



Western Sydney University's Leasable Equipment

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Advanced Materials Characterisation Facility	Description	Campus	Building
Joel 6510V	Tungsten filament low vacuum (LV) Scanning Electron Microscope Joel JSM 6510LV able to be used in variable pressure (VP) mode and can be used for natural state analysis, requires minimal sample preparation.	Parramatta North	LZ
Joel 860	The JEOL JSM-840A scanning electron microscope is a conventional medium resolution instrument used for micro-structural analysis and chemical analysis. Used for X-ray micro analysis and X-ray mapping. A Moran Scientific Microanalysis system is interfaced to allow qualitative and quantitative analysis to be performed. Analytical capabilities of the system include elemental line-scan, quantitative elemental mapping and digital image acquisition	Parramatta North	LP
Joel 7001F	Schottky Field Emission Scanning Electron Microscope Joel JSM 7001FA with EDS. Provides high resolution and very high magnification analysis. Can be used in STEM mode.	Parramatta North	LZ
Joel 8600 Probe	The JEOL 8600 is an electron microprobe with EDS and WDS spectrometers. Used for quantitative analysis and X-ray mapping and designed for the non-destructive x-ray microanalysis and imaging of solid materials. It is capable of high spatial resolution and relatively high analytical sensitivity.	Parramatta North	LP
Micrometrics	Able to determine surface area and pore size below 2nm	Parramatta North	LZ
Thermal Characterisation	Thermal analysis offers a perfect tool for the characterisation of all kinds of organic and inorganic solids and liquids during heating or cooling. Thermodynamic transitions, thermal stability, decomposition and chemical reactions are detected and quantified with high accuracy across a broad temperature range.	Parramatta North	LZ
XRD Bruker	Able to determine the crystalline phases present in a sample as well as quantitative phase analysis. Contains a high temperature stage for high temperature X-ray analysis within different environments.	Parramatta North	LZ
Hybrid Fourier Transform/Dispersive Raman Micro-Spectrometer	This combination provides full spectroscopic characterization and optimizes the strengths of the both techniques for your complex micro-analysis samples. By utilizing the multiple	Parramatta North	LZ

	wavelengths, from 1064 nm to 532 nm on a single microscopic spot, the Raman Scope III delivers excellent insight into many demanding applications, including forensics, pharmaceutical, carbon-based nano-materials and polymer science.		
Digital Instruments Multimode Scanning Probe Microscope	The Digital Instruments Multimode Scanning Probe Microscope is a low noise, high resolution scanning probe microscope. It operates in a number of modes, e.g. contact, tapping, and STM.	Parramatta North	LZ

Confocal Bio Imaging Facility	Description	Campus	Building
Leica SP5 & Multiphoton	Leica TCS SP5 laser scanning Confocal microscope - This system uses AOBS variable spectral detection instead of traditional emission filters and has the following laser lines: 405, 458, 476, 488, 496, 514, 561, 594 and 633 nm. It has micro-spectral detection capability and has a fully tuneable Multi-Photon imaging system	Hawkesbury	S8
Ocean Optics Spectrometer	Fluorescence and absorption spectrometer with an optical probe detection system	Hawkesbury	S8
Olympus E1 5	Megapixel digital camera with macro lens, infra-red and UV filters	Hawkesbury	S8
Olympus Pm C35DX	35mm camera and control unit for photo micrography	Hawkesbury	S8
Upright Leica DM6000B SPS	Upright Leica SP5 (with DM6000B microscope) with 458, 476, 488, 514, 543 and 633 nm laser lines and the Horiba Raman spectral detection capability	Hawkesbury	S8

Mass Spectrometry Facility	Description	Campus	Building
Xevo TQ-MS/Acquity UPLC	This instrument permits the separation, identification and quantification of small to medium sized molecules.	Campbelltown	30
Xevo QToF/nanoAcquity UPLC	This instrument permits the separation, identification and quantification of small to large molecules at very small concentrations. Such high resolution instruments are capable of providing accurate mass information. Popular applications include proteomics, metabolomics and lipidomics.	Campbelltown	30

Secondary Ion Mass Spectrometer Facility	Description	Campus	Building
SIMS Cameca IMS 5fE7	<p>A highly specialised surface analysis tool for high resolution depth profiling as well as surface analysis and ion imaging. The SIMS has many fields of application, including:</p> <ul style="list-style-type: none"> • Semiconductor devices • Energy conversion components • Materials science • Geology • Biological and marine materials 	Hawkesbury	M8

Next Generation Sequencer Facility	Description	Campus	Building
Illumina HiSeq 1500	The Illumina HiSeq 1500 is a high-throughput next generation sequencer allowing for massively parallel sequencing technology.	Hawkesbury	L9
Illumina MiSeq	The Illumina MiSeq is a desktop sequencer focusing on applied sequencing applications.	Hawkesbury	L9
Agilent TapeStation 2200	The Agilent 2200 TapeStation is a tape-based automated electrophoresis platform allowing for high-throughput quality assessment of nucleic acid samples.	Hawkesbury	L9
Caliper LabChip XTe	The Caliper Life Sciences LabChip XTe system is an automated system that uses microfluidic chips for nucleic acid separation.	Hawkesbury	L9
Covaris S220 Focused-ultrasonicator	The ultrasonicator is required in a number of Illumina protocols to shear genomic DNA to specific fragment lengths.	Hawkesbury	L9
PerkinElmer LabChip DS	UV-VIS absorption spectrometer utilising microliter microplates enabling the assessment of the quality and quantity of nucleic acid samples.	Hawkesbury	L9
EpMotion M5073 and EpMotion 5075	Automated pipetting systems designed for routine pipetting tasks and to improve accuracy and precision.	Hawkesbury	L9

Biomedical Magnetic Resonance Facility	Description	Campus	Building
BRUKER AVANCE III 600 MHz Wide Bore NMR/MRI Spectrometer (14.1 T)	Equipped with high field XYZ gradient amplifiers capable of generating up to 3000 G/cm. It is equipped with various probes and accessories that enable it to be used for a wide range of NMR experiments such as diffusion, micro-imaging, and high-resolution protein structure determination.	Campbelltown	17
BRUKER AVANCE II 500 MHz Wide Bore NMR/MRI Spectrometer (11.7 T)	Equipped with high field XYZ gradient amplifiers capable of generating up to 3000 G/cm. It is equipped with various probes and accessories that enable it to be used for a wide range of NMR experiments such as diffusion, micro-imaging, high-resolution MAS, and high-resolution protein structure determination.	Campbelltown	17
BRUKER AVANCE 400 MHz NMR Spectrometer (9.4 T)	Equipped with high resolution gradients (i.e., up to ~55 G/cm). Suited for heteronuclear NMR studies and for diffusion studies of small molecules to moderately sized polymers.	Campbelltown	17
VARIAN MERCURY 300 MHz NMR Spectrometer (7.0 T)	Equipped with 4-nuclei inverse probe with z-axis gradients. The probe was specially modified to simultaneously tune to four nuclei namely ^1H , ^{19}F , ^{13}C and ^{31}P . Suited for routine 1D and 2D NMR experiments.	Campbelltown	17