

Lead Scientist – Electrochemistry, Vikruti (Renewable Chemicals Startup)

Ashwatta is hiring a Lead Scientist – Electrochemistry to lead the electrochemical workstream of Vikruti, a renewable chemicals startup focused on upcycling of chlorinated polymers into value added products. You will work with a team of world-class scientists who developed Vikruti's core technology and have demonstrated lab-scale proof of concept.

This is an opportunity for a deep electrochemist to take a laboratory-demonstrated chemistry toward an operating process, and to build the electrochemistry function of an early-stage venture from the ground up.

Reporting & Position in the Team

This role reports to the CSO (Vikruti), who holds technical and operational ownership of Vikruti's technology development roadmap, laboratory build-out and R&D team.

The Role

You will serve as the core electrochemical authority at the bench, executing the transition of proof-of-concept chemistry into a commercially scalable, continuous platform. Working from an established baseline flow setup, your primary objective is to optimize continuous cell architectures, advanced electrode assemblies, and interfacial reaction kinetics.

You will take technical ownership of translating laboratory-scale chemical pathways into high-performance, long-lifespan reactor hardware—driving the technology toward a defensible, pilot-ready platform with high faradaic efficiency, high current density, and robust long-term stability.

Key Responsibilities

- Evaluate, design, and optimize structured electrode assemblies, catalyst coatings, and transport layers inside continuous liquid-phase flow reactors to maximize charge-transfer kinetics.
- Analyze and minimize ohmic drops, activation overpotentials, and mass-transport limitations to maximize current density and lower overall energy consumption per unit of output.
- Address continuous operational challenges—including electrode passivation, species crossover, and catalyst degradation—developing robust operational protocols that sustain active surface area over extended runs.
- Apply multi-variable DoE frameworks (e.g., Factorial Design, Response Surface Methodology) to systematically map parameter



spaces (potential, current density, flow rate, mass loading, temperature) without burning runway.

- Author standardized, highly reproducible testing SOPs, baseline calibration procedures, and digital logging standards to ensure data integrity and comparability across the team over time.
- Translate lab-scale requirements into clear technical specifications, mechanical tolerances, and material compatibility guidelines when interfacing with external machine shops and fabrication vendors.
- Use electroanalytical tools (CV, EIS, steady-state polarization) to isolate system bottlenecks, minimize ohmic drop, optimize faradaic efficiency, and improve product selectivity.

Key Qualifications & Requirements

- Ph.D. or Master's degree in Electrochemistry, Electrochemical Engineering, Chemical Engineering, or Applied Chemistry.
- Demonstrated experience in catalyst ink formulation, coating deposition onto porous transport layers, and optimizing interfacial charge-transfer kinetics in continuous liquid or gas-liquid flow systems.
- Proven track record of driving cell performance toward hard industrial targets (e.g., cell voltage reduction, energy efficiency in kWh/kg, high current density, and selectivity control).
- Practical expertise using statistical DoE software (e.g., JMP, Design-Expert) to rapidly map complex parameter spaces and lock operational windows.
- Hands-on experience with continuous flow cells, multi-channel potentiostats, and balance-of-plant loops (pumping dynamics, thermal control, pressure drops).
- Track record of authoring rigorous testing SOPs and translating electrochemical needs into precise engineering specs for external fabricators.
- 3–5+ years in industrial R&D, venture-backed startups, or applied research centers focused on moving electrochemical processes from benchtop feasibility (TRL 3/4) toward scaled continuous systems (TRL 5+).

We Are Especially Looking for You If You:

- Think in terms of overall system limitations, not just single-parameter laboratory measurements.
- Are energized by solving unstructured problems in a fast-moving, milestone-driven environment.
- Work collaboratively by instinct—holding high technical standards while contributing to the startup's technology roadmap.

What We Offer

- Competitive early-stage compensation



- Direct technical ownership of the core electrochemistry workstream. Mentorship and guidance
- A mission-driven platform to build a company that matters

How to Apply

Send your CV with cover letter to hello@ashwatta.earth

About Ashwatta

Ashwatta is a climate venture studio turning breakthrough science from Indian research labs into scalable high-impact startups. We provide technical de-risking, pilot planning, and grant leverage to unlock early-stage capital to commercialize advanced technologies tackling GHG mitigation, industrial decarbonization, heavy transportation, sustainable and circular materials and sustainable food. Beyond venture creation, we are building climate innovation infrastructure—training scientists to become founders, partnering with Indian research institutions, and shaping the deeptech ecosystem across India.

Ashwatta is an equal opportunity employer. We value diversity across gender, age, experience, perspective, and background. We do not discriminate based on race, religion, color, gender identity, sexual orientation, age, disability, or any other protected status. We are committed to building an inclusive culture where everyone feels empowered to contribute and grow.