



BATTERY AGING AND LIFETIME: WHAT CAN WE LEARN FROM ECOLOGICAL APPROACHES?

Prof. Lucia Gauchia
Assistant Professor, Michigan Technological University

Thursday, May 25, 2017
10:30 – 11:30 AM
UTEB 476

ABSTRACT

Battery technologies are increasingly being deployed across diverse applications, from portable devices to transportation and residential and grid applications. Consequently, these applications require batteries that can sustain demanding life cycle requirements since batteries can be an asset for multiple services within the same application. In addition, batteries are relied upon for resiliency, and thus, aging is a factor that needs to be considered, especially as battery aging is context-dependent on variations in environmental factors and application demands. In this seminar we will discuss the challenges of battery aging, its multiple scales –cell, module, pack- implications and how we can learn from successful data-enabled approaches applied to ecological systems to better adapt batteries to its application and improve lifetime.

BIOGRAPHY

Lucia Gauchia received her Ph.D. degree in Electrical Engineering from the University Carlos III of Madrid, Spain in 2009. Since September 2013 she is the Richard and Elizabeth Henes Assistant Professor of Energy Storage Systems at the Electrical and Computer Engineering Department and Mechanical Engineering-Engineering Mechanics Department at Michigan Technological University (USA). During 2012 she was a Postdoctoral Research Associate with McMaster University (Canada), working for the Canada Excellence Research Chair in Hybrid Powertrain and the Green Auto Powertrain Program. From 2008 to 2012 she worked at the Electrical Engineering Department at the University Carlos III of Madrid (Spain). Her research interests include the testing, modeling and energy management of energy storages systems. She received the NSF CAREER award in 2017.