

## **Research Network on Bio-Medical Applications of MeV Ion Beams**

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MeV ion beams can be used to study the way in which radiation interacts with living cells and tissues. They can also be used to map quantitatively the spatial and depth distribution of a wide range of elements (down to ppm levels) in biological and medical samples. The first type of research has been driven by micro and radiation biologists, while the latter depends crucially on PIXE analysis and has been largely the province of physicists. The next generation of research is likely to employ much smaller beam diameters (50-100nm) making it possible to target and analyse much smaller structures. In addition, these MeV ion nano-beams can be used for nano-lithography and nano-machining three dimensional structures with high aspect ratios which may also have biomedical applications.

This Research Network brings together complementary experience and expertise from a wide range of disciplines extending from basic research to clinical practice. The Network is funded by the UK Engineering and Physical Sciences Research Council's, Life Sciences Interface programme and provides a forum for developing and directing UK research on the application of MeV ion micro- and nano-beams in biology and medicine. The way in which the Network operates and the type of research it is facilitating will be discussed.