

Edinburgh Complex Fluids Partnership

Equipment and capabilities

| Technique | Instrument details | Notes |
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| Dynamic Light Scattering | Malvern ALV/LSE-5004 | Particle size distribution |
| Laser diffraction particle size analyser | Beckman Coulter LS 13 320 | |
| Scanning Electron Microscopy | Jeol JSM-6010PLUS/LV Zeiss Crossbeam 550 w/ Quorum Technologies PP3010T | Capability to perform cryogenic Focus Ion Beam SEM imaging. Range of detectors including the Inlens, SESI, ESB and EDS to maximise output information, including chemical analysis, from the sample |
| Differential Dynamic Microscopy | | Sizing of particles, particularly powerful for polydisperse systems |
| Zeta Potential | Malvern Zetasizer Nano | Average surface charge of colloids |
| Optical Tensiometer | Krüss EasyDrop model FM40Mk2 | Surface tension information |
| Oscillating Drop Tensiometer | Krüss DSA100R | Surface tension information |
| Langmuir Trough | | Surface pressure information |
| Oscillatory and Flow Rheology | TA Discovery-HR2 TA AR-2000 TA Ares G2 Anton Paar MCR 301 Anton Paar MCR 302 | Storage and loss moduli information. Shear stress and viscosity information. Including Double Wall Ring Geometry for interfacial rheology. Simultaneous imaging and rheological data of sample under shear |
| Extensional Rheology | HAAKE™ CaBER™ 1 | |
| Mechanical Testing | Universal testing analyser | |
| Optical Tweezers | | Microrheological information |
| Atomic Force Microscopy | | Microrheological information, surface mapping |
| Confocal Microscopy | Leica SP8 Zeiss LSM700 coupled to Zeiss Observer.Z1 inverted microscope | With up to 3 simultaneous fluorescently tagged components to observe dynamics. |

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| Potentiostat | | |
| Rheo-imaging | | Track the motion individual colloids whilst under shear, whilst simultaneously collecting rheology data |
| Differential Scanning Calorimeter | TA Discovery 2500 | Gain insight to the thermal behaviour of the sample |
| Isothermal Calorimetry | TA | Understand binding interactions, e.g. protein interactions |
| Diffusing Wave Spectroscopy | | Track the early stages of particle aggregation, creaming, sedimentation and coarsening of emulsions and foams |
| Quartz Crystal Microbalance | | Understand behaviour of molecular adsorption onto surfaces |
| Turbidostat | | Measuring cell density |
| Other light microscopes? | Olympus BX50 | With environmental box and automated stage. Imaging of biofilms and aggregate size and shape distribution analysis |
| Raspberry Pi Imaging Setup | Raspberry Pi Model 3B | |
| Density meter | Anton Paar DMA 4500 | |
| Liposome extruder | tt Scientific Nanosizer | |
| Multi-wavelength fluorescence excitation system | CoolLED precisExcite | |
| Fluorescence spectrophotometer | Cary Eclipse | |
| Spin coater | Camax Precima | |