

## NATHALIA ANDREA PORTILLA RINCÓN

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### PROFESSIONAL PROFILE

Microbiologist and bioinformatician with experience in research and industry for more than 8 years. Skills in molecular biology, bacteriophage biology, biotechnology application, data science (R, python, java scripting), phylogenomics, pipeline and software development, viromes, transcriptomics, and metagenomics data treatment. Interested in NGS technologies.

### EDUCATION

#### Bachelor of Science (Hons) Microbiology

Universidad de los Andes. Bogotá, Colombia

October 2019

Relevant courses: Phage biology, molecular vaccine design, genomics, and bioinformatics

#### Master's Degree in Computational Biology

August 2021-December 2024

Universidad de los Andes. Bogotá, Colombia

Computational Biology and Microbial Ecology Group- Max Planck Tandem Group

### WORK EXPERIENCE

#### Research Assistant

Departamento de Ciencias Biológicas- Universidad de los Andes

June 2022-Current

- Viral taxonomy genomic distance profiler software development
- Metagenomics and transcriptomics workflows, microbiome applications.

#### Teaching Assistant-Advanced Bioinformatics Workshop for the GPS and JUNO project

Wellcome Sanger Institute

March 2023 (13-24)

- Teaching material preparation, scripting on bash and docker containers pipeline for whole genome sequencing bioinformatic serotyping, variant calling, and phylogenetics. Research project formulation.

#### Teaching Assistant-Phylogenomics

Universidad de los Andes

August 2023 -December 2023

- Teaching support for the course, guidelines, and tutorial construction IQTREE, BEAST, ASTRAL, and research class project tracking

#### Teaching Assistant-EBI Bioinformatics Tools

Universidad de los Andes- EBI EMBL

August December 2022, 2023, 2024

- Teaching support for the course, the syllabus includes EBI databases and tools, and research class project tracking

#### Teaching Assistance Molecular Biology-Laboratory

Departamento de Ciencias Biológicas-Universidad de los Andes

January 2022-May 2022

- Teaching classes to undergrad level, design learning material, experiment set up. Student Perception: 4.7/5.0

#### Molecular Biology Analyst

IPS-Integral Prevention in Health

June 2021-November 2021

- Molecular diagnosis of SARS-CoV2: Extraction (manual magnetic bead kit and MAELSTROM 4800), Master Mix preparation (Allplex), and RT PCR amplification (CFX96)
- Clinical sample reception and traceability
- Validation of results (ANNARLAB)

#### Research Assistant

Algae BioSolutions-CORE S.A.S. Bogotá, Colombia

September 2019- December 2020

- Purification and classification of enterobacteria and microalgae from environmental samples
- Isolation and characterization of coliphages for treatment
- Order of reagents and supplies, preparation of selective media
- Planning and standardization protocols (Protoplast and DNA extraction)
- Writing reports and manuscripts.
- Algae taxonomy, growth curves, and use of UV-Vis and multiparameter (pH/DO/EC) bioreactors

#### Graduated Research Fellow CALS

Cornell University. Geneva-Ithaca, NY, USA

May-July 2019

- Disease progression of dusty mildew in *C.sativa* variants
- Food and consumer safety training

#### **Education Assistance- Molecular Biology (Laboratory/Theory) and Cell Biology (Laboratory/Theory)**

Universidad de Los Andes, Bogotá, Colombia

August 2018- May 2019

- Purification and extraction of AND/RNA, chromatography, SDS PAGE, PCR, electrophoresis, fingerprinting, bioinformatics analysis, and academic coordination. Student Perception: 5.0/5.0

#### **CIMIC Research Assistant**

Universidad de los Andes

August 2015-May 2019

- Isolation and characterization of bacteriophages
- Formulation and profiling of bacteriophage cocktail (Salmofree patent)
- Control of biofilms of associated clinical resistant strains to nosocomial diseases

#### **AWARDS AND CONFERENCES**

\* ISCB-Latin America SolBio CCBCOL Conference on Bioinformatics.Medellin,2024. Poster

- Postraguated Scholarship "Fondo Vamos Juntos" .2024.Financial support for graduate students under 35 in science and technology from low-income communities.
- First Andean Host-Pathogen School. Universidad de los Andes. 2024. Participant
- IV Colombian Congress of Computational Biology and Bioinformatics.2022. Speaker
- Educational program coordinator and STEM design leader. STEM Without Borders- Club TEDed Colombia 2021
- Young Microbiologist Symposium 2020 (Southampton, UK, virtual)
- Latin American Green Award. Water category. Team FicoSucre 2020
- Ungraduated Research Fellow CALS Funding. Los Andes Foundation and Cornell University 2019.
- Congress grant the 23rd Evergreen International Phage Meeting 2019.
- SAGES Symposium Cornell AgriTech. 2019
- Best Ungraduated thesis. Department of Life Sciences. University of the Andes 2019-1
- Distinction Women in Science Allbiotech- Gender Commission 2019
- Bogotá Microbial meeting (BOOM) - International Society of Microbial Ecology (ISME), American Society of Microbiology (ASM) 2017-2020
- Scholarships "SER PILO PAGA" Colombian Ministry of Education-ICETEX 2014

#### **REFERENCES**

##### **Alejandro Reyes Muñoz, Ph.D**

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