Novel Analytical Methods for Biological Molecules

Closing date: 16:00 7th April 2014

Summary

The EPSRC Centre for Innovative Manufacturing in Emergent Macromolecular Therapies is offering funding to academics outside the Centre for research feasibility studies related to the development of novel analytical methods for biological molecules, particularly proteins. Protein analysis is often required in highly complex samples, e.g. cells and cell media, chemical formulations, solid dose forms and blood plasma. This call is open to any scientific discipline that can innovate in biological analytics. This may include (but is not limited to) biophysics, electronics, physical sciences, computational science, mathematics, chemistry, materials science, nanotechnology and molecular/synthetic biology.

The feasibility studies should examine the subject area in the field, identify key challenges and research questions not currently being addressed with the aim of obtaining feasibility data that can be used to develop full proposals for funding by established routes. It is expected that studies will develop preliminary data and or demonstrate experimental methodologies as well as undertaking the necessary desk research. Feasibility studies are expected to lead to significant new funding involving the Centre and attracting industrial support.

All studies should involve collaboration with a researcher from the Centre and applicants are encouraged to make use of the extensive facilities at the Centre (Pilot plant, ultra scale down equipment, responsive biomanufacturing equipment, analytical equipment etc). The Centre employs 8 PDRAs across the remit of its programme. These PDRAs are part of the Centre resources that can be made available to these feasibility studies. Awards will be up to a maximum of £20,000 for a project duration of 6 to 12 months. This excludes the costs of the collaborating Centre researcher(s) which will be met by the Centre. Recipients must be from institutions outside the Centre and be eligible to hold an EPSRC grant.

It may be possible to extend a successful feasibility study of a novel technology that shows outstanding potential with funding for a further 6 to 12 months.

EPSRC Centre Vision

To establish a Centre that delivers innovation in manufacturing research to assess emergent challenges facing the UK biopharmaceutical sector, and which impact its global competitiveness. The EPSRC Centre will act as the focus for a national network of leading users and academics in manufacturing and provide
strong support for UK industry. It aims to be recognised as the primary centre for the creation, delivery and dissemination of decision-support tools to enable the manufacture and lifecycle optimisation of novel macromolecular therapies. This will widen access to valuable therapies for patient by decreasing development timelines, raising manufacturing efficiency and reduce costs to the purchaser (e.g. NHS). The Centre was launched in October 2011. 
http://www.ucl.ac.uk/biochemeng/industry/epsrc/

The Role of Centre Feasibility Studies
40% of the EPSRC Centre activities are focussed on outreach, dissemination and crucially the bringing in of new ideas by growth of the network facilitated by feasibility studies of 6-12 months duration and hosted by groups external to the funded core.

The priority themes for the feasibility studies in this call are:

1. Novel analytical techniques that characterise protein properties, such as:
   - Protein degradation
   - Interactions between excipients and proteins
   - Conformational stability and dynamics
   - Rapid and low volume versions of available analytical methods
   - Enabling of online/inline analysis.
   - Analytical methods for analysing proteins on process surfaces

2. Tools that can predict protein behaviour, such as:
   - Analytical methods to complement thermal forced degradation studies
   - Computational methods to model or predict protein behaviour in complex solutions

The Selection Process
Centre feasibility studies are awarded competitively. Applications will be via a rapid 2-stage process to facilitate a fast reactive turnaround. The initial expression of interest uses a pro-forma which should be sent to Imran Sayed at I.Sayed@ucl.ac.uk. The Centre Academics and Advisory Board will formally rank each proposal and provide a go/no go/defer decision. The second stage is a 2 page work plan of the study with milestones and deliverables. Provided this is accepted by the Centre Management, funding will be allocated and work/recruitment can commence. The assessment will take into account the following criteria:

• Innovation
• Relevance to Centre goals
• Potential for new collaborative grant proposals involving Centre investigators
• Capabilities of the research group to deliver
• Level of commitment from the university
Centre Investment in Feasibility Studies

In addition to the Centre research resources, the Centre will assign a Centre academic to help in the project management, delivery of the study goals and knowledge transfer. In this way the strategic objectives of the Centre are best met and the potential upside of new grant wins for the host institution are maximised.

The Centre will enter into a collaboration agreement with the successful applicants. This will include provisions for managing intellectual property in line with standard research council research contracts.

Key dates

<table>
<thead>
<tr>
<th>Activity</th>
<th>Date</th>
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<tbody>
<tr>
<td>Call Launched</td>
<td>17th February 2014</td>
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<tr>
<td>Closing date for outline applications (5pm)</td>
<td>7th April 2014</td>
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<tr>
<td>Decision on outlines and invitation to submit project plans</td>
<td>5th May 2014</td>
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<tr>
<td>Grants announced and feedback given by</td>
<td>9th June 2014</td>
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<tr>
<td>Expected start of the projects by</td>
<td>1st July 2014</td>
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Further information

For information about the application process please contact Imran Sayed

Email: i.sayed@ucl.ac.uk    Tel: 0207 679 4414

To discuss how your project might fit with the scope of the call please email Paul Dalby to arrange a short telephone conversation. P.Dalby@ucl.ac.uk

Key Documents

Application Form
http://www.ucl.ac.uk/biochemeng/industry/epsrc/docs/proforma