

Christino L Barbosa, Rutgers Newark; Dr. Bruno Richard (Biological Sciences)

### **Observer sensitivity to oriented stimuli altered after adaptation**

The human visual system has bias in stimuli oriented at polar coordinates, this bias could be the result of an orientation bias in our structured world. To explore the relation amongst the natural world's structure and human visual sensitivity to oriented stimuli, observers are immersed in a modified environment which no longer includes visual biases (i.e., an isotropic environment). Observers were presented Baseline results, (before adaptation) show observer sensitivity to orientation was much worse for horizontally oriented stimuli than for obliques, a natural bias in the world shown in the data. After adaptation observer sensitivity to orientation was equal. There was a slow increase overtime to user sensitivity to orientation. The results show that observer sensitivity to oriented stimuli depend on the distribution of oriented stimuli presented in their natural environment. Although the neural mechanism is unknown, the finding suggests that the visual system is subject to adapt to environmental distributions.