

# Matteo BRUSCHI

## Ph.D. Student in Molecular Sciences

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📍 Lungadige Matteotti 14, 37126 Verona (VR), Italy  
📅 Born 26 July 1995, Negrar (VR), Italy



## EDUCATION

Present 01 Oct 2020	<b>PH.D. IN MOLECULAR SCIENCES</b>   Dipartimento di Scienze Chimiche, Università degli Studi di Padova, Padova, Italy ‣ Supervisor: Prof. Barbara Fresch <b>Theoretical Chemistry</b>
23 Apr 2020 02 Oct 2017	<b>M.Sc. IN CHEMISTRY</b>   Dipartimento di Scienze Chimiche, Università degli Studi di Padova, Padova, Italy ‣ Thesis: "Stochastic Models of Disorder in Excitonic Systems: Localization, Decoherence and Optical Response" ‣ Supervisor: Prof. Barbara Fresch ‣ Final grade: <b>110/110 cum Laude</b> <b>Theoretical Chemistry</b> <b>Exciton dynamics</b> <b>Anderson localization</b> <b>Haken-Strobl model</b>
28 Sep 2017 29 Sep 2014	<b>B.Sc. IN CHEMISTRY</b>   Dipartimento di Scienze Chimiche, Università degli Studi di Padova, Padova, Italy ‣ Thesis: "In Silico Oxidation of Bioinspired Organodichalcogenides of Glutathione Peroxidase: an ASA-EDA Approach" ‣ Supervisor: Prof. Laura Orian ‣ Final grade: <b>110/110</b> <b>Computational Chemistry</b> <b>Catalysis</b> <b>Chalcogens</b> <b>GPx</b>

## EXPERIENCE

30 Sep 2020 01 Jun 2020	<b>RESEARCH FELLOW</b>   Dipartimento di Scienze Chimiche, Università degli Studi di Padova, Padova, Italy ‣ Project: "Exciton Dynamics in Quantum Dots Solids for the Design of Logic Processing at the Nanoscale" ‣ Supervisor: Prof. Barbara Fresch ‣ Funding: COPAC (H2020 FETOPEN-1-2016-2017-766563)
31 Jul 2019 01 Mar 2019	<b>TEACHING ASSISTANT</b>   Università degli Studi di Padova, Padova, Italy ‣ Courses: Organic Chemistry 1 and Analytical Chemistry 1
18 Dec 2018 20 Aug 2018	<b>ERASMUS+ STUDIES</b>   Department of Chemistry, NTNU, Trondheim, Norway ‣ Courses from Master's Degree Programme in Applied Theoretical Chemistry
17 Aug 2018 20 Jul 2018	<b>SCHOLARSHIP</b>   Institut de Química Computacional i Catàlisi, Universitat de Girona, Girona, Spain ‣ Project: "Bioinspired in Silico Oxidation of Organomonochalcogenides by H <sub>2</sub> O <sub>2</sub> " ‣ Supervisor: Prof. Marcel Swart ‣ Funding: HPC-EUROPA3 (H2020 INFRAIA-2016-1-730897)

## COURSES AND CONFERENCES

20 – 31 Jul 2020	<b>Summer School</b> – "Qiskit Global Summer School", IBM, Online Session
28 – 29 Apr 2020	<b>Training Course</b> – "High Performance Molecular Dynamics", CINECA, Online Session
26 – 29 Nov 2019	<b>Training Course</b> – "Introduction to Fortran for Scientific Computing", CINECA, Bologna, Italy
01 – 03 Oct 2019	<b>Training Course</b> – "Introduction to Python Programming", CINECA, Rome, Italy
15 – 17 Jul 2019	<b>Summer School</b> in History and Philosophy of Science – "Frontiere della Conoscenza: Big Data nelle Scienze Fisiche, Sociali, Umanistiche e della Vita", CISFIS, Padova, Italy

## VOLUNTARY ACTIVITIES

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27 Sep 2019 **Staff Member** – “European Researchers’ Night - Venetoneight”, Padova, Italy  
12 Feb 2019 **Speaker** – “Viaggio nella Tavola Periodica”, Padova, Italy  
29 Sep 2018 **Staff Member** – “European Researchers’ Night - Venetoneight”, Padova, Italy  
23 Sep 2017 **Staff Member** – “NEMEC - Non è magia, è chimica”, Padova, Italy  
19 Sep 2015 **Staff Member** – “NEMEC - Non è magia, è chimica”, Padova, Italy

## SKILLS

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**Operative Systems** Linux, MacOS, Windows  
**Programming** Python, Fortran 90, Bash  
**Scientific Software** Matlab, Mathematica  
**Chemistry Software** Gaussian, ADF, Orca, Avogadro, Chemcraft  
**Text Editors** Office Suite,  $\text{\LaTeX}$

## LANGUAGES

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**Italian** ● ● ● ● ● Native  
**English** ● ● ● ● ○ Fluent

## PUBLICATIONS

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- [1] M. Bortoli, M. Bruschi, M. Swart, L. Orian “Sequential Oxidations of Phenylchalcogenides by  $\text{H}_2\text{O}_2$ : Insights in the Redox Behavior of Selenium from a DFT Analysis” *New J. Chem.* **44**, 6724-6731 (2020).  
[2] M. Bortoli, F. Zaccaria, M. Dalla Tiezza, M. Bruschi, C. Fonseca Guerra, F. M. Bickelhaupt, L. Orian “Oxidation of Organic Diselenides and Ditellurides by  $\text{H}_2\text{O}_2$  for Bioinspired Catalyst Design” *Phys. Chem. Chem. Phys.* **20**, 20874-20885 (2018).