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**Title of presentation:** Characterization of opsin sequences and repertoire in two adult Pacific flatfishes, lemon sole and rock sole

### **Abstract**

Vertebrate colour vision relies on differential expression of visual pigment proteins (opsins) in cone photoreceptors of the retina. Unique spectral habitats necessitate a suitable opsin repertoire. Therefore, species that inhabit largely varying habitats are expected to have higher interspecific variation regarding the opsin repertoire. Among vertebrates, teleost fish have the most variation in opsin repertoire. While the demands on the visual system are extremely varied, the dynamics of opsin expression and their variability among marine fishes are poorly understood. Here, the opsins of two species of commercially important local flatfishes, lemon sole and rock sole, will be described. Although the adults of these species share overlapping habitat on the continental shelf, they are often found at different depths and over different substrate types. As such, this study is a first attempt at documenting whether changes in preferred ecotype may result in different opsin repertoires.