University of Nottingham
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ROLE PROFILE

Job Title:	Research Associate/Fellow - Bioinformatics
School/Department:	School of Life Sciences – SBRC
Job Family and Level:	Research & Teaching Level 4/Training Grade
Contract Status:	This post will be offered on a fixed-term contract until 31 January 2020
Hours of Work:	Full-time (36.25 hours per week)
Location:	Synthetic Biology Research Centre (SBRC)
Reporting to:	SBRC Director and/or delegated Line Manager

Purpose of the New Role:

The aim of the post is to provide research support for the BBSRC/EPSRC Synthetic Biology Research Centre (SBRC) in the creation and exploitation of gas fermenting microbial chassis as it relates to the sustainable production of chemicals and fuels. The role will be to provide informatics support to underpin the processing, analysis and visualisation of omic data arising from engineered and wildtype strains making target SBRC products derived through a combination of directed and random approaches. A particular focus will be on genome and transcriptome analysis and maximising the data emerging from Transposon-directed Insertion Sequencing (TraDIS) analysis of the various SBRC chassis under investigation.

SBRC Nottingham is one of six UK centre's created by the BBSRC/ and received £14.3M in funding for a 5 year period. The post will form part of the experimental 'dry-side' of the SBRC, which is concerned with the iterative design, modelling and analysis of the chassis under development and their individual parts. There will be close interaction with other members of the multidisciplinary team, and in particular the 'wet laboratory-based' scientists tasked with the experimental formulation, iterative testing and exploitation of the gas fermenting chassis in the production of the designated chemicals and fuels.

The post will operate within a framework of Responsible Research Innovation (RRI) under the guidance of SBRC social scientists and be expected to undertake outreach activities coordinated by the SBRC Outreach Officer. The role holder will have the opportunity to use their initiative and creativity to identify areas for research, develop research methods and extend their research portfolio.

	Main Responsibilities	**% time per year**
1.	To plan and conduct research using recognised approaches, methodologies and techniques within synthetic biology to support the development of SBRC objectives and proposals for own and/or collaborative research area.	30%
2.	To plan and manage own research activity and resolve problems, if required, in meeting own/team research objectives and deadlines in collaboration with others. To analyse and illuminate data, interpret reports, evaluate and criticise texts and bring new insights to research area.	25%
3.	To contribute to: • writing up research findings for publication in leading journals. • the preparation of proposals and applications to both external and/or internal bodies for funding, contractual or accreditation purposes.	15%

	• the preparation of internal and external written reports and presentations to the sponsors • outreach activities designed to promote public engagement in the science	
4.	To provide guidance as required to support staff and students, where appropriate in own area of expertise.	10%
5.	To collaborate with academic colleagues on areas of shared interest for example, course development, collaborative or joint research projects and to build internal and/or external contacts to develop knowledge and understanding, forming relationships for future collaborations.	10%
6.	To utilise and contribute to organising research resources and facilities, laboratories and workshops as appropriate.	5%
7.	Where appropriate, to make a contribution to teaching, for example through laboratory demonstrations, lectures to postgraduate workshops and delivery of Level 1 modules to the SBRC DTC and/or BBSRC DTP.	5%

Knowledge, Skills, Qualifications & Experience

	Essential	Desirable
Qualifications/ Education	• PhD or equivalent (or close to completion) in a discipline relevant to Bioinformatics.	• Master's Degree, or equivalent in relevant subject area.

Skills/Training	• Evidence of sufficient breadth or depth of research methodologies and techniques to work in research area.
	• Developing research skills, with the ability to creatively apply relevant research approaches, models, techniques and methods
	• Ability to contribute to method improvement.
	• Analytical ability to facilitate conceptual thinking, innovation and creativity.
	• Ability to build relationships and collaborate with others, internally and externally.
		• Knowledge of key concepts of:
		  • metabolic networks and gene regulation
		  • genetic modification
		  • responsible research innovation (RRI)
		  • microbial fermentation
		• Ability to assess and organise resource requirements and deploy effectively.
		• Ability to foster a research culture and commitment to learn in others.
		• High analytical ability to analyse and illuminate data, interprets reports, evaluate and criticise texts and bring new insights.

Experience	• Collection, collation, analysis and visualisation of bioinformatic network data. • Development and application of novel data analysis, mining or visualisation approaches. • Practical experience of the analysis and exploitation of NGS data. • Working in an interdisciplinary research environment with wet lab researchers. • Ability to develop and apply new concepts and methods • Supervising or helping with the supervision of researchers	• Practical experience in the analysis of 'omic' data sets (metabolomics, transcriptomica and/or proteomics) • Strong software development skills in at least two programming languages. • Software development using Java, in particular the development of Eclipse applications. • Development of High Performance Computing applications. • Previous success in gaining support for externally funded research projects.

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.