

9th May 2013

To: Dr. Neil Mathur,
Department of Materials Science & Metallurgy
University of Cambridge

Re: University of Cambridge bid for equipment in response to the EPSRC call (Capital for Great Technologies).

Dear Neil,

I am excited to learn about the above bid, and in particular your proposal for a low-temperature scanning probe microscope (SPM) to be included. As this will enable direct space magnetic probes such as magnetic force microscopy (MFM) and piezoforce microscopy (PFM), as a function of magnetic field and temperature, it will represent a very valuable addition to the UK's capability in the experimental characterisation of magnetic micro- and nano- structures.

As you know I have a particular interest in spin ice, the science of which we have developed over the past 15 years, and which has gained widespread international attention on account of its 'magnetricity', as a promising material for future magnetic technology. Our recent work (in collaboration with you and others) has developed the first thin films of spin ice, which lay the ground for possible applications. These films would be of particular interest to study by the above techniques. Also, we have an interest in magnetic microstructures that mimic spin ice, and these are also conveniently studied in this way.

Hence I would greatly value the opportunity for some access to your new equipment, presuming it is funded. Access to this equipment will add a new dimension to our experimental studies and allow us to keep some crucial parts of our activities within the UK.

With best regards,

Steve Bramwell

