

# UConn

## UNIVERSITY OF CONNECTICUT

Department of Marine Sciences  
Presents a Special Seminar by

**Parker MacCready**  
University of Washington

### **The Estuarine Circulation of the Salish Sea**

The tidally-averaged circulation of water through the Salish Sea is fundamental to all aspects of biogeochemical processes there. The two-layer flow draws in deep water from the Pacific at a rate over twenty times that of all the rivers, and is the source of 95% of the nitrate flowing into the system. The exchange flow is explored using a new high-resolution numerical simulation of the region, covering both the coastal NE Pacific and the Salish Sea. The exchange flow is quantified using salinity coordinates (the Total Exchange Flow method, TEF) at multiple sections. There are large differences between TEF transport estimates and earlier estimates, and these lead to a fundamental re-evaluation of the "efflux-reflux" paradigm for understanding the circulation. We also explore the sensitivity of the exchange flow and stratification to the driving by rivers, tides, and wind, and compare these results with classical estuarine scaling laws.

**Host:** James O'Donnell

**Time & Date:** 11:30 am, Thursday, March 14, 2019

**Place:** Marine Sciences Building, Seminar Room 103

If you are an individual with a disability and need accommodations, please contact 860-405-9152, 860-405-9087, or [marinesciencesseminars@uconn.edu](mailto:marinesciencesseminars@uconn.edu).