Marco Bardini

Curriculum Vitae

PERSONAL DETAILS

Birth	September 12, 1994
Nationality	Italian
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EMPLOYMENT HISTORY

Marie Sklodowska Curie PhD Fellowship Dec 2019-present

Université de Mons, UHMob Project

My doctorate is in the field of Computational Chemistry, with a particular attention to DFT (Density Functional Theory) and related "ab initio" methods. These techniques will be employed to study crystalline organic semiconductors both at the molecular level and in devices with potential commercial use such as FETs (Field Effect Transistors). During my work I will also be familiarizing myself with microwave spectroscopy, which I will study at the University of Kyoto (Japan). I am expected to complete my dissertation between December 2022 and December 2023.

I have participated in all the internal UHMob Progress Meetings and International Conferences, where I was also elected representative for the PhD students involved in the project, and have served in that role between January 2020 and May 2021.

EDUCATION

Research Secondment Dec-Feb 2021-2022

Max Planck Institute for Polymer Research

Experimental (THz spectroscopy) and DFT work on the dependence of mobility on temperature and grain size in organic semiconductors

MSc. Chemistry 2016-2019

Università di Parma and University of Cape Town

Dual degree awarded on 12/04/2019 and 10/12/2019 respectively, with a final score of 110/110 cum laude. Thesis title: Synthesis, structure and properties of novel Cu(II)-based Metal-Organic Frameworks.

BSc. Chemistry 2013-2016

Università di Parma

Degree awarded on 16/10/2016, with a final score of 110/110. Thesis title: Experimental characterization and theoretical modeling of spectroscopic properties of nanoparticles of D-π-A-π-D chromophores.

Exchange Semester Jan-Jun 2015

Overworld Scholarship, Università di Parma and Boston College

During the second year of my BSc I won a scholarship to attend one semester at Boston College, Chestnut Hill (MA), USA.

PUBLICATIONS

Advanced Science 2022
Remy Jouclas et. al.

Dinaphthotetrathienoacenes: Synthesis, Characterization, and Applications in Organic Field Effect Transistors

J. Mat. Chem. C 2022
Lamiaa Fijahi et. al.

Charge transfer complexes of a benzothienobenzothiophene derivative and their implementation as active layer in solution-processed thin film organic field-effect transistors

LANGUAGE SKILLS

Italian	Native language
English	Excellent, CAE (grade A, 2012) and TOEFL (117/120, 2014)
Spanish	Conversational, I did not attempt any proficiency tests
French	Conversational, level B1 overall as of January 2021.

TECHNICAL SKILLS

Software Olex2 (good), LaTeX(basic), XSeed (good), XPrep (basic), XMGrace (good), Microsoft Office (good), Scifinder, (good), Crystal17 (very good), Material Studio (basic), Gaussian (good), Zoa (good), VESTA (basic), ORCA (basic), ADF (good), CP2K (good)

Programming Languages Python (good), Fortran (basic), C (basic), bash (average)

XRD Experience in synthesis of crystals via slow evaporation or solvothermal methods, sample manipulation and data collection, both SCXRD and PXRD. Proficient in utilizing softwares for structure solution from SCXRD data. Experience in utilizing the Cambridge Structural Database (CSD).

UV/Vis Experience in absorption and fluorescence spectroscopy of samples in solution, including moderate experience in fluorescence anisotropy measurements

Thermal Experience in hot stage microscopy (HSM), thermogravimetry (TGA) and differential scanning calorimetry (DSC) measurements

FTIR Moderate experience in FTIR spectroscopy of solids

Terminal Experienced in utilising Linux terminals and other similar interfaces (e.g. MobaXTerm, Windows Terminal) and writing .bash scripts to be used in this environment

CONFERENCES AND SCHOOLS

Summer School 20-24 Sep 2021

Imperial College London (Online)

I participated in the MSSC2021 Summer School as an attendee

Conference 21-25 Jun 2021

IWOM (Online)

I participated in the 2021 International Workshop on Charge Transport and Excited State Processes in Organic Materials as an attendee. The workshop was hosted by University College London

Summer School 14-18 Jun 2021

EPW (Online)

I participated in the 2021 School on the Electron-Phonon Coupling and the EPW code, hosted by the University of Texas at Austin

Summer School 31-4 May-Jun 2021

EMFCSC (Online)

I participated in the 2021 International School of Crystallography as an attendee. The conference was to be held in Erice (Italy) but was moved online due to the COVID-19 pandemic. At the end of the conference I won the Lodovico Prize, awarded for outstanding contribution to the scientific discussion and social environment of the conference

Summer School 6-11 Sep 2020

University of Turin (Online)

I participated in the MSSC2020 Summer School as an attendee

Symposium 6 Mar 2020

Université de Namur

I participated in the Journee Rencontre des Jeunes Chimistes as an attendee

Conference 1-6 Oct 2019

Croatian Association of Crystallographers

I participated in the Hot Topics in Contemporary Crystallography 4 (HTCC4) conference in Mlini, Croatia, as an attendee.

Summer School 8-14 Jul 2018

Stellenbosch University

I participated in the 5th European Crystallographic School (ECS 5) as an attendee and received an award for my skill in peer to peer tutoring during the conference

Symposium 6 Apr 2018

University of Cape Town

I participated in the Young Chemists Symposium (YCS) as an attendee

Conference 10-12 May 2017

University of Parma

I participated in the final Nano2Fun conference as an attendee

OTHER SKILLS AND EXPERIENCES

Languages During high school I learned Japanese with a private tutor for two years, then dropped it to devote more time to my scientific studies. I have resumed studying the language in my free time, but I am not yet proficient enough to be able to use it in any meaningful capacity

International In November 2018 I participated in the American Model United Nations (AMUN) conference in Chicago, in which I represented Uruguay in the First Committee of the General Assembly of the United Nations. I acted as a Chief Erasmus Tutor in the Chemistry Department of Università di Parma for two years, helping incoming students from all over the world in finding an accommodation, handling bureaucracy, dealing with their coursework and interacting with professors.

Writing During my stay in Cape Town I wrote an entry on an online blog every two weeks, in both Italian and English, in order to share my experiences with my family and friends (https://firstinbardout.wordpress.com). During my final year of high school I won the Provincia di Parma competition for a philosophical essay in a foreign language (English), and went on to participate in the national competition in Bologna.

Sports I have participated in either individual or team sports for most of my life, with my main pursuits being Swimming (age 4 to 7), European Football (age 7 to 13), Tennis (age 13 to 17) and Basketball (age 17 on). I am a lifelong member of the Italian Alpine Club (CAI), and have been a member of the University of Cape Town Mountain and Ski Club while I was enrolled in the University. During winters I would usually ski or skate, passions that accompany me to this day

REFERENCES

Prof. Alessia Bacchi, Past President of the European Crystallographic Association, Dipartimento SCVSA, University of Parma, Viale delle Scienze 17A - Campus, I-43124, Parma, Italy.
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