

Our chemical measurements

Capabilities

Sample prep Separation

- Advanced sample preparation: laser ablation and enhanced extraction
- Extraction: ASE, SPE and QuEChERS
- Separation: uPLC, CapLC, GC, LCxLC, GCxGC and nanoLC
- Field Flow Fractionation

Organic MS

- 14 Mass spectrometers
- QQQ, QTOF, qMS, ITMS, MALDITOF/TOF, TOF and Orbitrap
- 12 experienced researchers
- Collaboration with Agilent, Bruker, Sciex, Thermo and Waters

ICP

- 8 ICPs and 1 IRMS
- 6 ICP-MS: ICP-TOF, QQQ, Q, sector field, and Multi-collector ICP-MS
- 1 ICP-OES
- 16 experienced researchers
- Collaboration with Agilent and Thermo

Applications

- Standalone
- Connect to Organic MS
- Connect to ICP-MS (speciation, NPs and imaging)
- Handle small sample volume

- From small molecules to proteins (quantification and tertiary structures) – down to ppb levels
- Food
- Biological samples
- Formulation and consumer products
- Natural products

- From trace elements to complex species, organo-metals and nanoparticles – down to ppt levels
- Food and Environmental
- Biological samples
- Formulation
- Consumer products
- Natural products

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Capabilities

Applications

NMR

- Bruker 600 MHz solution state
- 4 experienced researchers
- Qualitative and quantitative measurements (rapid)
- Targeted and untargeted assay
- Minimum sample preparation

- Structural characterisation and identification
- Purity for small molecules to peptides
- Rapid quantitation down to ppm levels

MSI

- Minimum sample preparation (solids only)
- 3 experienced researchers
- Non destructive
- Rapid simple untargeted assay
- Portable

- Solids
- Food adulteration

DoE and data analytics

- Several statistical packages
- R, DX-8, Simca-P and SAS
- 4 experienced statisticians

- Design of experiments
- Method validation
- Measurement uncertainty
- Modelling
- Multivariate analysis