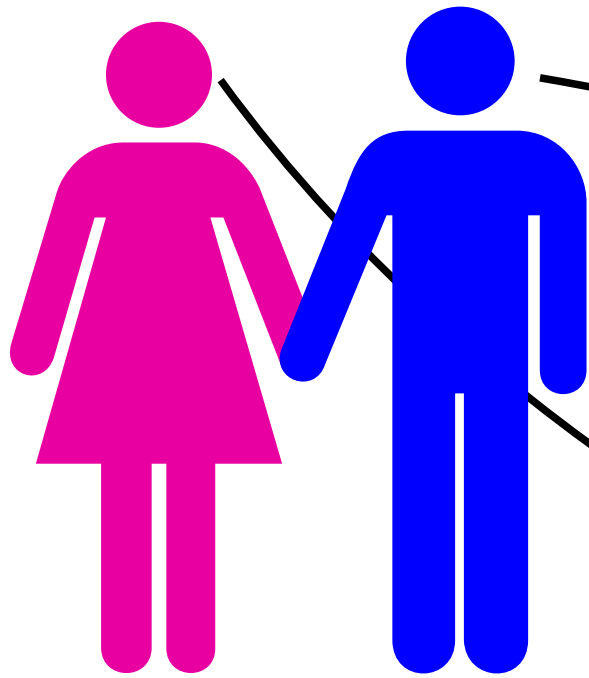


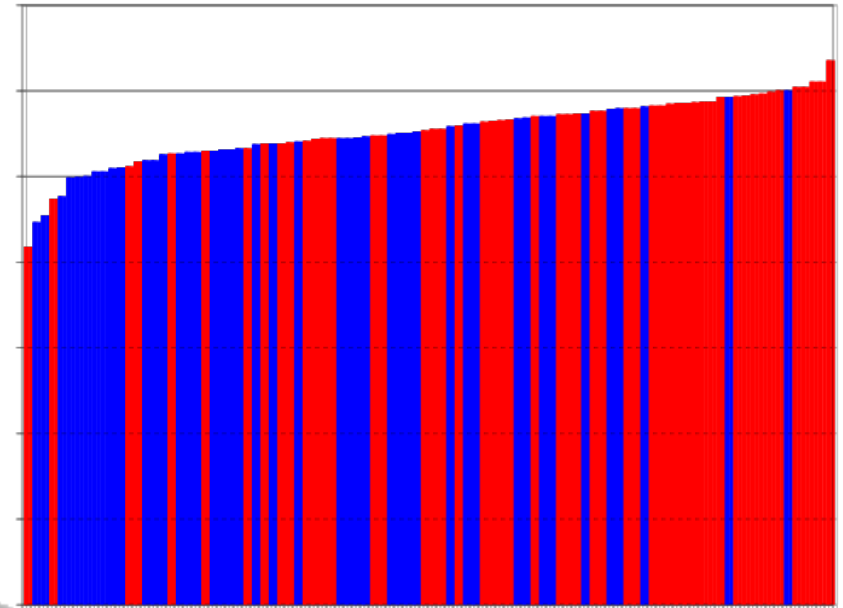
Sex and the Connectome

Balázs Szalkai

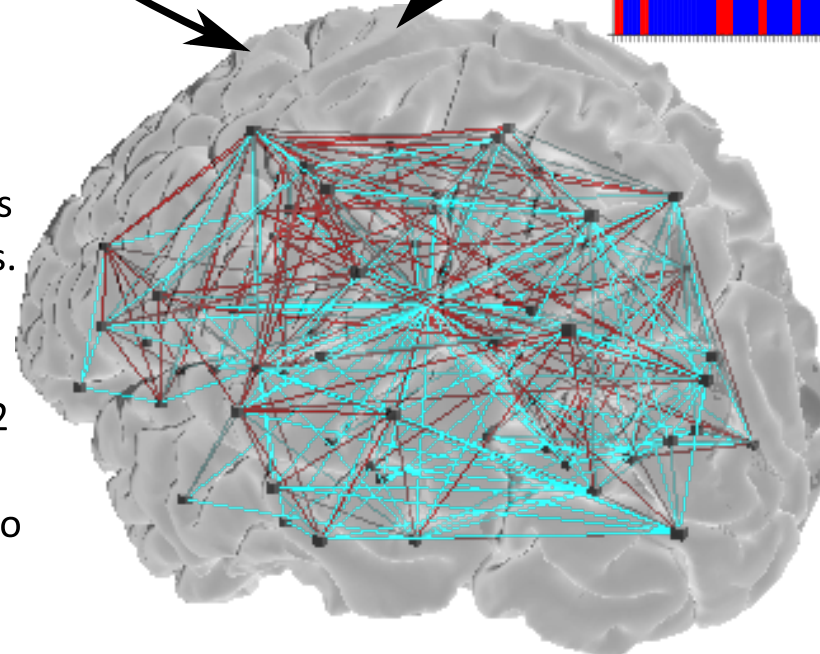
<http://connectome.pitgroup.org/>



dMRI
parcellation
tractography
graph construction



The **nodes** of a connectome (brain graph) are the brain regions, while its **edges** correspond to the nerve tracts. We used the software **Connectome Mapper**, which computed brain graphs for us from 96 dMRI scans (52 female and 44 male) in about a month. Then we used graph theory to analyze the resulting networks.



The chart above shows the number of connections in the brain graphs. Women and men are marked with red and blue bars, respectively. Brain graphs of women have significantly more connections ($p < 0.001$) and are more efficient networks according to some more complicated graph theoretical parameters.

Graph Theoretical Analysis Reveals: Women's Brains are Better Connected than Men's
(Balazs Szalkai, Balint Varga, Vince Grolmusz, PLOS ONE)