



NTH CYCLE

Electrochemist - Please send your resume to careers@nthcycle.com or contact Pat Perillo in HR directly at perillo@nthcycle.com.

Nth Cycle is a metal processing technology company. Our electro-extraction technology helps battery recyclers and miners capture more critical minerals—for use in lithium ion battery manufacturing, among other things—while dramatically reducing costs and emissions. We are the heart of metals processing; we are the crucial step that profitably separates critical minerals from other elements, transforming them into production-grade feedstocks for the energy transition.

Position description

Nth Cycle has an immediate need for an Electrochemist to join and lead the technological innovation of our electro-extraction solution in the mining, metals, and recycling industries. Proven success in developing quantitative experimental and theoretical solutions to complex electrochemical problems and optimizing electro-extraction operating conditions will be the key to generating the novel techniques needed to achieve Nth Cycle's unique metals and material upgrade goals.

Will work with the research, development, and engineering teams to deliver electrochemical solutions in areas such as: experimental and theoretical development of electrochemical filtration methods for selective dissolution/precipitation processes for complex metal solutions, investigation of novel flow-through electrode materials, and development of in-situ methods for electrode and process performance characterization.

Key responsibilities and accountabilities

- Creating and maintaining an active electroextraction database to compile methods and build knowledge base
- Develop flow-potential configurations for selective dissolution/precipitation of individual metals
- Design appropriate electrode specifications for specific flow-potential configuration and target metal(s)
- Collaborate with technical team to design and scale electroextraction configurations for improved performance
- Develop electrochemical methods for in-situ characterization of electrode and process performance
- Communicate technical results and challenges across the organization to advance product development
- Preparing and presenting electroextraction flow sheets with appropriate mass-electron-flow balances
- Develop reactive transport models to theoretically predict electroextraction performance
- Investigation of novel methods for in-situ electrode fouling mitigation and regeneration

Qualifications and experience.

Ph.D., Masters or Bachelors in an Electrochemistry related field with an experimental focus or similar relevant experience. 3-5 years of relevant electrochemistry related hands on experience.

Significant experience with electrochemical methods such as CV, LSV, EIS, OCPT, and with aptitude in aqueous & solid metal analyses such as AA, ICP-MS, UV-vis, XRD, XRF, XPS, EDS, and SEM. Extensive experience with Microsoft Excel and other spreadsheet and modeling tools such as Matlab, Python, or Comsol for quantitative data analysis and electrochemical simulation. Thorough technical understanding of electrochemical methods, thermodynamics, kinetics, and mechanisms, with understanding of metal dissolution-precipitation equilibrium, kinetics, and mechanisms.

Closing Statement. Consistent with our commitment to diversity & inclusion, we value people with the ability to work on diverse teams and with a diverse range of people. We especially encourage members of traditionally underrepresented communities to apply, including women, people of color, LGBTQ people, veterans, and people with disabilities.