



Vanessa Piacentini

WORK EXPERIENCE

Rome, Italy

PHD STUDENT IN PHYSICAL CHEMISTRY SAPIENZA UNIVERSITY OF ROME

Research: New and innovative electrolytes for the next generation of green energy storage devices. Study of innovative and biocompatible electrolytes with a computational-theoretical and experimental approach compatible with lithium-oxygen battery systems.

Supervisors: Enrico Bodo, Sergio Brutti

EDUCATION AND TRAINING

09/2019 – 07/2021

MASTER'S DEGREE (INORGANIC AND PHYSICAL CHEMISTRY) Sapienza University of Rome

Thesis: Calculations by Density Functional Theory of chemisorption mechanisms of sulfur dioxide in ionic liquids based on amino acids. It focused on a comparative study of the chemisorption mechanisms of sulfur dioxide with carbon dioxide in amino acid-based ionic liquids. Calculations were performed using Density Functional Theory with Gaussian16. The chemisorption mechanisms were studied both in the gas phase, to characterize the nature of the reactive process and in the liquid phase with an SMD solvation model, to reproduce the bulk conditions.

Professor: Enrico Bodo

Final grade 110 cum Laude

09/2016 – 07/2019

BACHELOR'S DEGREE Sapienza University of Rome

Professor: Domenico Stranges

Final grade 110 cum Laude |

Thesis Study of the UV photodissociation dynamics of allelic radical by photofragment translation spectroscopy and isotopy labelling

LANGUAGE SKILLS

Mother tongue(s): **ITALIAN**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	B2	B2	B2	B2	B2

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

DIGITAL SKILLS

Microsoft Office | Google Drive | Outlook | Google (Google Meet, Google Docs, Google Classroom, Google Forms, Google Drive, Google Slide)

● ADDITIONAL INFORMATION

PUBLICATIONS

A Computational Analysis of the Reaction of SO₂ with Amino Acid Anions: Implications for Its Chemisorption in Biobased Ionic Liquids

Piacentini, V.; Le Donne, A.; Russo, S.; Bodo, E. *Molecules* **2022**, 27, 3604. <https://doi.org/10.3390/molecules27113604>

CONFERENCES

List:

1. "First Symposium for YouNg Chemists: Innovation and Sustainability (SYNC2022)", 20/23-06-2022, Roma
2. XLVIII Congresso Nazionale di Chimica Fisica "La Chimica Fisica e le Sfide della Transizione Ecologica", 4/7-07-2022, Genova
3. VII Congresso della divisione Chimica Teorica e Computazionale – DCTC2022", 21/23-09-2022, Modena

CERTIFICATIONS

Courses:

- *High Performance Molecular Dynamics*, Cineca.
- *International Summer School on Fundamentals, Materials and Applications of Lithium-Ion Batteries*, Erasmus+ CIVIS.
- *Introduction to Using Gaussian*, Virtual Winter School on Computational Chemistry, CECAM.

WORK HISTORY

12/2022 – 01/2023

University Tutor

Sapienza University of Rome

Scholarship N. 21/2022 Specific Tutoring for OFA Recovery - PhD Students.

The purpose of the *mathematics* course for students in the faculty of sciences, mathematics and physics is to review and deepen the basic concepts preparatory to the best possible approach to the university courses.

10/2022 – 12/2022

University Tutor

Sapienza University of Rome

Scholarship N.18/2022-Tutoring assignments- ex law 170/2003 PhD students.

The tutored course of General and Inorganic Chemistry, aims to provide students in the Bachelor of Biological Sciences program with solid basic chemical skills. The activity consists of carrying out the exercises on the topics covered during the theoretical lessons given by the professor in charge of teaching.

SKILLS

Computational and Theoretical Chemistry

Orca5

Gaussian16

Molecular dynamics

Electrochemistry

Cyclic voltammetry and linear sweep voltammetry

Chronoamperometry

Electrochemical impedance spectroscopy

Working in an atmospherically inert environment (GloveBox)

Autorizzo il trattamento dei miei dati personali ai sensi del Decreto Legislativo 30 giugno 2003, n. 196 "Codice in materia di protezione dei dati personali"

Il sottoscritto dichiara di essere consapevole che il presente curriculum vitae sarà pubblicato sul sito istituzionale dell'Ateneo, nella Sezione "Amministrazione trasparente", nelle modalità e per la durata prevista dal d.lgs. n. 33/2013, art. 15.

Data 20/02/2023

f.to Vanessa Piacentini