UNIVERSITY OF ABERDEEN

Research Fellow

School of Natural and Computing Sciences, Institute of Mathematics

Closing date: 9 April 2020
Interview date: TBC
Reference number: NCS162R

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Job description

Mathematical Analysis of Structural and Functional Brain Circuits

This project, led by Professor Ran Levi and funded by an EPSRC grant and a collaboration agreement between the University of Aberdeen and École polytechnique fédérale de Lausanne (EPFL), is a pioneering study aiming to develop and apply algebro-topological techniques to neuroscience and related subjects. The motivation grew out of Professor Levi's collaboration with K. Hess and the Blue Brain Project, and to date it is one of very few such initiatives. New methods and ideas are now forming, requiring study and exploration. The outcome of the project will be applicable to other sciences and will make a substantial contribution to applied algebraic topology.

World leading research in applications of algebraic topology to neuroscience, and other related subjects was and remains our aim since the group was established in 2018. It is a collaborative inter-disciplinary project by its nature and will require a combination of skills. The team consists of several Research Fellows and postgraduate students, with complementary sets of skills and knowledge, who work under the supervision of Professor Levi, and in collaboration with other research groups in and outside Aberdeen.

Job description

Main purpose of the role:

Conduct research in algebraic topology with emphasis on applications to neuroscience and related subjects.

Key responsibilities:

Research Fellow – Algebraic Topology

- Conduct research in algebraic topology geared towards applications to neuroscience and related subjects.
- Develop topological and other mathematical methodology related to problems arising in the project.
- Work in collaboration with the project team in Aberdeen and elsewhere.
- Participate in research activity related to the project and more general.
- Collaborate with external research partners.
- Participate in authoring of research papers.
- Participate in dissemination of results in national and international venues, as appropriate.

At a glance

Salary:

£33,797 - £36,914 per annum

Hours of work:

Full-time

Contract type:

Project limited, 12 months

Candidate background

Algebraic topology, Applied and computational Topology or computer Science

The successful candidate will have a PhD in Algebraic Topology, Applied and Computational Topology or Computer Science. Expertise in applied algebraic topology is desirable but not essential. Knowledge of basic neuroscience and/or network theory would be an advantage, but not a requirement.

Terms of appointment

Salary will be at the appropriate point on the Grade 6 salary scale (£33,797 - £36,914 per annum) and negotiable with placement according to qualifications and experience. Consideration will be given to making an appointment at Research Assistant level for individuals in the final stages of completing their PhD, Grade 5 (£31,865).

As this post is subject to external funding from EPFL it is available for 12 months.

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

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

Should you require a visa to undertake paid employment in the UK you will be required to fulfil the minimum points criteria to be granted a Certificate of Sponsorship and Tier 2 visa. As appropriate, at the time an offer of appointment is made you will be asked to demonstrate that you fulfil the criteria in respect of financial maintenance and competency in English. Please do not hesitate to contact Heather Clark, h.m.clark@abdn.ac.uk HR Adviser for further information.

Person specification

	Essential	*Desirable*
Education/Qualifications	• PhD (or near completion) in Algebraic Topology, applied and computational topology or computer science.	• Expertise in computational algebraic topology. • Knowledge of basic techniques of topological data analysis.
Work and Other relevant experience (including training)	• Ability to develop an independent research programme.	• Experience in high level mathematical coding.
Personal qualities and abilities	• Ability to work independently and in a group. • Show initiative and be willing to pursue original ideas. • Willingness to learn new techniques in own field as well as specific topics related to the project.	• Ability to communicate research at all levels to audience of varying backgrounds. • Ability to write up research results independently and in collaboration with others
Other	• Willingness to travel to national and international destinations, occasionally for extended periods, for collaborations, background preparation and initiation of research projects.	

The University

Founded in 1495, Aberdeen is Scotland's third oldest University and the fifth oldest in the UK. Ranked within the world top 140 in the recent QS global league table, Aberdeen is the 'global University of the north'.

Aberdeen is a broad based, research intensive University, which puts students at the head of everything it does. It has significant academic strengths and potential across a wide variety of disciplines. Outstanding in a wide range of discipline areas across the entire research spectrum, Aberdeen has also been credited for its international reach and its commercialisation of research ideas into spin out companies.

The University has over 14,000 matriculated students and 3,600 staff representing 120 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, inspires and helps every individual to reach their full potential.

The University combines a distinguished heritage with a forward looking attitude. In the past few years, the University has encouraged creativity in its academic staff, broken new ground with an innovative curriculum, and developed state-of-the-art facilities including the new Sir Duncan Rice Library and the Aberdeen Sports Village and Aquatics Centre. In looking to the future, the University seeks to enhance its reputation as one of the world's leading Universities by moving forward with ever more ground breaking research; ensuring students have an intellectual and social experience second to none; and capitalising upon the dual role as one of the major institutions of the north and as a cornerstone of regional economic and cultural life.

The city and the region

Aberdeen and Aberdeenshire

Aberdeen is world renowned as the oil capital of Europe and the region is both the agricultural heartland of Scotland and a hub of the food and drink industry.

With the population approaching 230,000, Aberdeen is big enough to provide all the advantages of city life, yet compact enough to enjoy the more intimate atmosphere usually associated with small towns.

Aberdeenshire is 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.

Aberdeen and Aberdeenshire cater for a wide range of tastes in sporting and cultural activities.

To find out more about Aberdeen and Aberdeenshire go to www.VisitScotland.com

How to apply

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

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The closing date for receipt of applications is **9 April 2020**

Should you wish to make an informal enquiry please contact
Professor Ran Levi
+44 (0)1224 272753
r.levi@abdn.ac.uk

Please do not send application forms or CVs to Professor Ran Levi

Please quote reference number NCS162R on all correspondence

The University pursues a policy of equal opportunities in the appointment and promotion of staff.