB: [github.com/juandavido](https://github.com/juandavido)

### EDUCATION

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PRESENT  
JANUARY 2015 GRADUATE STUDENT of Doctorate of Science - Physics, at **Universidad de los Andes** in Bogotá, Colombia. Research: GPIb-IX protein-lipid interaction via molecular dynamics simulations.  
Relevant courses: Bioinformatics, Advanced Computational Methods.

DECEMBER 2014  
AUGUST 2007 BACHELOR OF SCIENCE - Physics at **Universidad Nacional de** in Bogotá, Colombia. GPA=3.9/5.  
Relevant courses: Simulation of Physical Systems, Computational Tools, Programming and Numerical Methods, Object-oriented Programming.

JUNE 2007 BACHELOR from **Colegio Champagnat** in Popayán, Cauca, Colombia.

### RESEARCH EXPERIENCE

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AUGUST 2015  
JUNE 2015 Researcher for the project "Mechanical properties of lipid bilayers containing lysolipids" funded by the Research and Graduate Education Committee - Universidad de los Andes. Advisor: Antonio Manu Forero Shelton.  
Proposed, tested and executed biophysical models to determine the set of parameters that reproduced the best the physicochemical properties of the system under study.

JUNE 2015  
JANUARY 2015 Research assistant for "Estudio de Factibilidad de uso de detectores MEDIPIX para imágenes mamográficas". Branch: "Estudio de Tejidos Blandos Animales con Microcalcificaciones Usando el Detector MEDIPIX".  
Designed and executed tests that validated the viability of using MEDIPIX detectors for early and safe breast cancer diagnosis using animal tissue.

MARCH 2014  
AUGUST 2013 Thesis project: "Energetic analysis of the extraction process of a phospholipid from a lipid bilayer using Molecular Dynamics simulations". Advisor: José Daniel Muñoz Castaño.  
Extracted, processed and produced visualization of data to measure changes in membrane properties from simulations.

### TEACHING EXPERIENCE

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PRESENT  
AUGUST 2015 Computational Tools Lecturer at Universidad de los Andes, Bogotá.  
Teach and help students from STEM fields to develop programming skills in a high-level language (Python), with methods and tools for basic numerical and data analysis.

JUNE 2015	Physics II Lab Lecturer at Universidad de los Andes, Bogotá.
JANUARY 2015	Trained STEM students on the methods and skills for experimental physics.
JUNE 2015	Math Tutor (bilingual - online) for Latinhire Inc., Bogotá.
JANUARY 2015	Tutored college and high school students with drop-in sessions for areas ranging from basic math to differential equations, including math for social sciences and business majors.

## SCHOOLS AND EVENTS

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AUGUST 2015	2015 Martini Coarse-Graining Workshop, Groningen, The Netherlands.
SEPTEMBER 2014	2nd Workshop on Statistical Physics, Bogotá, Colombia.
FEBRUARY 2014	58th Annual Meeting of the Biophysical Society. San Francisco, CA.

## SCHOLARSHIPS AND DISTINCTIONS

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NOVEMBER 2007	FIRST PLACE regionally in the Colombian Standardized Tests to access higher education (ICFES) of 2007.
JUNE 2007	FIRST PLACE nationally in the Colombian Standardized Tests to access higher education (ICFES) in the first semester of 2007.
JUNE 2005	FIRST PLACE at the regional test. XXIV Colombian Mathematical Olympiads - Intermediate level (competed through the final classificatory round). Universidad Antonio Nariño.

## LANGUAGES

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SPANISH:	Native proficiency
ENGLISH:	Full professional proficiency
FRENCH:	Limited working proficiency
GERMAN:	Basic proficiency

## COMPUTER SKILLS

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Programming Languages:	C++ (2.5 years), C (1.5 years), Python (1.5 years).
Basic Knowledge:	GitHub, L <sup>A</sup> T <sub>E</sub> X, UNIX.
Operating Systems:	Ubuntu, Windows.

## SKILLS, INTERESTS AND ACTIVITIES

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Analytical, intuitive insight with data, resourceful, diplomatic, adaptable, eager to learn.

Data Science, analytics, programming and physics (computational biophysics and chemistry, computational fluid dynamics with Lattice Boltzmann methods).

Choir (member of the University Choir for 1.5 years), Theatre (worked with an independent company for 4 years).