

Job title	Research Associate
Grade	7
Salary range	£36,024 – £44,263
Staff Group	Research
Department / Institution	Department of Chemistry

## Role-specific information

### Role Summary

Applications are invited for a Postdoctoral Research Associate (PDRA) position to work on the development and applications of a microfluidic platform for analysing protein aggregation, with a focus on high-throughput data analysis and management, a project funded by the Michael J. Fox Foundation. The PDRA will work in the group of Professor Tuomas Knowles in the Yusuf Hamied Department of Chemistry at the University of Cambridge.

The aim of this interdisciplinary project is to develop an approach for detecting biomarkers that allow early diagnosis of Parkinson's disease, provide a means to track disease progression, and support the development of future therapeutics. A particularly attractive route to achieve this objective is to directly measure the seeding activity of misfolded and aggregated forms of the central protein driving Parkinson's disease (PD), alpha-synuclein. Yet, the ability to measure and quantify the seeding activity of pathological aggregates in clinical samples has remained elusive. Here, we propose to address this challenge by developing a quantitative and practical seeding assay in digital format which allows better quantification. Success with this project will open a platform and path towards quantitative PD biomarker detection.

The project aims to develop a novel toolbox enabling the digital quantification of single aggregates supporting PD diagnosis and following disease progression. To this end, the PDRA will manage and implement novel data analysis methods for the data collected by the high-throughput microfluidic platform, in order to complete the biophysical toolkit that will allow real-time characterisation of alpha-synuclein aggregation at a single aggregate resolution.

### Key Responsibilities

<b>Research and scholarship:</b>	<b>%</b>
<ul style="list-style-type: none"> <li>• develop research objectives and proposals for own or joint research;</li> <li>• conduct individual and collaborative research projects;</li> <li>• write up research work for presentation and publication;</li> <li>• continually update knowledge and understanding in field or specialism;</li> <li>• translate knowledge of advances in the subject areas into research activity;</li> <li>• manage own research and administrative activities, with guidance if required.</li> </ul>	

<ul style="list-style-type: none"> <li>assist in the preparation of proposals and applications to external bodies, e.g. for funding and contractual purposes;</li> <li>communicate material of a specialist or highly technical nature.</li> </ul>	
<b>Teaching and learning support:</b>	%
<ul style="list-style-type: none"> <li>may assist in the supervision of student projects;</li> <li>provide limited supervision/instruction to classes;</li> <li>may assist in the development of student research skills;</li> <li>may plan and deliver seminars relating to research area.</li> </ul>	
<b>Liaison and networking:</b>	%
<ul style="list-style-type: none"> <li>liaise with colleagues and students;</li> <li>build internal and external contacts and participate in networks for the exchange of information and to form relationships for future collaboration.</li> </ul>	
<b>Planning and organising:</b>	%
<ul style="list-style-type: none"> <li>plan the use of research resources, laboratories and workshops as appropriate;</li> <li>plan and manage own research activity in collaboration with others;</li> <li>contribute to planning of joint research projects led by principal investigator.</li> </ul>	

## Person Profile

This section details the knowledge, skills and experience we require for the role.

<b>Education &amp; qualifications</b>	Holds (or be about to obtain) a PhD in a relevant specialist subject.
<b>Specialist knowledge &amp; skills</b>	Will continually update knowledge in the specialist area and engage in continuous professional development. Research experience with sufficient breadth/depth of specialist knowledge in the discipline Advanced knowledge of research methods and techniques to work within established research programmes
<b>Interpersonal &amp; communication skills</b>	Excellent writing and presentation skills Ability to work in a team and strong inter-personal skills. Self-management and good prioritisation skills Ability to organise time, plan ahead and to work effectively independently.
<b>Relevant experience</b>	A relevant specialist area in data science, including managing and structuring data, programming, developing and applying theoretical methods and machine learning models for data analysis. A background in biophysics and image analysis algorithms is desirable, whilst prior experience with protein aggregation assays and microfluidics is an advantage, but not required.

<b>Additional requirements</b>	
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## Terms and Conditions

<b>Location</b>	Department of Chemistry, Central Cambridge
<b>Working pattern</b>	Full-time
<b>Hours of work</b>	<p>The hours of work are full-time, There are no conditions relating to hours and times of work but it is expected that such hours and days are worked as are reasonably necessary for the proper performance of the duties. Times of work should be agreed with head of institution.</p> <p>We welcome applications from individuals who wish to be considered for part-time working or other flexible working arrangements.</p>
<b>Length of appointment</b>	28 Feb 2026 due to limited funding.
<b>Probation period</b>	6 months
<b>Annual leave</b>	<p>Full time employees are entitled to annual paid leave of 41 days inclusive of public holidays. For contracts issued for new part-time employees from 1 October 2019, annual leave will be pro rata based on days worked.</p> <p>The entitlement is pro rata in the holiday year of commencement of employment, in the year your employment terminates.</p>
<b>Pension eligibility</b>	<p>Universities Superannuation Scheme (USS).</p> <p>Pension scheme details, including information about the legal requirement for the University to automatically enrol its eligible jobholders into a qualifying workplace pension scheme from 1 March 2013, is available at:  <a href="http://www.pensions.admin.cam.ac.uk/">http://www.pensions.admin.cam.ac.uk/</a>.</p>
<b>Retirement age</b>	The University does not operate a retirement age for research staff.

## Screening Check Requirements

We have a legal responsibility to ensure that you have the right to work in the UK before you can start working for us. If you do not have the right to work in the UK already, any offer of employment we make to you will be conditional upon you gaining it. If you need further information, you may find the Right to Work page within the 'Applying for a job' section of the University's Job Opportunities pages helpful (please see <http://www.jobs.cam.ac.uk/right/have/>).

## Application Process

To submit an application for this vacancy, please click on the link in the 'Apply online' section of the advert published on the University's Job Opportunities pages. This will route you to the University's Web Recruitment System, where you will need to register an account (if you have not already) and log in before completing the online application form.

Please ensure that you upload your Curriculum Vitae (CV) and a covering letter in the Upload section of the online application. If you upload any additional documents which have not been requested, we will not be able to consider these as part of your application.

## General Information

### The University of Cambridge

The University is one of the world's leading academic centres. It comprises 150 faculties and departments, together with a central administration and other institutions. Our institutions, museums and collections are a world-class resource for researchers, students and members of the public representing one of the country's highest concentrations of internationally important collections.

The University has an annual income of £1.66 billion. Research income, won competitively from the UK Research Councils, the European Union (EU), major charities and industry, exceeds £400 million per annum and continues to grow.

The Colleges and the University remain committed to admitting the best students regardless of their background and to investing considerable resources both in widening access and financial support. The 31 Colleges are self-governing, separate legal entities which appoint their own staff. Many academic staff are invited to join a College as a Teaching Fellow, which provides a further social and intellectual dimension. The Colleges admit students, provide student accommodation and deliver small group teaching. The University awards degrees and its faculties and departments provide lectures and seminars for students and determine the syllabi for teaching and conducting research.

The University's estate is undergoing the most significant transformation in its history. Cambridge has been able to create a new science and technology campus to the west of the city centre, and is now expanding further to the north west of Cambridge including investing in affordable homes for University key workers and community facilities. Even with our continued development, the University remains within walking or cycling distance across the campus. The University is a major partner on the Cambridge Biomedical Campus and we continue to redevelop our historic city centre sites demonstrating our determination to ensure that we can offer the best facilities and opportunities for our staff and students.

Our instinct for seeking out excellence and setting up enduring and mutually beneficial collaborations has led us to establish strategic partnerships across the globe. Whether it is the successful Cambridge-Africa Programme involving universities in Ghana, Uganda and elsewhere on the African continent; or the close association with the government of India to pursue new research in crop science; or the creation, with Germany's Max Planck Institutes, of a Cambridge-based centre for the study of ethics, human economy and social change – international partnerships are now an inextricable part of the University's make-up.

There is much more information about the University at <http://www.cam.ac.uk/univ/works/index.html> which we hope you will find helpful.

### Department of Chemistry

Chemistry in Cambridge aims to support fundamental science of the highest quality in a first class physical environment. The Department includes a large number of internationally recognised research groups covering an exceptionally broad spectrum of chemical science ranging from molecular biology to geophysics. Our enthusiastic research culture embraces new challenging areas, including strong collaborations with other academic disciplines and institutions, while maintaining a powerful presence in the

traditional core areas of chemistry.

The Chemistry Department hosts around 200 postdoctoral research staff, over 250 postgraduate students, and around 60 academic staff, including newly independent researchers.

Three strategic collaborative research areas unify the development of research within the Department:

- **Chemistry of Health** aims to advance the understanding of health and disease in a number of areas that are of global importance: these include ageing, cancer and infection.
- **Sustainable Energy, Environment and Climate** aims to increase understanding of the impact of chemical processes on the environment and to develop sustainable energy systems.
- **Innovative Molecular and Materials Design** aims to transform the development and assembly of important functional chemicals to produce new high-value products that will lead to novel applications in health care, agriculture, energy and consumer products.

The Department holds an Athena SWAN silver award for women in Science, Technology, Engineering, Mathematics, and Medicine.

In addition, the Department has received a Green Impact silver award for promoting meaningful environmental and sustainability change.

The Department believes in developing and supporting their staff, as such a Mentoring scheme is available for all Research Staff. As such voluntary Mentoring Scheme is available, which is open to all members of Research staff, to provide support and development throughout their career within the Department.

## What the University can offer you

We offer a comprehensive reward package to attract, motivate and retain high performing staff at all levels and in all areas of work. The University offers a wide range of competitive benefits, from family leave entitlement, to shopping and travel discount schemes. Our generous annual leave package contributes to the positive wellbeing of our University employees. Sabbatical leave enables academics to focus on research and scholarship, whilst still maintaining their full salary. The University also has a career break scheme for academic and academic-related staff, with additional flexible working policies for all other staff.

### **CAMBens employee benefits**

We offer a CAMBens scheme for University employees, providing access to online and in-store shopping discounts and cashback. With more than 2,000 participating retailers, employees can save money on a wide range of household expenses, from groceries and clothes, to holidays and insurance and much more. A range of local discounts are also available, helping employees to save money whilst also supporting local Cambridge businesses. CAMBens Cars and CAMBens Cycle to Work salary sacrifice schemes are also available, which enable employees to save money on transport costs. A 10% discount rate on the purchase of train season tickets, bulk buy tickets and an interest free travel to work loan are also available for staff of the University of Cambridge.

### **Family-friendly policies**

The University recognises the importance of supporting its staff. We have a range of family-friendly policies to aid employees' work-life balance including a generous maternity, adoption and shared parental leave entitlement of 18 weeks full pay and emergency family care support via My Family Care. In addition, our Ofsted rated 'outstanding' workplace nurseries, childcare vouchers, a childcare salary sacrifice scheme and a high quality holiday play scheme are available to help support University employees with caring responsibilities. The Newcomers and Visiting Scholars Group is an organisation within the University run by volunteers whose aim is to help newly arrived wives, husbands, partners and families of Visiting Scholars and members of the University to settle in Cambridge and give them an opportunity to meet local people.

### **Your wellbeing**

The University's Sport Centre, Counselling Services and Occupational Health are just some of the support services available to University employees to promote their physical and mental wellbeing. There are many societies in Cambridge catering for almost every taste and interest. Whether you want to take part in a sport,

participate in music or drama, pursue a hobby, or join a political group, you will almost certainly find that a society exists for this purpose.

The University also hosts the [Cambridge Science Festival](#) and [Cambridge Festival of Ideas](#), as well as [Open Cambridge](#) weekend, which together attract over 50,000 visitors per year. The festivals are a great opportunity to get your first taste of public engagement, through volunteering, supporting hands-on activities or proposing a talk.

### **Pay and benefits**

The University salary structure includes automatic service-related pay progression in many of its grades and an annual cost of living increase. In addition to this, employees are rewarded for outstanding contribution through a number of regular pay progression schemes. The University offers attractive pensions schemes for employees, with an additional benefit of a salary exchange arrangement providing tax and national insurance savings. Payroll giving is also a simple, tax-efficient way for employees to make monthly donations to charity.

### **Relocating to Cambridge**

The University Accommodation Service exists to help employees in their search for a rental home in Cambridge. A new University development at North West Cambridge called Eddington offers subsidised rented accommodation to University staff. The development consists of high quality furnished one and two bedroom apartments. For more information about the development and how to apply please visit the website [www.nwcambridge.co.uk](http://www.nwcambridge.co.uk)

The importance of helping individuals settle into a new area is also recognised by the University. The Shared Equity Scheme <https://www.hr.admin.cam.ac.uk/pay-benefits/cambens-employee-benefits/financial/shared-equity-scheme> provides financial assistance to qualifying new members of staff with the purchase of living accommodation, where they have to relocate to take up their appointment. Removal expenses are also available for qualifying new members of staff.

### **Equality & diversity**

The University has a vibrant and varied community. We support and encourage under-represented groups and we value diversity. We welcome applications from individuals with disabilities. Our recruitment and selection procedures follow best practice. We have an Equal Opportunities Policy, along with a range of diversity networks for women, black and minority ethnic and lesbian, gay, bisexual and transgender staff. More details are available here: <http://www.equality.admin.cam.ac.uk/>

### **Development opportunities**

We support new employees to settle in through various activities. The encouragement of career development for all staff is one of the University's values and we put this into practice through various services and initiatives. Our Personal and Professional Development Department provides development opportunities and courses for all University employees. These include face-to-face sessions, online learning modules and webinars. Employees may also apply for financial support to undertake training that will lead to a qualification. We offer reduced staff fees for University of Cambridge graduate courses and the opportunity to attend lectures and seminars held by University departments and institutions. The CareerStart@Cam programme also supports employees in assistant staff roles who do not hold higher education qualifications to develop their skills, experience and qualifications.

## **Equality of Opportunity at the University**

We are committed to a proactive approach to equality, which includes supporting and encouraging all under-represented groups, promoting an inclusive culture and valuing diversity. We make selection decisions based on personal merit and an objective assessment against the criteria required for the post. We do not treat job applicants or members of staff less favourably than one another on the grounds of sex (including gender reassignment), marital or parental status, race, ethnic or national origin, colour, disability (including HIV status), sexual orientation, religion, age or socio-economic factors.

We have various diversity networks to help us progress equality; these include the Women's Staff Network, the Disabled Staff Network, the Black and Minority Ethnic Staff Network and the Lesbian, Gay, Bisexual and Transgender Staff Network. In addition, we were ranked in the top 100 employers for lesbian, gay and

bisexual (LGB) staff in Stonewall's Workplace Equality Index 2013 and we hold an Athena SWAN silver award at organisation level for promoting women in Science, Technology, Engineering and Medicine.

We are supportive of staff with caring responsibilities, such as through our flexible working, career break and returning carers schemes. We encourage individuals to include details of any breaks in employment due to caring responsibilities in applications for employment so that these can be taken into consideration in assessments made, where appropriate.

## Information if you have a Disability

The University welcomes applications from individuals with disabilities and we are committed to ensuring fair treatment throughout the recruitment process. We will make adjustments to enable applicants to compete to the best of their ability wherever it is reasonable to do so, and, if successful, to assist them during their employment. Information for disabled applicants is available at <http://www.admin.cam.ac.uk/offices/hr/staff/disabled/>.

We encourage you to declare any disability that you may have, and any reasonable adjustments that you may require, in the section provided for this purpose in the application form. This will enable us to accommodate your needs throughout the process as required. However, applicants and employees may declare a disability at any time.

If you prefer to discuss any special arrangements connected with a disability, please contact, Emma Graham, who is responsible for recruitment to this position, on [ejg49@cam.ac.uk](mailto:ejg49@cam.ac.uk).

Alternatively, you may contact the HR Business Manager responsible for the department you are applying to via [hrenquiries@admin.cam.ac.uk](mailto:hrenquiries@admin.cam.ac.uk).