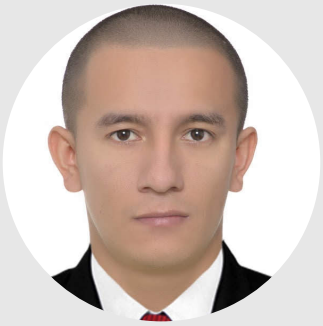

UBEIDEN **CIFUENTES SAMBONI**

Ph.D. Candidate in Chemistry

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Skills

Statistics: causal inference, A/B testing, bayesian inference, maximum likelihood

Machine Learning: supervised and unsupervised models, reinforcement learning

Protein Purification: Bacterial transformation, plasmid extraction, bacteria lysis. ÄKTA FPLC, size exclusion, HPLC, SDS-PAGE electrophoresis

Biophysics: Brewster angle microscopy (BAM), differential scanning calorimetry (DSC), Langmuir monolayers, time-correlated single photon counting (TCSPC): fluorescence spectroscopy, dynamic light scattering (DLS), UV/Vis spectroscopy, ATR-FTIR spectroscopy

Molecular Dynamic Simulation: Gromacs, Visual Molecular Dynamic (VMD), CHARMM-GUI, MDAnalisys, Gaussian 16, NBO 6.0, high performance computing (HPC)

Toolbox

MS Office Unix LaTeX

Inkscape OriginLab Windows OS

Fiji-imagej GIMP GitHub

Coding

Python: numpy, scipy, pandas, sklearn, XGBoost, seaborn, matplotlib, TensorFlow

Misc: bash, JupyterLab, Google Colab, conda, visual studio

Education

2018 - now **Ph.D. Chemistry** — **Universidad Nacional de Córdoba**, Argentina
Specialization: Membrane protein biophysics
Advisor: *Dr. Guillermo Montich*

2024 **Visiting Doctoral Student** — **King's College London**, United Kingdom
Host: *Prof. Christian D. Lorenz*, at the Department of Physics

2023 **Diploma in Data Science: Supervised Learning and its Applications** — **Universidad Nacional de Córdoba**, Argentina

2023 **Visiting Doctoral Student** — **King's College London**, United Kingdom
Host: *Prof. Martin Ulmschneider*, at the Department of Chemistry

2017 **B.Sc. Chemistry** — **Universidad del Quindío**, Colombia

Work Experience

2019 - now **Assistant Teacher** — **Universidad Nacional de Córdoba**, Argentina
Delivery of agreed package of teaching activities to a high standard. These activities may include seminars, classes, tutorials, lab sessions, other small group work to develop student skills, demonstration for experiments/techniques in lab-based science and computing. Monitor and interact with students during the entire lab session. This means circulating throughout the lab section visually monitoring student performances. Grade homework, lab reports, quizzes, and exams according to the directions provided by the course instructor. Collaborated with large and diverse team.

2017 - 2017 **Science Teacher** — **High Shool**, Colombia
Prepared new teaching material for multiple classes in chemistry, physics and biology.

spring 2016 **Research Assistant** — **Universidad del Quindío**, Colombia
Implementation of the ISO 9001 Management and Quality systems for the Pesticides and Health laboratory. Collaborated with large and diverse team and presented results to multiple audiences.

Research

- **Lab: Membrane Protein**
  Implementation of a recombinant protein expression and purification system to obtain transmembrane peptides. Development of methodology for repurification of peptides by HPLC chromatrography. Perform biophysical experiments to study lipid-peptide interaction.
- **Molecular Dynamic Simulation**
  We used multiscale molecular dynamics (MD) simulations that permit the accurate assembly of an integral membrane proteins (IMP) into a membrane at the coarse-grain level, prior to careful assessment of the quality of the IMP structure at atomic resolution. Data science was applied to extract the most information about the lipid-peptide interaction.

Other

- **Reference** Dr. Guillermo Montich, Research at FCQ, Universidad Nacional de Córdoba, Argentina (guillermo.montich@unc.edu.ar), Phone: +54 9351 383 9235
- **Languages**: Spanish (native), English (fluent)