# Ms. Xuwen Zhao

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## EDUCATION

**School of Material Science and Engineering, Southeast University** Sep. 2015 – Jun. 2019

Bachelor of Engineering in Materials Science and Engineering Nanjing, China

- GPA: 3.12/4.0
- Relevant Courses: Fundamentals of Material Science (93/100) | Preparation and Application of Nanomaterials (85/100) | Physical Chemistry (86/100) | Environmental Materials (97/100)

**Department of Materials Science and Engineering, City University of Hong Kong** Sep. 2022 – Jun. 2023

Master of Science in Materials Engineering and Nanotechnology Hong Kong SAR

- GPA:3.49/4.0
- Relevant Courses: Instrumentation for Materials Characterization | Nanomaterials Design for Energy Applications | Thermodynamics of Materials

## PUBLICATION

- Chuannan Zhu, **Xuwen Zhao**, Xiaosi Zhou* et al. Uniform implantation of $Cu_2S$ ultrafine nanoparticles into carbon nanowires enables efficient potassium-ion battery anodes, *SCIENCE CHINA Materials*. (2023)
- Yuehua Man, Jianlu Sun, **Xuwen Zhao**, Xiaosi Zhou*, et al. An ultrastable sodium-ion battery anode enabled by carbon-coated porous $NaTi_2(PO_4)_3$ olive-like nanospheres, *Journal of Colloid and Interface Science*. (2023)
- Yezhan Li, Zhangxun Lai, You Meng, Wei Wang, Yuxuan Zhang, **Xuwen Zhao**, Johnny Ho*, et al. High-performance photodetectors based on two-dimensional perovskite crystals with alternating interlayer cations, *Journal of Materiomics*. (2023)

## RESEARCH EXPERIENCE

***HRTEM Observations of Nanomaterials in Ion Batteriess*** Sep. 2022 – May. 2023

Collaborative Research with Prof. Xiaosi Zhou (Nanjing Normal University)

- Conducted comprehensive TEM analysis (including HRTEM and STEM-EDS) for analyzing nanomaterials ($Cu_2S$ and $NaTi_2(PO_4)_3$ within ion batteries.

**$Fe^{3+}$ doped $Cs_2AgBiBr_6$ to achieve high-performance photodetector** Sep. 2022 – May. 2023

City University of Hong Kong Master Graduation Project (Under the supervision of Prof. Johnny C. Ho)

- Successfully doped 2% $Fe^{3+}$ into $Cs_2AgBiBr_6$ single crystals using a solution method, achieving exceptional crystallinity.
- Fabricated a photodetector based on the doped $Cs_2AgBi_{0.9}Fe_{0.1}Br_6$ single crystal, which demonstrated high sensitivity to 405 nm laser wavelengths.

**Transparent Glass with Anti-Fingerprint Properties** Sep. 2018 – May 2019

Undergraduate Graduation Project at Southeast University (Under the supervision of Prof. Xinquan Yu and Prof. Youfa Zhang)

- Developed nanostructures on glass surfaces using reactive ion etching (RIE) technology and performed chemical vapor deposition (CVD) fluorination modification.
- Produced glass surfaces exhibiting excellent hydrophobicity, oleophobicity, and fingerprint resistance.
- Achieved remarkable performance metrics: a macroscopic water droplet contact angle of 153° and an oleophobic (hexadecane) contact angle of 95°.

## WORK EXPERIENCE

**Shanxi Taihang Pipeline Technology Co., Ltd.** **Quality Control Inspector** Jul. 2019 – Mar. 2022

- Inspected pipeline quality based on corporate standards and compiled defect statistics.
- Conducted defect analysis, including stress corrosion cracks, fatigue cracks, and porosity.
- Used metallographic analysis and SEM-EDS to identify causes of weld defects in steel pipes.
- Provided feedback to the production team, improving pipe quality by 3%.

**BYD Co., Ltd.** **Senior Engineer** Jul. 2023 –Present

Primary Responsibilities:

- Managed the complete lifecycle of the instrument panel system (CCB&IP) for electric automotive Z9 and N9 under the Denza brand, covering part design, development, product trial production, vehicle verification, and quality issue resolution during manufacturing.
- Analyzed and resolved issues arising during development and production to ensure project milestones.

Key Achievements:

- Optimized product design while balancing engineering feasibility and cost, achieving a 100% closure rate for trial production issues.
- Resolved two major project challenges: retracting ducts to avoid battery negative, meeting harness cabin integration; developing a fluoropolymer coating system to solve mildew issues in automotive electroplated components.
- Conducted market research comparing competitor vehicle interior and exterior design elements to set design goals for the document holder.

## SKILLS & AWARDS

- Language Proficiency: IELTS: 6.5 | CET-4: 598
- Computer skills: Ansys, SolidWorks, Unigraphics NX, ProCAST, AutoCAD, Origin, Adobe Photoshop, Adobe Premiere Pro, C++ Programming
- Instruments: Glove Box, X-ray Diffractometer, UV-Visible Spectrophotometer, Scanning Electron Microscope (SEM), Atomic Force Microscope (AFM), Transmission Electron Microscope (TEM), Reactive Ion Etcher (RIE), Electron Beam Evaporation System, Contact Angle Measurement System
- Awards & Honors: Award for Learning Progress, Southeast University (SEU) | First Prize, SEU Micro Video Contest | Innovation & Entrepreneurship Training Program Award, SEU | Excellence Award for Social Practice, SEU