

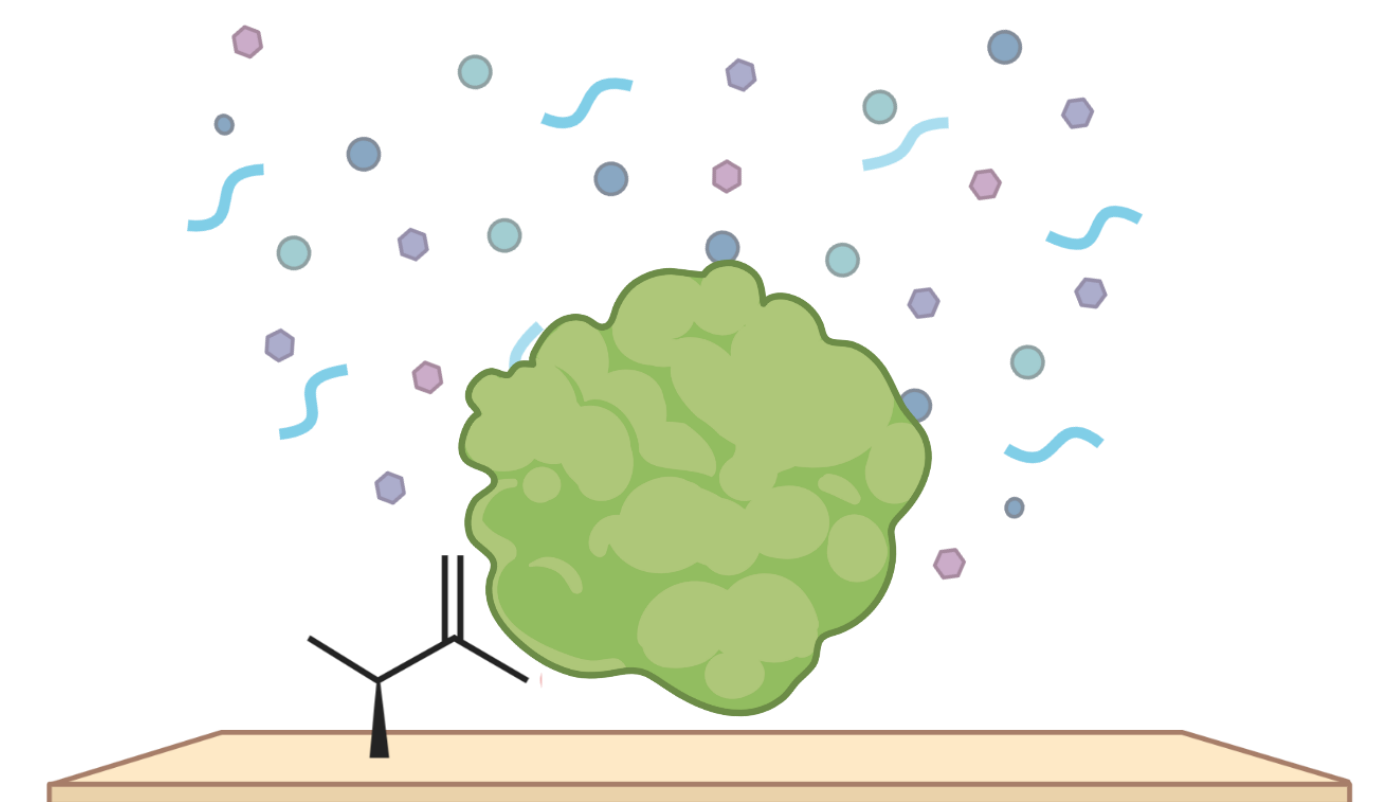
Master's/ Semester/ Bachelor's Thesis

Protein Immobilization and application in biotechnological processes and assays

Keywords: Surface Modification, Material Science, CAD, 3D printing, Bioprocessengineering, Electrosorption

Project Description

The functionalization of gold surfaces plays a crucial role in the immobilization of proteins, enabling the development of advanced biosensing and bioanalytical systems. This student thesis project aims to study and optimize the functionalization techniques to enhance the binding and immobilization of proteins on gold surfaces. The treated materials will then be applied in different assays and processes, including antibody purification, pathogen detection, and chip design. The project will have real life applications such as water quality checks, clinical bioanalytical assays via SPR, and small-scale protein purification.



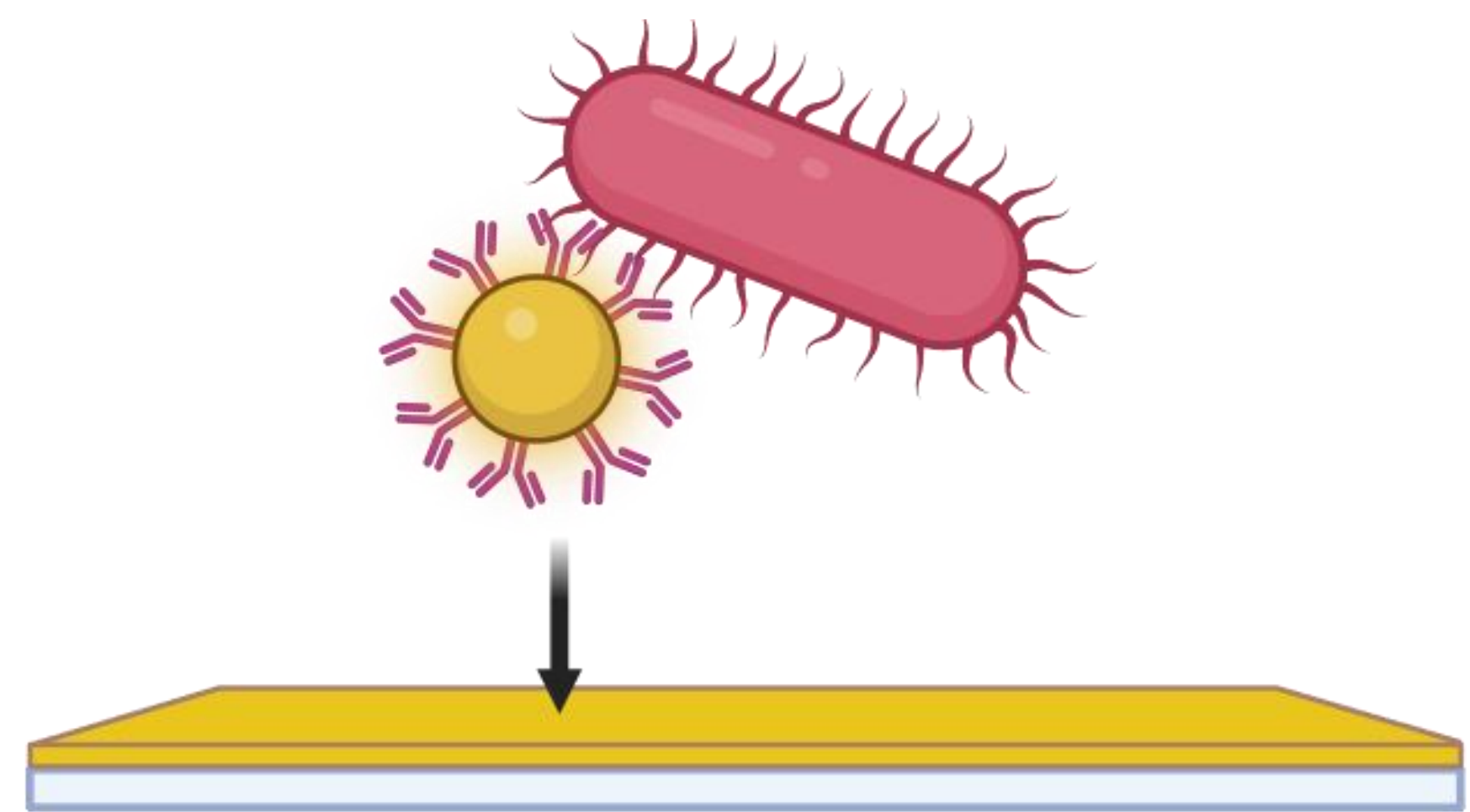
Concept Drawing of a functionalized gold surface

Profile

- Independent and structured work
- Chemical Engineering, Chemistry, Biotechnology, Bioprocess Engineering, Mechanical Engineering, Material Sciences, or similar

Ideal, but not required:

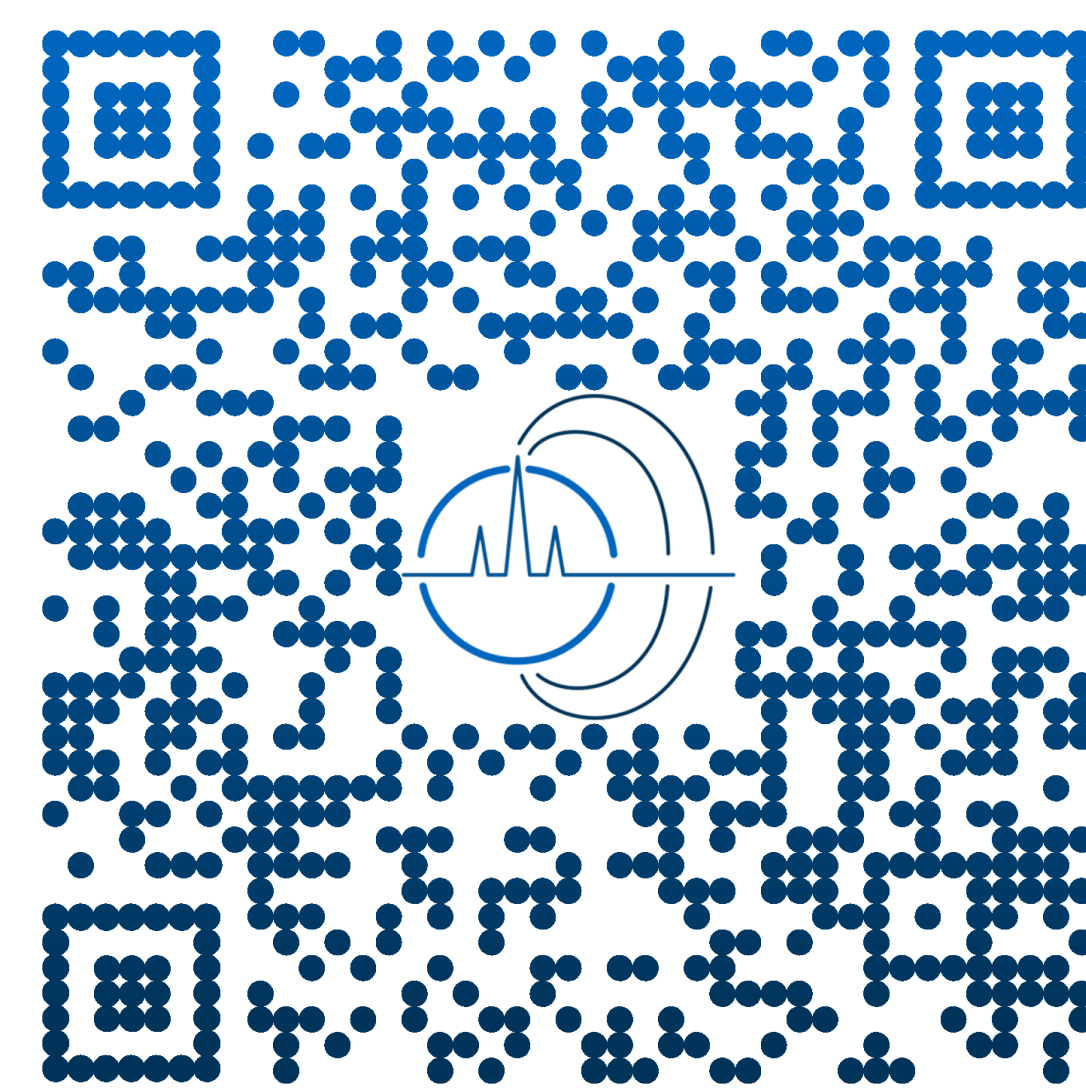
- Experience in a laboratory



Possible application: Immunomagnetic pathogen capture

Tasks

1. Literature Review into existing solutions
2. Surface functionalization
3. Characterization of functionalized surface
4. Proof-of-concept for further applicability



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Interested? Contact us:

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