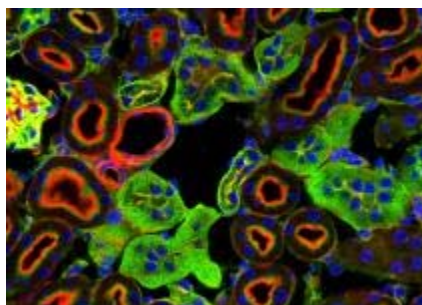


Structural Proteomics in Toronto (SPiT)

This facility houses high-resolution, high-field, high-sensitivity NMR instrumentation optimized for the rapid determination of three-dimensional protein structures on a genome-wide scale. The facility is led by Drs. Aled Edwards and [Cheryl Arrowsmith](#).



Service Department(s): Research Communications

Available Equipment

- 500 MHz Bruker Avance System, equipped with high-sensitivity 3-channel (H/C/N/D) micro cryo-probe, sample-changer and automatic tuning and matching
- 600 MHz Bruker Avance System, equipped with high-sensitivity 3-channel (H/C/N/D) cryoprobe, automatic tuning and matching
- 800 MHz Bruker Avance II System, equipped with high-sensitivity 3-channel (H/C/N/D) cryoprobe and automatic tuning and matching
- Computational capabilities for NMR spectral assignment and protein structure elucidation

Services

- Standard and advanced NMR experiments on biomolecular systems (with ^1H , ^{13}C and/or ^{15}N labelling).

Unique Capacity

Reduced set of multidimensional experiments for rapid full-structure determination of proteins using non-uniform sampling and multi-dimensional decomposition as well as semi-automated assignment using the ABACUS protocol.

Using the Facility

- Applicants interested in solving interesting and challenging high-resolution structural or dynamic problems using NMR on biomolecular systems
- Note that time is limited on the spectrophotometers and will be distributed according to priority of projects

Training

- Set-up of all standard multi-dimensional NMR experiments for biomolecular samples
- Backbone-assignment experiments
- Side-chain (TOCSY-based) experiments
- Cross-relaxation experiments (NOE) for structural distance constraints
- Measurement of residual dipolar couplings (RDCs)
- Measurement of relaxation parameters
- Assignment and structure determination protocols

Sample Preparation

- Cloning, expression, purification of ¹⁵N- and/or ¹³C-labeled proteins
- Protein partial alignment for RDC measurement

Usage Arrangements

- Collaborative and/or user fee.

Quick Links

- [Webpage](#)

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