

Center for Global Change Science  
DISTINGUISHED LECTURE SERIES  
& Dept. of CPS Colloquium Series

Wednesday, January 31, 2018 at 3:10—4pm  
UTM Kaneff Building Room L1220

**Dr. Andrea Grottoli**

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**Coral Reefs and Climate Change:  
How Will they Survive?**

Increasing atmospheric CO<sub>2</sub> is driving ocean warming and acidification -- both of which are stressful to corals. Elevated temperatures cause a phenomenon known as "coral bleaching" and can lead to mass mortality and reef degradation. Over the past century, the rate and intensity of bleaching events has increased and reef loss has been devastating globally. Ocean



acidification interferes with coral calcification and over the next century is expected to result in net reef dissolution. The combined threat of ocean warming and acidification is predicted to devastate the majority of reefs by the end of this century. However, there are always some corals that survive or are more tolerant of these stress conditions. My research focuses on understanding the underlying traits that are associated with coral resilience. Over the past decade my team and I have conducted a series of experiments on several species of corals in both the Caribbean and Pacific and find some common traits among the survivors. If these traits are universal predictors of resiliency in corals, our findings will shed light on what reefs of the future might look like and could be used to improved the accuracy of models that forecast the extent of future reefs, as well as guide reef management strategies towards corals more likely to persist in the future.