

# CLÉMENT FORTIN

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🌐 <https://clementfortin.github.io/>

📍 Montréal, Canada

## EDUCATION

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

## 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

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- **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

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### 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)

Sep. 2025 –

- Event planner for the CPM (Centre for the Physics of Materials)

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

Sep. 2023 –

- Helping run outreach activities for the general public and prospective graduate students.

### SciLearn Peer Collaboration Teaching Assistant (McGill University)

Jan. 2023 – May 2023

- Providing guidance to undergraduate students in mathematics.

## UNDERGRADUATE RESEARCH EXPERIENCE

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### 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

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

## LANGUAGES

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