Daniel A. Farbowitz

Science and Sustainability Consultant

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Pages

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in https://www.linkedin.com/in/daniel-farbowitz/

Education

University of Sheffield / MSc (Distinction) Solar Cell Technology

OCTOBER 2020 - SEPTEMBER 2021, Sheffield, UK

Postgraduate taught program covering implementation, innovation, coding, and analysis in silicon and developing photovoltaics. Capstone projects included combining different 20-year datasets in weather recording to foresee changes in solar cell performance due to climate change, constructing entrepreneurial models, and independently cleaning, summarizing, and visualizing experimental data with Python and LaTeX.

Skills

- Python
- Matlab
- Statistical Analysis
- Life Cycle Analysis
- Mathematical Modeling
- Technical communication
- Data workflow

- Electron Lithography
- Photonics
- Silicon Nanofabrication
- Nanoelectromechanical Systems
- Data visualization
- Problem-Solving Techniques
- Project Management

Work Experience

Technical University of Denmark / PhD Candidate

OCTOBER 2022 - CURRENT, Kongens Lyngby, Denmark

Simulated, fabricated, and characterized silicon photonic nanocavities with tunability from nanoelectromechanical systems. Explored fabrication research while minding scalability, circular economy, and sustainability. Coordinated with photonic component fabricators on design of specialized setup. Fostered and supported ongoing collaboration with external research group.

Benjamin Franklin Institute of Technology / Adjunct Instructor in Physics and Mathematics

DECEMBER 2018 - JUNE 2021, Boston, MA

Led up to 20-student classrooms. Taught fundamental math, geometry, pre-calculus, conceptual physics, physics I, and physics lab. Reached out frequently to keep students engaged. Gave personal tutoring based on student need.

Leadership Experience

DTU Climate Action / Member

DECEMBER 2023 - CURRENT, Kongens Lyngby, Denmark

Researched and presented biweekly 'Good Climate News' segments. Cooperated to draft and finalize group climate manifesto.

Nest Copenhagen / Recruitment and Financial Circle Organizer

NOVEMBER 2023 - CURRENT, Copenhagen, Denmark

Regularly responded to and followed-up daily with applicants. Currently gathering information in ethical banking for presentation and policy-making.

University of Sheffield / Student Representative (Physics PGT)

NOVEMBER 2020 - SEPTEMBER 2021, Sheffield, UK

Gathered postgraduate physics students' course concerns and addressed solutions with physics administration to facilitate learning in an online teaching environment. Served on the Equality, Inclusion, and Diversity Committee.

Benjamin Franklin Institute of Technology / Senate Organizing Committee

NOVEMBER 2020, Boston, MA

Fostered interest in, held meetings for, and developed procedure for faculty self-governing body. The Senate is dedicated to accountability, antiracism, and allowing affordable education for its students to preserve the school's mission.

Presentations and Research

Royal Society of Chemistry: Photophysics and Photochemistry Group Early Career Researcher Conference / Presenter

OCTOBER 2021, Online

Summarized dissertation research in three-minute video and participated in panel discussion on Photophysics/Photochemistry for social good.

ICFO Summer School on Photonics with Free Electrons / Student

JULY 2023

Connected with world-class researchers, learning about e-beam shaping, on-chip electron accelerators, and other free-electron photonic methods. Participated in brainstorming session for applications of free electron research.

Organic Solar Cells: The Role of Solvents in Device Performance as Studied by Ultrafast Spectroscopy / Master's Dissertation

Performed organic nanoparticle ink fabrication and deposition in clean lab environment. Reviewed academic literature and consolidated a technical summary of organic PV. Analyzed semiconductor layers on fs-µs scale. Wrote several Python programs to transfer, validate, and present spectroscopic data.