**Title:** Investigating Collaboration Around the TableTop - effects of input device configuration on awareness and equity of participation

**Date:** Wednesday the 5th of May 2010

**Room:** Heriot-Watt University, Colin Maclaurin Building; Room F.17

**Time:** 15:15 - 16:15

**Speaker:** Dr. Eva Hornecker

Dept. of Computer and Information Science, University of Strathclyde

**Abstract:**I will discuss research conducted with my collaborators at the Pervasive Interaction Lab at the OU on collaboration and tabletop interaction. Our research investigates interfaces that support co-located and co-present interaction. We propose ‘shareable interfaces’ as a more inclusive term focusing on the kinds of activity to be supported rather than on the design of the interface per se (tangible, tabletop, large displays etc.). It is still a research question how best to support group interaction around interactive tabletops, and the effects of different configurations of input devices and setups.

To investigate this question, we conducted an experimental study. The study has two parts, investigating firstly the effect of touch interaction versus mice on awareness, and secondly the effects of touch versus mice as well as number of access points (one/multiple mice/touch) on equity of participation. We found higher levels of both positive and negative measures of awareness in the touch condition. A subsequent qualitative analysis indicated that the interactions in the touch condition were more fluid and integrated. Overall, our findings indicate that interactive touch surfaces facilitate collaboration through enabling more fluid work. Our analysis highlights the importance of allowing groups to handle interferences as they occur as a design imperative (in contrast to avoiding interference). In the second part of our study we found an effect of both touch and multi-input on ‘manual’ participation as well as strong effects on the subjective perception of over- and under-participation. Qualitative analysis suggests that effects are bigger for heterogenous groups than for groups of similar status and talkativeness.