



Juan Francisco Carrascoza Mayén

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ABOUT ME

Computational Chemist

EDUCATION AND TRAINING

09/2012 – 02/2016 Cluj-Napoca, Romania
PHD IN CHEMISTRY Babes-Bolyai University

Field of study Computational Chemistry | **Final grade** Cum Laude | **Level in EQF** EQF level 8 |

Thesis Computational Investigations on Weak and Noncovalent Bonding Interactions in Biomolecules

09/2010 – 09/2012 Cluj-Napoca, Romania
MSC IN CHEMISTRY Babes-Bolyai University

- occupational techniques (making of standard breads, fancy breads, cakes and pastries)
- science applied to food and equipment (microbiology, biochemistry, hygiene)
- occupational technology (basic principles, hygiene and safety)
- knowledge of business and its economic, legal and social context

Field of study Computational and Theoretical Chemistry | **Final grade** 10/10 | **Level in EQF** EQF level 7 | **Type of credits** ECTS |

Number of credits 120

12/2000 – 11/2008 Guatemala, Guatemala
LICENSE IN CHEMISTRY San Carlos de Guatemala University

- Studies on theoretical interactions protein-protein.

Level in EQF EQF level 7

WORK EXPERIENCE

 **DIVISION OF ALGORITHMS DESIGN AND PROGRAMMING SYSTEMS, POZNAN UNIVERSITY OF TECHNOLOGY – POZNAN**

LECTURER – 01/10/2024 – CURRENT

Lecturer of Discrete Mathematics, Algorithms and Data Structures

 **EUROPEAN CENTRE OF BIOINFORMATICS AND GENETICS – POZNAN, POLAND**

RESEARCH ASSISTANT – 31/12/2017 – 31/12/2023

Research projects: GMP:POIR.04.02.00-30-A004/16 and MOSAIC:POIR.04.02.00-00-D017/20-00. Activities executed: RNA, DNA, and protein modeller by Classical Molecular Dynamics, structural bioinformatics.

 **BABES-BOLYAI UNIVERSITY, FACULTY OF CHEMISTRY – CLUJ, ROMANIA**

RESEARCH ASSISTANT – 06/2011 – 01/2016

Research projects: PN II RU TE 2014-4-11-97, PN II ID PCE 2012-4-0488 and PN II ID PCCE 1/312/2008. Under Prof. Radu Silaghi-Dumitrescu's Lab. Activities: molecular dynamics, QM/MM dynamics calculations, modelling of metallo-enzymes, QM calculations on small biomolecules and organic compounds

SAN CARLOS DE GUATEMALA, FACULTY OF CHEMICAL SCIENCES AND PHARMACY – GUATEMALA CITY, GUATEMALA

RESEARCHER – 09/2010 – 01/2016

Research projects: FODECYT-2008, FODECYT-2010, FODECYT-2011. Activities executed: Assistant researcher(2008), Principal researcher (2010), Consultant expert (2011), in the fields of drug design, molecular modelling and dynamics, and organic synthesis.

SAN CARLOS UNIVERSITY, FACULTY OF CHEMICAL SCIENCES AND PHARMACY – GUATEMALA, GUATEMALA

RESEARCHER – 2007 – 2010

Research Projects: DIGI 2008, DIGI-2010, DIGI-2011. Activities executed: Assistant researcher(2008), Principal researcher (2010), Consultant expert (2011), in the fields of drug design, molecular modelling and dynamics, and organic synthesis.

DEPARTMENTS OF PHYSICAL CHEMISTRY; ORGANIC AND INORGANIC CHEMISTRY, FACULTY OF CHEMICAL SCIENCES AN – GUATEMALA, GUATEMALA

LABORATORY ASSISTANT – 2003 – 2008

-Teaching of laboratory techniques.
-Preparation of reactivities and lectures.

POZNAN UNIVERSITY OF TECHNOLOGY – POZNAN, POLAND

ASSISTANT – 16/02/2016 – CURRENT

Research projects: GMP:POIR.04.02.00-30-A004/16 and MOSAIC:POIR.04.02.00-00-D017/20-00. Activities executed: Computational chemistry, quantum molecular dynamics and structural bioinformatics.

TEACHING EXPERIENCE

08/2017 – 12/2017

Invited Professor

Teaching Computational Chemistry at Galileo University, Guatemala

03/2008 – 10/2008

Secondary School Teacher

Centre for Computational Studies and Systems College, Guatemala city, Guatemala.

2004 – 2006

Laboratory Assistant Professor

Faculty of Chemical Sciences and Pharmacy, Guatemala city, Guatemala

02/2001 – 12/2001

Secondary School Teacher

Suizo Americano College, Guatemala city, Guatemala

LANGUAGE SKILLS

Mother tongue(s): **SPANISH**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	C1	C2	C2	C2	C2
POLISH	A2	A2	A2	A2	A2

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

● SKILLS

C, C++, JAVA, Python, LaTeX | TensorFlow, Pytorch | Bash, SH, AWK, others

● HONOURS AND AWARDS

10/2021

Best scientific presentation – ICOLE, Lessach, Austria

2018

Member of the Polish Society of Bioinformatics – Polish Society of Bioinformatics, Poland

2016

Magna Cum Laude – Babes-Bolyai University

2014

Internship grant – COST Action CM 1201, Gotemburg, Sweden

2012

Academic grant to record's excellence – Romanian Ministry of Education

2011

Best research of the year – General Direction of Research, San Carlos de Guatemala University

2008

Member of the National Team of Researchers – Secretaría Nacional de Ciencia Y Tecnología, Guatemala.

● JOB-RELATED SKILLS

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-Pedagogy Certificate, 2023.

- Full capacity of design and perform theoretical models of metalloenzymes by several techniques: molecular dynamics, semi-empirical and DFT levels of theory mainly.

- Good skills for writing scientific articles.

- Hibrid techniques as QMMM.

- Good comand of molecular modelling Programs: AMBER, GROMACS, Gaussian, MOPAC, Autodock, VMD, SYBYL and others.

-Computer Aided Drug Design techniques.

-Experienced in Organic Synthesis of drug-like compounds, and analysis.

Advanced knowledge of bioinformatics, genetics and immunology.

● INTERNATIONAL CONFERENCES AND LECTURES

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PTBI - Symposium 2023, Gliwice, Poland, 2023, Ab Initio Study of Glycine Formation in Condensed Phase

Bioinformatics Meets Machine Learning, 6th Workshop, Hochschule University, Mittweida, Germany, 2022, Glycine formation in Condensed Phase

ICOLE, Lessach, Austria, 2021, Glycine Formation in Condensed Phase

1st International Chemistry Congress, Guatemala City, Guatemala, 2020, Molecular Modelling

Invited Lecturer ConverCiencia - IIQB nstitute of Research in Chemistry and Biologi, Guatemala 2018, Reaction Mechanisms of Bleomycin an Anti-Cancer Drug

Invited lecturer ConverCiencia - Faculty of Engineering, Guatemala, 2018, Origins of Life: Quantum Molecular Dynamics in Condensed Phase

Invited lecturer, ConverCiencia, Guatemala 2018, Biotechnology forum;

KDM 2016, PCSS, Poznan, 2016, Parallel computing performance of Quantum Espresso, <http://konferencjakdm.pcass.pl/2016/program/>

EUCHEM Conference & Annual Meeting COST Action CM1201, Prague 2014. Theoretical studies on bleomycin reaction mechanism

Mold-Mold, Cluj –Napoca 2014, Exploring the reactivity of globins beyond reversible binding of molecular oxygen

Invited Lecturer, IIQB - Institute of Research in Chemistry and Biology, Guatemala 2013, Molecular modelling and Drug Design; Protein modelling and bioinformatics.

Bioinformatics Workshop (7 days), Del Valle University, Guatemala, 2013, Pharmacogenomics and Computational Chemistry

Invited Lecturer, Medicinal Chemistry Department, Pharmaceutical School, Guatemala 2013, Computational Chemistry and Drug Design.

Students for Students. Cluj-Napoca 2012. Developing Protease Inhibitors.

Mol Mod Cluj-Napoca 2011, International Conference. Babes Bolyai University. Drug Design against HIV.

Lecturer of the 3rd Scientist Meeting. Research Directorate-General. Guatemala 2010. Synthesis of Calyxaminas A and B, two new metabolites isolated from Calyx podatypa.

Nanotechnology Prospects in Academy, Industry and State, General Research Division, San Carlos de Guatemala, Guatemala, 2009, Elucidación del Sitio de Reacción de Calyxaminas por Medio de Nanotecnología Computacional.

Jornada Científica 09, Chemical Sciences and Pharmacy Faculty, Guatemala 2009. Protein-protein interactions between HIV-CD4 cells.

● **SELECTED POSTER PRESENTATIONS**

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X Symposium of the Polish Bioinformatics Society, Uniejow, Poland, 2017, Poster: On the origins of life: Theoretical Studies of Reactions Catalyzed by Montmorillonite on Atmospheric-Like Gases

● **ORGANISATIONAL SKILLS**

Management of research projects

(2006-2011) University of Guatemala.

-Management and administration of 4 research projects with team members of up to 4 researchers.

Member of the board of directors

(2004-2005) Vocal IV (Student leadership position) at the Table of Directors of the Faculty of Chemical Sciences and Pharmacy, San Carlos University, Guatemala city, Guatemala.

-Coordination, decision making, leadership, strong communication skills.

● **COMMUNICATION AND INTERPERSONAL SKILLS**

+20 international oral presentations and scientific meetings.

2 Interviews for TV, Guatemalan broadcast.

2 Interviews for radio, Guatemalan broadcast
