1147-55-763 **Christy Hazel*** (chazel@uoregon.edu). *The $RO(C_2)$-graded cohomology of C_2-surfaces.* Preliminary report.

Given a space with a C_2-action, we can consider the $RO(C_2)$-graded Bredon cohomology of the space. Generally computations in this theory are difficult, but using equivariant surgery, computations have now been done for all C_2-surfaces in coefficients given by both the constant $\underline{\mathbb{Z}}$ and constant $\underline{\mathbb{Z}/2}$ Mackey functors. In this talk I will describe the cohomology of all C_2-surfaces in $\underline{\mathbb{Z}/2}$-coefficients. I will then describe how we can use equivariant fundamental classes to better understand the cohomology of a given C_2-surface. (Received January 28, 2019)