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Professor Philip Nelson
Chief Executive,
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Dear Philip,

I have been encouraged by recent developments in the Mathematical Sciences with the EPSRC announcing its £10million investment in five new Mathematical Sciences in Healthcare Centres to tackle life threatening diseases and progress at the Turing Institute with the appointment of Director and Chief Operating Officer in the last few weeks. I have no doubt this will give rise to a world leading institute for the fundamental research and application of data sciences and will ensure that the UK is at the front of this field, none of which would be possible without the support and help received from partner universities, EPSRC, the Department of Business, Innovation and Skills and other strategic partners.

Both these developments illustrate the very widespread importance of the Mathematical Sciences which provide the foundation for so much of science and engineering and new technologies, but which often goes unrecognised by those who benefit from the result. However they also underpin a far wider field including humanities and social science based disciplines and this central economic role of the Mathematical Sciences is only set to increase.

The Council for the Mathematical Sciences recently published a summary document, *Mathematical Sciences Driving the UK Economy*¹ highlighting the many ways in which the Mathematical Sciences are key to UK economic growth along with the challenges and actions required to ensure sufficient numbers of mathematically skilled and trained individuals to meet ever growing demand. I enclose a copy of this report.

It is worth noting that in addition to the evidence from the Deloitte report on the Economic Impact of Mathematical Sciences research, recent EPSRC reports show that Mathematical Sciences research produces an outstanding rate of return on investment. EPSRC cited reports show the headline annual Economic Benefit for several disciplines principally within its brief

¹ Mathematical Sciences Driving the UK Economy: http://www.cms.ac.uk/files/News/article_56a756668046f6.43082264.pdf

to be Engineering² £280bn, Physics³ £77bn, Chemistry⁴ £258bn, Mathematical Sciences⁵ £208bn. The EPSRC report '*Investing in excellence, delivering impact for the UK - Insights from the Research Excellence Framework 2014*' reports that national spends on research⁶ are Engineering £3194m, Physics £2494m, Chemistry £1049m, Mathematical Sciences £354m.

Although these numbers come from a range of reports we can estimate a rate of return on investment as benefit /cost which are then: Engineering 88, Physics 31, Chemistry 246, and Mathematical Sciences 588.

I am sure you will agree that this clearly demonstrates that the Mathematical Sciences return on investment calculation is extremely positive and I very much hope this will be reflected in the EPSRC internal allocation discussions over the next few months.

Yours sincerely,



Professor Sir Adrian Smith FRS

Chair, CMS

² Engineering and Physical Sciences Research Council Key Facts and Figures 2015 p7 available at: <https://www.epsrc.ac.uk/newsevents/pubs/factsandfigures2015/>

³ UK physics research Driving innovation and economic growth p3 available at: <https://www.epsrc.ac.uk/newsevents/pubs/ukphysicsresearchinnovationeconomicgrowth/>

⁴ Engineering and Physical Sciences Research Council Key Facts and Figures 2015 p7 available at: <https://www.epsrc.ac.uk/newsevents/pubs/factsandfigures2015/>

⁵ Measuring the Economic Benefits of Mathematical Sciences Research in the UK' (Deloitte, 2012) p7 Available at: <https://www.epsrc.ac.uk/newsevents/pubs/deloitte-measuring-the-economic-benefits-of-mathematical-science-research-in-the-uk/>

⁶ Investing in excellence, delivering impact for the UK Insights from the Research Excellence Framework 2014 p13 available at: <https://www.epsrc.ac.uk/newsevents/pubs/refreport2015/>