**Title:** Understanding the role of the dipeptide repeat proteins in autophagy dysfunction in C9orf72-related amyotrophic lateral sclerosis

**To start:** 1st February 2021

**Award(s)** 1 fully funded IoPPN/Motor Neurone Disease Association PhD studentship

### Project
An exciting opportunity for a PhD at the Department of Basic and Clinical Neuroscience within the Institute of Psychiatry, Psychology and Neuroscience, at King’s College London.

Dr Mizielinska and Dr Gomez-Suaga have obtained funding from the Motor Neurone Disease Association (MNDA) to study the role of the dipeptide repeat proteins (DPR) in autophagy dysfunction in C9orf72-related amyotrophic lateral sclerosis (ALS).

ALS is clinical, pathological and genetically linked to frontotemporal dementia (FTD); both are devastating diseases for which currently no cure is available. The most common genetic cause of both of these diseases is a repeat expansion mutation in the gene *C9orf72*, that leads to the accumulation of dipeptide-repeat proteins (DPRs).

The PhD project will focus on the dysfunction caused by DPRs on nucleocytoplasmic transport and uniquely their impact on the autophagy pathway. Dr Mizielinska was the first to uncover specific DPR protein toxicity in *C9orf72* disease pathogenesis and this PhD project is part of a larger programme within her group studying nucleocytoplasmic transport dynamics in ALS and FTD. Likewise, the student will benefit from the expertise of Dr Gomez-Suaga, MNDA Fellow, in the fields of autophagy and endomembrane trafficking. Furthermore, the student will be hosted in a multidisciplinary research institute with well-established clinical links and they will have access to overseas collaborations.

This PhD project will be conducted using molecular and cellular Biology, genetics, biochemistry and histology, and advanced microscopy techniques and stem cell technology. The successful candidate will gain insights into the molecular mechanisms underlying neurodegeneration in ALS/FTD while acquiring skills in cutting-edge methodology.

### Supervisors
Dr Sarah Mizielinska and Dr Patricia Gomez-Suaga

### Entry requirements
Applicants should have a 2:1 or 1st class honours degree (or equivalent) in a subject relevant to the proposed project. If applicants already possess a research-based MSc degree, a merit or distinction level (or equivalent) is required.

### Award types and eligibility
The award covers a 3-year PhD stipend (year one: £17,000; year two: £17,500; year three: £18,000) and tuition fees for UK/EU nationals, costs towards travel expenses and laboratory consumables. Overseas applicants can apply if they are able to top up the fees themselves.

### How to apply
Applicants must complete and submit an online admissions application, via the admissions portal by midnight (23:59 GMT), Sunday 27th September 2020. On the ‘Choosing a programme’ page, please select ‘Research degrees’ and enter the keyword (Clinical Neuroscience) Research MPhil/PhD (Full-time).

In your application, you will be asked to include:

- 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 referees 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.

In the Funding section, please tick box 5 and include the following reference: **SMPGS-IoPPN-MNDA-20.**

Please note there is no need to complete the Research Proposal section in your application as the project has already been set.

You are welcome to email Dr Gomez-Suaga or Dr Mizielinska for more information regarding the project and studentship.

If you have any queries regarding the application process, please contact the Education support team at ioppn.educationsupport@kcl.ac.uk.

References must be received by the deadline for the applicant to be eligible. Only shortlisted applicants will be contacted.

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