

The logo for EPSRC (Engineering and Physical Sciences Research Council) features the acronym 'EPSRC' in a bold, purple, sans-serif font. The text is centered between two horizontal teal lines.

Pioneering research
and skills

Evaluation of the Basic Technology Programme

Via an EPSRC Theme Day

Ramada Jarvis Hotel, Manchester

19 May 2010

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Review Panel**

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Introduction

On 19 May 2010, the Engineering and Physical Sciences Research Council (EPSRC) carried out an evaluation of the portfolio of research in the area of Basic Technology. The investment in the portfolio currently stands at £165Million. A Theme Day was chosen as the mechanism to carry this evaluation out. At the event, 47 Basic Technology research project grants were presented as posters to a panel of experts, assembled by EPSRC, for their assessment against an international benchmark.

The Basic Technology programme was originally proposed in 1999 as a cross-Council programme to give technology research the same status as scientific research, and to develop a programme that would fund new technology for scientific research. Existing funding mechanisms in all research councils at that time were felt to be constrained by research council boundaries, and to favour novel science over novel technology developments. Science is essentially convergent-it brings many methods together to answer a single question- while technology is more divergent- a new technology can be applied in many fields. The Basic Technology programme was therefore designed to support risky new technologies of wide application, which were felt not to be supported adequately by existing mechanisms. The same assessment criteria and methods of selection were used throughout the life of the programme. There were deliberately no boundaries on what could be supported, though in later stages there was some sign-posting in the calls of areas which appeared not to be represented well in the overall portfolio.

This report gives details of the Theme Day and the findings of the panel. The Basic Technology Programme is described on page 5. The background to the review is given on page 7 alongside a brief analysis of the EPSRC Basic Technology portfolio. The Theme Day assessment process is described on page 8 and summaries of two parallel sessions facilitated by EPSRC during the Theme Day are given on page 10. The report then gives the comments made by the panel about the portfolio and its component areas; these can be found on pages 10 to 17. Finally, page 18 presents the key findings of the panel and the panel's recommendations to EPSRC.

Theme Day Objectives

The objectives for the Theme Day were:

- To benchmark the EPSRC Basic Technology portfolio internationally, as a whole and as a collection of Sub-Themes, in terms of: Research quality and contribution towards the vision for Basic Technology; Academic impact and crossing discipline boundaries; Contribution towards the provision of trained people and future research leaders; Impact on the user community and exploitation of Technology research.
- To showcase the research that the Basic Technology Programme has delivered; and to provide a forum for networking and community building.
- To further inform EPSRC future strategy in the area of Technology- led cross-disciplinary research by consulting the community.

Review Panel

The panel assembled for the Theme Day to review the EPSRC Basic Technology portfolio was:

- Professor Robert Gurney, University of Reading – Environmental Systems Science Centre (Chair)
- Professor Julian Jones, Heriot Watt University
- Dr Ian McConvey, AstraZeneca
- Dr Justin Molloy, MRC – National Institute for Medical Research
- Professor Elaine Martin, Newcastle University
- Professor Andrew Wee, National University of Singapore
- Professor Tim Wess, Cardiff University
- Dr David Auty, H2O Venture Partners
- Dr Andrew Kearsley, Oxford Lasers Ltd



Panel members talking to presenters as part of the assessment process at the Basic Technology Theme Day

Definition of Terms

In this section, EPSRC Theme Days, the EPSRC Basic Technology portfolio and a number of component Sub-Themes are defined.

EPSRC Theme Days

EPSRC Theme Days are a mechanism for evaluating a portfolio of research projects or grants (a "Theme"). They are a constituent part of EPSRC's overall evaluation framework and feed directly into the business and strategic planning process. They are considered, for example, by the EPSRC Technical Opportunities Panel (TOP), the User Panel (UP) and the Strategic Advisory Teams (SATs) of relevant Programmes. Theme Day reports are made public following the event via publication on EPSRC's website.

During the Theme Day, an independent panel of experts provide opinion on a representative sample of grants from across the portfolio and draw conclusions about the portfolio as a whole, or major segments of it. Notably, a Theme Day is not concerned with constructing league tables of grants or researchers, nor to isolate individual failures.

J Tisch, Imperial College, London "Attosecond Technology – Light sources, Metrology and Applications", GR/S22400/01; Translation Grant EP/F034601/01.

The panel commented that the PI was amongst world leaders in the area of attosecond technology development. The project aims to develop a toolkit. There were over 50 publications arising from the project, including some in Science, Nature Physics and PRL. There were 2 BBC research stories and over 50 invited talks were given.

Good career progression for the 12 PhD students trained on the project, who have gone on to industrial or postdoctoral positions. This project has helped the career progression of the PI towards Professorship.

There have been various follow-on grants and creation of a "user facility" at RAL, as a general utility tool. Although largely a physics project, it is having an impact on the world ultra-fast laser community

Details of other projects have been removed.

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