

## REU Site: Materials Research at the Laboratory for Research on the Structure of Matter (LRSM)

Eric A. Stach, and Mark Licurse, University of Pennsylvania

- Ten REU-site supported students joined 10 MRSEC-supported students in the The Laboratory for Research on the Structure of Matter (LRSM) at the University of Pennsylvania (Penn) REU program.
- Working in pairs they engaged in a variety of materials research projects.
- Outside of lab work, they participated in weekly workshops and were exposed to other areas of research through a faculty seminar series.
- In addition to engaging in an authentic research experience, students focused on building science communication skills.
- The REU students participated alongside RET (Research Experience for Teachers) teachers in a joint workshop on both Machine Learning in Materials Research and Science Communication led by two Penn graduate students. Afterwards, the REU students worked in groups advised by the teachers to develop an idea for using Machine Learning that could be presented to a younger audience.
- By working with the visiting RET teachers, they learned to present complex scientific concepts to diverse audiences of various age groups and levels of education.



*REU students working with RET teacher on science communication skills*



*MRSEC graduate student running hands on Machine Learning workshop*

## REU Site: Materials Research at the Laboratory for Research on the Structure of Matter (LRSM)

Eric A. Stach, and Mark Licurse, University of Pennsylvania

- The program promotes and accepts students with diverse experiences & perspectives, including those who are traditionally underrepresented because of lack of opportunities.
- Of the 20 REU students (REU-Site and REU MRSEC), 19 reported demographic information: 89% came from underrepresented groups in STEM, 74% were underrepresented minorities, 58% were women, and 21% with a disability. Six students came from various branches of the University of Puerto Rico as part of the PREM program, two through a PREM exchange program with the University of Texas Rio Grande Valley, and one from a community college. One student was a veteran. Finally, 26% of the students were the first in their families to attend college and 63% received Pell grants.
- With the help of RET teachers, the REU students gave presentations on their research to a group of 14 high school students. The experience capped off a series of activities focused on how to teach complex scientific concepts to younger audiences. Furthermore, the high school students had an opportunity to listen to a diverse group of students talk about a variety of current materials research projects.

