



## Mario Alberto Avila Gutierrez

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### WORK EXPERIENCE

#### University research associate

*University of Nevada Reno* [ 06/08/2023 – Current ]

City: Reno

Country: United States

Website: <https://www.unr.edu/chemistry>

Email address: [chair@chem.unr.edu](mailto:chair@chem.unr.edu)

Name of unit or department: Chemistry Department - Business or sector: Education

Postdoctoral Research Letter Of Appointment

“Electroanalytical study of carbon particles”

Synthesis of Candle Carbon Soot Particles and Carbon Dots.

Characterization techniques: TGA, DSC, Raman, ESI-TOF, MALDI-TOFMS, FTIR, UV-Vis, Fluorescence, DLS.

Laboratory management: stock of consumables, team training and mentoring, project management and planning, QHSE & GLP compliance.

Data analysis, report and operating procedures writing and validation.

Calibration, maintenance, and validation of laboratory equipment.

#### University research associate

*University of Nevada Reno* [ 07/11/2022 – 04/08/2023 ]

City: Reno

Country: United States

Website: <https://www.unr.edu/chemistry>

Email address: [chair@chem.unr.edu](mailto:chair@chem.unr.edu)

Name of unit or department: Chemistry Department - Business or sector: Education

Postdoc Fulbright - Garcia Robles COMEXUS

“Electroanalytical study of carbon particles (collisions), and Photoluminescent materials”

Laboratory management: stock of consumables, team training and mentoring, project management and planning, QHSE & GLP compliance.

Data analysis, report and operating procedures writing and validation.

Calibration, maintenance, and validation of laboratory equipment.

equipment.

## **University research associate**

***Centro de Investigaciones en Optica*** [ 03/07/2020 – 31/10/2022 ]

City: Leon

Country: Mexico

Website: <https://cio.mx/>

Name of unit or department: Nanophotonics and Funtional Materials

Postdoctoral Researcher (CONACYT)

“Development of photochromic and photoluminescent based-zeolite materials”.

Synthesis: Cation Exchange in zeolites by Solid-State synthesis (Furnace and Tubular Furnace high temperatures)

Characterization Techniques: UV-Vis (DRS), FTIR, Raman, and Fluorescence Spectroscopy. XRD

Internship of one week at European Synchrotron Radiation Facilities (ESRF, Grenoble France), in collaboration with researcher of KU Leuven, for use the beam line LISA, for X-Ray Absorption (XANES and XEOL) for photoluminescent zeolites.

Laboratory management: electrical or mechanical maintenance of equipment's, management of an online calendar through the SARS-Cov-2, team training and mentoring, QHSE compliance.

Report and operating procedures writing and validation.

Recruitment of prospective students for research internships.

## **PhD Student**

***Sorbonne University*** [ 03/10/2016 – 30/09/2019 ]

City: Paris

Country: France

Website: <https://www.monaris.cnrs.fr/>

Name of unit or department: MONARIS Group - **Business or sector:** Education

PhD Student

"Effect of nanocrystallinity on self-assembly growths of magnetic cobalt supercrystals”.

Synthesis of magnetic nanocrystals (cobalt)

Characterization techniques: UV-Vis, FTIR, GISAXS, VSM, TEM, SEM, EDX

Development and optimization methods for magnetic materials.

Services of sampling preparation and characterization.

Effective communication of results for scientific and non-scientific community.

Report and operating procedures writing and validation.

## **Engineering researcher**

***University of Liege*** [ 15/09/2015 – 19/09/2016 ]

City: Liege

Country: Belgium

Website: [https://www.greenmat.uliege.be/cms/c\\_5107094/en/greenmat](https://www.greenmat.uliege.be/cms/c_5107094/en/greenmat)

Name of unit or department: GrenMat Group - Business or sector: Education

"Electrochromic thin films for sunlight filtration "

Planning and management for installation of a system for the fabrication of electrochromic nanomaterials.

QHSE & GLP compliance of equipment in compliance with safety standards.

### **Technical Comitee of LatinXChem**

*LatinXChem* [ 04/04/2021 – Current ]

City: Mexico

Country: Mexico

Website: <https://www.latinxchem.org/>

Business or sector: Education

Help in the organization on the virtual conference poster at Twitter (X) of chemistry. Co-organization of the Inorganic Chemistry Session, and Social Manager of the social network Instagram

### **Student Research Internship**

*University Laval* [ 01/06/2013 – 20/07/2013 ]

City: Quebec

Country: Canada

Website: <https://www.fsg.ulaval.ca/departements/departement-de-genie-civil-et-de-genie-des-eaux>

Name of unit or department: Département génie civil et génie des eaux - Business or sector: Education

Stay in the department of environmental and water engineering. Field study of stormwater to determine the concentration of sulfates, phosphates and nitrates in Lake St. Augustin, Quebec. Use of UV-Vis using ascorbic acid.

### **Student Research Internship**

*Institute of Advanced Technologies for Energy "N. Giordano"* [ 01/06/2012 – 20/07/2012 ]

City: Messina

Country: Italy

Website: <http://www.itae.cnr.it/en/home-2/>

Business or sector: Education

Two-month research stay to study the Gas diffusion layer (GDL) in hydrogen-oxygen cells. Fabrication of membranes with carbon and platinum as catalyst. Study of temperature and humidity effects.

### **Student Research Internship**

*Università Degli Studi di Firenze* [ 07/07/2011 – 20/08/2011 ]

City: Firenze

Country: Italy

Website: [http://www.iccom.cnr.it/en/lamm-lab\\_en/](http://www.iccom.cnr.it/en/lamm-lab_en/)

Name of unit or department: Laboratory of Magnetic Materials - Business or sector: Education

Synthesis of magnetic nanomaterials (cobaltoferrite) for hyperthermia characterization research at Laboratory of Magnetic Materials

## **Volunteer President resident committee of the Spain House**

***Colegio de España*** [ 01/10/2018 – 01/07/2019 ]

City: Paris

Country: France

Website: <https://www.colesp.org/>

Name of unit or department: Colegio de España Cité Internationale Universitaire de Paris - **Business or sector:** Education

President of the Residents Committee of the Spanish House at the Cité Internationale Universitaire de Paris. Organization of scientific seminars for residents (master students, doctoral students, postdocs and researchers), organization of women's week, organization of science week and science workshop for children, organization with other international houses for cultural events.

## **EDUCATION AND TRAINING**

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### **PhD**

***Sorbonne University*** [ 03/10/2016 – 30/09/2019 ]

City: Paris

Country: France

Website: <https://www.sorbonne-universite.fr/>

Field(s) of study: Chemistry | Nanomaterials | Physical Chemistry

Final grade: Doctor Chemical Physics and Analytical Chemistry – **Level in EQF:** EQF level 8

Type of credits: NA – **Number of credits:** NA

Thesis: "Effect of nanocrystallinity on self-assembly growths of magnetic cobalt supercrystals".

Synthesis of cobalt nanocrystals (magnetic)

Characterization of several techniques: TEM, SEM, GISAXS, UV-Vis, FTIR, VSM, SQUID

Trainings on different subjects (introduction to management, team work, resolution of conflicts, etc) from my PhD research subject

Mentoring of Master, and PhD students.

Presentation of results in colloquiums and international conferences.

### **Master 2**

***Ecole Nationale Supérieure de Chimie de Paris*** [ 01/09/2014 – 31/07/2015 ]

City: Paris

Country: France

Website: <https://www.chimieparistech.psl.eu/en/>

Field(s) of study: Materials Science | Chemistry | Physical Chemistry

Final grade: Master 2 – **Level in EQF:** EQF level 8

Type of credits: NA – **Number of credits:** NA

Thesis: "Synthesis of oxysulfide nanoparticles of controlled morphology and composition"

Internship at laboratoire de Chimie de la Matière Condensée de Paris, supervisors: Sophie Carencio and Clement Sanchez

Master 2 in Physical Chemistry and chemistry of materials Science

Courses:

Inorganic Materials and applications

Optical Materials, Glass Materials

Biomaterials

Hybrid Materials

Soft chemistry  
Colloids  
Synthesis and characterization techniques of nanomaterials  
Industrial Risk Prevention

## **Bachelor Chemistry**

**University of Guanajuato** [ 20/01/2010 – 12/08/2014 ]

**City:** Guanajuato

**Country:** Mexico

**Website:** <https://www.ugto.mx/>

**Field(s) of study:** Chemistry | Inorganic Chemistry | Nanomaterials

**Final grade:** Bachelors Chemistry – **Level in EQF:** EQF level 7

**Type of credits:** NA – **Number of credits:** NA

**Thesis:** "Synthesis of gold nanoparticles" – Sonochemistry synthesis for plasmonic nanoparticles.

Bachelor's in Inorganic chemistry with a minor in Analytical Chemistry.

Courses of physical chemistry, quantum chemistry, biochemistry, cellular and molecular biology, microbiology, environmental and industrial chemistry, etc.

Thesis developed at Centro Conjunto de Quimica Sustentable and Universidad de Guanajuato.

## **LANGUAGE SKILLS**

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Mother tongue(s): **Spanish**

**Other language(s):**

**French**

**LISTENING C1 READING C1 WRITING B2**

**SPOKEN PRODUCTION C1**

**SPOKEN INTERACTION C1**

**English**

**LISTENING B2 READING B2 WRITING B2**

**SPOKEN PRODUCTION B2**

**SPOKEN INTERACTION B2**

*Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user*

## **DIGITAL SKILLS**

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Microsoft Office / Microsoft Powerpoint / Microsoft Excel / Microsoft Word / Google Drive / Zoom  
/ Python / Python Language - Basic knowledge / Begginer HTML/CSS / Origin software (data processing and analysys)