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Dr Philippa Hemmings
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3 June 2011

Dear Philippa

We are writing to express the concern of the Council for the Mathematical Sciences and its constituent societies over a problem which has been brought to our attention concerning the funding of mathematical physics.

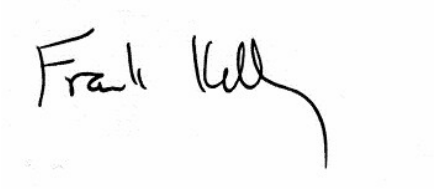
Britain has a very distinguished history as a foremost contributor to mathematical physics, and it has always been the case that much of the UK contribution has been delivered in mathematics departments. It is not too hard for someone in the field to recognise that, even within theoretical physics, some work is directed towards the sort of phenomenological questions which might be tested in a large accelerator, while other work concerns more conceptual and abstract questions whose study is nonetheless equally important for progress. The latter sort has traditionally been funded by EPSRC as mathematics.

There seems now to be pressure for this work to be counted as physics, and funded by STFC rather than by EPSRC. This would be a great blow to British mathematical physics, as its projects do not suit, or fit in with, the style of STFC, which is oriented towards large experiments and phenomenology. Much of the work in mathematical physics for which this country is most distinguished is unlikely to be taken over by STFC. In addition to areas which lie towards the STFC/EPSRC frontier, this also includes studies of, for example, conformal field theory, classical and quantum integrability, solitons, random matrix theory, statistical mechanics, classical and quantum general relativity, and mathematically focussed foundational studies of quantum theory.

We wish therefore to stress two points. The first is that unless EPSRC continues to fund excellent work in mathematical physics the scientific standing of the country will be seriously damaged. The second is that questions about which work should count as 'mathematical' are subtle. The recognition of those proposals with significant mathematical content requires care: evaluation by people truly expert in the field is essential. One proposal which falls in, say, 'string theory' may well be very close to pure mathematics, and may make a real contribution to algebraic geometry; on the other hand another might be seeking out consequences of supersymmetry which are potentially observable. To a non-expert eye, however, the proposals could well seem very similar.

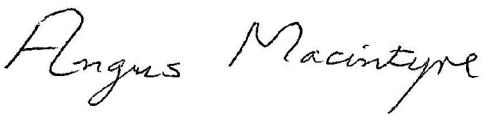
We understand that you have received representations from the Mathematical and Theoretical Physics Group of the Institute of Physics, presenting and documenting these problems in more detail. We believe that the concern they express is fully justified.

Yours sincerely



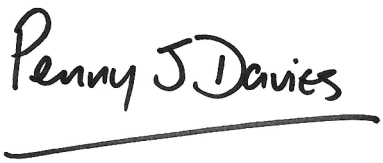
Professor Frank Kelly FRS, Chair, Council for the Mathematical Sciences

Professor Michael Walker, Institute of Mathematics and its Applications



Professor Angus Macintyre FRS, London Mathematical Society

Professor Valerie Isham, Royal Statistical Society



Dr Penny Davies, Edinburgh Mathematical Society

Gavin Blackett, Operational Research Society

c.c. Dr Lesley Thompson, Director of Research Base, EPSRC