

## XIX CONGRESO DE LA SOCIEDAD ARGENTINA DE MICROBIOLOGÍA GENERAL

22 al 25 de octubre del 2024

Centro cultural y Pabellón Argentina de la Universidad Nacional de Córdoba, Córdoba, ARGENTINA.



Foto: Se hace camino al andar. Celeste Dea. 1er puesto. Concurso fotográfico SAMIGE 20 años.

## **MICROALGAE APPLIED TO METAL BIOREMEDIATION**

Ferraro Gisela

Laboratorio de Biotecnología Ambiental, Departamento de Eficiencia Energética y Biotecnología Ambiental (DEEBA) Centro Atómico Bariloche(CAB), Comisión Nacional de Energía Atómica(CNEA)

*Contacto: invitado*

Microalgae, unicellular photosynthetic organisms, play a crucial role in aquatic ecosystems as primary producers and hold significant promise for various industrial and environmental applications. Notably, microalgae have emerged as a viable alternative to traditional bioremediation methods. Their advantages include ease of cultivation, low associated costs, and exceptional effectiveness in removing metals from effluents with low concentrations (up to 100 mg/L), where conventional methods often fall short. This capability makes microalgae an ideal solution for treating large volumes of complex industrial wastewater, typically containing a mix of metals, salts, and organic compounds at concentrations that can exceed toxicity thresholds.

The issue of metal contamination has intensified with the expansion of industries that produce effluents with high levels of these pollutants, often inadequately treated. Many of these metals are toxic, non-biodegradable, and prone to biomagnification, causing significant harm to organisms.

This study focuses on analyzing the performance of native microalgae, isolated from contaminated environments, in metal removal. Understanding how different species and strains of algae resist and mitigate metal toxicity will facilitate the optimization of metal removal methods. Identifying highly efficient strains and gaining deeper insights into the cellular mechanisms involved will enable the development of cost-effective and sustainable technologies for metal treatment.

Palabras clave: palabras\_clave