



**Undergraduate Modeling Workshop**  
**May 20-25, 2018**  
**PROJECT ABSTRACTS**

**Group Leader:**  
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***Project III: Ocean Temperature***

*“Spatial statistics for reconstructing ocean temperature fields using Argo float data”*

**Abstract:** Argo floats (<http://www.argo.ucsd.edu/>) measure ocean temperature and salinity in the upper 2000 meters on a global scale. Spatial statistics provides the tools for reconstructing the full temperature and salinity fields based on sparse point observations from the floats. The large size and complex spatio-temporal dependence structure of the Argo data set mean that state-of-the-art statistical techniques are needed for efficient reconstructions. The goal of this project is to learn to explore, visualize, model and spatially interpolate subsets of Argo data using R. The preliminary plan is to use the "fields" package and to see how far we can push the tools there when reconstructing regional ocean temperature fields.

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