

Equipment Name: Malvern Zeta Nanosizer

Category: C. Particle Characterisation in and ex-situ

Institute: University of Leeds

**Location: Institute of Particle Science and Engineering,
University of Leeds, LS2 9JT,UK**

Contact Details of Technology Expert:

Name, Prof. Yulong Ding

Phone, +44 (0)113 3432747

E-mail y.ding@leeds.ac.uk

Short technology description/Overview:

The Malvern Zetasizer series combines a particle size analyzer, zeta potential analyzer and molecular weight analyzer for particles and molecules from below a nanometer in size to several microns. The systems measure size using dynamic light scattering, zeta potential and electrophoretic mobility using electrophoretic light scattering, and molecular weight using static light scattering.

For particles *in situ* in biofluids (e.g. cell culture media), additional care is needed in performing the experiments and in interpreting the data, especially given the known relationship between size and scattering (i.e. a few large agglomerates can mask the presence of a large number of small particles).

Main Features (Equipment Capabilities):

- Particle size and molecular size: 0.3nm – 10.0 microns* (diameter)
- Zeta potential: 0.12µm.cm/V.s for aqueous systems using NIST SRM1980 standard reference material
- Molecular weight: 980Da – 20M Da*

Typical Samples & Images:

All measurements performed at 25 °C at silica concentration of 1mg/ml after 5 min bath sonication.

	Z-Aver (nm)	Diam (nm)	PDI
SiINP0013	109.3	72.18	0.250

