University of Essex

RECRUITMENT PACK

This document includes the following information:

- Job Description
- Person Specification
- Additional information

Making an application:

Please complete the short on-line application form and attach the following 2 documents:

a) A covering letter setting out how you meet the requirements of the role as set out in the person specification.

b) A full curriculum vitae (CV) including any publications. You should specify your 4 most significant papers published within the past 5 years (or an equivalent number appropriate to being an early career researcher). Applicants from within the UK should indicate which publications have been submitted to the current REF and any assessment of the rating for each piece of work; For more information about the REF visit www.ref.ac.uk

Shortlisting is undertaken by a panel after the closing date on the basis of information provided and failure to upload the requested documents will result in an application being rejected.

We recommend that you take a copy of this recruitment pack to help with your preparation.

Our commitment to Equality, Diversity and Inclusion

At Essex our people are at the centre of everything we do and we aspire to build a culture in which every member of the University feels valued and can flourish.

We are committed to equality of opportunity, to being fair and inclusive. We therefore particularly encourage applications from candidates who are likely to be underrepresented in our workforce.

These include people from Black, Asian and Minority Ethnic backgrounds; disabled people and LGBTQ+ people and from women in our grades 9-11 roles.

The diversity of our community is more than where our staff and students come from. More than 1000 of our staff and students identify as LGBTQ+, more than 1,300 have declared a disability and many members of our community follow a religion or belief.

You can read more about our commitment to Equality, Diversity and Inclusion here.

Our Strategy sets out how we will do this through the delivery of a fair and supportive working environment for all.

The University of Essex is proud to be part of the Disability Confident scheme and is committed to supporting diversity and equality, representative of our inclusive community. As part of our commitment to this scheme any candidate who has a disability and meets all the essential criteria for the role will be offered an interview. We also work in partnership with national disability organisation **AccessAble** who provide detailed online access guides to many of our campus buildings and facilities which you may find useful.

Please note: We are only accepting on-line applications for this post. However, if you have a disability that makes it difficult for you to provide us with information in this way, please contact the Resourcing Team (01206 876559) for help.

Closing Date: 6 December 2026

Interviews are planned for: w/c 14 December 2026

Expected start date: January 2027

University of Essex

UNIVERSITY OF ESSEX
JOB DESCRIPTION

Job Title and Grade:	Senior Research Officer (ASR); Grade 8
Contract:	Full time, fixed-term, **15** months.
Hours:	Your hours of work are as required to perform the duties of your role, for a full-time employee this is normally 36 hours per week
Salary:	£38,784 per annum
Department/Section:	School of Life Sciences
Reports on a day-to-day to:	Principal Investigator of the project
Responsible to:	Head of Department (HoD)
Purpose of role:	To lead research focused on the development and evaluation of haemoglobin-based oxygen carrier platforms for emergency care applications within the UKRI-funded project "A Tuneable Oxygen Carrier Platform for Emergency Care". Responsibilities include day-to-day project and research management, laboratory experimentation, protein expression through fermentation, protein characterisation, in vitro biochemical evaluation, data analysis, publication and report writing, support for intellectual property and commercialisation activities, and maintaining productive collaborations with project partners.

CONTEXT

The successful candidate will join Dr Brandon Reeder's research group within the School of Life Sciences at the University of Essex and lead research on the UKRI-funded project "A Tuneable Oxygen Carrier Platform for Emergency Care". The project aims to develop a new generation of haemoglobin-based oxygen carriers (HBOCs) with oxygen affinities tailored to specific clinical applications, providing oxygen delivery in situations where conventional blood transfusion is unavailable, impractical, or delayed.

A central objective of the project is the development and evaluation of haemoglobin variants with altered oxygen affinities for use in settings such as trauma resuscitation and sickle cell crisis. To support the translation of these technologies towards practical use, an important component of the programme is the development of efficient and scalable manufacturing approaches for recombinant haemoglobin. The postholder will contribute to the optimisation of *Escherichia coli* fermentation, protein expression, purification, and quality assessment, alongside studies characterising haemoglobin function, stability, and oxygen transport properties. Together, these activities will support the development of a tuneable oxygen carrier platform with both clinical and commercial potential.

The successful candidate will be based at the University of Essex and will work closely with academic and project partners and the University's innovation and enterprise teams to support research translation and commercialisation. They will lead the design and execution of experimental studies relating to recombinant protein production, protein purification, biochemical and biophysical

characterisation, and functional assessment of oxygen carrier performance. The postholder will also contribute to project management, data analysis, publication writing, intellectual property generation, and activities supporting commercialisation.

We are seeking a highly motivated researcher with expertise in recombinant protein production, microbial fermentation, bioprocessing, protein biochemistry, biotechnology, or a related discipline. Experience of *E. coli* expression systems, fermentation process development, protein purification, and protein characterisation techniques will be particularly advantageous. The appointee will be expected to lead aspects of laboratory research, data analysis, and dissemination activities, and should possess excellent communication skills together with the ability to work both independently and collaboratively within a multidisciplinary research team.

KEY RESPONSIBILITIES OF THE POST

- To engage in individual and/or collaborative research activity resulting in internationally excellent publications that is in keeping with Research Excellence Framework (REF) criteria.
- To contribute to applications for external research funding appropriate in scale to career stage and subject area norms where appropriate.
- To enhance the scholarly reputation of the Department and the University by contact with the wider academic community and supporting knowledge exchange activity.
- To undertake leadership duties related to research appropriate to career stage and as allocated by the HoD.
- To contribute expertise and knowledge to departmental and/or institutional initiatives as directed by their Head of Department.

MAIN DUTIES OF THE POST

Research

To deliver the research objectives defined by the UKRI-Proof of Concept grant “A Tuneable Oxygen Carrier Platform for Emergency Care” (UKRI6553)
Specific duties will include:.

- To undertake or manage practical elements of research such as setting up and conducting experiments, developing questionnaires and conducting fieldwork, recording data and identifying trends or patterns.
- To produce research outputs for publication at acceptable levels of volume and academic excellence and disseminate the result of research and scholarship through appropriate Knowledge Exchange activities (such as at relevant national and international conferences and scholarly publications not intended for the REF).
- To contribute to the development and maintenance or research resources (examples of which include household surveys, databases, specialist equipment and infrastructure, software packages and computer models) used within the Department or wider user community external to the Department.

- To, supervise and/or mentor postgraduate research students into relevant communities of research at Essex as appropriate to the departmental context to generate meaningful connections between research and education at Essex.

- To oversee day-to-day laboratory, sample, and data management associated with the project. This will include recombinant haemoglobin production in Escherichia coli, fermentation optimisation, protein purification, biochemical and biophysical characterisation, determination of oxygen-binding properties, and analysis of data relating to haemoglobin function, stability, and oxygen carrier performance.

- To maintain effective relationships and communication with academic, industrial, and commercial partners, contributing to project reporting, publication writing, intellectual property generation, and activities that support translation of the technology towards practical application.

- As a senior member of the research group, to help ensure laboratory equipment, consumables, and shared facilities are maintained, support the training and development of undergraduate and postgraduate students, and actively participate in and occasionally lead research group meetings, project meetings, and scientific discussions.

Leadership and Citizenship

- To play an active and constructive role in the Department and engage in activities beyond your own research team, (e.g. open days, staff meetings and relevant committees), as may be reasonably required by the Head of Department.

- To proactively participate in and develop internal and external networks and establish links with relevant academic and professional bodies, contacts and employers.

- To support knowledge exchange activities, for example, by contributing to research projects funded by commerce, industry or public sector organisations ensuring that appropriate impact of the research (outside academia) is achieved.

- To engage in continuing professional development in relevant subjects/disciplines, incorporating the outcomes from research and scholarship, ensuring skills are up-to-date and applied in education and research.

These duties are a guide to the work that the post holder will initially be required to undertake. They may be changed from time to time to meet changing circumstances.

TERMS OF APPOINTMENT

For a full description of the terms of appointment for this post please visit our website.

University of Essex

UNIVERSITY OF ESSEX
PERSON SPECIFICATION

JOB TITLE: Senior Research Officer (ASR); Grade 8	**POST REF: REQ10439**

QUALIFICATIONS / PROFESSIONAL RECOGNITION	**Essential**	**Desirable**
■ Relevant doctoral level degree in Biochemistry or Biomedicine or equivalent professional experience or practice or be close to completion of PhD	X	
EXPERIENCE/KNOWLEDGE	**Essential**	**Desirable**
■ Evidence of a developing research agenda, engagement in high-quality research activity and a developing research profile.	X	
■ A developing record of publications in internationally recognised, reputable journals (and other media of similar standing) appropriate to career stage and discipline norms, or evidence of research outputs such as reports and briefings.	X	
■ Experience of, or the ability to,generate income to support research and/or knowledge exchange appropriate to career stage and discipline norms.	X	
■ Experience of working with developing and/or maintaining research resources used within a Department or wider user community external to the Department (examples include household surveys, databases, specialist equipment and infrastructure, software packages and computer models).	X	
■ Experience of contributing to small research programmes or defined areas of larger projects, and of developing research objectives and proposals,	X	
■ Experience of recombinant protein expression in microbial systems, particularly *Escherichia coli*.	X	
■ Experience of protein purification and characterisation using a range of biochemical and biophysical techniques.	X	
■ Experience of fermentation process development, optimisation, or scale-up for recombinant protein production.		X
■ Experience of publishing research findings in peer-reviewed scientific journals.		X
■ Knowledge of haemoprotein biochemistry, oxygen transport physiology, protein engineering, or biotherapeutic development.		X
SKILLS/ABILITIES	**Essential**	**Desirable**
■ The ability and willingness to engage in knowledge exchange and outreach activities.	X	
■ The ability and willingness to complement and enhance the research project/department/school's education and research strengths and areas of planned development.	X	

■ Strong communication skills, both written and verbal.	X	
■ An appreciation of the value of appropriate technologies in research and an ability and/or willingness to deploy these when relevant.		X
■ Ability to design, conduct, and troubleshoot complex laboratory experiments.	X	
■ Ability to express and purify recombinant proteins using standard molecular biology and protein biochemistry techniques.	X	
■ Ability to optimise microbial culture and fermentation processes for protein production.		X
■ Ability to perform biochemical and biophysical characterisation of proteins and interpret the resulting data.	X	
■ Ability to prepare scientific reports, publications, and presentations to a high standard.	X	
■ Ability to manage multiple workstreams and deliver project objectives to agreed deadlines.	X	
■ Ability to work independently and exercise scientific judgement while also contributing effectively to a multidisciplinary team.	X	
PROFESSIONAL VALUES	**Essential**	**Desirable**
■ A commitment to helping develop dynamic communities of research and education at the University.	X	
■ A strong and well-articulated commitment to the University's values and mission to deliver excellence in both education and research (integrated academic practice).	X	
■ A commitment to respect individual learners and diverse learning communities and to promote participation in higher education and equality of opportunity for all learners via student-centred practice.	X	
■ A commitment to using evidence-informed approaches and the outcomes from research, scholarship and continuing professional development in their academic practice.	X	
■ An acknowledgement of the wider context in which higher education operate.	X	
■ A willingness to participate in extra curricula departmental activities (e.g. supporting recruitment, welcome and employability).	X	
■ To be committed to sustainable education practice as defined in the University's Sustainability Sub-Strategy and our goal of achieving net zero by 2035.	X	
ELIGIBILITY	**Essential**	**Desirable**
■ The ability to meet UK 'right to work' requirements.*	X	

* In accordance with Home Office guidance and the Asylum, Immigration and Nationality Act 2006 the University of Essex has a responsibility to ensure all employees are eligible to work in the UK. Prior to commencing employment, the successful candidate will be asked to provide documentary evidence to this effect. For those who do not have a right to work in the UK, the University is a UKVI licensed sponsor and may be able to provide sponsorship to successful candidates who are offered skilled roles and meet the eligibility criteria. Further information about UK immigration requirements and working in the UK can be found on the Home Office website www.gov.uk/skilled-worker-visa

ADDITIONAL INFORMATION

Department

You can find more information about the department on our website:

https://www.essex.ac.uk/departments/life-sciences

Our Strategy

Please find a link to our Strategy webpages below:

https://www.essex.ac.uk/about/university-strategy

General information

Informal enquiries may be made to Dr Brandon Reeder (e-mail: reedb@essex.ac.uk). However, all applications must be made online.

At the University of Essex we use consistent language and terminology that articulates more clearly the responsibilities for education, research and leadership/citizenship associated with each academic role. This will help new colleagues to understand the University values from the moment they engage either as an applicant or new colleague, and help them to understand the future career pathways available to them as they become more established in their role.

We advertise our salaries on a range to indicate the trajectory of progression that can be made. Appointments are usually made at the start of the salary range. The university salary structure includes automatic pay progression within the published grades, subject to service and performance. In addition to this, there are performance related annual pay review schemes in place.

The University of Essex is a campus based University and all academic appointments are made with the expectation that you will be present on campus to fulfil the requirements of your position. At the time of a job offer, the possibility of hybrid working, will be discussed and considered on an individual basis, but you will be required to be based within the UK.

Benefits

As an employer we offer a range of benefits and a commitment to career development and equal opportunities in an environment that both reflects and creates a rich interaction of people, disciplines and ideas.

- Pension scheme
- Generous holiday entitlement
- Competitive salaries
- Training and development
- Family Friendly policies
- On campus childcare facilities, for more information visit www.wivenhoeparkdaynursery.co.uk
- Relocation support package for qualifying staff
- Interest free season ticket loan
- Range of optional salary exchange tax benefits (pension and bicycle schemes)

Staff communities, networks and forums

We are proud to have a number of staff Networks including: Access Forum, Black Asian and Minority Ethnic community Staff Forum, Essex Women's Network, Global Forum, LGBTQ+ and Allies Community and Parent's Support Network.

Our Colchester campus based Faith Centre hosts regular services, meetings and events organised by our chaplains and faith representatives.

This document is produced by:

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