

BIANCA BAUER

+49 176 31431913 ✉ bianca.nicole.bauer@gmail.com [in linkedin.com/in/bianca-bauer](https://www.linkedin.com/in/bianca-bauer)

PROFILE

Oxford-trained researcher with expertise in electrochemical systems and materials characterisation. Skilled in battery and fuel cell testing, and delivering practical, data-driven solutions across research and applied innovation.

EDUCATION

University of Oxford

2020 – 24

Master of Science by Research: Nanomaterials by Design

- Advanced research-based degree on graphene-reinforced polymer nanofibres: developed fabrication pathways for these fibres as precursors to carbon nanofibres using chemical, mechanical, and electrical systems; adapted TGA for scalable quality control.

Technical University of Berlin

2017 – 19

Master of Science: Electrical Engineering

- Master's Thesis: Understanding the behavior of the accelerated degraded cathode of PEM fuel cells.
- Focus areas in energy systems engineering: assembly, testing, analysis, and modelling of batteries, with additional specialisation in photovoltaic systems, high voltage, power electronics, and electrical networks.

EXPERIENCE

Intellect Horizon | London

2023 – 25

Co-Founder | VP of Business Development

- Facilitated cross-sector collaboration by managing stakeholder outreach and partnerships with 8+ institutions, enabling knowledge exchange across academia, business, and industry.
- Co-organised a 24-hour hybrid AI/XR/Web3 conference with 30,000+ global attendees and speakers from MIT, Oxford, Asia School of Business, and Silicon Valley. Led a 4-person marketing team to deliver a two-month campaign using AI tools, on a budget under \$3,000. **Watch Main Stage** · I moderated the Startup Stage

Linacre College | Oxford

2021 – 23

Junior Dean

- Supported the well-being of 750 students and de-escalated 100% of crises during 24-hour on-call shifts, acting as a trusted first responder in sensitive, high-pressure situations.
- Facilitated conflict resolution through weekly mediation, improving student-staff communication and representation.

Volkswagen AG | Wolfsburg

2019

Fuel Cell Engineering Trainee

- Tested 28 PEM fuel cells over 6-week cycles using impedance spectroscopy, ex-situ analysis, IV curves, and cyclic voltammetry. Analysed fuel cell performance data to model degradation trends and improve system reliability.

STRATEGIC PROJECTS & LEADERSHIP

Rising Leaders Fellowship | Aspen Institute | London

2025 – present

- Developing skills in ethical decision-making, leadership, stakeholder engagement, and cross-sector collaboration through workshops and events with senior leaders (7 completed to date).

Independent Researcher | Study Habits Initiative | Oxford

2022 – present

- Synthesised insights from 30+ PhD interviews into a practical framework for student success, presented at the British Parliament's Global Educational Leadership Awards to 120 education leaders and policymakers.

StEP Ignite Programme | Oxford University Innovation | Oxford

2023

- Co-developed a venture concept in a team of five, including a business plan, market analysis, financial projections, and customer research, supported by 18 innovation workshops.

Summer School | Tongji-University | Shanghai

2017

- Gained practical insights into Chinese business structures and market dynamics through company visits and expert talks, with a focus on international markets, media, and cross-cultural exchange.

CORE COMPETENCIES

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|--------------------------|---------------------|---------------------------|-------------------------|
| • Project Management | • Energy Systems | • Analytical Thinking | • Data Analysis |
| • Team Collaboration | • Electrochemistry | • Electrochemical Testing | • 3D (Fusion, Blender) |
| • Languages (EN, DE, PL) | • Literature Review | • Experimental Design | • Code (Python, Matlab) |