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Seminars 2023

Solid Waste Management – E-waste Recycling

Day	Time and Venue	Topic
Monday 05.06.2023	16:00 - 18:00 Aula Seminari DICATAM	Hydrometallurgical extraction of metals from e-waste

CeTAmb

University of Brescia, Via Branze 43, Brescia (BS)

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Presentation of the seminar

Demand for electronic devices has been rapidly increasing, and the types of devices purchased and disposed of are continually evolving. It increases the need for primary extractive processes to supply the raw materials. Increased e-waste recycling rates and the efficiency of recycling processes are required to move towards a circular economy. Hydrometallurgical processing is especially effective for selective metal separations, and the process can more readily be deployed on a small scale. These critical materials/metals are also crucial for printed circuit boards (PCBs), permanent magnets (Fe-Nd-B magnets), fluorescent and LEDs/OLED lamps, and LCD/LED/OLED screens. In the case of e-waste, the growing demand requires proper treatment than landfill since these residues are composed of valuable and critical metals. Hydrometallurgical extraction of the metals can be less greenhouse gas intensive than pyrometallurgical processes where high heat energy inputs or carbon-based reductants are used and obtain high-purity products.

Biography

Denise Espinosa is an Associate Professor at the University of Sao Paulo Brazil – Department of Chemical Engineering. She was a visiting scholar at the Massachusetts Institute of Technology – USA (2001) and a visiting professor at the University of British Columbia – Canada (2015). Her main research topics are recycling, waste treatment, hydrometallurgy, extractive metallurgy, WEEE recycling, and recovery of critical metals from secondary sources. She served as Technical Advisor at the university's Environmental Management Superintendency (2018-2022) and was the representative of the University of Sao Paulo at the State Environmental Council (2018-2023) and at two municipal councils.

Address to the Room: “Aula Seminari” DICATAM, 4th floor, Via Branze 43, Brescia.

Attendance is free of charge.

Registration is recommended, by filling the form: <https://forms.gle/SGEXV4syKLoe2V8p8>