The cerebral representation of constituent structure.

Christophe Pallier
Unité de Neuroimagerie Cognitive INSERM-CEA,
Neurospin center, F91191, Gif-sur-Yvette, France

I will present a series of brain imaging experiments addressing the issue of syntactic parsing in Language and Music. Based on the rationale that the activation of brain regions encoding syntactic constituents should increase with their size, we invented a new experimental paradigm where participants are scanned with functional magnetic resonance while reading or listening to sequences words that can be parsed into more or less large phrases. We observed several temporal and frontal regions to be sensitive to the complexity of constituents. Using delexicalised strings, we precised which region are specifically involves in the representation of constituent structure. An analogous experiment with Music will also be described, which aimed to compare the neural substrate involved in processing musical and linguistic structures.