



Bachelor's / Master's / Semester thesis:

Selective recovery of proteins using bare nanomaterial surfaces

Keywords: magnetic nanoparticles, proteins, adsorption, biocorona, bio-nano interface

Project description

This project consists in the use of nanoparticles for magnetic separation of proteins from biotechnological lysates coming from microalgae and bacteria. The objective is to look for a selective separation of the proteins using additives without modifying the surface of iron oxide nanoparticles with functional groups/tags. This study allows to understand how to control the adsorption of different proteins on inorganic materials to use magnetic nanoparticles as a bioseparation tool.

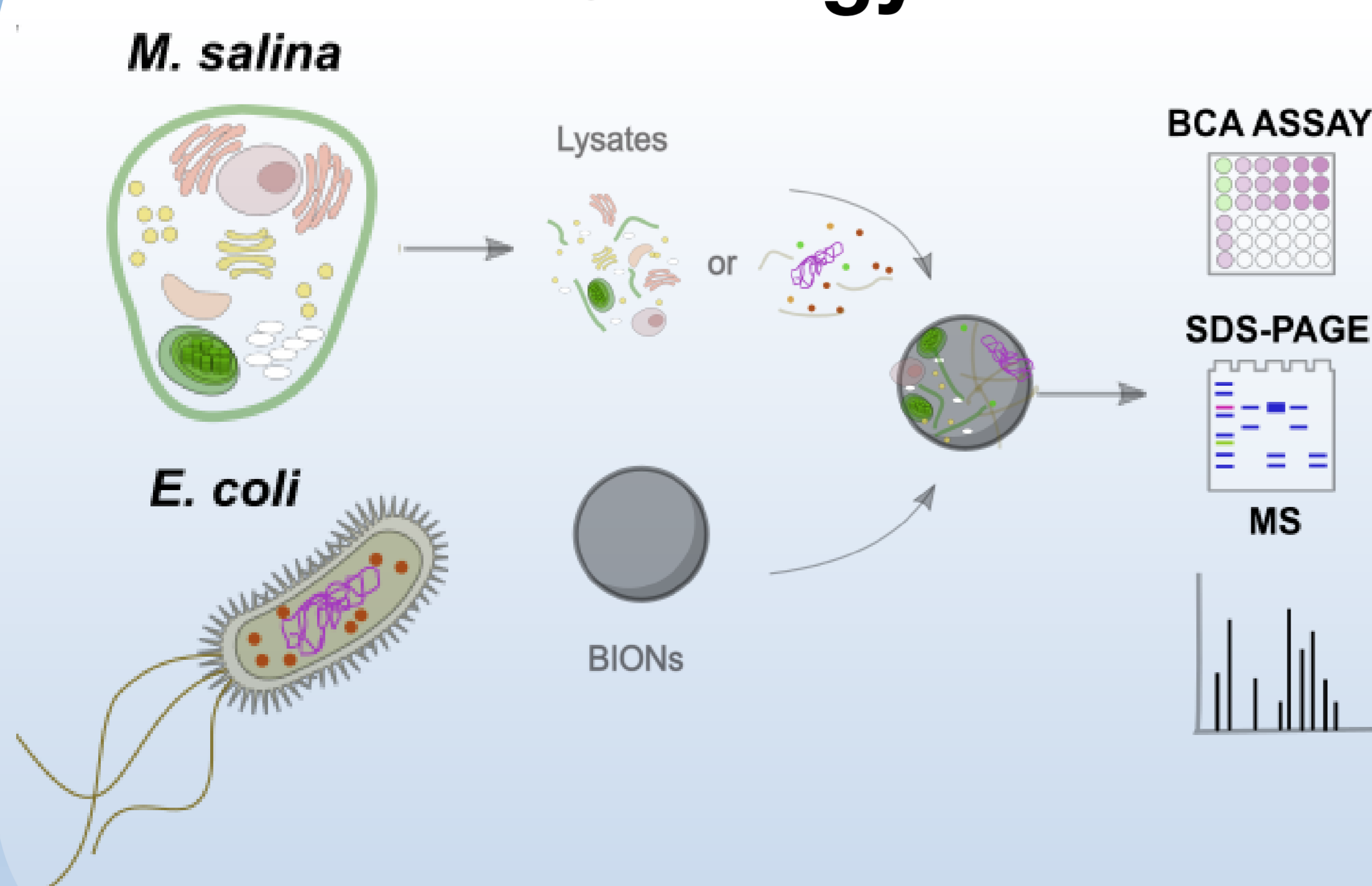
Requirements

- Students from biotechnology engineering, biochemistry, chemical and similar.
- Interest for learning a variety of analytical methods.
- Able to work independently and desire to explore the bio nano world!

Tasks

- Quantification of biomacromolecules from bacterial and microalgal lysates adsorbed onto iron oxide nanoparticles.
- Characterization of protein profile adsorbed using SDS-PAGE.
- Characterization of the surface of iron oxide nanoparticles using FT-IR, DLS, zeta potential

Strategy



Contact

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