

# Bennett P. Schmitt

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## EDUCATION

**Trinity College Dublin** | *Incoming Naughton Fellow* | Dublin, IE Sep 2025 – Sep 2026  
Master of Science  
Smart and Sustainable Cities

**University of Notre Dame** | *Salutatorian* | *Sorin Scholar* | Notre Dame, IN Aug 2021 – May 2025  
Bachelor of Science GPA: 4.000  
Majors: Environmental Sciences, Applied & Computational Mathematics & Statistics | Minor: Energy Studies  
*Capstone Research*: Global Environmental Change (GEC) Impacts and Opportunities in Indonesian Mangrove Ecosystems

**University College Dublin** | Dublin, Ireland Sep 2023 – Dec 2023  
Sciences & Engineering Study Abroad Student | University of Notre Dame Global Sustainability Fellow GPA: 4.000  
*Capstone Term Research*: Investigating Iron-Nickel Borides as Nanocatalysts for Water Electrolysis

**Jasper High School** | *Salutatorian* | Jasper, IN Aug 2017 – May 2021  
ACT: 36 | SAT: 1550 | National Honor Society President, Tennis Team Captain, AP Scholar with Distinction GPA: 4.667

## RESEARCH EXPERIENCE

**Nanovic Institute for European Studies** | University of Notre Dame Oct 2024 – Present  
*Agrivoltaics Policy Researcher*

- Collaborate with an interdisciplinary team of seven peer students and a Ph.D. candidate to develop policy recommendations to support combined agriculture and energy generation operations in the midwestern United States
- Conducted a case study on agrivoltaics policy in the Netherlands to inform policy opportunities for Indiana legislation
- Lead the development of a policy brief for publication and presentation to Indiana state legislators

**Fire & Grazing Ecology Laboratory** | University of Notre Dame Aug 2024 – Present  
*Research Assistant*

- Develop and train a machine learning model to identify and quantify belowground root biomass across 16,000+ root images from 3 study sites in Indiana and Kenya to understand impact of fire and grazing on soil organic carbon
- Streamlined machine learning workflows to facilitate participation in model development by 80 first-year undergraduate students as part of a research laboratory course
- Contribute to fieldwork through soil coring, aboveground biomass measurement, and belowground root imaging
- Received funding for 8-week field research project at Mpala Research Centre in Kenya for Summer 2025

**High Temperature Isotope Geochemistry Laboratory** | University of Notre Dame Dec 2022 – Present  
*Research Fellow*

- Operate sophisticated laboratory mass spectrometers and investigate geochemical mechanisms controlling crustal movement of elements critical for use in renewable energy technologies
- Presented findings at two international conferences and began writing a first-authored manuscript

**Nanotechnology for Sustainable Energy Laboratory** | University College Dublin Sep 2023 – Dec 2023  
*Research Assistant*

- Synthesized and characterized bifunctional electrocatalysts for scalable green hydrogen production
- Designated first author on a manuscript published in a high-impact Royal Society of Chemistry journal

**Jaffe Solid-State Chemistry Laboratory** | University of Notre Dame Mar 2022 – Dec 2022  
*Research Assistant*

- Synthesized and electrochemically characterized candidate materials for clean energy storage technology
- Designated third author on a manuscript published in a high-impact Royal Society of Chemistry journal

## PUBLICATIONS

### Scientific Publications

- Dauenhauer, P., Khan, R., **Schmitt, B.P.**, Mweetwa, H., and Louie, H. Case Study of the Cheeba Solar Energy Kiosk. In *2025 IEEE Global Humanitarian Technology Conference (GHTC) 2025*, [Manuscript submitted for publication].
- Schmitt, B.P.**, Murphy, E., Trivedi, S.J., Zhang, Q., Rodriguez, B.J., Rafferty, A., Bekarevich, R., Ersek, G., Portale, G., and Sofianos, M.V. Scalable one-pot synthesis of amorphous iron-nickel-boride bifunctional electrocatalysts for enhanced alkaline water electrolysis. *Sustainable Energy & Fuels* **2024**, 8, 5793-5805.
- Dayaratne, W.L., Torres-Cadena, R., **Schmitt, B.P.**, Westrick E.M., and Jaffe, A. Hybrid bronzes: mixed valence organic-inorganic metal oxides as tunable material platform. *Chem. Sci.* **2023**, 14, 10756-10767.

### Policy Publications

- Schmitt, B.P.**, Davila, K., Porter, C., Dahl, H., Moreno, A.A., Chen, A., Morris, N., Clancy, M., Barron, E., and Munsen, M. Aligning Agriculture and Energy: A European-Inspired Framework for Leveraging Agrivoltaics in Indiana to Support

## PRESENTATIONS

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### International Conferences and Workshops

3. *Investigating REE Mineralization Within Fenites and Mineralized Carbonatites Using Geochemical Data and B, Sr, Nd, and Pb Isotope Signatures* [Poster Presentation]. Goldschmidt Conference in Chicago, IL. August 21, 2024.
2. *Catalyzing a Green Hydrogen Future: Investigating Iron-Nickel Borides as Nanocatalysts for Water Electrolysis* [Poster Presentation]. University College Dublin Engineering Research Symposium in Dublin, IE. November 29, 2023.
1. *Investigating REE Mineralization at High Spatial Resolution Within Fenite Alteration Zones Using LA-ICP-MS* [Poster Presentation]. North American Workshop on Laser Ablation in Notre Dame, IN. June 7, 2023.

### Local and Regional Conferences and Workshops

3. *Investigating Rare Earth Element Mineralization Within Fenite Alteration Zones* [Poster Presentation]. University of Notre Dame Summer Undergraduate Research Symposium in Notre Dame, IN. July 26, 2023.
2. *Elucidating Electronic Properties of Hybrid Molybdenum Bronzes* [Poster Presentation]. PINDU Inorganic Chemistry Conference in Notre Dame, IN. November 12, 2022.
1. *Electrochemical Analysis of Hybrid Bronzes* [Poster Presentation]. University of Notre Dame Summer Undergraduate Research Symposium in Notre Dame, IN. July 20, 2022

## INVITED TALKS

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3. Panelist, *US-China Exchange and Partnership Symposium, Session on Cross-Cultural Collaboration*, Liu Institute for Asia and Asian Studies, Notre Dame, IN, February 8, 2025.
2. Moderator, *Energizing Voices in Climate Action: Notre Dame Alumni in Environmental Policy and Advocacy*, Notre Dame Student Government, Notre Dame, IN, September 23, 2024.
1. Panelist, *Looking Towards Earth Day: Care for Our Common Home from Youth and Multifaith Voices*, Liu Institute for Asia and Asian Studies, Notre Dame, IN, April 17, 2024.

## FUNDING

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5. Young Lab - Mpala Research Centre, Nanyuki, Kenya / University of California Davis, Davis, CA
  - PI: Dr. Truman Young; Researchers: **Bennett Schmitt** and Monica Nokes
  - National Science Foundation Research Experience for Undergraduates: \$7,000
  - Candidate's Share: \$3,500 (50%)
4. Notre Dame Global - University of Notre Dame, Notre Dame, IN
  - PI: Dr. Ryan Sensenig; Researchers: **Bennett Schmitt** and Monica Nokes
  - Global Research Experience: \$6,000
  - Candidate's Share: \$3,000 (50%)
3. Nanovic Institute for European Studies, University of Notre Dame, Notre Dame, IN
  - PIs: Dr. Morgan Munsen, Elsa Barron; Researchers: **Bennett Schmitt**, Hannah Dahl, Madison Clancy, Annie Chen, Natalie Morris, Katherina Davila, Cate Porter, Alfonso Moreno
  - Agrivoltaics Policy Research Project: \$6,000
  - Candidate's Share: \$750 (12.5%)
2. Center for Sustainable Energy, University of Notre Dame, Notre Dame, IN
  - PI: Dr. Antonio Simonetti; Researcher: **Bennett Schmitt**
  - Vincent P. Slatt Fellowship for Undergraduate Research in Energy Systems & Processes: \$11,500
  - Candidate's Share: \$11,500 (100%)
1. Notre Dame Nanoscience and Technology, University of Notre Dame, Notre Dame, IN
  - PI: Dr. Adam Jaffe; Researcher: **Bennett Schmitt**
  - NDnano Undergraduate Research Fellowship: \$5,000
  - Candidate's Share: \$5,000 (100%)

## PROFESSIONAL & EXTRACURRICULAR EXPERIENCE

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**Notre Dame Student Government** | University of Notre Dame

Sep 2021 – Present

*Director of Sustainability* | (April 2024 – Present)

- Lead a team of 12 students to promote undergraduate engagement with sustainability by planning educational workshops, panel discussions, and career development opportunities
- Collaborate with Notre Dame Global and Notre Dame Sustainability teams to facilitate international engagement with sustainability by organizing a biannual Global Day of Action
- Represent student body as one of two undergraduate students on the University's Strategic Sustainability Standing Committee
- Organized and executed two multiweek sustainability-related challenge series with over 100 participants to enhance student understanding of everyday sustainability practices

- Developed and deployed a pilot program for plastic bag and film recycling in eight campus residence halls
- Project Lead | (September 2021 – April 2024)*
- Led a team of four students to analyze a 13-story campus building and present energy efficiency measures to building managers
  - Collaborated with a peer film student to produce a video on the University's renewable energy usage to expand awareness of ongoing high-level sustainability efforts
  - Collaborated with external climate action strategists to identify strategies to advance the University's sustainable investment portfolio
- ND SunRISE | University of Notre Dame** Apr 2024 – Present  
*Founding Member / Technical Lead*
- Worked with peer students to create a student club to engage students with solar energy through technical projects and professional development opportunities
  - Led a team of students in solar feasibility modeling and panel efficiency assessments
  - Design educational solar kits for distribution in Puerto Rico in collaboration with a PR-based nonprofit
- Department of Biological Sciences | University of Notre Dame** Jan 2024 – Present  
*Biostatistics Teaching Assistant*
- Co-lead (with a Ph.D. candidate) a weekly tutorial for 18 students to teach the implementation of statistical techniques and linear modeling with R programming language
- Research Experience in Biology Teaching Assistant*
- Co-lead (with a Ph.D. candidate) a weekly laboratory for 16 first-year students to teach introductory biology research skills in grassland ecology, data analysis and visualization, and scientific paper-writing
- Learning Resource Center | University of Notre Dame** Aug 2022 – Present  
*Tutor and Collaborative Learning Leader*
- Provide one-on-one tutoring to undergraduate students in Calculus I, Calculus II, Calculus III, and Linear Algebra
  - Lead collaborative problem-solving sessions for off-sequence students in Calculus I
- Kilowatts for Humanity | Seattle, WA & Monze, Zambia** June 2024 – Present  
*Microgrid Team Member*
- Contributed to electrical demand calculations to inform microgrid installation in non-electrified communities in Zambia
  - Contribute to an installation case study for publication at the 2025 IEEE Global Humanitarian Technology Conference
- Glumac, a Tetra Tech Company | Seattle, WA** May 2024 – Aug 2024  
*Energy Analyst Intern*
- Conducted renewable and distributed energy modeling to quantify solar energy generation and optimal battery storage capacity for a 50-building portfolio
  - Produced Python algorithm to streamline energy use analysis across 100+ time series trends and 1,000,000+ data points
  - Conducted economic and utilities research to inform efficiency measures for a 120 MW liquid-cooled data center
  - Produced and presented a climate action plan outline to inform client decision-making on renewable energy integration
- Dublin Global Gateway | Notre Dame Global** Sep 2023 – Dec 2023  
*Global Sustainability Fellow*
- Conducted an energy audit for a 4-story historical building in Dublin, Ireland and presented strategies for improved energy efficiency
  - Conducted energy market and policy research in the European Union to identify opportunities to transition building utilities
  - Organized and executed a zero-waste baking event and research lecture presentation to help students engage with sustainability in an international context
- Data Club | University of Notre Dame** Aug 2022 – May 2023  
*Case Project Member*
- Collaborated with a multidisciplinary student team to analyze and model complex datasets using Python and R to provide solutions for operational challenges presented by partnering firms
  - Produced and presented a sentiment statistical analysis to The Procter & Gamble Company (P&G) identifying underperforming products and assessing customer satisfaction across their products in U.S. and Canadian markets
  - Leveraged machine learning to produce a sophisticated predictive model assessing housing prices in California based on several qualitative and quantitative indicators

## SERVICE

- Admissions Committee Member, University of Notre Dame, Flatley Center for Undergraduate Scholarly Engagement Sorin Scholars Program, 2022-2025
- Biological Sciences Professor Candidacy Committee Member, University of Notre Dame, Department of Biological Sciences, Feb 2025
- Siegfried Hall Sustainability Commissioner, University of Notre Dame, 2022-2023
- Restoration Volunteer in Department of Venues, Parks, and Arts, City of South Bend, 2021-2022

## **HONORS & AWARDS**

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- Salutatorian, University of Notre Dame (April 2025)
- Nanovic Undergraduate Research Conference Silver Prize (April 2025)
- Luce Scholars Program, Semifinalist (Nov 2024)
- Phi Beta Kappa Early Inductee, University of Notre Dame (Nov 2024)
- Dean's List, University of Notre Dame (Fall 2021, Spring 2022, Fall 2022, Spring 2023, Fall 2023, Spring 2024, Fall 2024)
- Admitted to Sorin Scholars Program, University of Notre Dame (2022)
- Salutatorian Award, Jasper High School (May 2021)
- Outstanding Sciences Student, Jasper High School (May 2021)
- Outstanding Foreign Languages Student, Jasper High School (May 2021)
- AP Scholar with Distinction, College Board (2021)

## **TECHNICAL SKILLS**

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- Proficient in Python and R
- LEED Green Associate Certified
- Proficient in Helioscope solar PV modeling
- Proficient in multivariable calculus, linear algebra, and linear statistical modeling
- Proficient in Google Suite and Microsoft Suite
- Proficient in public speaking