



May 10, 2018  
LPSC 402  
3:00 p.m.

**ROSA LEÓN ZAYAS PHD**  
ASSISTANT PROFESSOR OF BIOLOGY  
WILLAMETTE UNIVERSITY



## “Archaeal Diversity and Metabolic Potential in the Costa Rica Margin SubSeafloor”

The distribution of archaea and bacteria and their associated metabolic abilities in the deep subseafloor is poorly understood. This talk will focus on findings from Costa Rica margin IODP Expedition 334. We have analyzed the microbial community from samples obtained from the Costa Rica margin via metagenomics in two different sites at multiple depths. At Site U1378 samples were analyzed from 2 meters below the sea floor (mbsf), 33 mbsf and 93 mbsf, and at Site U1379 from 22 mbsf to 45 mbsf. Whole community analysis of conserved gene markers in the metagenome show that these microbial communities vary with depth, and drastically differ between the two geographically close sites. Thirty-two genomes were recovered from the metagenomic data with more than 30% completion. Archaea make 49% of all genomes recovered and over 90% of these recovered genomes belong to recently discovered and poorly characterized groups of Archaea. This study explored the relative dynamics of microbial communities in the deep biosphere and presents the metabolic potential of distinct subsurface biosphere archaeal groups.



*Refreshments*