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| **\*Title of studentship** | Enable the global access to safe and efficacious antileishmanial nanomedicine through cost-effective manufacturing methods |
| **Value / what is covered?**  | Fully funded  100% of UK/EU tuition fees paid and an annual stipend for UK residents only (living expenses), currently at **£15,285** |
| **Awarding body** |  |
| **Number of studentships** | 2 |
| **\*Summary descriptive text / Example of research project**  | Leishmaniasis is one of the NTDs, affecting over 1 billion people across 90 countries in the world. Caused by sand fly borne kinetoplastid protozoan parasites with infection leading to a wide spectrum of diseases, including cutaneous leishmaniasis (CL) to more fatal visceral leishmaniasis (VL).1 The global burden of VL has decreased in the past decade thanks to the collaborative elimination efforts driven by the United Nation, World Health Organisation, governments, charities and medicine manufacturers. However, in the same period, CL cases have increased dramatically (0.7 – 1.0 million per year) largely due to forced migration in conflict zones and lack of standard healthcare facility. Vaccines are absent and drug therapy is limited. The current treatment of CL is still relied on 70 years old medicines such as sodium stibogluconate and meglumine antimoniate, despite their severe side-effects, high cost (parenteral administration), and the increased drug resistance.2,3Over the last few years, we have established a novel integrated approach for the development and screen of new drug candidates and their suitable nanoformulations. In this highly interdisciplinary project, you will be working with the team at Queen’s University Belfast and Prof Paul Denny at Durham University with the aim to discover and develop new therapy for the treatment of Leishmaniasis. Studentship 1: design, characterisation and optimisation of the novel nanoformulationsStudentship 2: in vitro and ex-vivo evaluations on novel nanoformulations for antileishmanial activities.References:(1) WHO. The Leishmaniases: timeline of facts and the formidable quest for disease control https://www.who.int/neglected\_diseases/news/Leishmaniasis-timeline-of-facts-and-the-quest-disease-control/en/ (accessed Feb 14, 2019).(2) Croft, S. L.; Coombs, G. H. Leishmaniasis - Current Chemotherapy and Recent Advances in the Search for Novel Drugs. *Trends Parasitol.* **2003**, *19* (11), 502–508. https://doi.org/10.1016/j.pt.2003.09.008.(3) Norcliffe, J. L.; Mina, J. G.; Alvarez, E.; Cantizani, J.; De Dios-Anton, F.; Colmenarejo, G.; Valle, S. G. Del; Marco, M.; Fiandor, J. M.; Martin, J. J.; Steel, P. G.; Denny, P. W. Identifying Inhibitors of the Leishmania Inositol Phosphorylceramide Synthase with Antiprotozoal Activity Using a Yeast-Based Assay and Ultra-High Throughput Screening Platform. *Sci. Rep.* **2018**, *8* (1), 1–10. https://doi.org/10.1038/s41598-018-22063-9. |
| **\*Supervisor(s)** | Dr Yiwei Tian, Prof Gavin Andrews, Prof Paul Denny (Durham) |
| **\*Eligibility / residence Status** | International/EU/UK |
| **Country** | Northern Ireland |
| **\*Start date and duration**  | 2022 onwards3 years |
| **\*Faculty** | MHLS |
| **\*Research centre / School** | Pharmacy |
| **Subject area** | Nanomedicine, advanced processing, amorphous, liposome, in vitro drug release and permeability assay, ex-vivo cell assay, inline process analysis technology |
| **Candidate requirements / Key skills required for the post**  | Applicants should have a 1st or 2.1 honours degree (or equivalent) in a relevant subject. Relevant subjects include Pharmacy, Pharmaceutical Sciences, Biochemistry, Biological/Biomedical Sciences, Chemistry, Engineering, or a closely related discipline. Students who have a 2.2 honours degree and a Master’s degree may also be considered, but the School reserves the right to shortlist for interview only those applicants who have demonstrated high academic attainment to date. |
| **\*Deadline for applications** |  |
| **\*How to apply / contacts** | Postgraduate Research applicants must have applied to Queen’s, via the Direct Applications Portal.<https://dap.qub.ac.uk/portal/user/u_login.php>  |
| **Relevant links / more information**  | <http://www.qub.ac.uk/schools/SchoolofPharmacy/Research/PostgraduatePositions/><http://www.qub.ac.uk/schools/SchoolofPharmacy/Research/> |
| **Keywords for search filters** | Sustainable development goals, neglected tropical diseases, leishmaniasis,Nanomedicine, advanced processing |
| **Training provided through the research project** | Nanomedicine, advanced processing, amorphous, liposome, in vitro drug release and permeability assay, ex-vivo cell assay, process analytical technologies |
| **Expected impact activities** |  |