

**Can IBA techniques quantify the contributions of deserts, winter domestic heating and coal fired power stations to the ambient fine particle air pollution concentrations in the Sydney Basin?**

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ANSTO has used accelerator based ion beam analysis (IBA) techniques to characterise, fingerprint and source fine particles in and around Australia since the early 1990's. This large database covering many years allows us to now look quantitatively at fine particle sources, including automobiles, smoke, sea spray, soils and industrial emissions. This talk will discuss the accelerator based IBA techniques and how they are used to identify the contributions of windblown soils, wood heating and coal fired power stations to ambient air pollution in the Sydney Basin between 1998 and the present.