



CENTRE *for*
**HUMAN
GENETICS**



Job title	Senior Postdoctoral Research Scientist in Severe Infection Genomics
Division	Medical Sciences
Department	Nuffield Department of Medicine
Location	Centre for Human Genetics, Building for Genomic Medicine, Old Road Campus, Roosevelt Drive, Headington, Oxford, OX3 7BN
Grade and salary	Grade 8: Salary in range £45,585 - £48,350 per annum
Hours	Full time
Contract type	Fixed-term contract until 30 September 2025 Funding is provided by the NHS England
Reporting to	Professor Julian Knight, Group Head/ Principal Investigator
Vacancy reference	171020

Hybrid working arrangements	The successful person will need to work on site for a minimum of 3 days per week
Additional information	This role meets the eligibility requirements for a Skilled Worker Certificate of Sponsorship or a Global Talent Visa under UK Visas and Immigration legislation. Therefore, the Nuffield Department of Medicine welcomes applications from international applicants who require a visa.
About us	<ul style="list-style-type: none"> University of Oxford - www.ox.ac.uk/about/organisation Nuffield Department of Medicine (NDM) - https://www.ndm.ox.ac.uk Unit – https://www.chg.ox.ac.uk
What we offer	https://hr.admin.ox.ac.uk/staff-benefits <ul style="list-style-type: none"> An excellent contributory pension scheme 38 days annual leave A comprehensive range of childcare services Family leave schemes Cycle loan scheme Discounted bus travel and Season Ticket travel loans Membership to a variety of social and sports clubs A welcoming and diverse community



**Athena
SWAN**
Silver Award



Research topic	Severe presentation of infectious disease - NHS genomic network of excellence
Principal Investigator / supervisor	Professor Julian Knight
Project web site	https://www.well.ox.ac.uk/research/research-groups/julian-knight-group
Recent publications	<p>Kwok AJ, Allcock A, Ferreira RC, Cano-Gamez E, Smee M, Burnham KL, Zurke Y-X, Emergency Medicine Research Oxford (EMROx), McKechnie S, Mentzer AJ, Monaco C, Udalova I, Hinds CJ, Davenport EE, Todd JA, Knight JC (2023). Neutrophils and emergency granulopoiesis drive immune suppression and an extreme response endotype during sepsis. <i>Nature Immunology</i> 24, 767-779</p> <p>Cano-Gamez E, Burnham KL, Goh C, Malick ZH, Kwok A, Smith DA, Peters-Sengers H, Antcliffe D, Investigators G, McKechnie S, Scicluna BP, van der Poll T, Gordon AC, Hinds CJ, Davenport EE and Knight JC (2022). An immune dysfunction score for stratification of patients with acute infection based on whole blood gene expression. <i>Science Translational Medicine</i> 14, eabq4433</p>

The role

Applications are invited for a Senior Postdoctoral Research Scientist in Genomics of Infection at the University of Oxford. You will be based at the Centre for Human Genetics (CHG) within the group of Professor Julian Knight, in an established team with a track record of innovation and high impact research in functional genomics and susceptibility to complex disease.

You will join an exciting new NHS Genomic Network of Excellence (GNoE) on 'Severe presentation of infectious disease' (<https://www.england.nhs.uk/genomics/nhs-genomic-networks-of-excellence/#severe-presentation-of-infectious-disease>). This GNoE aims to transform the understanding and management of patients with life threatening infectious disease, through the application of novel genomic technologies in pathogen detection and host immunity profiling. Within the GNoE you will join a work package focused on advancing the use of host immune profiling using -omics and related methods for critically ill patients.

You will play a key role in project design and implementation. Your primary responsibility will be to analyse -omic and related multi-modal datasets for the human immune response, integrate with metagenomic data for the same patients providing high resolution pathogen profiling and help to develop the use of such data in patient care pathways and a multi-disciplinary team setting. You will also have the opportunity to shape how research is embedded into new clinical workflows, and processes for gaining appropriate research consent and data management to ensure delivery across different participating hospital sites. You will work with colleagues in the Central and South Genomic Medicine Service Alliance (<https://centralsouthgenomics.nhs.uk/who-we-are/>) and at partner institutions in the GNoE, requiring a collaborative, innovative mindset and approach.

You will hold a relevant PhD/DPhil with sufficient specialist knowledge to be able to work independently, to identify major challenges and obstacles to the realisation of scientific objectives, and to set out strategies to overcome them.

This is a unique opportunity for a Postdoctoral Research Scientist to develop and apply their skills in a cutting-edge field of genomics with direct translational relevance to the clinic. You will be strongly supported by working closely with colleagues in the Knight group, facilitating sharing of expertise and development of analytical tools and resources. This will allow you to develop your skills in a highly supportive and stimulating environment, working with scientists who are at the cutting-edge of current advances in translational genomics.



Responsibilities

You will:

- Undertake analysis of data arising from the programme including host genomic sequencing data, pathogen metagenomics.
- Apply computational and statistical methodologies and algorithms.
- Create, test and use relevant computer code; maintain and distribute completed software.
- Develop informatics structures to manage and integrate large datasets, advance data sharing and help develop care pathways.
- Support development of appropriate research ethics approvals and processes for gaining appropriate research consent and data management to ensure relevant data generation and collection across different participating hospital sites.
- Identify, define and plan new projects which contribute to the overall aims of the programme.
- Work as part of an interdisciplinary team, including academic and industry partners.
- Work closely with the group head and keep him up-to-date with progress and difficulties in the research project. Share responsibility for shaping the research group's plans, agree clear task objectives, organise and delegate work to other members of the team.
- Advise and supervise staff and students in the group on a day-to-day basis.
- Plan and monitor project deadlines. Multi-task and prioritise your own workload.
- Keep detailed, accurate and comprehensible records of your work.
- Develop research questions within a specific context and conduct individual research.
- Contribute to the production of scientific reports and publications for high profile journals, including taking leadership in more specialised publications on novel aspects of bioinformatics. Regularly write research articles and present papers at national conferences.
- Contribute and develop ideas for new research projects. Participate in laboratory meetings and discussion of the aims and objectives of the group's work. Keep up to date with developments in the relevant fields.
- Raise research funds through grant applications and manage own area of a larger research budget.
- Undertake such other duties as may be required from time to time that are commensurate with the grade and responsibilities of this post.
- Participate in and support the public engagement and widening access activities of the Department and the University. This is anticipated to be not more than 2 days per year.
- Undertake mandatory training as required by the University, Division and Department. The specific list of training courses may change from time-to-time, in response to both legal and internal University requirements.



Selection criteria

Essential

- Hold a PhD/DPhil in Genetics, Genomics, Statistical Genetics, Bioinformatics, Statistics, Mathematics and Physics, Computer Science or a related discipline.
- Post qualification research experience.
- A demonstrable interest in the research described.
- Research experience in genomics.
- Experience of data management.
- Demonstrated competence in scientific computing using at least one programming language.
- Excellent analytical and quantitative skills with a proven ability to think critically about scientific analysis in order to ensure robust results.
- A strong publication record with evidence of a high level of self-motivation and ambition.
- Demonstrable high level of communication skills both written and oral.
- Ability to supervise staff.
- Ability to organise and prioritise work efficiently delivering results to required standard and to an agreed schedule.
- Evidence of problem-solving, working with accuracy, self-motivation and integrity.

Desirable

- Experience of analysing high throughput data and its application to functional genomics.
- Experience of immunology.
- Experience of clinical studies or trials.
- Proficiency in Unix/Linux; Java, C, C++, Perl.

Pre-employment screening

Standard checks

If you are offered the post, the offer will be subject to standard pre-employment checks. You will be asked to provide: proof of your right-to-work in the UK; proof of your identity; and (if we haven't done so already) we will contact the referees you have nominated. You will also be asked to complete a health declaration so that you can tell us about any health conditions or disabilities for which you may need us to make appropriate adjustments.

Please read the candidate notes on the University's pre-employment screening procedures at: <https://www.jobs.ox.ac.uk/pre-employment-checks>



How to apply

Applications are made through our e-recruitment system and you will find all the information you need about how to apply on our Jobs website <https://www.jobs.ox.ac.uk/how-to-apply>.

If you would like to apply, **click on the Apply Now button** on the 'Job Details' page and follow the on-screen instructions to register as a new user or log-in if you have applied previously.

As part of your application you will be asked to provide details of two referees and indicate whether we can contact them now. You will be asked to upload a CV and a supporting statement. The supporting statement must explain how you meet each of the selection criteria for the post using examples of your skills and experience. This may include experience gained in employment, education, or during career breaks (such as time out to care for dependants). Your application will be judged solely on the basis of how you demonstrate that you meet the selection criteria stated in the job description.

Please upload all documents **as PDF files** with your name and the document type in the filename. Please note using a long file name may prevent you from uploading your documents.

- http://www.ox.ac.uk/about_the_university/jobs/research/

All applications must be received by **midday** UK time on the closing date stated in the online advertisement

Information for priority candidates

A priority candidate is a University employee who is seeking redeployment because they have been advised that they are at risk of redundancy, or on grounds of ill-health/disability. Priority candidates are issued with a redeployment letter by their employing department(s).

If you are a priority candidate, please ensure that you attach your redeployment letter to your application (or email it to the contact address on the advert if the application form used for the vacancy does not allow attachments).

If you need help

Application FAQs, including technical troubleshooting advice is available at: <https://staff.web.ox.ac.uk/recruitment-support-faqs>. Non-technical questions about this job should be addressed to the recruiting department directly recruitment@ndm.ox.ac.uk

To return to the online application at any stage, please go to: www.recruit.ox.ac.uk.

Please note that you will receive an automated email from our online recruitment portal to confirm receipt of your application. **Please check your spam/junk mail** if you do not receive this email. Important information for candidates

Data Privacy

Please note that any personal data submitted to the University as part of the job application process will be processed in accordance with the GDPR and related UK data protection legislation. For further information, please see the University's Privacy Notice for Job Applicants at: <https://compliance.admin.ox.ac.uk/job-applicant-privacy-policy>. The University's Policy on Data Protection is available at: <https://compliance.admin.ox.ac.uk/data-protection-policy>.



The University's policy on retirement

The University operates an Employer Justified Retirement Age (EJRA) for very senior research posts at **grade RSIV/D35 and clinical equivalents E62 and E82**, which with effect from 1 October 2023 will be 30 September before the 70th birthday. The justification for this is explained at: <https://hr.admin.ox.ac.uk/the-ejra>.

For **existing** employees on these grades, any employment beyond the retirement age is subject to approval through the procedures: <https://hr.admin.ox.ac.uk/the-ejra>.

There is no normal or fixed age at which staff in posts at other grades have to retire. Staff at these grades may elect to retire in accordance with the rules of the applicable pension scheme, as may be amended from time to time.

Equality of opportunity

Entry into employment with the University and progression within employment will be determined only by personal merit and the application of criteria which are related to the duties of each particular post and the relevant salary structure. In all cases, ability to perform the job will be the primary consideration. No applicant or member of staff shall be discriminated against because of age, disability, gender reassignment, marriage or civil partnership, pregnancy or maternity, race, religion or belief, sex, or sexual orientation.

