Role profile

<table>
<thead>
<tr>
<th>Job title</th>
<th>Research Associate/Fellow</th>
<th>Job family and level</th>
<th>Research &amp; Teaching level 4</th>
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<tbody>
<tr>
<td>School/Department</td>
<td>School of Life Sciences</td>
<td>Location</td>
<td>University Park Campus, CBS Building</td>
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Purpose of role

This post will provide molecular biology expertise to the BBSRC/EPSRC Synthetic Biology Research Centre (SBRC) in support of its research activities on sporulation control in bacteria, in particular *Clostridium sporogenes*. The post-holder will design and conduct laboratory experiments but will also be responsible for drafting reports and developing research ideas towards grant applications. There will be close interaction with other members of the multidisciplinary team drawing on their expertise to synergistically advance the research field.

The ideal candidate will have extensive experience in the application of genetic tools to further the understanding of sporulation control in *Clostridium sporogenes*. They will have a proven track record in both directed and random (transposon) mutant generation, using ClosTron technology and CRISPR/Cas9 and be expert in the quantification of sporulation and germination. Past experience in the use of transposon mariner in Transposon-directed Insertion Site Sequencing (TraDIS) would be an advantage. The successful candidate will be competent in report writing, in writing scientific work-plans and in creating research project strategies.

SBRC Nottingham is one of six UK centres created by the BBSRC/EPSRC and has a wealth of facilities including three multiplexed gas fermentation suites, a bespoke state of the art robotics platform (for high throughput DNA parts assembly, transformation and chassis growth and selection), twelve anaerobic microbiological work-stations and a suite of analytics kit (HPLC, GC, GC-MS, LC-MS-MS), all supported by specialist technical staff. 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

(Primary accountabilities and responsibilities expected to fulfil the role)

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<th>% time per year</th>
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<td>40%</td>
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<tr>
<th>Main responsibilities</th>
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<tbody>
<tr>
<td>1</td>
<td>To plan and conduct research using recognised approaches, methodologies and techniques to support the development of SBRC Clostridium and sporulation research objectives and proposals for own and/or collaborative research area. (Ensuring all research undertaken conforms to Responsible Research Innovation (RRI) practices as defined by the SBRC Core Management Team).</td>
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<tr>
<td>2</td>
<td>To contribute to the preparation of internal and external written reports and presentations.</td>
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<tr>
<td>3</td>
<td>To assist with the preparation of proposals and applications to both external and/or internal bodies for funding, contractual or accreditation purposes.</td>
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## Role profile

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<th>To contribute to writing up research findings for publication in leading journals.</th>
<th>10%</th>
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<tbody>
<tr>
<td>5</td>
<td>To analyse and illuminate data, interpret reports, evaluate and criticise texts and bring new insights to research area</td>
<td>5%</td>
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| 6 | To build a network of contacts and engage in activities to facilitate:  
- the development of knowledge and understanding and to form relationships for future collaborations;  
- providing guidance as required to support staff and students;  
- collaboration with academic colleagues on areas of shared interest;  
- contributing to organising research resources and facilities, laboratories and workshops as appropriate;  
- playing an active role in outreach activities designed to promote public engagement in the science being undertaken within the SBRC, | 5% |

### Person specification

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<th>Essential</th>
<th>Desirable</th>
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| **Skills**              | ▪ Strong background and expertise in the genetic modification of Clostridium sporogenes;  
▪ Evidence of sufficient breadth or depth of research methodologies and techniques to work in Synthetic Biology;  
▪ Excellent oral and written communication skills, including the ability to communicate with clarity on complex information;  
▪ Developing research skills, with the ability to creatively apply relevant research approaches, models, techniques and methods;  
▪ Ability to contribute to method improvement;  
▪ Ability to build relationships and collaborate with others, internally and externally. | ▪ Knowledge of key concepts of bacterial virulence;  
▪ 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. |
| **Knowledge and experience** | ▪ Extensive experience and familiarity in the generation of directed mutants in Clostridium spp by ClosTron technology, allelic exchange and other advanced genome engineering tools including modified CRISPR/Cas9 and inducible repressor systems,  
▪ Past experience in the use of transposon mariner in Transposon-directed Insertion Site Sequencing (TraDIS) | ▪ Supervising or helping with the supervision of research students.  
▪ Extensive experience in overcoming clostridial restriction/modification barriers for the purpose of improving gene transfer |
 Role profile

- High proficiency in the measurement of clostridial endospore formation and germination;
- Ability to develop and apply new concepts and methods;
- Working in a similar research environment.

| Qualifications, certification and training (relevant to role) | PhD or equivalent (pending or awarded) on a project concerned with sporulation in Clostridium sporogenes. |

The University of Nottingham is focused on embedding equality, diversity and inclusion in all that we do. As part of this, we welcome a diverse population to join our work force and therefore encourage applicants from all communities, particularly those with protected characteristics under the Equality Act 2010.

Expectations and behaviours

The University has developed a clear set of core expectations and behaviours that our people should be demonstrating in their work, and as ambassadors of the University’s strategy, vision and values. The following are essential to the role:

**Valuing people**
Is friendly, engaging and receptive, putting others at ease. Actively listens to others and goes out of way to ensure people feel valued, developed and supported.

**Taking ownership**
Is clear on what needs to be done encouraging others to take ownership. Takes action when required, being mindful of important aspects such as Health & Safety, Equality, Diversity & Inclusion, and other considerations.

**Forward thinking**
Drives the development, sharing and implementation of new ideas and improvements to support strategic objectives. Engages others in the improvement process.

**Professional pride**
Is professional in approach and style, setting an example to others; strives to demonstrate excellence through development of self, others and effective working practices.

**Always inclusive**
Builds effective working relationships, recognising and including the contribution of others; promotes inclusion and inclusive practices within own work area.
Key relationships with others

Line manager

Role holder

Key stakeholder relationships

Director of SBRC

Research Associate/Fellow

Colleagues

Students