

The University of Hong Kong
Department of Psychology

Departmental Seminar

***Effects of Travel Speed and Attentional Load on
Visual Control of Steering toward a Goal***

Date: October 7, 2014 (Tuesday)
Time: 11:30 a.m. – 12:30 p.m.
Venue: Room 813, 8/F, The Jockey Club Tower, Centennial Campus, HKU
Speaker: Ms. Chen Rongrong
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Human use both optic flow and target egocentric direction cues to guide self-motion at walking speed. Will people change their reliance on the two cues when they are controlling high-speed steering, e.g. driving a car? In the first active steering control experiment, I found that people are increasingly more accurate and efficient in using heading specified by optic flow for steering when travel speed increases, whereas high-speed travel does not affect the type of visual strategy used for the control of steering toward a goal. The faster and larger reduction of heading error observed at higher travel speed in the steering experiment was mirrored by an increase in the precision of heading judgment in the corresponding heading perception experiment. I further examined how different attentional loads affected people's steering toward a goal at both low and high travel speeds. Using the same display setting as that in the first steering experiment, participants were asked to steer toward a red post target with (1) no attention tracking task, (2) concurrently tracking one dot (low attentional load), or (3) three dots (high attentional load) among eight dots that randomly moved inside the red circle on top of the target post. The findings suggest that people have more difficulty in dealing with high attention demanding task at high than low travel speed. Increasing attentional load affects the accuracy in using heading specified by optic flow but does not change the natural visual strategy for goal-directed self-motion control.