Leverhulme Doctoral Training Programme for the Ecological Study of the Brain

http://ecologicalbrain.org/

This document provides details of one possible project on the above DTP.
See the above website for other potential supervisors.

Supervisor:	Dr Jennifer Rodd (jennirodd.com)
Department	Experimental Psychology (https://www.ucl.ac.uk/pals/research/experimental- psychology/)
Title:	Using natural language environments to study vocabulary development across the lifespan
Description of the project: **(max. <u>300 words</u>)**	Recent studies emphasize the importance of good vocabulary knowledge: individuals with better vocabulary perform better on reading comprehension tests, and have better educational outcomes. Not only is a wide vocabulary important, but the <u>quality</u> of this knowledge is critical. Skilled comprehenders have detailed knowledge about words' different meanings and about the subtle cues that predict which meaning they should select in specific contexts (e.g., "in the *right*" vs "on the *right*"). Despite widespread acceptance that *implicit* learning from natural linguistic environments (e.g., conversations, books, TV) is the main source of vocabulary learning, most experiments use highly artificial stimuli, tasks and learning conditions. The current project focuses exclusively on learning from naturally occurring linguistic stimuli, i.e. stimuli that are *not* created by the experimenters and that would be encountered in everyday life. We focus, in the first instance, on situations in which good vocabulary learning is likely due to the diverse contexts that they depict: books, audio books and films. For example, tracking learning (by children and adults) of familiar and unfamiliar words (e.g. "spell, "muggle") from Harry Potter novels, audio books, and films in participants' own homes. Web-based methods will be used to collect data about the extent/timing of learning and about subsequent vocabulary

	gains. fMRI will then be used to explore the brain networks that support vocabulary gains during these different forms of naturalistic learning. The findings will contribute to ecologically valid neuro-cognitive models of vocabulary acquisition across the lifespan, and will have practical implications for how best to 'boost' the vocabulary of children who lag behind their peers.