

**Presenter:** Sharon Chen

**Title:** Altered Cross-Hemispheric Connectivity in Agenesis of the Corpus Callosum: A Case Study

**Author(s):** Sharon Y. Chen, Frederick Eberhardt, Dorit Kliemann, Ralph Adolphs and Lynn K. Paul

**Abstract:** Agenesis of the corpus callosum (AgCC) is a condition in which there is a congenital absence of the corpus callosum, the white matter tract that connects the two hemispheres of the brain. Despite the lack of structural connectivity between the hemispheres, bilateral resting-state networks have been found to be intact. This has been hypothesized to be due to the rerouting of cross-hemispheric brain connections. To locate the regions of the brain that may be involved with this functional reorganization, we performed a case study on one AgCC subject. In our connectivity and causality analysis of fMRI data, we found a shift in the locations of the causal connections between hemispheres in the AgCC subject from homotopic to heterotopic, while the number of causal connections within hemispheres were similar across all subjects. This study can contribute to our understanding of global cerebral function and help advance research into psychiatric disorders, such as autism.