Testing the target contrast signal theory.

**1. Purpose of project and its academic rationale.  
2. Brief description of methods and measurement procedure(s).**

Target Contrast Signal (TCS, Buetti et al., 2016) theory posits that during visual search behaviour is determined by comparing target template with every element present in the array in parallel, allowing quick rejection of peripheral non-target. While TCS has been successful in predicting several empirical results, it has only been tested by one research group. In the current study we will replicate Buetti et al. (2016) and we will carry out a within subject design to test if the theory makes predictions at individual level (the original study was between subject). In this experiment we use arrays of objects varying in colour and number of distractors per condition. Target will be semi-circle facing either to the left or to the right and observers will have to respond with a keypress to indicate the direction of the target. Reaction time and accuracy in response to different conditions will be key dependent variables. The study will be programmed using PsychoPy and carried out online, using Pavlovia platform. The responses will be automatically recorded on Pavlovia. Participants will complete 19 blocks of 30 trials (570 trials overall). The study is expected to take 45min per participant in total. Only complete data sets will be saved and used for the analysis.

**3. Participants: recruitment methods, number, age, gender, exclusion/inclusion criteria.**

Approximately 100 participants will be tested. Participants shall be recruited through Pavlovia in exchange for course credits or reimbursement (£5).

**4. Recruitment, information, consent arrangements, debriefing.**

When participants sign up, they will begiven brief description of the study. Participant will fill out a consent form before the study begins. On completing consent form participants will complete the experiment. Debrief will be provided at the end of the experiment.