

## Academic Experience

- 2024-present **Postdoctoral Researcher**, *University of Sheffield, UK (Chemical & Biological Engineering Dept.)*, Resource Efficiency in Plastics and Chemical Systems
- 2021-2025 **PhD**, *University of Cambridge, UK (Engineering Dept.)*, **Title:** Do Net-Zero plans add up? A framework and model to quantify risks of resource supply shortages in climate mitigation strategies, **Supervisor:** Julian Allwood
- 2012-2021 **Industrial Experience (see below)**, *Rolls-Royce & Engineers-Without-Borders UK, Singapore, Malaysian Borneo*
- 2008-2012 **BA & MEng (Hons) Mechanical Engineering**, *University of Cambridge, UK*, Distinction  
Included one year studying at Massachusetts Institute of Technology (M.I.T.), USA

## Industrial Experience

- 2017-2021 **Rolls-Royce PLC, UK**, *Roles included: Technical Assistant to the Chief Technology Officer, Sub-System Integration & Component Design, Innovation Technology Lead.*
  - Diverse high-profile responsibilities against demanding timescales
  - Developed an insight into the reality of initiating change in large industrial companies
- 2016-2017 **TONIBUNG (Friends of Village Development), Malaysian Borneo**, *EWB-UK (Engineers-Without-Borders UK) Fellowship Volunteer*
  - Collaborated with local and international colleagues to develop and roll out novel technology for clean electricity generation in remote communities
- 2016 **Rolls-Royce, Singapore**, *Regional Coordinator (Secondment)*
  - Scoped and drafted the proposal for a government funded research centre in Singapore
- 2012-2016 **Rolls-Royce PLC, Derby/Bristol/Singapore**, *Various roles in Supply-Chain and the Strategic Research Centre*
  - Projects included cross-sector work, taking a strategic view of emerging technologies
  - Numerous training courses, e.g. Robust Design and Failure Modes & Effects Analysis

## Selected Conference and Event Participation

- 2024 **Presentation**, *Annual EDITS Meeting (Energy Demand changes Induced by Technological and Social innovations)*, IIASA, Laxenburg, Austria  
"A model and interactive calculator to aggregate demands of climate mitigation proposals"
- Invited participant**, *UNEP & Life Cycle Initiative Biogenic Carbon in LCA Guidance Project Workshop*, Bath, UK
- Poster**, *ISIE (Industrial Society for Industrial Ecology) Gordon Research Conference*, Les Diablerets, Switzerland  
"Is Net-Zero at Risk? Modelling aggregated energy demands of climate mitigation plans reveals high risk 2050 expectations."
- Invited discussion leader**, *ISIE Gordon Research Seminar*, Les Diablerets  
"Decarbonization Across Sectors"
- 2023 **Invited speaker**, *Panel discussion: Clearing the air - information literacy in the climate crisis*, Cambridge University

**Presentation**, *Symposium: "Governance, law and economics of climate change and energy transition"*, Cambridge University

"What scale of negative emissions can we rely on?"

**Presentation**, *ISIE Conference*, Leiden, The Netherlands

"Are global net-zero proposals feasible?"

2022 **Poster**, *ISIE Socio-Economic Metabolism Conference*, Vienna, Austria

"A framework for aggregating energy demands of net-zero proposals"

**Presentation**, *Cambridge Zero Research Symposium*

"Why do 'we' need to change our behaviour to reach net-zero?"

2017 **Invited speaker**, *Institution of Mechanical Engineers, Singapore Network*

"Micro-Hydro Power - Clean and Affordable Electricity in the Jungle"

2015 **Invited speaker**, *Institution of Engineering and Technology East Midlands Network*

"Are Unmanned Autonomous Vessels the Future for Commercial Shipping?"

## Teaching Experience

2021 - 2024 **Supervisor**, *Engineering Dept., University of Cambridge*

Undergraduate course: Materials thermodynamics & diffusion and materials processing

**Tutor**, *Engineering Dept., University of Cambridge*

Masters level course: "Climate Change Mitigation"

**Tutor**, *Engineering Dept., University of Cambridge*

Undergraduate Structural Design Course

**Interviewer**, *St Catherine's College, University of Cambridge*

Undergraduate admissions (Engineering)

**Facilitator**, *Engineering Dept., University of Cambridge*

Undergraduate poster sessions: "Sustainable Engineering"

## Professional Development and Institutional Engagement

2022-2024 **Equity, Diversity & Inclusion Steering Group**, *Darwin College, Cambridge*

2020-2022 **Ethical Principles Committee**, *Institution of Mechanical Engineers (IMechE)*

2018 **Chartered status achieved**, *IMechE*

2016 **Volunteering and Personal Development Award**, *IMechE*

## Additional Skills

### Coding:

- Python for model implementation
- RStudio/RMarkdown for documentation

### Languages:

- Conversational German
- Conversational Italian
- Basic French

### Full UK driving licence

### Other activities and interests:

Recreational sports (including swimming, cycling and rock climbing); European folk dance; Scouting