

# HAO YU



+44-07529151667 | [hy377@cam.ac.uk](mailto:hy377@cam.ac.uk) |

 [Hao Yu](#) |  [barry063](#) |

Cambridge, England - CB2 9GR, United Kingdom

## EXPERIENCE

---

- **BOE Technology Group Co., Ltd**  Jan. 2023 - Dec. 2025  
China (Remote Working)  
*School Ambassador*
  - Implemented online and in-person BOE career fair in top-ranked UK universities
  - Scouted potential collaborative researchers MicroLED display technology development in UK universities
- **Cambridge Judge Business School**  Jan. 2026 - Apr. 2026  
Cambridge, United Kingdom  
*EnterpriseTECH analysts*
  - Conducted market sizing, application analysis, and competitor mapping for indoor solar and ambient IoT markets for *Photonic PV* technology
  - Supported development of the TRL 2 to TRL 4 roadmap and IP licensing strategy, including MVP definition, scale-up considerations, and revenue-model logic.

## EDUCATION

---

- **University of Cambridge** Oct. 2022 - Present  
Cambridge, United Kingdom  
*Ph.D. in Engineering*
- **University of Oxford** Oct. 2018 - July 2022  
Oxford, United Kingdom  
*MEng. in Materials Science*
  - Final Degree Classification: Upper Second-Class Honours (2:1) (70% average)

## PROJECTS

---

- **Analysis Tool *RamanPL\_2D*: [Coding Project]** Sep. 2025 - Apr. 2026  
*Tools: [Raman Spectroscopy, Python]*
  - Developed a Python toolkit, *RamanPL\_2D* for Raman and photoluminescence spectral analysis, supporting preprocessing, fitting, mapping, batch workflows, and metadata-aware export.
  - Built workflows for single spectra, mapping, and batch analysis, enabling faster extraction of peak parameters and more efficient interpretation of experimental datasets.
- **Halides-facilitated CSS 2D-TMD Formation: [Experimental Project]** Apr. 2025 - Apr. 2026  
*Tools: [Raman Spectroscopy, SEM, TEM, EDS, COMSOL]*
  - Investigated deposition of high-quality 2D WS<sub>2</sub> and MoS<sub>2</sub> using halides in CSS set-up
  - Elucidated effects of growth parameters and presented the results on conference *2026 2DTMD*
- **Laser-induced Se Nanowire Formation: [Experimental Project]** Jan. 2025 - Mar. 2025  
*Tools: [Raman Spectroscopy, SEM, TEM, EDS]*
  - Investigated correlation amorphous-crystalline phase change of Se upon annealing
  - Outlined Raman spectrum of Se nanowire and published the results on journal *ACS Applied Materials*
- **High-throughput Fabrications of WO<sub>3-x</sub>-WS<sub>2</sub> Nanotubes: [Experimental Project]** Feb. 2023 - Jan. 2025  
*Tools: [Raman Spectroscopy, SEM, TEM, EDS, XPS]*
  - Implemented one-step fabrication WO<sub>3-x</sub> to WS<sub>2</sub> core-shell NT devices on Si
  - Outlined morphological conversion of materials and published the results on journal *Nanoscale* and presented in conference *IWEPNM 2026* and *Nanowireweek 2025*
- **In-situ Active Tuning of MRR: [Experimental]** Sept. 2021 - June 2022  
*Tools: [Lumerical, Electron Beam Lithography, Mask Aligner, in-house optical test-bed]*
  - Investigated active trimming of resonant wavelengths of *Micro-Ring Resonators (MRR)*
  - Implemented UV etching to PMMA coating to tune resonant wavelength change and published the results on journal *Nano Letters*

## • Er-Si Nanowire Growth and Testing: [Experimental]

June 2019 - Sept. 2019

Tools: electron beam evaporation (EBE), X-Ray Diffraction

- Developed PVD method growth of Er-Si nanowires formed from thin Er films in semiconductors
- Investigated and luminescence properties of Er-Si nanowires

## • Software-Hardening of Latch Circuit: [Simulation Project]

May 2016 - Dec. 2016

Tools: Cadence

- Developed mitigation strategies for extra-terrestrial radiation effects on space-based electronics.
- The project culminated in a prototype awarded a Bronze Medal at the 2017 SSEF.

## PUBLICATIONS

C=CONFERENCE, J=JOURNAL, S=IN SUBMISSION

- [J.1] Hao Yu, Stephan Hofmann\*, et al. (2025). **A Close-space Sublimation Approach to Tungsten Oxide and Sulfide Nanostructure Formation**. *Nanoscale Advance Article*. DOI: 10.1039/D5NR01458A (IF: 5.8, SCI Q1)
- [J.2] Sunvir Sahota..., Hao Yu, Stephan Hofmann\*, et al. (2025). **Se Nanowire Crystal Formation via Oxidation of 2D HfSe<sub>2</sub>: A Solid-State, In-situ Reaction Coupling for Heterogeneous Integration Technologies**. *ACS Applied Nano Materials*, Vol. 8, Issue 15, pp. 7608–7615. DOI: 10.1021/acsnm.5c00308 (IF: 5.3, SCI Q2)
- [J.3] N. Farmakidis, Hao Yu, J. S. Lee, Harish Bhaskaran\*, et al.(2023). **Scalable High-Precision Trimming of Photonic Resonances by Polymer Exposure to Energetic Beams**. *Nano Letters*, Vol 23, Issue 11, pp. 4800–4806 DOI: 10.1021/acs.nanolett.3c00220 (IF: 9.3, SCI Q1)
- [J.4] M. Jian\*,..., Hao Yu, Z. Lai, S. Liu, Elvis G. Xu , et al. (2022). **How do microplastics adsorb metals? A preliminary study under simulated wetland conditions**. *Chemosphere*, Volume 309, Part 1, pp. 136547. DOI: 10.1016/j.chemosphere.2022.136547 (IF: 15.8, SCI Q1)



## SKILLS

- **Programming and Modeling Tools:** Python, MatLab, COMSOL
- **Specialized Research Field:** Chemical Vapour Deposition (CVD), Transition Metal Dichalcogenides (TMD) Low-dimensional Materials, Optoelectronics, Openraondo Metrology
- **Practical Skills:** Raman Spectroscopy, X-ray Diffraction (XRD), Scanning Electron Microscopy (SEM), Dry Exfoliation, Reaction Ion Etching (RIE), Spin-coating, Optical Characterisation

## HONORS AND AWARDS

- **Cambridge Philosophical Society** 2025 - 2026  
*Studentship*
- **Exhibition Scholar** 2020 - 2022  
*Trinity College, University of Oxford*
  - In recognition of top-tier (5%) academic performances
- **Singapore Ministry of Education sponsored School-based Scholarship (SM1)** 2014 - 2017  
*Ministry of Education, Singapore*
  - Four-year fully-funded scholarship for senior high school studies in Singapore

## LEADERSHIP EXPERIENCE

- **Executive Vice-President** Oct. 2023 – Oct. 2024  
*Cambridge Chinese Students and Scholars Association (CSSA Cambridge)* 
  - Director of 2023 Cambridge Innovation Month and the 2024 Innovation and Entrepreneurship Competition.
  - Organiser of the 2024 Return Trip for "Global Elite Students"
  - General Director of the 2024 Cambridge Chinese New Year Gala for 1000 audience including Cambridge City mayor, Pro-vice Chancellor of University of Cambridge
- **Vice-President** Sept. 2020– Sept. 2021  
*Oxford Chinese Students and Scholars Association (OxCSSA)* 
  - Co-host of 2020 UK-wide Entrepreneurship Forums (online) with participation from top-tier investment institutions including *FreesFund* and *MiraclePlus*.
  - Manager of society's WeChat public account and Facebook page

## CERTIFICATIONS

- **LinkedIn: Machine Learning with Python** Jan. 2025
- **Institute of Materials, Minerals & Mining(IOM3) Chartered Engineer (CEng)** Aug. 2022
- **LinkedIn: Artificial Intelligence Foundations: Machine Learning** Nov. 2021

## ADDITIONAL INFORMATION

**Languages:** English (Fluent), Mandarin (Native), Japanese (Conversational)