

# Alejandro Yopasá Arenas

*Chemist, Colombian, resident of Brazil, 32 years old.*

## Experience

2021– **Senior Analytical Development Analyst**, MYRALIS, Valinhos, SP, Brazil.

Specialization in chromatography and mass spectrometry (MS) method development using AQbD (Analytical Quality by Design) principles

Principal achievements/functions:

- Development of forced degradation studies
- Chemometrics; Multivariate Data Analysis (PCA, HCA, PLS, OPLS etc) and Design of Experiments (DOE) applied to LC-UV-MS method development, metabolites extraction and derivatization reactions optimization; Experience in large-scale data analysis and processing data methods.
- Reproducible and Interactive Data Research- R/Python.
- Hands-on operation and troubleshooting of LC-MS and GC-MS systems.

2019–2021 **QC Analyst**, BESINS HEALTHCARE, Jundiaí, SP, Brazil.

Validation and method transfer of HPLC and GC methods for hormones. Analytical development of HPLC methods for dietary supplements.

Principal achievements/functions:

- Practical skills gained in development of forced degradation studies.
- Skills that allow transfer of methods and analytical technology to the Quality Control Laboratory.
- Handling of DMF and preparation of support information for regulatory agencies.
- Participation in design of stability studies and statistical control of the QC data.

2011–2013 **Chemist**, ANÁLISIS QUÍMICO Y MICROBIOLÓGICO AQM SAS, Bogota, Colombia.

Specialization in sample preparation and analysis using liquid chromatography, spectroscopic and electrochemical techniques in compliance with regulatory issues. Troubleshooting of analytical methods and maintenance of equipment and other laboratory facilities.

Principal achievements/functions:

- Practical skills gained in sample preparation techniques such as solvent extraction and evaporation, acid digestions and enzymatic degradation. Experience in method development and validation using physicochemical and chromatographic (HPLC-UV/RI) methods.
- Skills that allow fluid laboratory management, like effective planning, budgeting, involvement, and effective mentoring and listening of young technicians under my responsibility and other laboratory members.
- Handling of established techniques or new ones, analysis according to established standards (pharmacopoeial methods) and modification of these conforming to the organization needs.
- Participation in the validation and accreditation of laboratories, ISO 17025.

## Education

2015–2019 **PhD in Analytical Chemistry**, Universidade Estadual de Campinas, SP, Brazil.

Pharmaceuticals in soils, transport, biodegradability and risk analysis

*Rua Arq. José Silva, 784 – Campinas, SP 13087-570 Brazil*

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Principal achievements:

- Knowledge of analytic chemistry and environmental chemistry of organic compounds, risk analysis in geographical information systems (GIS).
- Experience in the analytical techniques:
  - Chromatography (UPLC-DAD-MS/MS, UHPLC-DAD-FLD)
  - Fluorescence, IR, UV-Vis analysis with multivariate techniques (PARAFAC, 2D-COS) for the study of organic matter and pharmaceuticals interactions
  - Sample preparation (QuEChERS method development assisted by ultrasound) and preconcentration of analytes (SPE, SPE-online)

2013–2015 **Master in Analytical Chemistry**, *Universidade Estadual de Campinas, SP, Brazil*.

Evaluation of the mobility of silver nanoparticles in typical soils of the state of Sao Paulo

Principal achievements:

- Knowledge of analytic chemistry and environmental chemistry of nanoparticles and inorganic compounds, soil quality parameters, contaminant analysis as suggested by OECD and EPA guidelines.
- Proposal of SPR as a technique for the study of the transformations of nanoparticles in soils.
- Experience in the analytical techniques:
  - ICP-MS, ICP-OES, Spectrophotometric methods (Uv-vis, Raman, FTIR)
  - Microwave assisted digestion (MAE)

2005–2011 **Bachelor in Chemistry**, *Universidad Nacional de Colombia, Colombia*, .

Principal achievements in the final project:

- Practice in atomic absorption spectroscopy, practical skills in acid digestion of solid samples.
- Hyphenation of lab-made flow injection systems to commercial instruments, implementation of routines of multivariate analysis (PCA, PLS).

## Computer skills

Basic Python, MATLAB

Intermediate R, L<sup>A</sup>T<sub>E</sub>X, Linux, MS Office, Empower, QGIS  
to Advanced

## Communication Skills

- 2019 Oral Presentation, logistic and academic supporter in the Colloquium Spectroscopicum Internationale XLI (CSIXLI) held jointly with the first Latin-American Meeting on Laser Induced Breakdown Spectroscopy (LAMLIBS), Mexico City, México
- 2018 Oral Presentation at the 2nd Workshop of Veterinary Residues in the Environment, Campinas, Brazil
- 2017 Poster presentation at the VIII National Meeting of Environmental Chemistry, Curitiba, Brazil.
- 2017 Oral and Poster Presentation at the 46th World Chemistry Congress, 40a Reunião Anual da Sociedade Brasileira de Química, and IUPAC 49th General Assembly, Sao Paulo, Brazil
- 2016 Oral Presentation at the 1st Workshop of Veterinary Residues in the Environment, Campinas, Brazil
- 2014 Poster at the 4th Brazilian Meeting on Chemical Speciation, Curitiba, Brazil
- 2011 Poster at the 13th Instrumental Analysis Conference, Barcelona, Spain.

## Publications

- 2018 Exposure of Brazilian soil and groundwater to pollution by coccidiostats and antimicrobial agents used as growth promoters. Science of The Total Environment 2018 | journal-article. DOI: 10.1016/j.scitotenv.2018.06.338
- 2018 Mobility of polivinylpyrrolidone coated silver nanoparticles in tropical soils. Chemosphere. 2018 | journal-article. DOI:10.1016/j.chemosphere.2017.12.019
- 2017 Sorption of thiabendazole in sub-tropical Brazilian soils. Environmental Science and Pollution Research. 2017| journal-article. DOI: 10.1007/s11356-017-9226-8

## Languages

Spanish	<b>Native</b>	
English	<b>B2</b>	<i>Independent User</i>
Portuguese	<b>C1</b>	<i>Effective operational proficiency</i>

## Interests

- Data Science
- Chess
- Painting
- Programming