Role profile

**Job title**
Research Associate/Fellow - Anaerobes

**Job family and level**
Research & Teaching Level 4 Training Grade/Level 4

**School/Department**
School of Life Sciences

**Location**
Synthetic Biology Research Centre (SBRC), BioDiscovery Institute, University Park Campus

**Purpose of role**

The role holder will be working at the frontiers of UK academic and industrial research with the aim to accelerate the application of Engineering and Synthetic Biology technologies to directly capture carbon by exploiting the ability of autotrophic bacteria to fix C1-gases (carbon dioxide, carbon monoxide or methane) and convert them into hydrocarbon platform chemicals including hydrocarbons carboxylic acids and biopolymers. The gas-fermenting aerobic and anaerobic bacterial chassis are being used as primary engineering platforms.

<table>
<thead>
<tr>
<th>Main responsibilities (Primary accountabilities and responsibilities expected to fulfil the role)</th>
<th>% time per year</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>To plan and conduct research, towards SBRC objectives and for own and/or collaborative research. Specifically, using recognised approaches, methodologies and techniques within synthetic biology and metabolic engineering to (i) develop and use advanced genetic engineering tools and (ii) engineer microbial chassis. Where appropriate facilitate this research using high-throughput experimentation systems. (Ensuring all research undertaken conforms to Responsible Research Innovation (RRI) practices as defined by the SBRC Core Management Team).</td>
</tr>
<tr>
<td>2</td>
<td>To contribute to the preparation of internal and external written reports and presentations to the sponsors</td>
</tr>
<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>
</tr>
<tr>
<td>4</td>
<td>To contribute to writing up research findings for publication in leading journals.</td>
</tr>
<tr>
<td>5</td>
<td>To analyse and illuminate data, interpret reports, evaluate and criticise texts and bring new insights to research area.</td>
</tr>
</tbody>
</table>
| 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 | 5% |
- playing an active role in outreach activities designed to promote public engagement in the science being undertaken within the SBRC

### Person specification

<table>
<thead>
<tr>
<th>Skills</th>
<th>Essential</th>
<th>Desirable</th>
</tr>
</thead>
</table>
|        | ▪ Strong background and expertise in molecular microbiology and/or microbial physiology  
▪ Excellent oral and written communication skills, including the ability to communicate with clarity on complex information  
▪ Evidence of sufficient breadth or depth of research methodologies and techniques to work in Synthetic Biology  
▪ 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 and experience of working with anaerobic bacteria, preferably Clostridia  
▪ Knowledge of key concepts of metabolic networks and gene regulation  
▪ Responsible Research and Innovation (RRI)  
▪ Application and use of 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, interpret reports, evaluate and criticise texts and bring new insights |

| Knowledge and experience | Experience of metabolic engineering, ideally through the use of bio-parts, in-silico design and analytics  
▪ Research experience in the modification/exploitation of a microbial process or attribute for the purpose of strain engineering  
▪ Ability to develop and apply new concepts and methods  
▪ Working in a similar research environment | Interaction with computational/mathematical modellers and/or bioinformaticians  
▪ Track record in academic publication  
▪ Supervising or helping with the supervision of research students |

| Qualifications, certification and training (relevant to role) | PhD or equivalent (pending or awarded) in a discipline relevant to Synthetic Biology or Metabolic Engineering |
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 always equitable and fair and works with integrity. Proactively looks for ways to develop the team and is comfortable providing clarity by explaining the rationale behind decisions.

Taking ownership  Is highly self-aware, looking for ways to improve, both taking on board and offering constructive feedback. Inspires others to take accountability for their own areas.

Forward thinking  Driven to question the status quo and explore new ideas, supporting the team to “lead the way” in terms of know-how and learning.

Professional pride  Sets the bar high with quality systems and control measures in place. Demands high standards of others identifying and addressing any gaps to enhance the overall performance.

Always inclusive  Ensures accessibility to the wider community, actively encouraging inclusion and seeking to involve others. Ensures others always consider the wider context when sharing information making full use of networks and connections.

Key relationships with others

- **Line manager**
  - SBRC Director and/or delegated Line Manager

- **Role holder**
  - Research Associate/Fellow

- **Key stakeholder relationships**
  - Direct Reports
  - Colleagues
  - Students