UK Regenerative Medicine Platform

Call launch: 6 September 2012
Application deadline: 27 November 2012, 4pm

Summary

BBSRC, Engineering and Physical Science Research Council (EPSRC) and Medical Research Council (MRC) are establishing a £25M UK Regenerative Medicine Platform (UKRMP) to address the technical and scientific challenges associated with translating promising scientific discoveries in this area towards clinical impact.

At its core the UKRMP will comprise several interdisciplinary and complementary research hubs that will together provide a world-leading programme to promote the development of regenerative therapies. BBSRC, EPSRC and MRC are therefore calling for Expressions of Interest to establish high quality, collaborative research groupings to address the key challenges in translational regenerative medicine.

- £20M will be available under this call for the first phase of the UKRMP to fund a limited number of research hubs to undertake major programmes of work with broad applicability to the field, focussing on system or organ-level exemplars as appropriate.
- The expected scale of awards is in the range of £3M to £5M.
- Only one award will be made in each final advertised thematic area of interest.
- Awards will be for 4 years.

Background

Regenerative medicine is an interdisciplinary approach spanning tissue engineering, developmental and stem cell biology, gene therapy, cellular therapeutics, biomaterials (scaffolds and matrices), nanoscience, bioengineering and chemical biology. It may involve:

- Transplantation of stem cells, progenitors or tissue
- Stimulation of dormant repair processes
- Using cells as delivery vehicles for therapeutic agents
- Engineered cells / synthetic biology

Regenerative medicine has already provided significant medical advances in areas such as skin regeneration for burns patients and diabetic ulcers and the treatment of anaemia, and has the potential to go much further with next-generation products offering treatments with long term benefits or cures. The underpinning science is progressing rapidly, yet there are a number of developmental challenges which need to be overcome if we are to successfully translate promising discoveries for the benefit of patients as well as the UK economy. These are elaborated upon in our Strategy for UK Regenerative Medicine (see downloads).

As a response to these translational requirements, and to ensure that research addressing regenerative medicine connects seamlessly from discovery science through to clinical and commercial application, BBSRC, EPSRC and MRC are together establishing a UK Regenerative Medicine Platform (UKRMP) with the goals of:

- Establishing interdisciplinary research hubs with the critical mass and expertise to address the key knowledge-gaps in the translation of stem cell and regenerative biology towards application
- Providing the novel tools, platform technologies and engineering solutions needed for therapeutic development

- Creating a world-leading and fully connected national programme to pull through excellent discovery science in support of the commercial development and clinical delivery of regenerative medicine products

Scientific objectives

We are seeking proposals that bring together teams of researchers to address one or more of the following:

- Safety science: for example addressing cell and genomic stability during differentiation and scale-up, the tracking of transplanted or modified cells in vivo, cell encapsulation and immobilisation technologies, the establishment of model systems able to recapitulate relevant human physiology, either in animals or in tissue-equivalent assays
- Immunomodulation: harnessing the immune response to avoid rejection of cellular transplants or acellular interventions, encompassing immune suppression, immunological tolerance, and immune privilege
- Engineering challenges and technology platforms: for example to undertake high throughput testing and phenotyping, to address metrology and quality control issues in biomanufacturing, to deliver system biology analyses, to establish novel cell imaging technologies
- Cell functionality: for example to provide assays and readouts representative of human physiological systems, to better understand the role of stem cell niches in delivering function, and the promotion of cell maturation
- Acellular technologies: the development of smart scaffolds and matrices, for structural support and the direction of propagation and differentiation
- Delivery systems: to better target the delivery of cells, biologics or small molecules to their regenerative targets within tissues or organs

Eligibility

Successful applications will ultimately be those which:

- Demonstrate the formation of novel interactions based upon research excellence
- Effectively link basic and clinical research groups
- Incorporate relevant cross-disciplinary expertise spanning the remits of the three Research Council sponsors
- Build on a strong portfolio of existing Research Council investment, and demonstrate added-value with this and associated funding
- Demonstrate strong scientific leadership
- propose a milestone-based programme of activity spanning work-packages or clustered projects
- Include appropriate project management to underpin coordination and collaboration within the consortium
- Promote outreach activities to connect to other UK groups that provide complementary skills and resources

- Specify an approach towards early engagement with regulators and anticipated hurdles for regulatory compliance

Proposals may involve more than one site, or be based around new interactions within a single centre. It is expected that appropriate links to (bio)industry and end-users will be demonstrated. Funding is to be provided primarily for new research, but will also cover necessary network support and project management costs. Funding under this call will not be available for training activities or support large bids for capital equipment.

How to apply

Expressions of interest should be submitted through JeS (see external links), and be led by academic institutions.

Applications should describe:

- The challenge to be tackled
- The gaps in knowledge, and how the programme will address these and contribute to the development of therapies in the longer term
- The PIs / groups and companies involved as the core group
- Any additional skill sets that will need to be incorporated during the course of the project
- End-user groups that need to be engaged
- How the collaborative approach will be developed and managed
- The approximate budget
- Deliverables and potential milestones of progress

Applicants are directed to the supplementary terms and conditions on the MRC website, see section AC24 (see external links).

For further information see contact information below.

Peer review

Expressions of interest will be assessed by a joint Regenerative Medicine Platform Review Panel involving both UK and international experts.

Consideration will be given to:

- Significance of the challenge to be addressed
- Novelty, importance and timeliness of the research
- Ability of the investigators to deliver the research proposed
- Strength and clarity of collaborations
- Quality of the project management structure proposed
- Quality and suitability of the research environment and of the facilities
- Value for money
- Ethical considerations and governance arrangements

- Note that EoIs will not be assessed by external referees and that individual feedback will not be provided following consideration by the Panel.
- The EoI assessment will take account of the scientific opportunities and national capabilities presented, and will lead to a recommendation to the sponsor group as to the optimal specification of the full call for proposals, based upon the remit described previously.
- A call for full applications will be issued in November 2012, with a precise remit provided for the hubs to be established, alongside further guidance.
- The call will be supported by an applicant workshop to provide information and answer queries relating to the call, to be held in London during September.
- The deadline for full applications will be in November 2012, for consideration at a joint funders review meeting in February 2013
- Awards will be announced in March 2013

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