

Erika Bustos Bustos

Seminar title:

Modified surfaces for the transformation and detection of environmentally important molecules in different matrices (water, soil, and air) with a circular economy. approach for sustainable development.

Seminar abstract:

Currently, the world is experiencing significant environmental changes driven by excessive use of natural resources and the generation of polluting emissions to meet human needs. This affects various components of the environment: water, soil, and air. Against this backdrop, on September 25, 2015, world leaders specified and adopted 17 Sustainable Development Goals (SDGs) to be achieved by 2030. Some of these goals focus on protecting the planet, such as: no hunger (SDG 2), clean water and sanitation (SDG 6), sustainable cities and communities (SDG 11), climate action (SDG 13), and sustainable ecosystems on land (SDG 15). It is also important to recognize the shift from a linear economy to a circular economy, which prioritizes recycling, reducing, reusing, repairing, refurbishing, remanufacturing, and repurposing. For this reason, various research groups worldwide are developing technologies to reduce pollutant emissions into the environment and to destroy existing pollutants through individual and combined biological, physical, chemical, and physicochemical treatments. Among the latter are electrochemical treatments, which rely on electron exchange to promote electron transfer between a substrate (electrode) and the medium (organic, aqueous, or aqueo-organic). Therefore, at CIDETEQ, we are developing modified surfaces for the transformation and detection of environmentally important molecules across different matrices (water, soil, and air) using a circular-economy approach to sustainable development. We have already had some successful projects, which we will showcase during our visit to Ca' Foscari University of Venice.

Title lesson on topics of common interest:

Environmental Electrochemistry