



Antoine Herrmann

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Education background

- 2018-2020 **Master degree Physics - Selective University Research School Quantum sciences and nanoMaterials (QMat)**, *Physics and Engineering Institute Strasbourg*.
Open quantum systems, Quantum many body physics, Advanced Quantum mechanics, Statistical physics, Computing : python
- 2017-2020 **Magistère degree of Fundamental physics**, *Physics and Engineering Institute Strasbourg*, Selective double degree in fundamental physics.
Relativistic Quantum mechanics, General relativity,
- 2017-2018 **Bachelor degree in physics**, *Institut de Physique et Ingénierie Strasbourg*.
Quantum mechanics, Special relativity, Atomic physics, Computing : C++
- 2015-2017 **Bachelor degree in Deepen Physics and Mathematics (MPA)**, *University of Mathematics and Computer Science Strasbourg*, Selective double degree.

Main Research Experiences

- 2021-2022 **Research Assistant, University of South Florida**.
Quaternion fields and electronic structure calculations for magnetic textures dynamics /
Leading and mentoring 2 undergraduate and 2 graduate students
- 2020 **Master Internship, IPCMS, Strasbourg** , 6 months.
Skyrmions dynamics : Temperature influence in RKKY exchange interaction and extension to Rashba Spin-orbit Coupling
- 2019 **Volunteer Internship, IPCMS, Strasbourg** , 2 months.
Skyrmion dynamics : Solving LLG equation for topologically trivial magnetic orders
- 2019 **Master Internship, Institute Charles Sadron, Strasbourg** , 4 months.
Statistical properties of Delauney triangulation in 2D perfect gas
- Spring 2019 **French Physicists Tournament, Paris**.
Golden medal

Publications and Conferences

- 2022 **The Interplay of Weyl electronic structure with long-range magnetic structure in CoxFe1 - x Ge compounds (APS meeting)**, *Bushra Sabir, Antoine Herrmann, Lillia Woods, Jacob Gayles*, APS March Meeting Abstracts 2022.
2022APS..MARW68009S

Participation to conferences / workshops

- 09 2021 - 06 **Virtual Physics Colloquiums (Online)**.
2022 Series of virtual conference with world wide researchers on magnetism and magnetic materials, organized by Dmitry Voronin University of South Florida). Main conferences : Macroscopic Quantum Devices and Associated Phenomena (Prof. Edgar J. Patiño, Universidad de los Andes, Bogota, Colombia), Toward Practical Near-term Quantum Computers (Dr. Akira Sone from Aliro Technologies, Inc), Beyond BCS: An Exact Model for Superconductivity and Motttness (Prof. Philip Phillips from University of Illinois, Urbana-Champaign)
- 04-07 2021 **QMat Young Investigator Group (YIG)**, *Quantum computing club*.
Student team exploring quantum computing, main workshop : QISKIt computing (IBM)
- 19/08/2020 **SPICE-SPIN+X Seminar**, *Antiferromagnetic Insulatronics: Spintronics without magnetic fields (Mathias Kläui, University of Mainz, Germany)*.
- 03 2020 **IFF Spring School**, *Juelich, Germany*.
Scattering! Soft, Functional and Quantum Materials : conferences, lectures and discussion on Scattering Theory Structure, Dynamics & Excitations, Neutron- & Synchrotron Radiation Sources, Topical Applications in Soft Matter, Life Science, Materials Sciences, Quantum- and Nano-Material, Complementary Techniques: Imaging, Microscopies
- 08 2019 **Quantum Futur Academy**, *(Selective summer school)*.
Conferences and visits of laboratories about Quantum mechanics in Strasbourg, France and Karlsruhe, Germany

Skills

Languages

French Native
English Fluent
German B1+

Computing

C++, Python, Matlab, Mathematica, Bash, Latex

Reference Professors

- IPCMS **Paul-Antoine HERVIEUX**, *(Master internship supervisor)*.
Paul-Antoine.Hervieux@ipcms.unistra.fr +33 (0)3 88 10 72 14
- Herve BULOUE**, *(Personal master project supervisor)*.
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