

Thuy-Linh Pham, PhD.

Battery Test Engineering Expert

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Journey & Professional Summary

An internationally experienced battery engineer whose 10+ year journey spans foundational academic research in South Korea to large-scale electric vehicle (EV) battery validation in Vietnam and Germany. Combining a Ph.D. in Materials Science with hands-on industrial expertise, this trajectory demonstrates how deep laboratory analysis-such as Electrochemical Impedance Spectroscopy (EIS)-directly translates to optimizing the safety, reliability, and lifespan of commercial Li-ion batteries at global automotive companies like VinFast (Vingroup) and PowerCo (Volkswagen).

Career Progression & Impact

03/2024–Present **Battery Test Engineering Expert**, *PowerCo SE (Volkswagen)*, Salzgitter, Germany

Lead electrical performance testing for EV batteries across diverse physical cell formats (pouch, prismatic) and cutting-edge chemistries (NMC, LFP, SIB).

- Pioneer complex, highly customized testing strategies to validate batteries throughout their entire development lifecycle-from early prototypes to final mass production.
- Drive global testing standards by defining innovative validation processes and coordinating technical exchanges with international cross-functional teams and partners.
- Provide technical guidance, supporting in planning test efforts, preparing critical release documentation, and solving complex engineering challenges.
- Perform root cause analysis to ensure the reliability and safety of future electric vehicles.
- Ensure product integrity during the Gigafactory ramp-up phase in Salzgitter by conducting advanced performance evaluations on production-monitoring cells.

03/2022–03/2024 **Test and Validation Senior Engineer**, *VinFast (Vingroup)*, Hai Phong, Vietnam
Managed comprehensive electrical testing for both early-stage prototype cells and mass-produced batteries.

- Conducted root-cause analysis-including physically tearing down batteries (teardowns)-to solve manufacturing defects (e.g., misaligned internal components or electrolyte issues).
- Bridged the gap between laboratory research and mass production by optimizing how initial cell quality is tracked and improved.

09/2021–03/2022 **Postdoctoral Researcher**, *Chonnam National University, Dept. of Materials Science and Engineering*, Gwangju, South Korea
Continued advanced research in deep electrochemical characterization from the Ph.D. program.

Academic Foundation

08/2021 **Ph.D. in Materials Science and Engineering**, *Chonnam National University*, Gwangju, South Korea

Advisor: Prof. Lee Jong-Sook, Electroceramics Lab.

Research Focus: Expertise in impedance spectroscopy of ionic conductors, mixed conductors, and Li-ion battery cells.

08/2015 **B.E in Chemical Engineering**, *Hanoi University of Science and Technology*, Hanoi, Vietnam

Research Focus: Graduated with honors, focusing on Inorganic Compound Technology.

Core Battery Expertise

Summary	Extensive hands-on experience in materials science and specialized battery testing systems. Proven expertise in cell formation, electrical performance characterization, test design, and proactive risk mitigation in battery development and production.
Battery Testing & Analytics	Comprehensive proficiency in evaluating electrical capabilities, lifespan, capacity, efficiency, and resistance growth. Skilled in special test setup, and performance analysis for Li-ion battery cells.
Laboratory Techniques	Electrochemical Impedance Spectroscopy (EIS), Scanning Electron Microscopy (SEM/BSE), X-ray Diffraction (XRD), Thermogravimetry (TG/DSC), Galvanostatic Intermittent Titration Technique (GITT), and advanced electrical material characterization.
Testing Equipment	Impedance Analyzers: Solartron, HP4284, Novocontrol, Gamry, Bio-Logic. Systems & Machines: Battery Cyclers, AVL, Digatron, Basytec, Arbin Instruments, Neware Testing.
Software & Tools	Data Analysis & Engineering: MATLAB, Python, Power BI, Databricks, LabVIEW, OriginLab, LaTeX, Microsoft PowerPoint, Microsoft Word.
Core Competencies	Cross-functional collaboration, teamwork, and proactive identification of safety and technical risks in cell/battery development and production.