

An Indian-Australian research partnership

Project title: Development of Nano Coatings through Electrochemical Route

Project number: IMURA0093

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Research Academy theme/s

List only the research academy theme/s that is relevant to the project
Nanotechnology

The research problem

Electro deposition is a versatile technique to coat a wide range of metals/alloys. Nano coatings offer attractive mechanical, magnetic and corrosion resistance properties. Though the technique is simple, it is very effective in developing materials with exotic properties. Hence research related to developing nano coatings through electro deposition route is very promising. Various types of current pulsing and bath formulation will be developed to tailor coatings with desired properties.

Project aims

This project aims to develop nano coatings through electro deposition route. Pulse conditions and electrolyte bath composition will be developed to design the coatings at nano levels. The developed coatings will be examined for mechanical properties such as hardness and formability and corrosion resistance. Electrochemical, microscopy and surface analytical techniques will be employed to achieve the aims.

Expected outcomes

The project is expected to result in the development of nano coatings with superior mechanical and corrosion properties than that are currently available.

Which of the above Theme does this project address?

5. Nanotechnology

How will the project address the Goals of the above Themes?

Modern advances in technology place particular emphasis on both understanding and controlling phenomena on the nanoscale. This project deals with developing nano coating with a simple technology.