

Research Fellow in Medical Mycology

*INSTITUTE OF MEDICAL SCIENCES, SCHOOL OF MEDICINE, MEDICAL
SCIENCES AND NUTRITION*

Closing date: **08 June 2023**

Interview date: **To Be Confirmed**

Reference number: **IMS268R**



INTRODUCTION

We seek a research fellow to work on a BBSRC-funded project within the Aberdeen Fungal Group under the supervision of Dr Donna MacCallum and Professor Carol Munro, in collaboration with Dr Rebecca Hall at the University of Kent. This post is funded for 15 months and you will join a dynamic group studying fungal pathogens at the Institute of Medical Sciences, University of Aberdeen.

This project will study *Candida albicans*, a commensal yeast of the oral, genital and gastrointestinal tracts of humans that causes life-threatening systemic infections in immunocompromised individuals. The severity of the disease is dependent on the host's immune status and one of the most common infections is vulvovaginitis that can affect around 75% of female population.

The Aberdeen Fungal Group uses genetics, molecular biology, microscopy and infection model approaches to study fungal pathogenesis. We also have expertise in analysing the fungal cell wall using proteomics, biochemistry, flow cytometry, fluorescence and electron microscopy. You will be part of the wider Microbiology and Immunity Research Theme and in a vibrant and supportive research community, offering an outstanding training opportunity for researcher career development.

JOB DESCRIPTION

MAIN PURPOSE OF THE ROLE:

The project will focus on the role of glycerol-3-phosphate dehydrogenase 2 (Gpd2) in *Candida albicans* pathogenesis, utilising both systemic and vaginitis models. Gpd2, which is required for the biosynthesis of glycerol, is upregulated in response to oestrogen and is a moonlighting protein which is trafficked to the cell wall. The mechanism of how Gpd2 is delivered to the cell wall will be investigated using mutants in secretory pathways and by tracking the localisation of Gpd2 using immunohistochemistry and electron microscopy. The project will also use animal infection models (systemic and vaginal) to elucidate the role of Gpd2 in *C. albicans* virulence and how this is influenced by oestrogen. In addition, the impact of oestrogen on phagocytosis of *C. albicans* by primary murine immune cells will be analysed by flow cytometry. You will also receive training in science communication, data analysis and interpretation, and project management.

The position would particularly suit a postdoctoral researcher interested in infection biology and fungal immunology and pathogenesis. Applications from individuals with experience in fungal or yeast biology, fungal immunology, microscopy and animal models are particularly welcome but comprehensive training will be provided.

Informal enquiries are welcome and should be addressed to Dr Donna MacCallum (d.m.maccallum@abdn.ac.uk) and Prof Carol Munro (c.a.munro@abdn.ac.uk).

KEY RESPONSIBILITIES:

- Carry out laboratory research within the context of BBSRC Project, as directed by Dr Donna MacCallum and Professor Carol Munro.
- Together with the Principal Investigators Dr Donna MacCallum and Professor Carol Munro, take responsibility for experimental planning, data analysis, report writing and production of research papers.
- Accurately record all experimental procedures, results and communicate results at regular team meetings.
- Participate in undergraduate teaching as appropriate and contribute to the supervision of undergraduate, MSc and PhD student projects.
- Participate in the group, School and Institute research events and attend research seminars, national and international conferences, and staff development workshops, and liaise with experts in the field.

Please refer to the Person Specification at the bottom of this document for role requirements.

CANDIDATE BACKGROUND

We are seeking a motivated, enthusiastic individual with experience in fungal biology/immunology and animal models with a clear interest in fungal pathogenesis. You should have (or be about to obtain) a PhD in molecular medical mycology/infection biology or a related field. Experience in one or more of the following area(s) will be an advantage: electron microscopy, image analysis, fungal cell culture, infection models (including mouse models of vulvovaginal and systemic candidiasis), enumeration of fungal tissue burdens, primary immune cell isolation and characterisation, phagocytosis, flow cytometry and fungal-host interaction assays.

TERMS OF APPOINTMENT

Salary will be at the appropriate point on the Grade 6, £36,333 per annum.

Candidates nearing the completion of their PhD will be appointed at the top of Grade 5 (£34,314 per annum) as a Research Assistant and assimilated to Grade 6 upon successful completion of their PhD.

Any appointment will be made subject to satisfactory references and probation period.

For further information on various staff benefits and policies please visit www.abdn.ac.uk/staffnet/working-here

This role is based in the UK and as such the successful candidate will be required to live and work in the UK.

Should you require a visa to undertake employment in the UK you will be required to fulfil the minimum points criteria to be granted a Certificate of Sponsorship under the requirements of the Skilled Worker visa. At the time an offer of appointment is made, you will be asked to demonstrate that you fulfil the criteria in respect of qualification and competency in English. For research and academic posts, we will consider eligibility under the Global Talent visa. Please do not hesitate to contact Grant Rae, HR Adviser (e-mail: grant.rae@abdn.ac.uk) for further information.

The candidate appointed to this post may be eligible for homeworking on an occasional or regular basis. For more information please refer to our [Homeworking Policy](#).

AT A GLANCE

SALARY:

Grade 6

£36,333 per annum

HOURS OF WORK:

Full Time, 37.5 hours per week

CONTRACT TYPE:

Funding-Limited for 15 months

LOCATION:

Aberdeen



PERSON SPECIFICATION

	ESSENTIAL	DESIRABLE
Education/Qualifications Academic, technical and professional education and training	<ul style="list-style-type: none"> • PhD (at or near completion) in a relevant area (fungal biology or fungal immunology/pathogenesis or infection biology) • Demonstrated interest in fungal pathogens 	
Work and Other relevant experience (including training) e.g. Specialist knowledge, levels of experience, supervisory experience, research	<ul style="list-style-type: none"> • Experience in working in a medical mycology or infection biology research laboratory. • Track record of research output in a relevant research field 	<ul style="list-style-type: none"> • Experience in animal models of infection is highly desirable. • Experience in fungal biology research. • Track record of publication in fungal biology and/or infection biology research fields
Personal qualities and abilities e.g. initiative, leadership, ability to work on own or with others, communication skills	<ul style="list-style-type: none"> • A strong, demonstrated interest in the field of fungal pathogenesis and/or fungal biology or immunology. • Ability to successfully complete research objectives. • Ability to think and work independently and as part of a team (including establishing experimental procedures, and supervising/training other scientists). 	

Other

e.g. special circumstances (if any) appropriate to the role such as unsocial hours, travelling, Gaelic language requirements etc.

ESSENTIAL

- Occasionally travel nationally and internationally for meetings or conferences
- Able to work outside normal hours when experiments require.

DESIRABLE

UNIVERSITY OF ABERDEEN

open to all and dedicated to the pursuit of truth in the service of others

The University of Aberdeen is a broad based, research intensive University, and we put students at the centre of everything we do. Outstanding in a wide range of discipline areas, Aberdeen is credited for its international reach and commercialisation of research ideas into spin out companies. The University has over 16,000 matriculated students and 3,600 staff representing 130 nationalities. We encourage bold thinking, creativity and innovation, and we nurture ambition with many opportunities for professional and personal development in an inclusive learning environment which challenges and inspires.



CURRENT CONTEXT

The University continues to uphold the principals of the foundational purpose. We remain committed to delivering positive change both locally and globally. We work together and with our partners in an interdisciplinary way, catalysing world-leading research in our areas of strength: Energy Transition; Social Inclusion and Cultural Diversity; Environment and Biodiversity; Data and Artificial Intelligence; and Health, Nutrition and Wellbeing. We are investing in our future and have committed £100m to upgrading our campus, including the new fully digitised Science Teaching Hub, the regeneration of the historic King's Quarter and a new Business School building. Our commitment to our students, campus and community has led to us being named a Top 20 UK institution in two major league tables¹ and 4th in the UK for overall student satisfaction².

¹ The Times and Sunday Times Good University Guide 2023 and the Guardian University Guide 2023

² National Student Survey (NSS) 2022

ABERDEEN 2040

On our 525th anniversary as a University we launched [Aberdeen 2040](#), our strategic vision for the next 20 years. Four strategic themes will shape our learning and discovery, underlined by 20 commitments we have made against each theme:

- **Inclusive**
We welcome students, staff and partners from all backgrounds, organisations and communities. We value diversity.
- **Interdisciplinary**
We innovate in education and research by generating, sharing and applying new kinds of knowledge. We learn together.
- **International**
We connect with others and extend our networks and partnerships around the world. We think across borders.
- **Sustainable**
We understand and nurture our environment, and take care of our resources, including our people and finances.

We work responsibly.

OUR EDUCATION

Recognised as the Scottish University of the Year in the Times and Sunday Times Good University Guide 2019, we remain true to our roots as an ancient Scottish university, combining breadth and depth in our degree programmes and drawing strength from the quality of our research. Our flexible curriculum encourages students to grow as independent learners and therefore to thrive as graduates in the diverse workplaces of the future. Our education is open to all and we are setting ambitious targets to further widen access.

OUR RESEARCH

Researchers at the University of Aberdeen have been at the forefront of innovation and excellence throughout the centuries, generating insights in medicine, science, engineering, law, social sciences, arts and humanities. This research has contributed to five Nobel prizes as well as other awards such as the Queen's Anniversary prize. Our research is intellectually rigorous working within our established areas of excellence as well as new methods of enquiry. We will continue to generate new knowledge addressing economic and societal issues with ambition and imagination, ensuring that it is globally excellent and locally relevant.

INTERNATIONAL

Aberdeen is increasing its international presence, positioning the University as a global organisation and building on established global partnerships around the world, including Qatar, China, North America, Europe. We feature in the top 50 institutions worldwide for international students³.

³ Times Higher Education World University Rankings 2021



IMPACT

In 2020 the University signed the United Nations Sustainable Development Goals accord, solidifying our commitment to developing the world in a sustainable way. In 2022 we were listed in the global Top 100 for 8 of these goals⁴.

Our highly cited work in zero-carbon technology and global outlooks makes us Scotland's best institution for environmental research⁵.

⁴ Times Higher Education Impact Rankings 2022
⁵ QS World University Rankings 2022

THE SCHOOL OF MEDICINE, MEDICAL SCIENCES AND NUTRITION

The School (<https://www.abdn.ac.uk/smmsn/index.php>) encompasses all of the disciplines that underpin today's medicine, including biomedical sciences, health sciences, nutrition and medical, medical science and dental education and these are organised into five Institutes. The largest school in the University, the SMMSN has five Institutes: the Institute of Medical Sciences (IMS), the Institute of Applied Health Sciences (IAHS), the Rowett Institute, the Institute of Education in Healthcare and Medical Sciences (IEHMS) and the Institute of Dentistry, comprising all of our undergraduate and postgraduate programmes and our own graduate entry Dental School.

Staff are line managed and research opportunities are supported through our institutes which work together in an integrated and coordinated way to deliver research and teaching across the School, details of which can be found on their websites as below.

- The Institute of Applied Health Sciences <https://www.abdn.ac.uk/iahs/>
- The Institute of Medical Sciences <http://www.abdn.ac.uk/ims/>
- The Rowett Institute <http://www.abdn.ac.uk/rowett/>
- The Institute of Education in Healthcare and Medical Sciences <https://www.abdn.ac.uk/IEHMS/>
- The Institute of Dentistry <https://www.abdn.ac.uk/dental/>

Within the IMS, our scientists are working towards the creation of effective therapies for patients with a range of debilitating and life-threatening conditions. Current research areas include: arthritis and musculoskeletal medicine; cell developmental and cancer biology; immunity, infection and inflammation; metabolic and cardiovascular health; microbiology and translational neuroscience.

Within the IAHS, research is focused on improving health and health care delivery. It is home to a multidisciplinary grouping of around 100 university academic staff who conduct population and clinically-orientated health research and hosts the Health Services Research Unit (HSRU) and Health Economics Research Unit (HERU), both funded by the Chief Scientist's Office (CSO) of the Scottish Government.

As well as being the organisational home to the teaching scholarship staff and responsible for oversight of the UG and PGT programmes offered by the School, the IEHMS promotes and supports excellence in medical education through research and development, with a focus on conceptually and theoretically robust research and development which has strong potential for reaching international recognition. The highly regarded University of Aberdeen MBChB programme and several postgraduate programmes including a Masters in Clinical Education are delivered by IEHMS.

The Dental Institute runs an undergraduate BDS programme and a growing suite of masters programmes for professional development.

We have a number of specialist Centres representing areas of particular research strength and capacity within the School all of which are willing to support colleagues on projects in their areas. More information is available at the following websites.

- The Centre for Healthcare Education Research and Innovation (<https://www.abdn.ac.uk/cheri/>)
- The Centre for Health Data Science (<https://www.abdn.ac.uk/achds/>)
- The Aberdeen Cardiovascular & Diabetes Centre (<https://www.abdn.ac.uk/acdc/>) and
- The Aberdeen Centre for Arthritis and Musculoskeletal Health (<https://www.abdn.ac.uk/acamh/>)

The School is home to over 800 staff and 2000fte students. It is located on the Foresterhill site, shared with our main clinical partner, NHS Grampian, with whom we work in close collaboration at primary and secondary care levels.

This is one of the largest integrated healthcare delivery, training and research sites in Europe and has rich assets including state-of-the-art academic (research and teaching) and clinical buildings. Excellent infrastructure is also provided through core facilities for biomedical science including flow cytometry, proteomics, microscopy and genome sequencing, support for data health science projects and clinical trials.

The last major academic capital development was the opening of the Rowett Institute, occupied in March 2016, whose staff undertakes nutrition research to help improve people's lives through the prevention of ill-health and disease. Their new £40M building has provided the University of Aberdeen with a facility with unique capabilities for human nutrition and metabolic research.

ABERDEEN AND ABERDEENSHIRE

Scotland's third largest city, Aberdeen sits on the coast between the mountains of Aberdeenshire and the stunning North Sea coastline. The Aberdeen City region is a can-do place that is actively investing, at scale, in its future.

Renowned as a Global Energy Hub, Aberdeen is a vibrant, entrepreneurial region, home to a unique mix of business opportunities and specialist skills across various sectors including energy, technology, life sciences and food & drink. More than 20% of Scotland's top businesses are located in this region which is taking great strides to ensure that it continues to compete on a world stage. Investments of more than £10 billion of public and private infrastructure is due to be delivered before 2030, marking an exciting time to be part of a genuine world-class location.

Built from sparkling local granite Aberdeen has earned the name of the Silver City. As the energy capital of Europe, Aberdeen nevertheless retains its old-fashioned charm and character making it an attractive place in which to live, work and study. Due to its global business and international energy industry credentials, Aberdeen is well served by local and national transport infrastructure with excellent rail networks that run both North and South of Scotland and the rest of the UK. It also acts as an international travel hub. Flying time to London is just over one hour with regular daily flights and serves international travel to European centres such as Amsterdam (Schiphol) and Paris (Charles de Gaulle) as well as flights to other European destinations.

The City and the surrounding countryside provide a variety of urban, seaside and country attractions. Aberdeen has first class amenities including [His Majesty's Theatre](#), [Music Hall](#), [Art Gallery](#), [the P&J Arena](#), [Museums](#), and [Beach Leisure Centre](#). The City is framed by its accessible beach front which is within a short walk of the city centre and there are an array of activities available across the region such as hill walking; mountaineering; sailing; surfing; salmon, trout and sea fishing; golf; sailing; surfing and windsurfing. The surrounding countryside, known as Aberdeenshire, is also one of Scotland's most appealing regions. Royal Deeside and the Cairngorms National Park are within easy access of the city, and there are a variety of towns and villages scattered along the coastline.

The city and the surrounding area have ranked consistently highly in nationally recognised quality of life surveys, coming out top 10 as one of the best places to live in Scotland in 2020 in the annual Bank of Scotland survey.

To find out more visit www.visitabdn.com

EQUALITY AND DIVERSITY

The University values and celebrates a diverse working and learning environment and recognises the richness this brings, both in terms of contributing to the success of the University and creating safe and inclusive cultures. The University welcomes applications from individuals with diverse lived experiences.

The University supports flexible working, including hybrid working arrangements, and has policies in place to facilitate this where it is appropriate. The policies can be found at <https://www.abdn.ac.uk/staffnet/working-here/flexible-working--5607.php>.

The University is committed to progressing gender equality across all its functions and has been a proud member of the Advance HE Athena Swan Charter, achieving an institutional Bronze award, one Silver departmental award for the School of Psychology and eleven departmental Bronze awards. LGBTQ+ equality is championed through the University's membership of the Stonewall Diversity Champions Programme, where the University has achieved a Silver award in the Workplace Equality Index. The University has progressed work to eradicate gender-based violence and is proud to be a signatory to the EmilyTest Charter.

The University is signed up to Advance HE's Race Equality Charter, affirming the University's commitment to the Charter's aim of improving the representation, progression and success of staff and students who identify as belonging to a racialised group. The University launched its Antiracism Strategy in 2022, representing a bold framework for progress on race equality. Recognising the importance of addressing the under-representation of racialised groups in the senior team, the University's new Recruitment and Selection Policy embeds specific positive action measures to address this.

The University is delighted to be accredited as a [Disability Confident](#) employer and strives to ensure that disabled staff and students have the opportunity to work and study in an inclusive, accessible and supportive environment. The University's Wellbeing Strategy commits it to progressing work to tackle stigma related to mental health and action to promote and improve health and wellbeing for staff and students. Candidates who are British Sign Language (BSL) users can contact us directly by using [contact SCOTLAND-BSL](#)

The University's work on equality, diversity and inclusion is supported by a range of networks and engagement activities, designed to provide safe spaces and raise awareness of the support available and the steps everyone can take to create inclusive campuses.

www.abdn.ac.uk/staffnet/governance/equality-and-diversity-277

HOW TO APPLY

Online application forms are available at www.abdn.ac.uk/jobs

The closing date for receipt of applications is **08 June 2023**

Should you wish to make an informal enquiry please contact:

Dr Donna MacCallum (d.m.maccallum@abdn.ac.uk) and Prof Carol Munro (c.a.munro@abdn.ac.uk)

Please do not send application forms or CVs to Dr Donna MacCallum or Prof Carol Munro.

Please quote reference number IMS268R on all correspondence.