

Departmental Seminar

Planning Saccades in Visual Search

Date: April 24, 2012 (Tuesday)
Time: 11:30 a.m. to 12:30 p.m.
Venue: Room 624, Knowles Building, HKU
Speaker: Dr. Frans Verstraten
Professor of Experimental Psychology
Utrecht University
The Netherlands

Eye-movements are an excellent tool to look into how the brain and especially the visual system processes information. Among many open questions concerning eye movements, it is still not clear how (successive) eye movements are actually planned. Some believe that each and every eye-movements is planned at the time of a fixation, others think in terms of a number of planned fixations. Visual search research hints at a possible mechanism. In visual search, multiple fixations are often necessary to locate a target. While searching, observers generally select objects that resemble the target (potential targets) and ignore those that do not. The consecutive selection of these potential targets forms a scanpath. The observer's ability to plan such paths as a whole has been demonstrated for a non-search task. Even though planning could facilitate the efficient localization of targets, it is an open question whether saccades are planned ahead in visual search as well. Using gaze-contingent displays we demonstrate that the ability to deviate from planned paths depends on whether new visual information can be processed sufficiently fast. Moreover, evidence that planned paths can include at least three saccades will be presented. This demonstrates that scanpaths are planned ahead in visual search as well.