

## Do Wearable Devices Bring Distraction Closer to the Driver? Comparing Smartphones and Google Glass

Xiaohui Wu, Kirsten Crager, Jason S. McCarley, Mykala N Poynter, and Kaiping Peng

Faculty: Jibo He, PhD

*Department of Psychology, College of Liberal Arts and Sciences*

Distracted driving increases driving errors (e.g., deviation from lane-keeping, inconsistent speed, delayed response-time) and chance crashes. Increased availability and usage of hand-held and wearable devices have exacerbated these consequences. Thirty-four drivers (21 female; ages 18-43) participated in a simulated driving task while receiving and verbally responding to text messages from both a head-down smartphone display and head-up display via Google Glass, to evaluate driving performance and time to engage in the distracting task. Driving performance was analyzed in a 3X2 repeated-measures ANOVA with driving task (drive-only, drive-smartphone, drive-Glass) and driving difficulty (easy, hard) as factors. Time to engage was investigated in a 2x2 repeated-measures ANOVA with device and driving difficulty as factors. Drivers had more variable speed, deviation of the steering wheel, and deviation from lane position while texting, and responded to messages quicker on Google Glass, however they spent more time to send.