**DeepMReye calibration protocol (DeepMReyeCalib)**

The experiment will be run first in a 3T scanner, with combined backward video-projection (ProPixx HD resolution at 120Hz, max field of view of 20 dva) and eye-tracking (EyeLink monocular tracking at 1kHz, 13 points calibration before the scanner starts).

We will test 10 subjects an experiment composed of 3 distinct part played in fixed order and repeated 2 times (2 runs, ~3 min). Participants will be trained outside the scanner first.

**Part 1: Fixation Task**

- A 0.25 dva radius white bull’s eye is displayed on a gray background at pseudo-random locations picked on a 5 by 5 square grid of 14 dva side, repeated twice (random selection but avoiding two times the same position).   
- 54 trials per run

- Trial duration: 1.2 seconds (1 TR)

- This task starts and ends with inter-trial interval (ITI) 6.0 seconds (5 TRs)

- Duration of about ~1 min (including ITI)

**Part 2: Smooth Pursuit**  
- The white bull’s eye moves on the gray background with pseudo-random amplitudes of 3 dva, 5 dva, or 7 dva, repeated 54 times, at random angles selected randomly between 0-340 degrees in steps of 20°. The movement angle is selected randomly to keep the bull’s eye in an imaginary centered square of 14 dva side.

- Duration of 1 trial: 1.2 seconds (1 TR)

- 54 trials per run

- End with inter-trial interval (ITI) of 6.0 seconds (5 TRs).

- Duration of about ~1 min (including ITI)

**Part 3: Free Viewing**  
- Participants freely view 10 centered pictures of 14 dva size  
- Duration of 1 trial: 3.6 seconds (3 TRs)  
- 10 trials per run

- End with inter-trial interval (ITI) of 6.0 seconds (5 TRs).

- Duration of about ~1 min (including ITI)