

# **Gaze-contingent simulation of Macular Degeneration: Assessing whether trained eye-movements help compensate for central vision loss in a search and discrimination task**

## **Summary:**

We are conducting a visual search study that tests potential eye-movement strategies that may help alleviate effects of Macular Degeneration, and other visual disorders where central vision is impaired. We are testing different gaze strategies used during search where central vision is blurred and subjects are instructed to position their gaze outside of central fixation (in a nearby, but slightly peripheral region) while they try to identify a search target: For one strategy, subjects maintain a steady fixation on a single mark in their near-periphery, vs. a second (eye-jitter) strategy, where subjects move their eyes back and forth across two peripheral marks. We expect, based on physiological properties of our visual system, subjects trained to jitter their eyes in the close periphery will benefit more than those who maintain fixation on a single close-periphery mark.

[2018 poster](#) & video showing gaze movement for one subject across 3 conditions.

[2020 working draft of paper](#)