

CLÉMENT FORTIN

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🌐 <https://clementfortin.github.io/>

📍 Montréal, Canada

EDUCATION

- PhD Physics** at McGill University in Montréal, Canada Sep. 2023 –
Supervisors: Prof. Tami Pereg-Barnea, Prof. Kai Wang
- MSc Maths** at McGill University in Montréal, Canada May 2022 – May 2023
Supervisor: Prof. Vojkan Jakšić
- Visiting MSc Student** at CY Institute for Advanced Studies in Cergy-Pontoise, France May 2022 – Jul. 2022
Supervisor: Prof. Armen Shirikyan
- BSc Physics and Maths Joint Honours** at McGill University in Montréal, Canada Sep. 2019 – May 2022

RESEARCH INTERESTS

- Non-Hermitian systems, quantum condensed matter, quantum photonics.

PUBLICATIONS

Research

1. C. Fortin, K. Wang and T. Pereg-Barnea, *Unifying Anderson transitions and topological amplification in non-Hermitian chains*, Phys. Rev. B **112**, 174208 (2025). arXiv:2509.05842
2. C. Fortin, K. Wang and T. Pereg-Barnea, *Topological amplification of the bosonic Kitaev chain with nonuniform loss*, Phys. Rev. B **112**, 064208 (2025). arXiv:2412.09744
3. K.E.M. Church and C. Fortin, *Computer-assisted methods for analyzing periodic orbits in vibrating gravitational billiards*, Int. J. Bifurcation Chaos (2021). (Selected as a **Feature Article**)

Thesis

C. Fortin, *Central Limit Theorem and Large Deviations of the Maximum Likelihood Estimator*. Master's thesis. McGill University (2023).

PRESENTATIONS

- **APS Global Physics Summit 2025** in Anaheim, United States Mar. 2025
- **CONFETI 2025, INTRIQ** in Bromont, Canada Jan. 2025
- **Institute of Photonic Sciences (ICFO)** in the Quantum Optics Theory group in Barcelona, Spain Oct. 2024

POSTER SESSIONS

- **Beyond Linearity: Frontiers in Non-Hermitian Many-Body Physics 2025** in Erice, Italy Dec. 2025
- **MaQTech Winter School 2025** in Orford, Canada Nov. 2025
- **Fall 2025 INTRIQ meeting** in Bromont, Canada Nov. 2025
- **Emerging Quantum Phenomena (RQMP)** at the Institut Quantique in Sherbrooke, Canada Oct. 2025
- **Grande Conférence de l'Institut Courtois** in Montréal, Canada Oct. 2025
- **International Workshop on Topological Photonics and Beyond 2025** in Tianjin, China Sep. 2025
- **ICTP Conference on Advances in Topological Condensed Matter** in Trieste, Italy Nov. 2024
- **Fall 2024 INTRIQ meeting** in Bromont, Canada Oct. 2024
- **MaQTech Annual Retreat** in Ottawa, Canada Jul. 2024
- **PQS2D Annual Retreat** in Ottawa, Canada Jul. 2024

SCIENTIFIC ARTICLE REVIEWING

Journals: Physical Review Letters, Physical Review Research, Physical Review A, Physical Review B.

AWARDS

- **Best Poster Award** at Topological Photonics and Beyond 2025, Nankai University: ¥1,000 CNY *Sep. 2025*
Awarded by Nature Reviews Electrical Engineering
- **Chalk Rowles fellowship:** \$11,120 CAD *Sep. 2025*
McGill Faculty of Science fellowship awarded to two graduate students in physics.
- **Emily Ross Crawford scholarship:** \$1,000 CAD *Sep. 2020*
McGill Faculty of Science scholarship awarded to undergraduate candidates of high academic merit.

RELEVANT EXPERIENCE

Teaching Assistantships (McGill University)

Preparation of tutorial sessions. Substituting lectures. Holding office hours. Marking of assignments and examinations.

List of courses:

- PHYS 230 – Dynamics of Simple Systems *Sep. 2025 – Dec. 2025*
- PHYS 457 – Honours Quantum Mechanics II *Jan. 2025 – May 2025*
- PHYS 551 – Quantum Theory *Sep. 2024 – Dec. 2024*
- PHYS 457 – Honours Quantum Mechanics II *Jan. 2024 – May 2024*
- PHYS 352 – Honours Electromagnetic Waves *Sep. 2023 – Dec. 2023*
- MATH 141 – Calculus 2 *Jan. 2023 – May 2023*
- MATH 455 – Honours Analysis 4 *Jan. 2023 – May 2023*
- MATH 454 – Honours Analysis 3 *Sep. 2022 – Dec. 2022*

Teaching Assistantships (CY Institute for Advanced Studies)

Preparation of weekly lectures. Marking assignments. List of courses:

- Information-theoretic notions of entropy *May 2022 – Jul. 2022*
- Complex Analysis *May 2022 – Jul. 2022*
- Finite State Markov Chains *May 2022 – Jul. 2022*

CPM student committee (McGill University)

- Event planner for the CPM (Centre for the Physics of Materials) *Sep. 2025 –*

Volunteer for the Physics & TSI Outreach group (McGill University)

- Helping run outreach activities for the general public and prospective graduate students. *Sep. 2023 –*

SciLearn Peer Collaboration Teaching Assistant (McGill University)

- Providing guidance to undergraduate students in mathematics. *Jan. 2023 – May 2023*

UNDERGRADUATE RESEARCH EXPERIENCE

McGill University, Montréal, Canada *May 2021 – Aug. 2021*

Supervisor: Prof. Vojkan Jakšić

- Quantum information theory and parameter estimation of classical Markov chains.

McGill University, Montréal, Canada *Sep. 2020 – Dec. 2020*

Supervisor: Prof. Daryl Haggard

- Data analysis of the supermassive black hole Sgr. A* using the Bayesian Blocks algorithm.

McGill University, Montréal, Canada *May 2020 – Aug. 2020*

Supervisor: Prof. Jean-Philippe Lessard

- Computer-assisted methods for dynamical systems.

PROGRAMMING

Languages: Mathematica, Python, MATLAB, Bash, LaTeX.

LANGUAGES

Fluent: French, English. **Intermediate:** Spanish, German. **Beginner:** Serbo-Croatian.