Bo Wei Zhang – CV/Resume

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Education

- **Doctor of Philosophy – Materials Science** (Apr 2022 – Present)
  Australian Institute for Bioengineering and Nanotechnology (AIBN)
  Project Title: Designing low-toxicity metal halide perovskite semiconductors for stable and high-performance electronic devices
  Mentor: Dr Miaoqiang Lyu, Prof Lianzhou Wang

- **Bachelor of Engineering (Honours) – Chemical Engineering** (Feb 2018 – Dec 2021)
  University of Queensland
  GPA: 6.4/7.0, First Class Honours

- **Semester-Based Exchange – Chemical Engineering** (Jan 2020 – May 2020)
  University of California, Berkeley

Experience

- **Undergraduate Research Student** (Dec 2020 – Nov 2021)
  University of Queensland, Wang Group
  - *Thesis: Polar-Solvent-Free Synthesis of 2D and Quasi-2D Perovskite Nanocrystals for Solar Cell Applications*
  - *Successfully synthesised ambient-stable lead halide perovskite nanocrystals using a modified procedure.*
  - *Gained experiences in characterisations including XRD, FTIR and photoluminescence spectroscopy.*

- **Teaching Assistant** (Aug 2021 – Nov 2021)
  University of Queensland, CHEE2003 Fluid and Particle Mechanics
  - *Assisted students with solving problem sets and answering conceptual questions during face-to-face and online tutorial sessions.*
  - *Graded assessments and provided feedbacks to the students for improvement.*
  - *Developed learning resources to support student's learning.*

- **Research Intern** (Aug 2020 – Nov 2020)
  National Institute for Materials Science (NIMS), Data-Driven Polymer Design Group
  - *Synthesised random- and block-copolymers, including literature review, experimental design, laboratory work, and data analysis.*
  - *Gained various experiences in polymer synthesis/characterisation techniques including distillation, solvent extraction, NMR, GPC/SEC and TLC.*
  - *Constructed a machine learning model to investigate the relationship between the polymer structures and its physical properties.*
  - *Presented the outcomes to fellow researchers in the end of the internship.*

- **Undergraduate Research Apprentice Program** (Jan 2020 – May 2020)
  University of California, Berkeley, Flow Lab
  - *Proposed an inexpensive procedure for applying uniform superhydrophobic coatings on the inner surface of a pipe via dip coating*
  - *Submitted a report detailing the experimental setup of the proposed idea*

- **Other experiences**
  - Assisted in DNA extraction, electrophoresis and polymerase chain reaction (PCR) in the molecular biology laboratory at Japan International Research Centre for Agricultural Sciences (JIRCAS) (Feb 2022 – Mar 2022)
  - Literature review and conference presentation on methane pyrolysis technology supervised under a post-doctoral researcher from UQ Dow Centre for Sustainable Engineering Innovation (Aug 2018 – Nov 2018)

Achievements/Awards

- UQ Graduate School Scholarship (2022 – 2025)
- AIBN UQ Entrepreneurial PhD Top-up Scholarship (2022 – 2025)
- Summer Research Scholarship (2020 – 2021)
- RJ Gus Wiles Chemical Engineering Scholarship for Overseas Study (2020)

Skills

- **Material characterisation:** SEM, AFM, UV-Vis spectroscopy, XRD, TEM, XPS
- **Device fabrication:** thermal evaporation (Au, Ag, Cu, MoO_3 etc.), e-beam evaporation (Ti & Au), spin coating, e-beam lithography (RAITH e-Line Plus, currently training)
- **Device testing:** semiconductor analyser (Keithley B1500A), probe station
- English (fluent), Japanese (native) and Chinese (intermediate)
- Machine learning experience with scikit-learn (python)