UNIVERSITY OF CAMBRIDGE
School of Biological Sciences

Roving Researcher Scheme

Supporting Researchers, Shaping a Strong Research Culture

Contents

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In the current political climate and amidst the ongoing repercussions of the pandemic, ensuring fair opportunities for all has never been more crucial. The Roving Researcher Scheme aims to reduce the impact of leave by providing tailored cover for researchers during their absence.

The initiative helps maintain research momentum, benefiting both the individual on leave and the broader laboratory environment, ultimately enhancing the research output of academic institutions. This support is particularly essential as grant-awarding bodies' provisions for researchers on leave can greatly differ. Even in cases where funding agencies offer support for temporary replacements, recruiting short-term substitutes for highly skilled researchers is often challenging.

Research pauses can significantly affect the individual taking leave and their host labs, especially for early-career group leaders in small teams who may struggle to redistribute workloads. The role creates an additional and appealing career pathway for highly skilled researchers. Retaining such talent within an institution is immensely valuable, not just for the direct support they provide, but keeping these researchers helps maintain and even boost productivity levels while fostering innovation and creativity.

The Scheme is open to all researchers who go on leave. However, a significant inequality persists for parents, who regularly experience a setback in their careers due to taking leave. While parental cover is standard in many professional sectors, academia has been slow to adopt similar support for researchers. This is concerning, especially given the evidence that the gender gap in academia partly stems from a "motherhood gap." More accurately, it can be described as a "care-giving gap," as women disproportionately bear the responsibilities of care-giving, including for elderly parents and family members with long-term disabilities or health issues.

Our goal is for these schemes to become global, ensuring that Rovers offer full-time support throughout the entire leave period and that the coverage is responsive and tailored to each individual's needs.

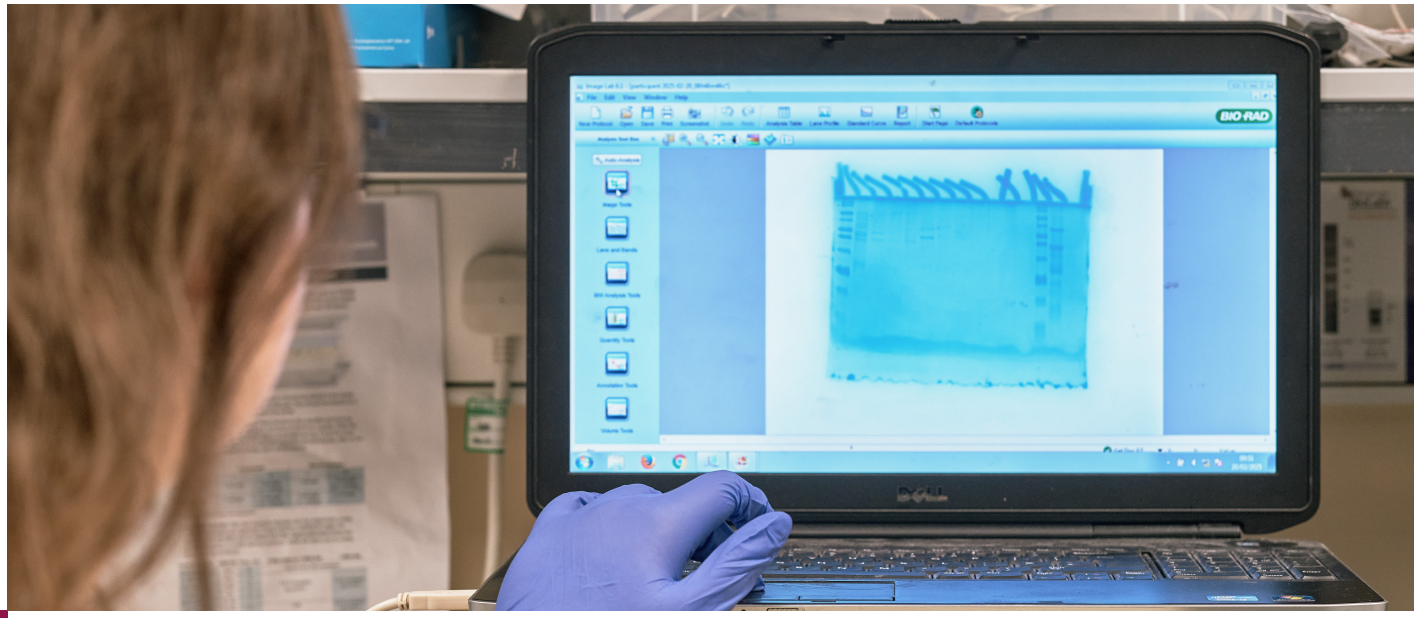
What is a Roving Researcher

A Roving Researcher is an experienced researcher who can provide research cover by continuing key aspects of someone's research while on or during return from leave.

The Scheme allows us to support our scientists if they need extended time away from the lab. Research assistants, postdoctoral researchers and faculty members are all eligible for support from a Rover. This position is not intended to replace those on leave, but rather to support the science and labs they work in, ensuring that the research momentum is maintained during their absence.

The benefits of the scheme extend beyond supporting the individual on leave. It also provides valuable experience to the Roving Researcher who is exposed to a wide range of innovative research, benefits the wider laboratory, and ultimately enhances the University's research impact.

> "The Rover didn't just keep things ticking over whilst the post-doc was on maternity leave, she had great ideas and pushed the project further. She absolutely hit the ground running, understood exactly what was needed and very quickly became a much-valued member of the team."
>
> Professor Suzanne Turner



How the Rovers Support Research

The team of Roving Researchers has a high levels of competence and a diverse set of lab skills. Training in specific techniques, such as molecular and cell biology, is also available to them. The Rover is expected to support but not fully replace any researcher on leave. The level of work required to maintain each project is identified in advance wherever possible, considering that the Rover may be supporting multiple projects simultaneously.

Each individual on or returning from leave will have differing requirements. The Roving Researcher works together with each individual to maximise effectiveness.

The Rover may have a two-week intense training period with the researcher going on leave to provide guidance on techniques. Alternatively, the Roving Researcher may work alongside a returned researcher to allow a smooth return to work. Our aim for the scheme is to allow flexibility based on need.

The scheme will have an added bonus of building new interactions, nucleating collaborations, and transferring skills and ideas across Departments in the School. The scheme will enhance research excellence and productivity, and, importantly, it will develop and maintain an equal and inclusive research culture in which individuals and labs are supported.

Types of Support Available

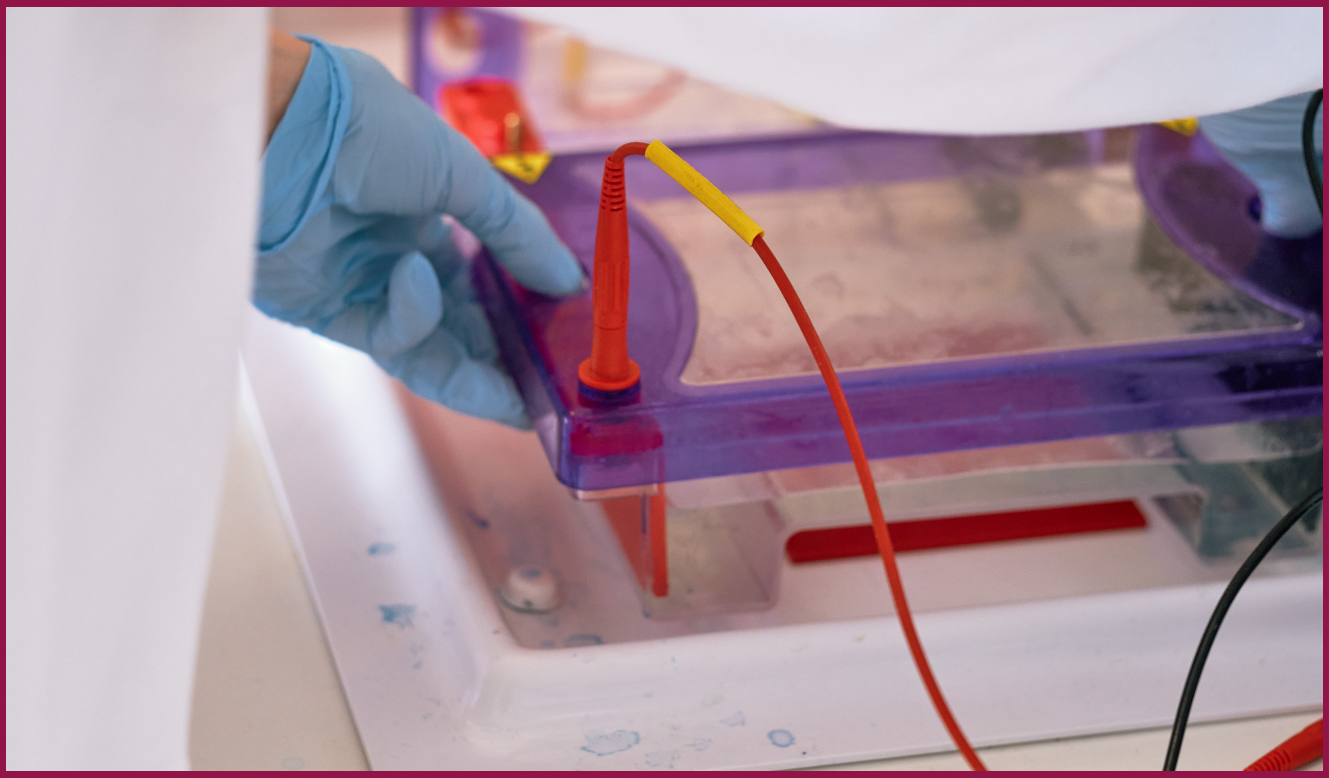
The programme currently offers the following support, with scope to expand if needed:

- Implementing experimental plans/research projects
- Carrying out routine maintenance tasks required for the projects
- Optimising new protocols and techniques
- Taking over some technician duties
- Batch processing stored samples, maintaining stock samples
- Presenting results at internal meetings and contributing to external presentations
- Assisting with data analysis, experiment interpretation and future planning
- Managing and supervising students

An Alternative Career Pathway

Providing consistent support creates an appealing career pathway for highly skilled academic researchers who prefer not to take on group leadership roles. This scheme offers an opportunity to explore a different model of research delivery through pools of researchers who can be retained on longer-term or permanent contracts, thereby reducing uncertainty in researcher careers.

Using a cohort of Roving Researchers presents a unique opportunity to assess the practical feasibility of the pooled researcher model in real-world settings. It can serve as a proof-of-concept testing ground for the significant changes needed to address job insecurity, potentially providing new options for transitioning research staff into more stable employment.



Addressing Gender Disparity in Research

Gender disparity in scientific research remains a significant issue. A 2023 article from Nature News reported that data from 103,000 papers published in 1,167 journals by Elsevier revealed that only 26% of scientific authors are women[1]. Another study highlights that the recent pandemic has worsened existing disparities: the proportion of women publishing or starting new projects decreased, while the opposite occurred for men[2]. This study primarily examines the short-term effects of the pandemic and lockdown on research output, leaving the long-term impacts on careers unclear.

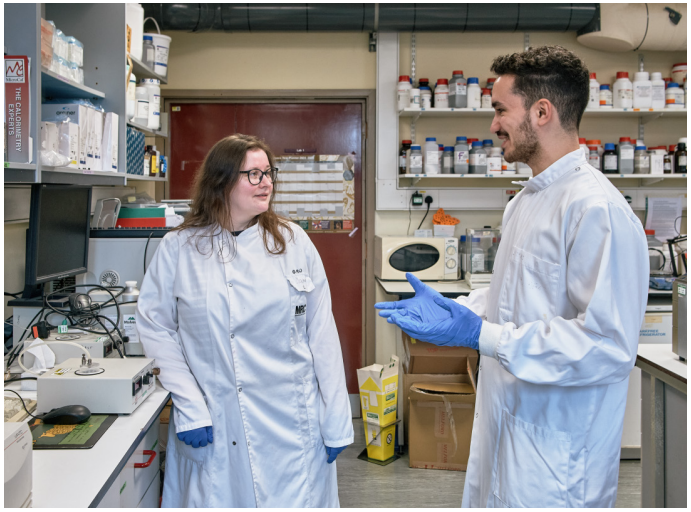
Addressing gender disparity in research is crucial for creating a more inclusive, innovative, and equitable scientific community. Parental leave is a key factor contributing to the disproportionate impact on women, as it leads to career interruptions, reduced research output, and missed funding opportunities.

> “Addressing inequality in academia is essential to achieving and maintaining our status as a world-leading research institution. The School of Biological Sciences is committed to reducing inequalities, and the Roving Researcher scheme is one of the innovative initiatives we are implementing to advance this goal.”
>
> Professor Rebecca Lawson
> Deputy Head of School for Research Strategy

1: Liu F, Holme P, Chiesa M, et al. Gender inequality and self-publication are common among academic editors. Nat Hum Behav 7, 353–364 (2023).

2: Andersen JP, Nielsen MW, Simone NL, Lewiss RE, Jagsi R, Meta-Research: COVID-19 medical papers have fewer women first authors than expected. eLife (2020).

Meet our Roving Researchers



Dr Holly Craven

Holly Craven is a post-doctoral researcher with over 8 years of laboratory experience. Holly did her PhD in Molecular Parasitology in the Institute of Biological and Environmental Sciences at Aberystwyth University, followed by postdoctoral research in the Department of Pathology at the University of Cambridge.

> “I found that the traditional progression route in academia wasn’t really appealing to me, but I enjoyed the flexibility and wasn’t ready to move across to industry. This position came at a pretty perfect time, and I’m excited to try and make it a more normalised position across research in Universities.”

Holly’s laboratory skills include: mammalian cell culture, cell growth and cytotoxicity assays, cloning, BSL category 2 pathogen handling, DNA/RNA extraction and purification, ELISA, Western blotting, EMSA, native and denaturing PAGE, recombinant protein expression and purification in bacterial systems, PCR, RT-PCR, qRT-PCR, IF and IHC staining, MS/MS, confocal and SE microscopy, flow cytometry, parasite handling.

> “In this role, it can be particularly challenging if there are a lot of new experimental techniques I need to pick up. Having a little time to meet with the person going on leave or having someone around the lab to discuss the project helps a lot, though. I would say sometimes the hardest thing is just finding where things live in the freezer and reading someone else’s handwriting.”

Dr Susannah Salter

Susannah Salter has over 15 years of laboratory experience as a Research Assistant at the Wellcome Sanger Institute and the University of Cambridge. Susannah's main area of expertise is in bacterial genomics and the human microbiome. She is currently a Roving Researcher part-time, alongside studying for a PhD in Biological Sciences in the Department of Veterinary Medicine at Cambridge.

Susannah has extensive skills in microbiology in a Containment Level 2 environment, DNA/RNA extraction and PCR, genome sequencing and analysis, cloning, tissue culture, and microscopy.

> "I was excited to hear about the Roving Researcher scheme and its aim to provide support to colleagues in need of assistance due to long-term leave. I think it is really important to have someone available to step in and cover critical gaps, but not every team has enough spare hands to do this.
>
> I am really enjoying the opportunity to learn new skills and get involved with interesting projects. Above all else, I am learning that when working across different departments, time management is essential!"

Dr Nadine Anders

Nadine Anders has over 20 years of research and teaching experience. She studied cell biology, molecular biology and biochemistry at the University of Heidelberg and carried out her doctoral research at the University of Tübingen (Germany). Since then, she has worked in the Department of Biochemistry at the University of Cambridge. Her research expertise is quite diverse, ranging from immunology, developmental genetics and vesicle trafficking to polysaccharide biosynthesis. Nadine is currently a part-time Roving Researcher, and she is also a lecturer in biomedical sciences at Anglia Ruskin University Peterborough, whilst she continues working in the Department of Biochemistry.

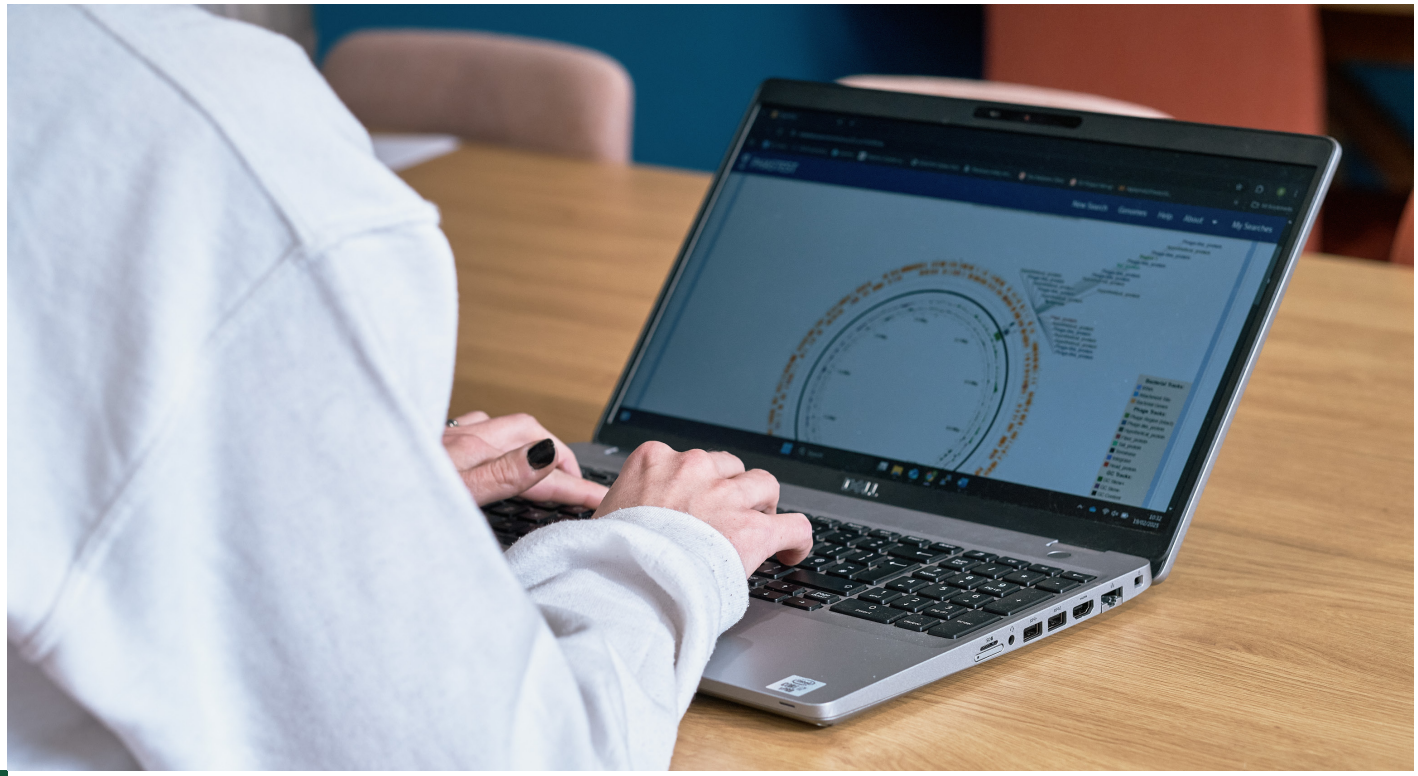
> “I like that as a Roving Researcher I can research in different fields and continue learning. In addition, I have been on leave myself and experienced how leave and returning part-time can impact a career, so if I can contribute to lessen this impact for talented scientists, it’s worth doing.
>
> Working with different scientists in different departments, expanding skills and learning about interesting research areas is one of the highlights of this role.”

Nadine has experience in mammalian cell cultures, the model systems *Arabidopsis thaliana* and *Drosophila melanogaster*, as well as bacteria and yeast. Her laboratory experience comprises biochemical, molecular and cell biological methods, e.g. immunostaining and confocal microscopy, PCR, cloning, protein expression and purification, polysaccharide analysis and gel electrophoresis, subcellular fractionation, immunoprecipitation, and Western blotting.

Case study - Houldcroft Group

Dr Charlotte Houldcroft is a lecturer in the Department of Genetics and leads the Virus Genomics group. Her group studies the evolution and diversity of double-stranded DNA viruses and human pathogens that cause disease. By using whole-genome sequencing, they can track the spread of viruses over time and across different locations. This approach also enables them to identify drug resistance, observe the emergence of novel recombinant strains, and investigate the ancient evolution of successful human pathogens.

Due to maternity leave, Dr Houldcroft applied for Roving Researcher support to continue experimental momentum. Our Roving Researcher, Dr Holly Craven, was assigned to the group part-time, providing experimental support in primary cell work and tissue culture, molecular biology, multicolour flow cytometry, documenting guidelines for new protocols, and other laboratory tasks.



Dr Charlotte Houldcroft
Assistant Professor

“With support from Holly, I have been able to complete revisions on a paper, submit a conference abstract with the Roving Researcher as an author, complete the experiments for a further paper and generate pilot data for an upcoming grant submission. This is a huge improvement over where I expected to be. Having someone to prepare, start or finish experiments if I have to leave at short notice makes so much more possible.

Holly was very proactive in finding meaningful things to do in the lab (e.g. writing Standard Operating Procedures or preparing reagents) when I was not able to give her specific tasks. The additional support has reduced my stress around the ‘publish or perish’ adage, as I now have all the data for my next paper, and exciting pilot data to follow through.

Having someone in the lab on days when either my daughter was ill (and I needed to provide short-notice childcare) or when I was ill myself was so helpful. Experiments which were time-sensitive, or utilised irreplaceable patient material, weren’t wasted.

This support has been invaluable. It has turbocharged my productivity at a time when it would otherwise have been really hard to get going again so quickly. Thank you, Holly!”

Case study - Kumita Group

In 2022, Dr Janet Kumita established her research group in the Department of Pharmacology with funding from an MRC Career Development Award Fellowship. Dr Kumita's group research mechanisms of protein self-assembly, such as amyloid formation in protein misfolding diseases and the role of biomolecular condensates in protein degradation pathways.

Dr Kumita applied for support from a Roving Researcher to cover the maternity leave of a research associate in her lab. This period of 9 to 12 months of leave would have had a negative impact on an ongoing research project with external collaborators. The Roving Researcher was assigned part-time for a period of 8 months, providing experimental support on protein expression and extraction, working with collaborators and helping some day-to-day lab management.

Dr Janet Kumita
MRC Career Development Fellow

“The impact of the Roving Researcher has been huge. The support has been vital in keeping research moving forward. In particular, we had started a project with external collaborators and things began progressing quickly around the time the period of leave started. Having cover from the scheme meant that we were able to keep up the momentum without too much disruption. In fact, my collaborator and I are hoping to begin preparing a manuscript around this work. Really grateful that this scheme was available!

Holly was very organised and a brilliant communicator. Having this experimental support alleviated a lot of stress for me around the pace of research at a time when I had just set up my own independent lab. My research associate on leave also felt reassured that things were running smoothly in the lab and will be in a good place when she returns.

I think some of the expectations of what the Roving Researcher can cover are limited by the coverage being part-time. Although Holly would be amazing at covering the lab management tasks (which my research associate was responsible for), I could not realistically utilise her skills for this because she was only in the lab 2 days a week and management tasks can’t always wait. Ideally, the Roving Researcher scheme should be further supported and expanded to enable 100% of leave to be covered – ultimately supporting leave fully is the only way to mitigate the negative impact.”

Governance

The Roving Researcher Committee is responsible for decisions on the time allocation of the Rovers.

Catherine Wilson
Co-Lead, Committee Chair

Laura Itzhaki
Co-Lead

Paula Bibby
School Research Culture Facilitator

Anne Corcoran
Independent Advisor

Heike Laman
Committee Member

Jake Harris
Committee Member

Jenny Gallop
Committee Member

Tim Weil
Committee Member

James Thaventhiran
Committee Member

Katherine Stott
Committee Member

Julian Parkhill
Committee Member

Management and Resource Allocation

The Roving Researcher Committee meets three times a year to discuss applications and decide resource allocation. Emergency applications are assessed outside of these times on an ad-hoc basis.

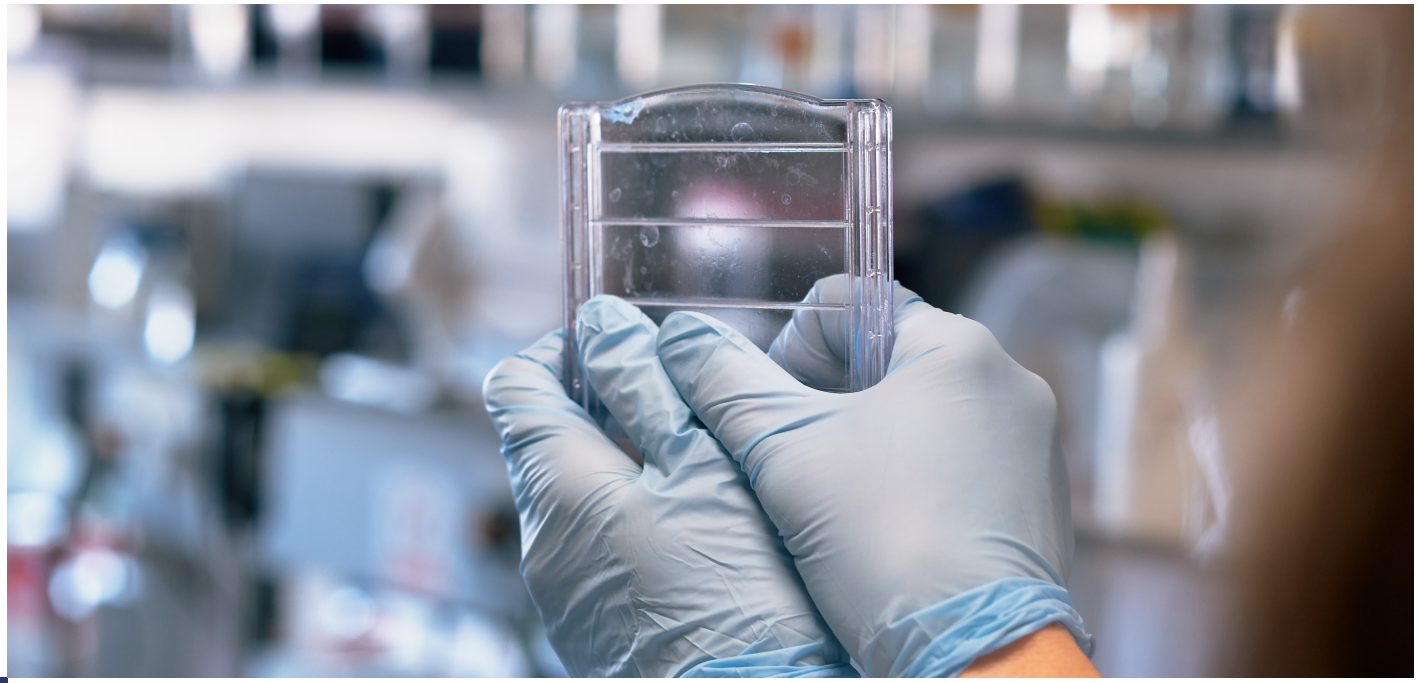
Project allocation considers three main criteria: applicant eligibility, justification of resource needs and feasibility of the activity. Justification of need considers several key factors, including the researcher's career stage and the potential impact on their career progression. It also evaluates whether support will enable further funding opportunities, facilitate continued research method development, or ensure the progression of critical research. Additional considerations include the remaining duration of the research contract, the likelihood of producing key outputs, and the size and funding stage of the host lab. The length and frequency of leave periods, as well as the nature of the leave - maternal, parental, sickness, or family support - are also taken into account to ensure appropriate and effective allocation of resources.

Fair Attribution

Fair attribution is essential for research integrity, fostering a collaborative environment, and ensuring that all contributors to the research process receive appropriate recognition for their work. Roving Researchers can cover technicians, research assistants, postdocs, principal investigators, and other employed researchers. Their intellectual contributions to projects can vary and are specified by the applicant.

The Roving Researcher Scheme provides clear guidelines for applicants on acknowledging the Rover's contributions. In cases where Roving Researchers have assisted with the experiment data acquisition or analysis, they should be acknowledged by name: 'The authors would like to acknowledge the help of [insert name] as a Roving Researcher in the School of Biological Sciences, University of Cambridge.'

In cases where the research has required intellectual contributions from one or more Roving Researchers, they should be included within the author list of the resultant publication or report and in discussions during drafting and publication.



Future Directions

We want to expand the Scheme to offer longer and more comprehensive support for researchers in the School of Biological Sciences who take leave. This model has the potential to be implemented in other Schools within the University and could ultimately lead to the establishment of a new type of role that universities around the world could use to support staff members who need to take leave. We envision that these initiatives will be adopted globally in the future, with Rovers providing full-time support throughout the duration of the leave.

Please feel free to contact the Committee if you have any questions. Our contact email is rovingresearcher@bio.cam.ac.uk.

> “Roving Researcher Schemes have great potential to challenge traditional thinking about research careers, and I am delighted that the School of Biological Sciences is pioneering it here at Cambridge. The scheme represents a novel model of research delivery, and scaled up, it could be one solution to mitigate some of the issues created by precarious contracts in research careers.”
>
> Liz Simmonds
> Head of Research Culture

Contact us

Email: rovingresearcher@bio.cam.ac.uk

Visit the School of Biological Sciences website: www.bio.cam.ac.uk

March 2025