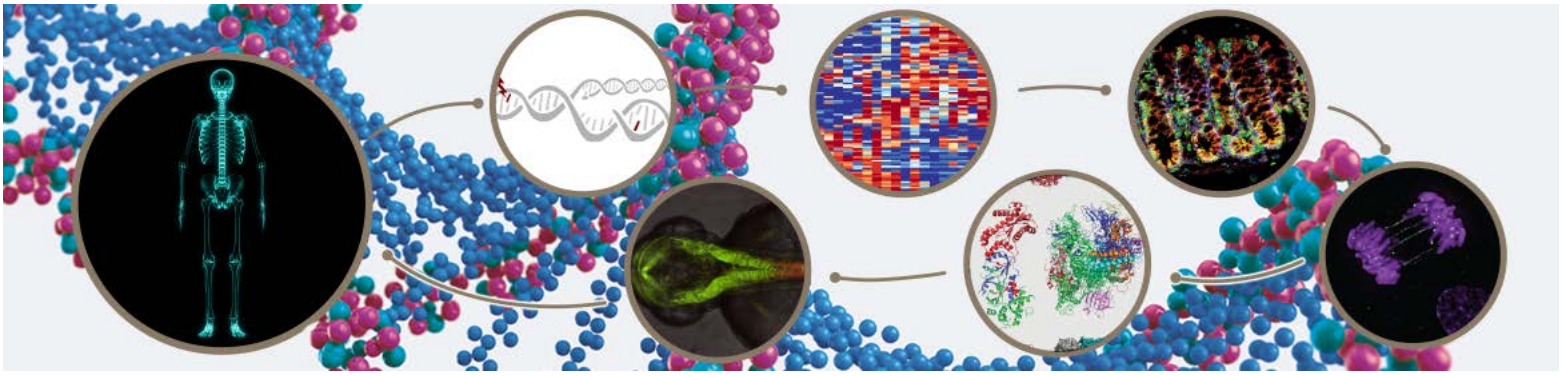
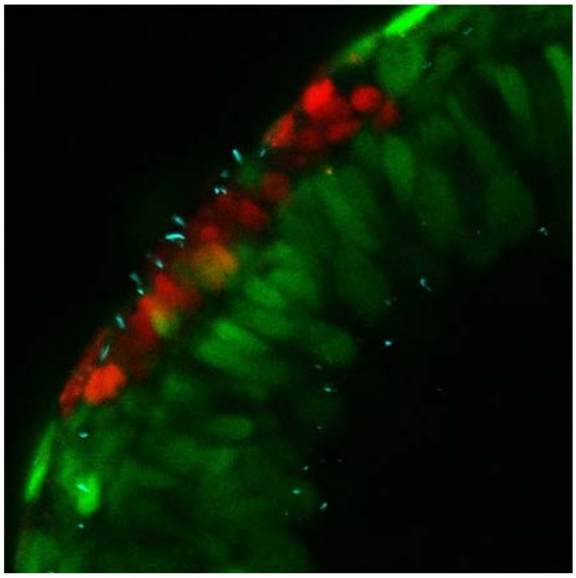


MRC FOUR-YEAR PHD PROGRAMME IN HUMAN GENETICS, GENOMICS AND DISEASE

Decoding mammalian cilial diversity in the brain

Pleasantine Mill

Cilia are small, ubiquitous, microtubule-based organelles required during development and adult homeostasis. Ciliopathies are a growing spectrum of human syndromes caused by mutations in genes disrupting cilia structure or function. What is particularly puzzling is the pleiotropy of clinical features observed in ciliopathy patients, with varying degrees of severity among different tissues. This suggests all cilia are not created equal. In order to better understand the functional and structural diversity of mammalian cilia in different cell types, this project will use genome editing to engineer a mouse where components of a common intraciliary transport system required to build and maintain all cilia types have been genetically tagged. This tag allows exquisitely resolution, both temporally and spatially, providing molecular snapshots of ciliary composition for biochemical, structural and super-resolution imaging studies needed to fully capture the functional diversity of cilia types in vivo.



Applications are invited from outstanding candidates to join an innovative and exciting MRC funded 4-year multidisciplinary PhD programme in Human Genetics, Genomics and Disease at the MRC Human Genetics Unit (HGU), the University of Edinburgh. 8 studentships are available to start in September 2018 with a stipend of £17,500 p/a.

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