

MNDA Funded Studentship

Title	Identifying disease modifying interactors of synaptic mitochondria and FUS
To start	October 2020
Award(s)	MNDA funded studentship
Project	<p>Mutations in the gene FUS as a cause of Amyotrophic Lateral Sclerosis (ALS) were first published a decade ago (Vance et al., 2009). Whilst much has been learnt about its role in the pathogenesis of disease, little is understood about its function in the brain and specifically at the synapse. Synaptic dysfunction has been shown to be a key early pre-symptomatic disease event for all neurodegenerative disease. Moreover, mitochondrial dysfunction has also been shown to be a common link between different diseases suggesting these are common critical pathways to maintaining neuronal health.</p> <p>This exciting PhD project aims to identify key functional interactions of wildtype and mutant FUS protein at synapses. Additionally, this project will investigate the direct and indirect interactors of FUS protein and mitochondria at the synapse. The project will involve using biochemical and state-of-the-art imaging techniques on both primary neurons and <i>in vivo</i> tissue from two different mouse models of ALS-FUS (Mitchell et al., 2013; Devoy et al., 2017).</p> <p>The student will acquire cutting-edge cell culture, molecular biology and biochemical techniques and receive training in advanced microscopy methods including super-resolution imaging with iSIM and STORM. The project will be based in one of the world's leading ALS and FTD research centres, the newly built Maurice Wohl Clinical Neuroscience Institute.</p>
Supervisors	Dr Caroline Vance and Dr Anny Devoy
Entry requirements	Applicants should have (or be expected to obtain) a 2:1 or 1st class honours degree in a subject relevant to the proposed project. If applicants already possess (or expect to obtain) a research-based MSc degree, a merit or distinction level is required.
Award types and eligibility	The award includes a stipend, tuitions fees (for UK and EU students)
Further information	<p>About the IoPPN (link to http://www.kcl.ac.uk/ioppn/about/index.aspx)</p> <p>Studying at the IoPPN (link to http://www.kcl.ac.uk/ioppn/study/index.aspx)</p> <p>Research degrees at the IoPPN (link to https://www.kcl.ac.uk/ioppn/study/postgraduate-research-programmes)</p> <p>KCL Researcher Development Programme (link to http://www.kcl.ac.uk/study/pg/school/RDP/training-and-development/Researcher-Development-Programme-2014-15.pdf)</p>
How to apply	Applicants must complete and submit an online admissions application, via the admissions portal by midnight (12:00 GMT), Sunday 1st March . On the 'Choosing a programme' page, please select 'Research degrees' and enter the keyword Neuroscience.

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	<p>In your application, you will be asked to include:</p> <ul style="list-style-type: none">• Academic Transcripts – where applicable, academic transcripts must be submitted with the online admissions application• Details of your qualifications (you will need to attach copies)• Details of previous employment• A personal statement describing your interests and why you wish to apply for this project. Please include this as an attachment rather than using the text box.• Academic References – all admissions applications require one supporting reference. If the applicant is relying on his/her referee to submit a reference directly to the College after he/she has submitted his/her admissions application, then the applicant must ensure that their chosen referee is made aware of the funding deadline. <p>In the Funding section, please tick box 5 and include the following reference: CAVMNDA20</p> <p>Please note there is no need to complete the Research Proposal section in your application as the project has already been set.</p> <p>You are welcome to email Dr Caroline Vance for more information regarding the project and studentship.</p> <p>If you have any queries regarding the application process, please contact the Programme Assistant (Research) Olivia Rees.</p> <p>References must be received by the deadline for the applicant to be eligible. Only shortlisted applicants will be contacted.</p>
Closing Date	Sunday 1 st March 2020
Interviews	Wednesday 11 th March 2020