Supporting Innovation through Collaboration

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MRC mission

• Encourage and support high-quality research with the aim of improving human health.

• Produce skilled researchers.

• Advance and disseminate knowledge and technology to improve the quality of life and economic competitiveness in the UK and worldwide.

• Promote dialogue with the public about medical research.
MRC Strategic Plan 2009-2014

The MRC aims to support medical research which increases the pace of the transition to better health. We will achieve this through:

- **Strategic Aim One:** Picking research that delivers
- **Strategic Aim Two:** Research to people
- **Strategic Aim Three:** Going global
- **Strategic Aim Four:** Supporting scientists
Research Changes Lives

2. **Research to people**: Bringing the benefits of excellent research to all sections of society
   - Translation of research
   - Regulation, ethics, governance and working with decision-makers
   - Communication

3. **Going global**: Accelerating progress in international health research
   - Partnerships and shaping the agenda
   - Global health

4. **Supporting scientists**: Sustaining a robust and flourishing environment for world-class medical research
   - Capacity
   - Use of population-based data
   - Research environment
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“Work with industry to drive economic development”

• **20%** of MRC researchers have had one or more productive interactions with the private sector in the last five years

• Exchange of staff, expertise, materials and/or funding

• **5,000** active collaborations involving 6,000 partners
Translational Research

• What is it? - turning discoveries into clinical benefits, while maintaining the basic research that drives it

• MRC’s translational strategy:
  • builds on the MRC’s existing role in pushing forward basic knowledge to improve people’s health and wealth
  • strengthens support and oversight of the translational processes
MRC’s Translational Research Funding

Translational Research Support – the “Managed Programme”

Developmental Pathway Funding Scheme

Developmental Clinical Studies

Translational Stem Cell Research Programme

Basic medical research

Prototype discovery and design

Pre-clinical development

Early clinical trials

Late clinical trials

Targeted initiatives to alleviate bottlenecks

Infrastructure/Resources

Methodology

Training

Continued commitment to basic lab, clinical and population research

Capacity building
Where can emerging science make an impact?

- Virtual Screening
- Predictive Toxicology
- Translational science
- Innovative trial design
- Biopharmaceuticals
- Systems Biology
- Pharmaco-phore data
- Imaging
- Quality by design
- Biopharm production

- Target Id.
- Hit Id.
- Lead Id.
- Pre-nom.
- Preclin. Dev.
- Principle Testing
- Concept testing
- Dev. for Launch
- Launch and PLC
- Prod. Maint.

- Cell-based & novel disease models
- Stem cell tox models
- Formulation & Nanotech.
- Pharmacodynamics
- Stratified medicines

- Structural biology
- Absorption models
- Biomarkers
- Combination therapies
- Healthcare information

- Disease prevention vaccines
- Microdosing
MRC and translation
Growth Review and the Life Sciences Package
BBSRC Business Interaction Strategy

The Strategy has three streams of activity:

1. **Strengthening and developing BBSRC’s links with bioscience-using business:** Ensuring that their needs influence our research and training priorities

2. **Creating opportunities for engagement between BBSRC-funded researchers and business:** Enabling a greater understanding within our scientific community and UK bioscience-using business of the needs and capabilities of each other

3. **Enabling BBSRC’s scientific community to be responsive to the needs of business through our funding mechanisms and policies:** Funding and encouraging world-class collaborative research, training and knowledge exchange between UK business and our scientific community
EPSRC Contribution to Healthcare Innovation (update)

Continue to deliver 3-fold strategy (2011-15):

- **Delivering impact** – Pathways to Impact
- **Shaping capability** – All research areas to be published March 2012
- **Developing leaders** – Prioritising areas for intervention e.g. Fellowships and Centres for Doctoral Training

Focus on Capability and Challenge Themes:

- **Physical Sciences/ICT/Engineering/Maths**
- **Healthcare Technologies**
- **Manufacturing the Future**
- **Infrastructure**
EPSRC Healthcare Technologies Theme

4 Key Priorities for EPSRC Theme:

• Novel treatments and Therapies
• Design, Manufacture and Integration
• Enhanced Prediction and Diagnosis at the Point of Care
• Technologies for a Healthy Life Course
Manufacturing the Future Theme

4 Key Priorities for EPSRC Theme:
• Innovative Production Processes
• Manufacturing Informatics
• Frontier Manufacturing
  • e.g. Biologics – BRIC call (£6m) from 12/2011
• Sustainable Industrial Systems

Call for Ideas for New Centres – closing 12/2011 – Focus on co-creation academia-industry in gap areas where the UK is strong (£15-20M available)
Models of collaborative working for MRC

- Funders working in partnership
  - Stratified Medicine
  - Regenerative Medicine
- Funding collaborations
  - MRC/ABPI Inflammation & Immunology Initiative
- One-to-one partnerships
  - MRC Industry Collaboration Award scheme (MICA)
Stratified Medicine Innovation Platform

- Innovative R&D
  - Improving tumour profiling in cancer
  - Accelerating validation and adoption of biomarkers
  - Improving uptake of medicines and diagnostics in the NHS

- May 2011: £3.7m (TSB/MRC) for seven projects
  - Inflammatory biomarkers for more effective drugs (4)
  - Developing business models and value systems (3)

- Partners: TSB, MRC, Department of Health, Scottish Executive Health Directorate, Cancer Research UK, Arthritis Research UK, National Institute for Health and Clinical Excellence
Inflammation and Immunology Initiative

A new way of funding from the MRC

- Collaboration with ABPI:
  - Disease-focused workshops
    - COPD
    - Rheumatoid arthritis
  - Brought together experts from academia and industry
  - Identified research priorities
  - Ear-marked funds for research consortiums to address barriers and exploit opportunities
  - MRC invested £9.5m over four years
MRC Industry Collaboration Awards (MICA)

- Support **collaborative** projects from public to private support
- **Flexibility** is key, especially the level and nature of the industry contribution
- MICA applications can be submitted to **any** of the MRC’s research funding schemes for which the lead applicant, who must be an academic partner, is eligible
- Academic partners can seek support for costs allowed under the relevant MRC funding scheme
- Industrial party may contribute **any** amount. However, the MRC will expect the industrial party to meet its own costs
- Level of industrial party contribution will determine whether or not parties can pre-negotiate distribution of foreground IP
MICA: “A very positive experience”

- Evaluation of a potential biomarker for idiopathic pulmonary fibrosis.
- Collaboration between scientists at University of Nottingham, GlaxoSmithKline and Queen Mary, University of London
- “We all believe in the target but each of us has only one piece of the jigsaw.”

“MICA is a tremendous initiative that will accelerate the development of new drugs to meet clinical needs.”

Dr Andy Blanchard
Director of External Discovery, GSK
BBSRC Collaborative Research

- Schemes to encourage collaborative research projects through responsive mode
  - **Industrial partnership awards** Standard peer-reviewed research grants but with financial support from industrial partners
  - **LINK** Pre-competitive research funded 50:50 with industrial partners

- Collaborative programmes of research
  - **Strategic partnerships and ‘research and technology clubs’**
    Funding for strategic priority areas identified and supported by BBSRC and industrial consortia
    - **Example: Bioprocessing Research Industry Club (BRIC)** - Research underpinning the manufacture of biopharmaceuticals
Examples of EPSRC support for collaboration

Research
- Partnerships with TSB, industry and others
- Project partners on research grants
- Centres for Innovative Manufacturing
- Innovation and Knowledge Centres

Knowledge Transfer
- Knowledge Transfer Accounts
- Knowledge Transfer Secondments
- Knowledge Transfer Partnerships
- Industry Fellowships

Training
- Industrial CASE awards
- 10% CASE conversion within DTG
- Doctoral Training Centres
- Industrial Doctorate Centres
“Work with industry to drive economic development”

- Continue to meet industry needs and build enduring links
- Continue collaborative working and alignment with TSB
- Continue work with NIHR / NOCRI
Translation is a team sport
Thank you