Curriculum Vitae — Anton Robert

see also: https://weaverbird.net/Anton-Robert

Contact

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Education

2019-22 **PhD degree in physical chemistry**
Delivered by Paris Sciences et Lettres (PSL) Research University, prepared at the École Normale Supérieure (ENS). Title: "New approach for electrostatic interactions at metal/liquid interfaces and applications for the graphene/water couple." Supervisor: Marie-Laure Bocquet.

2016-19 **Diploma of the ENS of Paris**
Member of PSL Research University. Main discipline: chemistry.

2016-19 **Master and Bachelor Degree of Sorbonne University** (PSL)
Master in analytical, physical, and theoretical chemistry. Bachelor in science, technologies, and health.

2014-16 **Intensive scientific class** ("Classes préparatoires")
In physics and chemistry (PC) at Lycée Pierre de Fermat (Toulouse, France).

Work Experience

2019-22 **Teaching** (∼100 hours) for students in the CPES cursus (PSL). Tutorials in Python and practical work in chemistry laboratories.

2019 **Master thesis** at the ENS. Solvation of bio-chemical molecules with the Molecular Density Functional Theory. Supervisor: Maximilien Levesque

2018-19 Contracted visitor at **IBM Research**. Quantum computing applications for Chemistry. Supervisor: Ivano Tavernelli

Patents

- Robert, Anton, Panagiotis Barkoutsos, Stefan Woerner, et Ivano Tavernelli. 2021. Branched heteropolymer lattice model for quantum optimization. United States US20210035003A1, filed 30 juillet 2019, issued 4 février 2021.
- Robert, Anton, Panagiotis Barkoutsos, Giacomo Nannicini, Ivano Tavernelli, et Stefan Woerner. 2020. Enhancing hybrid quantum-classical algorithms for optimization. United States US10671696B2, filed 4 octobre 2018, issued 2 juin 2020.

Research Publications

- Robert, Anton, Hélène Berthoumieux, et Marie-Laure Bocquet. 2023. « Coupled Interactions at the Ionic Graphene-Water Interface ». Physical Review Letters 130 (7): 076201.

- Robert, Anton, Panagiotis Kl Barkoutsos, Stefan Woerner, et Ivano Tavernelli. 2021. « Resource-efficient quantum algorithm for protein folding ». npj Quantum Information 7 (1): 1-5.
- Cuxart, Marc G., Knud Seufert, Valeria Chesnyak, Wajahat A. Waqas, Anton Robert, Marie-Laure Bocquet, Georg S. Duesberg, Hermann Sachdev, et Willi Auwärter. 2021. « Borophenes made easy ». Science advances 7 (45): eabk1490.
- Baklanov, Aleksandr, Manuela Garnica, Anton Robert, Marie-Laure Bocquet, Knud Seufert, Johannes T. Küchle, Paul TP Ryan, Felix Haag, Reza Kakavandi, et Francesco Allegretti. 2020. « On-surface synthesis of nonmetal porphyrins ». Journal of the American Chemical Society 142 (4): 1871-81.
- Robert, Anton, Sohvi Luukkonen, et Maximilien Levesque. 2020. « Pressure correction for solvation theories ». The Journal of Chemical Physics 152 (19): 191103.
- Barkoutsos, Panagiotis Kl, Giacomo Nannicini, Anton Robert, Ivano Tavernelli, et Stefan Woerner. 2020. « Improving variational quantum optimization using CVaR ». Quantum 4: 256.
- Grosjean, Benoît, Anton Robert, Rodolphe Vuilleumier, et Marie-Laure Bocquet. 2020. « Spontaneous liquid water dissociation on hybridised boron nitride and graphene atomic layers from ab initio molecular dynamics simulations ». Physical Chemistry Chemical Physics 22 (19): 10710-16.

Oral communications

- "Quantum computing for chemistry". Poster at the University of **Nanjing (China)** in 2018.
- "Analytical force fields with MDFT". Talk at the workshop *Atelier de modélisation des molécules d'intérêt biologique (AMMIB)* in **Saclay (France)** in 2019.
- "DFT simulations for STM experimentalists". Seminar at the Technological University of **Münich (Germany)** in 2020.