

## Fall 2018 Colloquium Series

# Using in situ measurements and numerical models to investigate subsurface coastal ocean transport

The Mid-Atlantic Bight (MAB) shelf break is a region of high biological importance and is the location of the frontal boundary between water masses of dramatically varying properties. These waters can be transported across the shelf through a number of distinct processes. Using measurements from the Ocean Observatories Initiative Pioneer Array moorings and gliders, one such event of subsurface offshore transport in June 2014 is documented and analyzed. The transport process is associated with the impingement of the Gulf Stream warm-core ring (WCR) at the shelf edge. The Pioneer Array data, in conjunction with satellite sea-surface temperature data, are used to estimate the offshore seawater volume flux. In addition, an idealized numerical simulation of the WCR onshore impingement process is used to reproduce the observed subsurface transport. Estimates from both the observations and the simulation show that this process can transport shelf water on the same order of magnitude as other cross-shelf transport processes.

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I am a 5th year HSU student majoring in Oceanography and Applied Mathematics. I spent the summers of 2016 and 2017 working at Woods Hole Oceanographic Institution as an intern on physical oceanographic research. Currently, I am an equipment technician for the Humboldt Bay PORTS project. In the future, I hope to continue working in the realm of physical oceanography as a researcher.

**Thursday, October 18, 2018**

**BSS Room 204, 4:00 PM**

To view this poster online, go to <http://www.humboldt.edu/math/news-and-events/math-colloquium>  
We cordially invite you to the Pre-Colloquium Tea on the third floor of the BSS building at 3:30 pm on Thursday.