UNIVERSITY OF LEEDS

CANDIDATE BRIEF

Marie Skłodowska-Curie Early Stage Researcher in Applied Biostatistics and Genetic Epidemiology

Salary: Off grading structure. You will be offered a salary plus allowances in line with the Marie Curie Framework 7/H2020 requirements for Early Stage Researchers.

Reference: MHLCM1172

Closing date: 18 April 2019

Fixed-term for 36 months

Early Stage Researcher (ESR) in Applied Biostatistics and Genetic Epidemiology
Marie Skłodowska-Curie Innovative Training Network
School of Medicine

Are you a rising star in the field of biostatistics and keen to apply this to genomics data, in the first four years of your research career and based outside the UK? Do you want to further your career and attain a PhD in one of the UK's leading research intensive universities?

This post is a PhD studentship available for a fixed term of three years to undertake research funded through Marie Curie as part of an Initial Training Network in relation to "HEalth data LInkage for ClinicAL benefit (HELICAL) Innovative Training Network. This research project (ESR 008) will focus on linking public and GCA datasets to identify novel pathogenic pathways. The HELICAL training program focuses on three complementary areas: **application of informatics** to such datasets to gain new biological insights; **translation of these into practical clinical outputs** and management of **ethical constraints** imposed on such studies.

You will be trained in advanced statistical genetics and systems biology applied to giant cell arteritis pathogenesis. General training will include enhancement of their awareness of FAIR and GDPR data principles. The HELICAL ITN is highly integrated and so the appointee will also have the opportunity to acquire additional skills through regular meetings, workshops and seminars, and through secondments to other partners in the HELICAL network.

To meet the requirements of the Marie Skłodowska-Curie Innovative Training Network, you will be an early stage researcher within the first four years of your research career, have not yet been awarded a doctoral degree (PhD), and have not lived or carried out your main activity (work/study) in the UK for more than 12 months during the past three years.

As well as previous research experience, you will have a good honours BSc (minimum upper second or equivalent) in statistics or a related discipline. Research experience



gained through an MSc would be advantageous as would experience in statistics, bioinformatics or computational biology.

Salary:

The per annum Marie Skłodowska-Curie Early Stage Researcher living and mobility allowance (plus family allowance if applicable) is in line with Marie Skłodowska-Curie Innovative Training Network requirements. This amount will be subject to tax and employee's National Insurance deductions, and will be paid in UK Sterling (£) using an appropriate conversion rate

What does the role entail?

As an Early Stage Researcher your main duties will include:

- Contributing to the HELICAL Innovative Training Network (ITN) under the supervision of **Professors Ann Morgan** and **Jenny Barrett** in the School of Medicine at the University of Leeds and co-supervised by **Dr Ana Marquez** Agencia Estatal Consejo Superior Deinvestigaciones Cientificas (CSIC: Granada, Spain) and **Dr José Manuel Mas** (Anaxomics Biotech, Barcelona, Spain);
- Undertaking ongoing research at doctoral degree level as outlined in the ESR 008 project description above;
- Participating in HELICAL ITN activities to ensure a successful programme of investigation, including attending group meetings and seminars, training courses and site visits; as well as collaborating with academic and industrial partners;
- Contributing to the dissemination of research results in leading peer-reviewed journals and through presentation at meetings and conferences, with guidance as necessary;
- Ensuring good progress of your work and keeping up-to-date records;
- Providing support and advice to other members of the ITN;
- Working both independently and as part of a larger team of researchers and stakeholders;
- Continually updating your knowledge, understanding and skills in the research field in which you work.

These duties provide a framework for the role and should not be regarded as a



definitive list. Other reasonable duties may be required consistent with the grade of the post.

You will report to Professor Ann Morgan, Professor of Rheumatology.

What will you bring to the role?

As an Early Stage Researcher you will have:

- a good honours BSc (minimum upper second or equivalent) in statistics or a related discipline;
- The ability to meet all eligibility requirements for appointment in the UK as an Early Stage Researcher funded by the Marie Skłodowska-Curie Innovative Training Network:
    - You must be within the first four years (full-time equivalent) of your research career, and have not yet been awarded a doctoral degree (e.g. PhD), at the time of recruitment to this role;
    - You must not have resided or carried out your main activity (such as work or study) in the UK for more than 12 months during the three years prior to your recruitment to this role;
- The ability to meet the Faculty of Medicine and Health's eligibility requirements to enrol on a PhD degree, including the English language requirements outlined for the 4 year International PhD Academy in IELTS and TOEFL tests (if English is not your first language);
- Flexibility to travel throughout the EU;
- Experience of undertaking academic research; research experience gained through an MSc would be advantageous as would experience in statistics, bioinformatics or computational biology;
- Good IT skills;
- Excellent analytical and problem-solving skills with good attention to detail;
- Familiarity with statistical software (e.g. R, Stata);
- Good interpersonal and communication skills, both written and verbal, and the ability to communicate effectively with a wide range of stakeholders;
- Good time management and planning skills, with the ability to meet tight deadlines and manage competing demands effectively;
- A proven ability to work well both independently and as part of a team;
- A strong commitment to your own continuous professional development.



You may also have:

- Evidence of contributing to papers in internationally recognised, peer-reviewed journals or evidence of publishable research in progress;
- Familiarity with some common genetic and/or molecular data;
- Good computer programming skills

How to apply

You can apply for this role online; more guidance can be found on our How to Apply information page. Applications should be submitted by **23.59** (UK time) on the advertised closing date.

In addition to the University's online application form details, you must also complete and upload:

- The internal application pdf form for Euraxess
- a personal statement explaining your motivation and project interests (max. 500 words)
- 1 page CV which includes details of up to 5 of your most important publications (applications with CVs exceeding 1 page will be rejected)

You will also have the opportunity to identify your favourite project and select up to two alternative projects within the HELICAL consortium.

Do **NOT** include other documents like diplomas or academic references with your application. Applicants will be asked to submit university diplomas, certificates, transcripts, proof of skills and 2 references after shortlisting/prior to an interview

Contact information

To explore the post further or for any queries you may have, please contact:

Informal enquiries may be made by email to:

Professor Ann Morgan, Professor of Rheumatology

Email: a.w.morgan@leeds.ac.uk



Professor Jennifer Barrett, Professor of Statistical Genetics

Tel: +44(0)113 343 7358

Email: j.h.barrett@leeds.ac.uk

Additional information

Find out more about the supervisors' Professors Ann Morgan and Jenny Morgan involvement in GCA Research in Leeds.

Find out more about the MRC TARGET.

Find out more about the Faculty of Medicine and Health and the School of Medicine.

Find out more about Athena Swan in the Faculty.

Appendix A at the end of this document includes further information about HELICAL which is an EU funded Marie Curie Innovative Training Network (ITN).

Working at Leeds
Find out more about the benefits of working at the University and what it is like to live and work in the Leeds area on our Working at Leeds information page.

Candidates with disabilities
Information for candidates with disabilities, impairments or health conditions, including requesting alternative formats, can be found on our Accessibility information page or by getting in touch with us at disclosure@leeds.ac.uk.

Criminal record information

Rehabilitation of Offenders Act 1974
A criminal record check is not required for this position. However, all applicants will be required to declare if they have any 'unspent' criminal offences, including those pending.

Any offer of appointment will be in accordance with our Criminal Records policy. You can find out more about required checks and declarations in our Criminal Records information page.



Appendix A

15 PhD positions

are available in the framework of the Marie Skłodowska-Curie Innovative Training Network (ITN) on

training researchers in analysis of large datasets, using autoimmune vasculitis as a paradigm.

HELICAL

Background

European researchers have made leading contributions to the large genomic, transcriptomic and clinical datasets from patients with chronic vascular diseases. Advances in information science provide unprecedented opportunities for using these datasets to elucidate the complex biology of these disorders, its influence by environmental triggers, and to personalise their management. Currently, exploitation of these opportunities is limited by a shortage of researchers with the required informatics skills and knowledge of requisite data protection principles. HELICAL addresses this unmet need by developing a trans-sectoral and interdisciplinary training programme that provides 15 early stage researchers with training in **analysis of large datasets**, using autoimmune vasculitis as a paradigm, as comprehensive biological and clinical datasets are already available. The programme will be delivered through a multidisciplinary, trans-sectoral partnership of Academic and Industry researchers with expertise in **basic biomedical research**, **epidemiology**, **statistics**, **machine learning**, **health data governance** and **ethics**. Therefore, HELICAL exploits recent advances in data science to link research datasets with longitudinal healthcare records, based on the robust ethical foundation required for linkage studies using near-patient data, to address key experimental questions.

Post details

The post is for 1 early stage researcher (ESR) who will undertake a three year PhD studentship as part of the H2020-MSCA-ITN-2018 HELICAL (Co-ordinator: Professor Mark Little, Trinity College Dublin, TCD). HELICAL is an EU funded Marie Curie Innovative Training Network (ITN) with 17 Academic Partners (TCD (IRL); MedUni Vienna (A); University of Glasgow, Farr Institute, University of Leeds, Leeds Institute for Data Analytics (UK); Universite Paris Diderot (F); Kungliga Tekniska Hoegskolan, Uppsala Universitet (S); Consorci Institut d´Investigations Biomediques, Consejo Superior De Investigaciones Cientificas, Instituto de Salud Global de Barcelona,

Instituto de Investigaciones Marques de Valdecilla, Universitat de Barcelona, Universitat Autónoma de Barcelona (E); Charles University (CZ); Ghent University (B)) and nine Non-Academic Partners (Tissuegnostics (A); IBM Zurich (CH), patientMpower (IRL); Anaxomics Biotech (E); Firalis (F); European Institute for Innovation in Health Data (B); RITA European Reference Network, Laser Analytica, Eagle Genomics (UK)). The HELICAL training program focuses on three complementary areas: **application of informatics** to such datasets to gain new biological insights; **translation of these into practical clinical outputs** and management of **ethical constraints** imposed on such studies.

The appointee will be trained in advanced statistical genetics and systems biology applied to giant cell arteritis pathogenesis. General training will include enhancement of their awareness of FAIR and GDPR data principles. The HELICAL ITN is highly integrated and so the appointee will also have the opportunity to acquire additional skills through regular meetings, workshops and seminars, and through secondments to other partners in the HELICAL network.

The present post is to be based in The School of Medicine at the **University of Leeds** and supervised by **Professors Ann Morgan** and **Jenny Barrett** and co-supervised by **Dr Ana Marquez** Agencia Estatal Consejo Superior Deinvestigaciones Cientificas (CSIC: Granada, Spain) and **Dr José Manuel Mas** (Anaxomics Biotech, Barcelona, Spain) with planned secondments at Anaxomics for 2 mths (linking genetic analyses to genomic and protein databases) and CSIC: 2 mths (to align genetic analyses with ESR7).

Project details

Project Title ESR 008: Linking public and GCA datasets to identify novel pathogenic pathways

Rationale: We hypothesise that major pathogenic pathways for giant cell arteritis (GCA) can be identified through the analysis of polygenic risk scores derived from relevant immunological or tissue remodelling public datasets and through performing pathway analysis.

Objectives: To explore immunological, vascular and tissue remodelling pathways to develop an evidence base for currently available drugs. Publicly available genetic, proteomic and clinical datasets, and those from existing international collaborations, will be used to (1) derive polygenic risk scores from public datasets and analyse the influence of these biologically-relevant genetic scores on GCA susceptibility and



selected GCA phenotypes and (2) conduct pathway analyses of GCA susceptibility using novel approaches based on Bayesian hierarchical models

Expected Results: Insights into immunological, vascular and tissue remodelling pathogenic GCA pathways associated with discrete phenotypic subgroups.

HELICAL is funded under the H2020-MSCA-ITN-2018 designed to promote movement of researchers in Europe and so is open to researchers from any country in the world provided they have not carried out their main activity (work, studies, etc.) in the United Kingdom for more than 12 months in the 3 years immediately before the recruitment date. HELICAL pursues a policy of equal opportunities on matters of gender and disability and will seek to recruit an equal proportion of male and female applicants and will provide employment opportunities for candidates with disabilities. Where applications of equal quality are received, preference will be given to female candidates as part of a strategy designed to recruit equal numbers of men and women to the HELICAL posts. Employment procedures and contracts will conform to the European Charter for Researchers / Code of Conduct for the Recruitment of Researchers.