



THE UNIVERSITY OF  
**SYDNEY**

# Sydney Analytical Fragment Based Drug Discovery Equipment and Expertise



## Nuclear Magnetic Resonance (NMR) with Automated Sampling

- A SampleJet auto sampler is mounted on our 600 MHz NMR instrument
- This allows us to automate data collection for up to 480 samples
- The auto sampler has individual refrigerated racks for optimal temperature control of samples
- NMR is routinely used to run FBDD screening and validation experiments using both protein-detect and ligand-detect methods for protein: fragment interactions as part of the FBDD workflow
- The facility also has experience measuring protein: protein, protein: nucleic acid and protein: small molecule interactions using NMR, as well as using NMR to determine protein and protein: small molecule structures
- In addition to FBDD work, the facility has collected and analyzed metabolomics data sets for a variety of sample types, including human and animal serum, plasma, urine and faeces, along with a variety of different tissue extracts.

## Surface Plasmon Resonance (SPR)

- SPR is a technique that allows for the measurement of a variety of biomolecular interactions
- In SPR the target of interest is immobilised on the surface of a chip, and possible interaction partners are flowed across the surface, and interactions measured
- We have successfully used this technique within the facility to measure protein: protein, protein: peptide and protein: small molecule interactions for a wide variety of targets, and using several different immobilization strategies.
- We plan to develop SPR capacity in the facility with the addition of a new SPR system with integrated robotics to enhance our capacity for high throughput sampling under automation

### For more information

**Research Portfolio** | Sydney Analytical – Drug Discovery

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