**About Us**

**YSciCore** is the Core Analytical Facility of the Faculty of Science at York University, Toronto. Our mission is to support the scientific excellence of research programs. Each project is executed by domain experts, providing critical support from the earliest stages of grant writing and project design, through the experimental platform to data analysis. Liaise with YSciCore Facilities to access our state of the art Nuclear Magnetic Resonance platform, Mass Spectrometry and Advanced Light, and Ion and Electron Microscopy. From proteomics to Focus Ion Beam Milling, from Spinning Disk fast Z stacking to Superresolution, from EDX Elemental Mapping to EBDS domain orientation, from biomolecular NMR to accurate mass quantification - we ensure that findings are representative for the population.

**Contact Us**

**Nuclear Magnetic Resonance Spectroscopy**

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Nuclear Magnetic Resonance (NMR) Spectroscopy

Solution NMR has many applications from chemical identification to assessing chemical purity to monitoring chemical interactions. There is a wide range of techniques for observing biomolecular interactions and processes.

Capabilities
- $^1H$, $^2H$, $^13C$, $^{15}N$, $^{19}F$, $^{29}Si$, $^{31}P$ etc. analyses
- $^1H$ / $^{13}C$ / $^{15}N$ / $^2H$ triple resonance, multinuclear acquisitions
- Variable temperature data acquisition
- HR-MAS (gel-phase) data acquisition
- Flow analysis for reaction monitoring

Advanced Light and Electron Microscopy

Capture details that cannot be seen by the unaided eye with the most advanced microscopes on the market. Science and Industry use microscopy to study materials attempting to find connections between the structures, properties and behaviour.

Capabilities
- Characterization of biomaterial and engineered structures with 3D imaging
- Live cell imaging
- High resolution optical sectioning
- Ion milling
- Failure analysis
- Nanofabrication

Elemental Analysis

Reverse engineer material composition or create a phase map with the help of energy dispersive spectroscopy and electron backscatter diffraction. Elemental analysis is an analytical technique used where elemental and structural information is required.

Capabilities
- Elemental mapping
- Particles analysis
- Phase identification and mapping
- Grain growth, boundaries and size
- Failure analysis
- Orientation mapping

Elemental Analysis

Elemental Analysis

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Elemental Analysis

High Resolution Mass Spectrometry

Mass Spectrometers measure the mass of objects, particularly atoms and molecules. They have enabled scientists to decipher the innermost workings of the cell, identify diagnostic blood markers in disease, and develop immunotherapies to combat our deadliest pathogens.

Capabilities
- Identification and characterization workflows in proteomics
- Lipidiomics and metabolomics