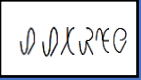
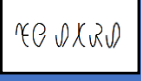
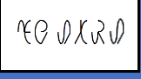





How does the brain recognize print and link visual and phonological processing?  
Which process (functional specialization vs. functional integration) relates to children's reading skill?

## 1-Back Task

False Fonts	Consonants	Pseudowords	
	<b>pbhmr</b> t	<b>phonaw</b>	1000 ms
+	+	+	1350 ms
	<b>tqrphk</b>	<b>cigbet</b>	1000 ms
+	+	+	1350 ms
	<b>tqrphk</b>	<b>cigbet</b>	1000 ms

Unfamiliar → Unpronounceable → word-like  
Coarse vs fine grained orthographic processing

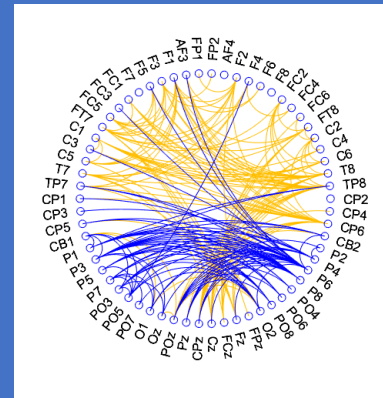
## Participants



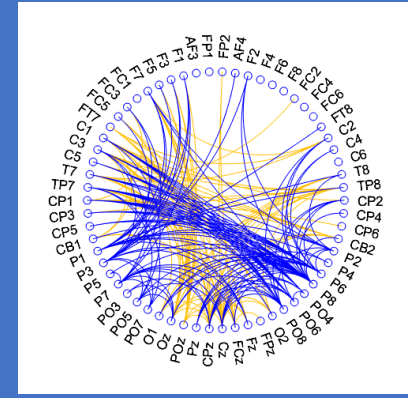
Adults and Children (ages 4-14)

## Pseudowords – False Fonts

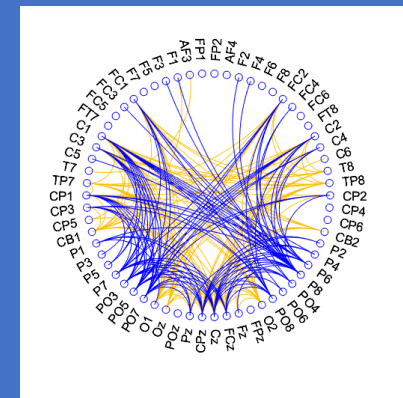
Delta (1-3 Hz) synchronization 314-475 ms



Lower Ability Readers  
(Children)



Higher Ability Readers  
(Children)



Highly Experienced  
Readers (Adults)

Posterior-Occipital areas (visual processing) show more brain network connectivity for (pronounceable) pseudowords in stronger readers

Reading development ≠ enhanced visual processing (N170 ERP specialization for print)

Reading development = more functional brain network connectivity/ more linking of visual print & speech sound processing

EEG phase synchrony → promising tool to study development of brain's function reading networks