

## THE UNIVERSITY OF NOTTINGHAM

### Role Profile Form

<b>Job Title:</b>	Research Associate/Fellow
<b>School/Department:</b>	School of Life Sciences
<b>Job Family and Level:</b>	Research and Teaching Level 4CTG/4
<b>Contract Status:</b>	This post is available from February 2017 and will be offered on a fixed-term contract for a period of 3 years.
<b>Hours of Work:</b>	Full Time
<b>Location:</b>	Medical School, Queens Medical Centre
<b>Reporting to:</b>	Dr Matt Loose

#### **Purpose of the Role:**

The role is focussed on the development of read until applications and algorithms for the Oxford Nanopore range of sequencing platforms. Tools and pipelines will be built in to minoTour, a data analysis platform for Oxford Nanopore minION sequencing reads, as well as made available as stand alone applications. The project will encompass diverse applications across a broad range of biological applications. The role holder will be expected to develop both existing research objectives and novel applications. The person appointed will be expected to plan and conduct work using approaches or methodologies and techniques appropriate to the type of research, and will be responsible for writing up their work for publication.

The person appointed will have the opportunity to use their initiative and creativity to identify areas for research, develop research methods and extend their research portfolio.

The post is based at the University of Nottingham and the project is in collaboration with Ewan Birney and Guy Cochrane at the EBI, Cambridge. Some travel to Cambridge is to be expected.

#### **Main Responsibilities**

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1.	To develop and test workflows for applying 'Read Until' to a variety of problems in genomics.
2.	To contribute to the continued development of minoTour to provide an environment for rapid analysis and real time monitoring of minION runs.
3.	To develop a complete simulation environment for read until experiments allowing users to test experimental workflows <i>in silico</i> .
4.	To write up research work for publication and/or contribute to the dissemination at national/international conferences, resulting in successful research outputs.
5.	To identify opportunities and assist in writing bids for research grant applications. Prepare proposals and applications to both external and/or internal bodies for funding, contractual or accreditation purposes.
6.	To build relationships with both internal and external contacts who are both current and future users of read until in order to exchange information and to build relationships for future collaborations.
7.	To co-ordinate interactions with other minION researchers, for example, arranging meetings and updating web sites etc and contribute to collaborative decision making with colleagues in area of research.
8.	To provide support, guidance and supervision to other staff, where appropriate in own

	area of expertise.
9.	To plan and manage own research activity and resolve problems, if required, in meeting own/team research objectives and deadlines in collaboration with others.

### Knowledge, Skills, Qualifications & Experience

	Essential	Desirable
<b>Qualifications/ Education</b>	<ul style="list-style-type: none"> <li>PhD or equivalent (awarded or pending) in Bioinformatics/ Informatics/Computer Science.</li> </ul>	
<b>Skills/Training</b>	<ul style="list-style-type: none"> <li>Demonstrable significant experience with Perl, Python, PHP, MySQL</li> <li>Excellent oral and written communication skills, including the ability to communicate with clarity on complex information</li> <li>Experience of complex data visualisation via HTML</li> <li>High analytical ability to analyse and illuminate data, interpret results, evaluate and criticise texts and bring new insights</li> <li>Experience of analysing next generation sequencing data</li> </ul>	<ul style="list-style-type: none"> <li>Familiarity with the HDF5 file format</li> <li>Familiarity with HighCharts.js or D3.js</li> <li>Experience with statistical packages such as R and matLAB</li> <li>Experience with cloud based computing applications</li> <li>Familiarity with version control/software repositories such as GIT</li> <li>Experience with neural networks and their application to bioinformatics</li> </ul>
<b>Experience</b>	<ul style="list-style-type: none"> <li>Experience in standards compliant Web Development</li> <li>Experience of real time data analysis pipelines</li> </ul>	<ul style="list-style-type: none"> <li>Experience with analysis of Oxford Nanopore Sequence Data</li> <li>Experience of developing new approaches, models, techniques or methods in bioinformatics</li> </ul>
<b>Statutory/Legal</b>		

### Decision Making

#### i) Taken independently by the role holder;

<ul style="list-style-type: none"> <li>Planning general research programme and direction.</li> <li>Making individual/team decisions about design and conduct of particular research methods experiments.</li> <li>To assist in preparing applications for new research funding.</li> <li>Maintenance and repair of equipment and apparatus.</li> <li>Advice on consumable and small scale purchasing.</li> </ul>
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#### ii) Taken in collaboration with others;

<ul style="list-style-type: none"> <li>Collaborative research applications.</li> <li>Direction of students/collaborators research.</li> <li>Investigation and decisions about new apparatus/equipment for the group.</li> <li>Publication decisions, papers, conference abstracts etc.</li> <li>Proposals for grant application.</li> <li>Strategy for long term research programme.</li> </ul>
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**iii) Referred to the appropriate line manager by the role holder**

- Wider research strategy of our research group.
- Purchase decisions >£1000.

**Additional Information**



*The University of Nottingham strongly endorses Athena SWAN principles, with commitment from all levels of the organisation in furthering women's careers. It is our mission to ensure equal opportunity, best working practices and fair policies for all.*