



## Francesco Porcelli

Home : Italy

Email: [francesco.porcelli@cnr.it](mailto:francesco.porcelli@cnr.it)

Date of birth: 01/10/1979 Nationality: Italian

### EDUCATION AND TRAINING

[ 01/09/2022 – 31/08/2023 ]

#### PostDoc

**Consiglio Nazionale delle Ricerche-Istituto di Struttura Della Materia (CNR-ISM)**

Address: Rome, Area della Ricerca di Roma 1 , Italy

Research project: Computational studies of miRNA/protein complexes using High Performance Molecular Dynamics and machine learning techniques.

[ 01/11/2019 – 31/10/2022 ]

#### PhD XXXV Cycle in Applied Electronics

**Roma Tre University, Department of Industrial, Electronic and Mechanical Engineering (DIEM)**

City: Rome

Country: Italy

Field(s) of study: Natural sciences, mathematics and statistics: *Chemistry*

Thesis: Electrochemical based treatment of Polluted Marine Sediments. Preparation and Characterization of Mixed Metal Oxide Electrodes for Environmental Applications  
Electrochemistry  
Machine Learning  
Data Analysis  
Application of Chemometrics and Machine Learning Techniques to Spectroscopic data from biological tissues

[ 2016 – 17/10/2018 ]

#### Master Degree in Chemistry (N° of Protocol 13359/337)

**Università La Sapienza**

City: Rome

Country: Italy

Field(s) of study: Natural sciences, mathematics and statistics: *Chemistry*

Final grade: 110/110 Cum Laude

Thesis: Discovering superionic liquids. Structure modeling and proton transfer in protic ionic liquids.  
Computational chemistry with a multiscale approach using DFT and DFTB methods

[ 2006 – 14/07/2016 ]

#### Bachelor's degree in Chemistry (N° of Protocol 12369/177)

**Università La Sapienza**

City: Rome

Country: Italy

Field(s) of study: Natural sciences, mathematics and statistics: *Chemistry*

Final grade: 105/110

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## PHD SCHOOL AND COURSES

[ 03/07/2023 – 07/07/2023 ]

**Molecular Dynamics in the Gas Phase Cost Action (Gdańsk University of Technology, Poland)**

[ 06/04/2022 – 08/04/2022 ] **High Performance Molecular Dynamics at Cineca Academy (on line course)**

[ 24/05/2021 – 28/05/2021 ]

**PhD School in Experimental Design at Università degli Studi di Genova UNIGE (on line course)**

## CONFERENCES AND SEMINARS

[ 19/04/2023 – 20/04/2023 ] **Biophysics at Rome 2023** Aula Convegni CNR, Piazzale Aldo Moro, Rome

Poster : **Conformational Dynamics of Ago-RNA complex in mixed water/methanol solvent.**

## WORK EXPERIENCE

[ 2001 – 2016 ]

**Air separation plant operator**

**Nuova Oter S.r.l. (Now Nippon Gases) pharmaceutical industry**

**City:** Pontinia -LT-

**Country:** Italy

Quality control of Liquid Oxygen and Nitrogen for pharma

Installation, Calibration and Maintenance of chemical analyzers for purity test

Analysis of Oxygen, Nitrogen and Argon with Gas Chromatography TCD and FID

Issuance and revision of operating procedures in accordance to GMP (Good manufacturing practice)

## LANGUAGE SKILLS

**Mother tongue(s):** Italian

**Other language(s):**

**English**

**LISTENING B1 READING B1 WRITING B1**

**SPOKEN PRODUCTION B1 SPOKEN INTERACTION B1**

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

## DIGITAL SKILLS

Experience in Molecular Dynamics simulation with Gromacs | Molecular design software (PyMol, Chimera, Avogadro) | Experience in quantum chemistry package: Gaussian16, Orca, Gamess, Dftb+ | User-level knowledge of UNIX systems | Machine learning with Python-Sklearn and Matlab | High performance computing computational chemistry

*Prodi*



## PUBLICATIONS

F. Porcelli, M. Verri, S. De Santis, A. Crescenzi, A. Bianchi, A. C. Felici, G. Sotgiu, S. Romano, and M. Orsini, "Considerations on chemical composition of psammoma bodies: Automated detection strategy by infrared microspectroscopy in ovarian and thyroid cancer tissues," *Spec- trochimica Acta Part A: Molecular and Biomolecular Spectroscopy*, vol. 298, p. 122792, 2023.

E. Petrucci, F. Porcelli, M. Orsini, S. De Santis, and G. Sotgiu, "Effect of Precursors on the Electrochemical Properties of Mixed RuOx/MnOx Electrodes Prepared by Thermal Decom- position," *Materials*, vol. 15, no. 21, 2022.

E. Petrucci, F. Porcelli, M. Orsini, S. De Santis, and G. Sotgiu, "Mixed oxide electrodes based on ruthenium and copper: Electrochemical properties as a function of the composition and method of manufacture," *Metals*, vol. 12, no. 2, 2022

S. De Santis, F. Porcelli, G. Sotgiu, A. Crescenzi, A. Ceccucci, M. Verri, M. Caricato, C. Taf- fon, and M. Orsini, "Identification of remodeled collagen fibers in tumor stroma by ftir micro- spectroscopy: A new approach to recognize the colon carcinoma," *Biochimica et Biophysica Acta - Molecular Basis of Disease*, vol. 1868, no. 1, 2022.

G. Sotgiu, M. Orsini, F. Porcelli, S. de Santis, and E. Petrucci, "Wettability of micro and nanostructured surface of titanium based electrodes: Influence of chemical and electrochemical etching," *Chemical Engineering Transactions*, vol. 86, pp. 1417–1422, 2021

G. Sotgiu, M. Orsini, S. de Santis, F. Porcelli, and E. Petrucci, "Effect on durability and elec- trochemical response of the addition of a non-noble transition metal in mixed ruthenium and manganese oxide thin-film electrodes," *Chemical Engineering Transactions*, vol. 86, pp. 1393– 1398, 2021.

E. Petrucci, M. Orsini, F. Porcelli, S. De Santis, and G. Sotgiu, "Effect of spin coating parameters on the electrochemical properties of ruthenium oxide thin films," *Electrochem*, vol. 2, no. 1, pp. 83–94, 2021.

A. Donne, H. Adenusi, F. Porcelli, and E. Bodo, "Hydrogen bonding in biocompatible ionic liquids: An ab-initio characterization of dimeric interactions," *Electronic Structure*, vol. 3, no. 2, 2021

S. De Santis, G. Sotgiu, F. Porcelli, M. Marsotto, G. Iucci, and M. Orsini, "A simple cerium coating strategy for titanium oxide nano-tubes' bioactivity enhancement," *Nanomaterials*, vol. 11, no. 2, pp. 1–13, 2021.

H. Adenusi, A. Le Donne, F. Porcelli, and E. Bodo, "Ab initio molecular dynamics study of phospho-amino acid-based ionic liquids: Formation of zwitterionic anions in the presence of acidic side chains," *Journal of Physical Chemistry B*, vol. 124, no. 10, pp. 1955–1964, 2020.

A. Le Donne, H. Adenusi, F. Porcelli, and E. Bodo, "Structural features of cholinium based protic ionic liquids through molecular dynamics," *The Journal of Physical Chemistry B*, vol. 123, pp. 5568–5576, 07 2019

A. Le Donne, H. Adenusi, F. Porcelli, and E. Bodo, "Hydrogen bonding as a clustering agent in protic ionic liquids: Like-charge vs opposite-charge dimer formation," *ACS Omega*, vol. 3, pp. 10589–10600, 09 2018

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## DRIVING LICENCE

Cars: B

*(\*) ai sensi dell'art. 15, comma 1 della Legge 12/11/2011, n. 183 le certificazioni rilasciate dalla P.A. in ordine a stati, qualità personali e fatti sono valide e utilizzabili solo nei rapporti tra privati; nei rapporti con gli Organi della Pubblica Amministrazione e i gestori di pubblici servizi, i certificati sono sempre sostituiti dalle dichiarazioni sostitutive di certificazione o dall'atto di notorietà di cui agli artt. 46 e 47 del DPR 445/2000*

24/10/2023



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