



**Cal Poly Pomona 3rd Annual Creative Activities & Research Symposium**  
**August 16, 2017**  
**University Library**

***Oral and Poster Presentations from 9 to 11:15 am***  
***Symposium Reception and Keynote from 11:15 am to 1 pm***  
***Demo Day: Summer Bootcamp Pitches from 1:15 to 3 pm***  
***Poetry Session from 1:15 to 3 pm***

Author: Brandon Sanabria

Major: Aerospace engineer

Project Author(s): Brandon Sanabria

Faculty Mentor(s): Vilupanur Ravi

Presentation Type: Poster and Creative Works Showcase (i.e. Poster, Design Project, and/or Prototypes)

Project Title: Microstructural Analysis of Oxidized Metals

Abstract: Oxidation is a corrosion phenomenon where metals degrade by reacting with their surrounding environment. There is always a need for better and more durable metals that can be used to create load-bearing structures.

The objective of this project was to expose steels with different carbon contents to air at various temperatures and to analyze the microstructures of the oxidized materials. This analysis is expected to yield insights into the oxidation behavior. This presentation will report on the results of oxidation experiments on different carbon steels and microstructures obtained using optical and scanning electron microscopy will be presented. The effect of carbon content on the oxidation resistance of carbon steels will be reported. Learning outcomes and skills obtained as a result of this summer research experience will also be mentioned.