**MS Thesis Defense (Friday, November 20, 1:00 pm)**

**Speaker**: Diego Jerez

**Title**: Developing a Deep Learning Pipeline to Automatically Annotate Gold Particles in Immunogold-labeled Electron Microscopy Images

**Advisor**: Dr. William Hahn

**Abstract**:

Machine learning has been utilized in the field of bio-imaging in recent years, however as machine learning is relatively new and evolving, many outside the field of data science who wish to utilize the tool are limited by programming knowledge. In electron microscopy (EM) the process of immunolabeling attaches physical nanoparticles to interested proteins for analysis, however the manual counting of nanoparticles in such images is a time-consuming process that limits users. Many prior solutions to this issue that did not utilize machine learning gave the user a semi-automated experience that required manual adjustment of parameters from image to image. To overcome this issue, I developed a deep learning pipeline that is designed to deliver a completely automated process for annotating immunolabeled EM images. This approach aims to be both applicable to a variety of immunolabeled images while also easily accessible to users without prior programming experience.

Please contact Dr. Hongwei Long [<hlong@fau.edu>](mailto:hlong@fau.edu)  for an electronic copy of the thesis. A hardcopy of the thesis is not displayed in the departmental office in order to avoid multiple people touching the same hardcopy at this pandemic time.

Zoom meeting information:

Topic: Diego Jerez - MSDSA Defense

Time: Nov 20, 2020 01:00 PM Eastern Time (US and Canada)

Join Zoom Meeting

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| All are cordially invited.  Cheers,  Hongwei |
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