

## Tailored Nanomaterial Electrodes for Energy Storage Applications

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### With Guest Lecturer Dr. Claudia C. Luhrs

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Given the unique characteristics found in materials at the nanoscale, such as high surface areas and enlarged reactivities, their use opens a window of new properties and opportunities in the energy storage field. However, such materials need to be designed with distinct structural features and created for particular set of working conditions. Creating tailor made high energy density nanomaterials could only be achieved by following adequate generation pathways. This presentation is focused on the strategies employed by our group to engineer nanoparticulates for battery and supercapacitor electrode applications. Unique metal/carbon, carbon fibers, graphene and doped graphene electrodes, along the materials characterization and results from their testing, are presented.



Dr. Claudia C. Luhrs

### Abridged Biography:

In April 2011 Claudia C. Luhrs was appointed Associate Professor of the Mechanical and Aerospace Engineering Department at the Naval Postgraduate School, in Monterey, California. From 2008-2011 Dr. Luhrs held an Assistant Professor position in the Mechanical Engineering Department at the University of New Mexico, Albuquerque, NM. Prior to UNM, she worked as a Staff Engineer for Intel Corporation, Fab11X, New Mexico site. Prof. Luhrs received her PhD degree from Autonomous University of Barcelona, while conducting her thesis work at the Barcelona Materials Science Institute (Spain, 1997). Dr. Luhrs has more than 15 years of experience teaching courses both to academic and industrial audiences, at undergraduate and graduate levels in areas related to Materials Science and Engineering with emphasis in nanosystems and devices. She has more than 38 international peer reviewed journal publications, 40 presentations in specialized scientific meetings, has advised more than 15 student theses, has 3 issued patents and another 14 filed.



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