C-Star Lecture Series

NEURAL CORRELATES OF RECOVERY FROM APHASIA AFTER STROKE

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Friday September 9th, 12pm (noon) ET

Most individuals with aphasia after a stroke experience some degree of recovery of language function over time. This is thought to depend on neural plasticity, that is, functional reorganization of surviving brain regions such that they take on new or expanded roles in language processing. We are investigating this process in the context of a large longitudinal neuroimaging study. We recruit acute stroke patients at the bedside, and we follow each individual for up to a year, documenting recovery of their speech and language function, and characterizing their changing brains with structural and functional imaging (Wilson et al., Brain 2022; 10.1093/brain/awac129). Using machine learning, we have developed quantitative models of the relationship between patterns of brain damage and resultant profiles of speech and language deficits, as well as trajectories of recovery over time. These models now allow us to approach functional imaging in a new way: asking which patterns of functional reorganization are associated with better or worse outcomes, relative to expectations based on structural damage alone. Our data strongly support a sustained role for left posterior temporal cortex in language processing after stroke. In contrast, evidence for compensatory engagement of the right hemisphere is much more equivocal.

The online lecture can be followed online from your computer, tablet or smartphone, in Zoom.
The zoom link is accessible via the C-STAR website: http://cstar.sc.edu/lecture-series/

For more information, or to be added to the C-STAR mailing list, contact Dirk den Ouden: denouden@sc.edu

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