

PATRYK KOZLOWSKI

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EDUCATION

Harvard University, Cambridge, MA — *PhD Candidate, Chemistry & Chemical Biology*

Expected: June 2029

California Institute of Technology (Caltech), Pasadena, CA — *BS in Chemistry*

GPA: 3.74/4.0 • June 2024

QUANTUM CHEMISTRY EXPERIENCE

Research Fellow — *Harvard University* (Advisor: Prof. Joonho Lee)

July 2024 – Present

- Developing Green's function methods for periodic quantum chemistry.
- Exploring **open quantum system** ideas to enable accurate and efficient simulations of correlated materials.

Research Fellow (Senior Thesis) — *Caltech* (Advisor: Prof. Garnet Chan)

Oct 2023 – June 2024

- Implemented GW, a Green's function method, for molecules.
- **Publications & Presentations:**
 - Deposited thesis
 - Presented at Caltech Senior Thesis & Goldwater Symposiums

Research Fellow — *Caltech* (Advisor: Prof. Garnet Chan)

Nov 2022 – Aug 2023

- Implemented and optimized the **Full Configuration Interaction (FCI)** method for a chain of 6 hydrogen atoms.

John Stauffer SURF Fellow — *Caltech* (Advisor: Prof. Garnet Chan)

June 2020 – Sept 2020

- Computed platinum surface energies using coupled-cluster theory.
- **Publications & Presentations:**
 - Oral presentation, Caltech SURF Seminar Day
 - Article in *Caltech Undergraduate Research Journal*

John Stauffer SURF Fellow — *Caltech* (Advisor: Prof. Ryan Hadt)

June 2019 – Sept 2019

- Developed computational model for **spin-phonon coupling** in Co(III) complexes.
 - **Publications:**
 - Presentation at Caltech SURF Seminar Day
 - Co-author on *Journal of Chemical Physics* publication
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BROAD SCIENCE EXPERIENCE**Member — *Harvard Energy Journal Club*****Sept 2024 – Present**

- Participate in a weekly decarbonization-focused journal club discussions, primarily composed of GSAS affiliates.
- Presented on “**Decarbonizing AI**” (Nov 2024), **The Carbon Tax** (Apr 2025), and **Tipping Points** (Nov 2025).

Teaching Fellow — Physical Sciences 11 — *Harvard University***Jan 2025 – May 2025**

- Supported instruction in *Physical Sciences 11*, an introductory physical sciences course for Harvard undergraduates.
- Led weekly discussion sections and office hours.

Associate Editor — *Caltech Undergraduate Research Journal***Dec 2023 – May 2024**

- Prepared an article on the nonlinear spectroscopy of cuprates for publication.

Teaching Assistant — Intro Quantum Mechanics (Chemistry) — *Caltech***Oct 2020 – Dec 2020**

- Held virtual recitations and office hours during COVID-19.

Committee Member — *Caltech Student-Faculty Conference***Oct 2020 – Jan 2021**

- Designed and analyzed a student survey on the chemistry curriculum.
- Collaborated with faculty on proposed revisions.

Social Director — *Caltech Chemistry Club***Oct 2019 – Dec 2020**

- Organized professional, outreach, and social events.
- Recruited a distinguished guest speaker for an annual symposium.

Volunteer — Caltech RISE Program

June 2019 – July 2020

- Tutored underserved high-school students in SAT prep.
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SCHOLARSHIPS & AWARDS

- **Paul & Daisy Soros Fellowship for New Americans** (2025)
 - **NSF Graduate Research Fellowship** (2025)
 - **Goldwater Scholar in Mathematics, Science, and Engineering** (2021)
 - ACS Undergraduate Award in Physical Chemistry — Caltech (2024)
 - Peripall Speaking Competition Semifinalist — Caltech (2020)
 - NCAA ITA Scholar-Athlete — Caltech (2019, 2020)
 - Polish National Alliance Scholarship (2020, 2021, 2023)
 - John Kopczynski Scholarship (2019, 2020, 2023)
 - Richard Gorecki Scholarship (2020, 2023)
 - National Merit Scholar (2018–2020, 2023)
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OTHER EXPERIENCE

Community Member — Talon Voice

Nov 2022 – Present

- Active participant in the hands-free coding community.
- Contributed to software enabling:
 - **Voice-coding LaTeX**
 - **Dictation-LLM integration**

Student-Athlete — NCAA Tennis, Caltech

Aug 2018 – Dec 2020

- Member of Top-25 nationally ranked team.
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LANGUAGES

Polish — Fluent