

Curriculum Vitae - Liam Bernheimer

Contact

Name Liam Bernheimer

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Education

2022-present Tel Aviv University

Ph.D. in chemistry under the supervision of Prof. Guy Cohen

2019-2022 Tel Aviv University

B.Sc. magna cum laude in chemistry

2016-2020 Tel Aviv University

Odyssey program, BioMed track, the Future Scientists Center

Journal Articles

2024

- **L. Bernheimer**, H. Atanasova and G. Cohen, “Determinant- and derivative-free quantum Monte Carlo within the stochastic representation of wavefunctions”, Reports on Progress in Physics 87, 118001

2023

- A. Erpenbeck, W.-T. Lin, T. Blommel, L. Zhang, S. Iskakov, **L. Bernheimer**, Y. Núñez-Fernández, G. Cohen, O. Parcollet, X. Waintal, and E. Gull, “Tensor train continuous time solver for quantum impurity models”, Physical Review B 107, 245135
- H. Atanasova, **L. Bernheimer**, and Guy Cohen, “Stochastic Representation of Many-Body Quantum States”, Nature Communications 14, 3601

Awards and Scholarships

2025 Raymond and Beverly Sackler Faculty of Exact Sciences Excellence Scholarship

2025 David and Paulina Trotsky Foundation Award for Ph.D. Students Excellence

2023 Best Poster, TREX and SISSA School on QMC with TurboRVB

Awarded 2100€ in expenses to attend a TREX Symposium in Esch-sur-Alzette, Luxembourg.

2021 Dean's list, Faculty of Exact Sciences, Tel Aviv University

Scientific Meetings

2025

Contributed Conference Talk: “Determinant- and derivative-free quantum Monte Carlo within the stochastic representation of wavefunctions”, QERNEL Launch Event (Ramat Gan, Israel)

Invited Outreach Talk: “Using Machine Learning to Calculate Quantum Wave Functions”, Empowering your research with AI - A gathering of the Faculty of Exact Sciences (Tel Aviv-Jaffa, Israel)

2024

Contributed Conference Talk: “Path Integral-Enabled Methods within the Stochastic Representation of Wavefunctions”, TREX Symposium: Bridging Quantum Monte Carlo and High-Performance Simulations (Esch-sur-Alzette, Luxembourg)

Invited Seminar Talk: “Path Integral-Enabled Methods within the Stochastic Representation of Wavefunctions”, Sorbonne University (Paris, France)

2023

Contributed Conference Talk: “Path Integration, Lexicographic Symmetrization, and Derivative-Free Energy Estimation Within the Stochastic Representation of Wavefunctions”, ICTP Workshop on Quantum Monte Carlo Methods at Work for Describing Novel States of Matter (Trieste, Italy)

Contributed Conference Poster: “Path Integration, Lexicographic Symmetrization, and Derivative-Free Energy Estimation Within the Stochastic Representation of Wavefunctions”, TREX and SISSA School on QMC with TurboRVB (Trieste, Italy)

Contributed Conference Talk: “Path Integral Techniques Within the Stochastic Representation of Wavefunctions”, Path Integral Quantum Mechanics CECAM School (Tel Aviv-Jaffa, Israel)

2019

Attended: Structural biology workshop on x-ray crystallography at EMBL (Hamburg, Germany)

Teaching Experience

T.A. Quantum Mechanics and the Chemical Bond (Tel Aviv University; Spring 2021-2022, Spring 2022-2023)

T.A. Thermodynamics (Tel Aviv University; Fall 2022-2023, Fall 2023-2024, Fall 2024-2025)

T.A. General Chemistry 1 (Tel Aviv University; Fall 2021-2022)