

# Extraordinary CERE - SEMINAR

**Friday 3 February 2023**

**09:15 to 10:00 a.m.**

**Building 229, Room 003**

**(Wienerbrød is served from 9:00, please bring your own coffee/tea)**

**Online from link in calendar invitation**

## **“Calcination-free calcium hydroxide production from iron slag”**

By

**Sara Vallejo Castano**

**Wetsus, The Netherlands**

**Sara.VallejoCastano@Wetsus.nl**

### **Abstract**

The production of  $\text{Ca}(\text{OH})_2$  via thermal decomposition of limestone is an energy intensive process resulting in significant  $\text{CO}_2$  emissions. However, if produced in a manner that obviates the need for the thermal decomposition of limestone,  $\text{Ca}(\text{OH})_2$  could be a “ $\text{CO}_2$ -negative” material. Herein, we design and demonstrate the operation of a continuous, low-temperature ( $< 100\text{ }^\circ\text{C}$ ), aqueous-phase process to produce  $\text{Ca}(\text{OH})_2$  using calcium extracted from alkaline industrial wastes.

### **Short bio**

Sara Vallejo Castano is a postdoctoral researcher working on  $\text{CO}_2$  Capture at Wetsus, European Center of Excellence for sustainable water technology. She has a Ph.D. in mechanical engineering from the University of California, Los Angeles (UCLA), and holds a master’s and a bachelor’s degree in chemical engineering from Universidad Nacional de Colombia. Sara’s research experience is the development of prototype and pilot processes for renewable energy, mineral processing, and  $\text{CO}_2$  capture.