TU Clausthal

Institut für Aufbereitung, Deponietechnik und Geomechanik

Lehrstuhl für Rohstoffaufbereitung und Recycling
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Bachelor Thesis / Master Thesis / Project study
(permanent announcement)

Background

With the development and growth of the electric vehicles market, the recycling of spent lithium-ion batteries becomes a vital research issue. A combination of pyrometallurgical-hydrometallurgical processes and mechanical-hydrometallurgical processes are widely used in spent lithium-ion batteries recycling to recover valuable elements. As a result, the recovered products can be reused in battery production. These recycling technologies form the backstone of the circular economy.

What we can offer

Based on these two technological routes, we – the IFAD battery recycling team - now offer students variant topics (Bachelor Thesis/Master Thesis/Project study) in the research area of battery recycling. All topics include but are not limited to treat electrode active materials, slags, and solid-state electrolytes, which includes:

- Characterization of experimental materials
- Crushing and grinding experiments
- Flotation (i.e. Hallimond tube tests, reagent screening, process development)
- Hydrometallurgy (i.e. leaching, precipitation, solvent extraction, ion exchange)

Opportunity: You have the opportunity to design experiments independently, develop your research skills further and combine theoretical knowledge with practical research. Finally, you will gain a profound understanding of processing technology and its application in the recycling industry.

Core requirements

We are looking forward to receiving your application if you are highly motivated to scientific research and especially battery recycling. Please send a short application with a letter of motivation, curriculum vitae to Hao.Qiu@tu-clausthal.de.

Ansprechpartner

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