

ELIE HADDAD

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EDUCATION

Polytechnique Montréal | Montréal, Québec, Canada

2020-2024

PhD. Computational Materials Engineering | **4.0/4.0**

University of Montréal | Montréal, Québec, Canada

2017-2020

BSc. Chemistry | **Excellence award** | **3.97/4.0**

McGill University | Montréal, Québec, Canada

2014-2017

BSc. Honours Physiology and Mathematics | **3.2/4.0**

ACADEMIC EXPERIENCE

RESEARCH PROJECT AT POLYTECHNIQUE MONTREAL

MONTREAL, QUEBEC, CANADA

MAY 2020 – AUGUST 2024

- PhD research project: "*Computational properties of sulfur functionalized carbon nanostructures*", directed by Prof. Alain Rochefort.
Polytechnique Montréal, Department of Engineering Physics
 - Exceptional abilities and experience in Density functional theory (**DFT**) calculations, Hartree Fock methods, Molecular Dynamics (**MD**), *ab initio* MD and **Monte Carlo** simulations. Advanced abilities in **force fields**, electron correlation models. Proficient in mathematical **optimization techniques** and electrochemical simulations.

UNDERGRADUATE HONORS RESEARCH PROJECT AT MCGILL UNIVERSITY

MONTREAL, QUEBEC, CANADA

SEPT 2016 – APRIL 2017

- Honors** research project: "*Characterization of the painful effects induced by LionFish (Pterois Volitans) venom*", directed by Prof. Reza Sharif-Naeini.
McGill University, Department of Cellular Biology
 - Demonstrated advanced knowledge in **non-linear dynamics and chaos**. Proficient in **mathematical modelling** of biological and biophysical systems.

WORK EXPERIENCE AND AWARDS

WORK EXPERIENCE

- Laboratory instructor, teaching assistant and grader for the course of numerical project design and implementation (PHS3903) at Polytechnique Montréal. **2024.**
- Laboratory instructor, teaching assistant, grader and material organizer for the course of atomic and molecular physics (PHS1103) at Polytechnique Montréal. **2021-2024.**
- Editor-in-chief of the "Moléculire" journal for the University of Montréal chemistry students. **2019-2021.**

AWARDS

- Doctoral scholarship of excellence from Hydro-Québec. (20000\$). **2023-2024.**
- Doctoral scholarship of excellence from the J.A. DeSève foundation. (5000\$). **2022.**
- Alexander-Graham-Bell Canada Graduate Scholarship by the national science and engineering research council of Canada (NSERC) (17500\$). **2021-2022.**
- Scholarship of excellence from the Lebanese-Canadian chamber of commerce. (4000\$). **2021.**
- Scholarship of excellence from the Lionel-Lemay foundation at the University of Montréal. (1000\$). **2021.**
- The Dean's honour roll for the years of: 2017-2018 ; 2018-2019 ; 2019-2020 at the University of Montréal.

SKILLS

LANGUAGES

- Fluent in Written and Spoken: **English** | **French** | **Arabic** | **Spanish**

COMPUTER PROFICIENCY

- Software:** Matlab | Office | SIESTA | NWChem|GROMACS|VESTA| ImageJ | Chemdraw| Avogadro| GAUSSIAN |Quantum Espresso.
- Coding languages:** Python | Java | R | HTML | Linux/UNIX OS