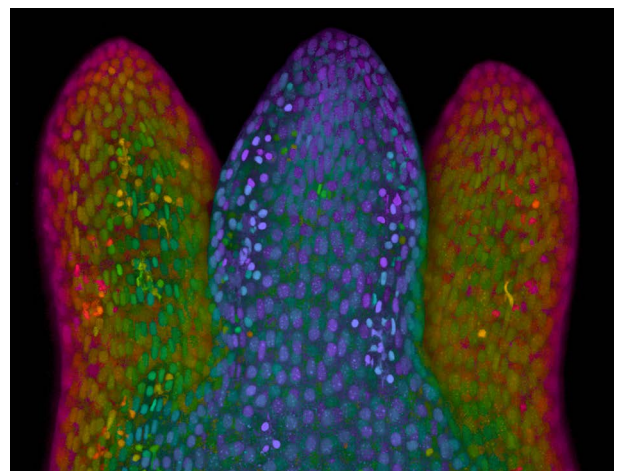


Microscopy suite

Scion offers a niche capability in the imaging of plants and biobased materials such as wood and bioplastics. Our suite of microscope equipment and world-class skills enables us to offer specialised service.

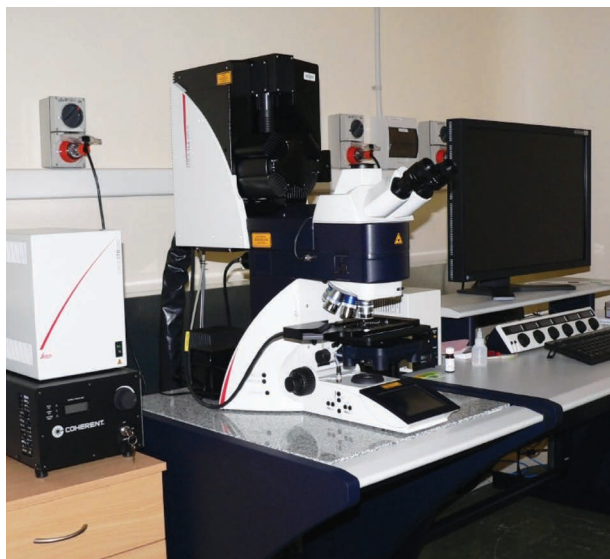


Microscopy techniques are used extensively by Scion scientists to study tree growth and diseases, wood and fibre properties, and for material characterisation in the development of plant-based biomaterials. Images can provide valuable insights into product characteristics and performance.

Scion offers internationally-recognised expertise in microscopy and image analysis of wood and plant fibres. This capability is used to support research on trees, wood and plastics.

Confocal microscopy

Confocal microscopy allows imaging of plant tissues and biomaterials in three dimensions using lasers. It is a tool integral to understanding the structure of wood and wood-based materials, fibres, plant tissues, fungi, plastics, adhesives, and paints and coatings. Scion's Leica TCS SP5 II spectral confocal microscope (below), can also be used for high resolution fluorescence imaging. The instrument includes four lasers and has UV capability.



Leica TCS SP5 II spectral confocal microscope.

Electron microscopy

Our JEOL 6700F field emission scanning electron microscope (pictured below) has secondary and backscattered electron detectors for imaging surfaces for topography and elemental contrast. It also has a STEM detector for transmission imaging of ultrathin sections. This instrument is optimised for imaging of biological samples and soft materials.



JEOL 6700F field emission scanning electron microscope.

Other microscopes

Scion has a range of light microscopes and sample preparation equipment to support imaging investigations including specialist software for image processing and analysis.

Scion's microscopes are used for

- visualising composite materials
- diseases in pine needles
- tree growth in relation to climate
- genetic and chemical modification of wood cell walls
- biomass deconstruction for biofuels
- bacteria that produce bioplastics
- environmental degradation of plastics

Contact information

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About Scion

Scion is the Crown research institute that specialises in research, science and technology development for forestry, wood and wood-derived materials, and other bio-material sectors.

Scion's purpose is to create economic value across the entire forestry value chain, and contribute to beneficial environmental and social outcomes for New Zealand.



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Prosperity from trees *Mai i te ngahere oranga*