

AIMS² Research Project in Materials/Corrosion Engineering

Research Duration: 2020-21 (September 15, 2020 – May 31, 2021)

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Title of Project: **Corrosion protection of Aluminum alloys used in Automotive Industries**

Goals and Objectives of the Project, Expectations and Outcomes:

Lighter weight vehicles result in less fuel consumption, therefore, automotive industries considering of high strength light weight aluminum alloys in heat exchanging system, body, and wheels. However, due to aggressive environment exposure, corrosion is one of major concerns for these alloys. In order to improve aluminum alloys corrosion protection, corrosion inhibitors and coatings are two mainly options.

In this project, fellow researchers will conduct literature survey and internet search of corrosion mechanisms of aluminum alloys in different environments, and will evaluate the existing corrosion protection techniques. The main objective of this project is to develop new green inhibitors to combat these corrosion problems.

During weekly Zoom meetings student progress will be monitored and weekly tasks will be assigned. Students are required to submit a summary report at conclusion each semester followed by PowerPoint presentation on Zoom.