

### User charges.

#### Note:-

- Charges are hourly with a minimum of 1 hour.
- Instruments & workstation are charged on usage time & not booked time.

#### MicroCT + operator -

UoA & external institution \$85  
Commercial \$150

#### Competent users MicroCT –

UoA & external institution \$50

#### Workstation –

UoA & external institution \$20  
Commercial \$50

#### Additional services:-

Image reconstruction,  
3D visualisation & movies,  
Analysis, Reports.  
UoA & external institution \$60  
Commercial \$95

ABI & Med Tech CoRE projects are subsidised – contact Dane for rates.

## Selection of samples imaged.

### Bioengineering

3D printed hydrogel, Carbon fibre composite, Fabric, Fibres, Ti scaffolds, Injection into skin, Injection nozzles, Printed scaffold models.

### Medical

Atria, Bone, Cochlea, Embryo, Eye lens, Heart tissue, Kidney, Lung, Medical implants, Stents, Skin, Skull.

### Biological

Apple & flower, Bird larynx, Crabs, Larval fish, Lung, Praying Mantis, Shrimp, Spiders, Wasps.

### Material

Asphalt, Baked products, Biofilm, Carbon fibre composite, Chocolate, Construction foam, Decalcification of bone, Filters, Injection nozzles, Ti Printed beams, Wood.

### Geological

Beach & desert sand, Wet clay.

### Industry

Component failures, Batteries, filters, Integrated circuits, Oxygen sensors, Laser drilled holes, Quality control of parts, Solder joints. PCB's.



AUCKLAND  
BIOENGINEERING  
INSTITUTE

## Auckland Bioengineering Institute & Med Tech CoRE

### MicroCT Facility



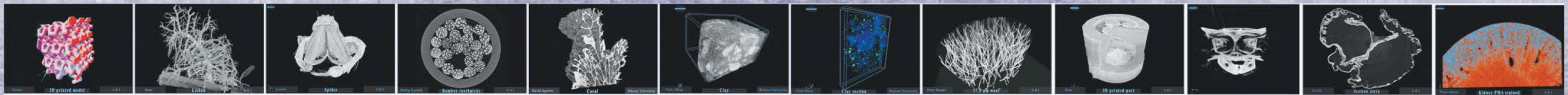
[www.abi.auckland.ac.nz/microct](http://www.abi.auckland.ac.nz/microct)

#### Contact :

Manager: Dane Gerneke. TechRMS.  
[d.gerneke@auckland.ac.nz](mailto:d.gerneke@auckland.ac.nz)  
Mob: 021 045 8867

#### Location:

Ground floor  
70 Symonds Street  
Auckland  
New Zealand



## HISTORY

The microCT facility at the ABI was established in 2005 with the installation of a SkyScan 1172 instrument.

The capabilities of the facility was expanded at the beginning of 2015 with the installation of the new generation Bruker/SkyScan 1272 instrument capable of sub-micron pixel resolution. The original 1172 was also overhauled at the factory with a new source & higher Megapixel camera.

Since the beginning of 2015 Dane Gerneke has been managing the instruments and providing a professional service on all aspects of imaging & specimen preparation.



## MicroCT & X-ray microscope

Is an imaging modality to non-destructively obtain 3D & 2D structural information & volumetric analysis, down to sub-micron pixel resolution.

Samples can be imaged from multiple disciplines: Life, Medical, Material, Geological & Engineering sciences as well as numerous Industrial applications.

### Services offered:-

- Samples run for clients
- Assisted operation of instruments
- Sample prep & experimental design
- Reconstruction of image data
- 3D visualization & movie making
- Image analysis
- Training – at mangers discretion
- Written reports.

We are able to do a 1 hour zero cost pilot imaging of your sample to demonstrate the instruments capabilities.

## Bruker SkyScan1272



- ✓ Fields of view: Single field from 25 mm x 17 mm to 2.4 mm x 1.6 mm.
- ✓ Maximum volume imaged -75 mm diameter & 75 mm high - requires 3 x 5 image fields.
- ✓ Pixel resolution: 22  $\mu$ m to 0.35  $\mu$ m. Multiple camera pixel selectable from 4904 to 1224 pixels width.
- ✓ kV - 20 to 100. Current maximum 100mA. Exposure time per image 1 to 15000 ms.
- ✓ 6 filter positions.
- ✓ Instrument can accommodate after hours unattended operation.
- ✓ 2D & 3D Time lapse for dynamic experiments possible.

## SkyScan 1172



- ✓ Fields of view: Single field from 27 mm x 18 mm to 2 mm x 1.4 mm.
- ✓ Maximum volume imaged - 50 mm diameter & 75 mm high - requires 2 x 5 image fields.
- ✓ Pixel resolution: 27  $\mu$ m to 0.5  $\mu$ m.
- ✓ Multiple camera pixel selectable from 4000, 2000 & 1000 width.
- ✓ kV - 20 to 100. Current maximum 100mA.
- ✓ Exposure time from 1 to 10000 ms.
- ✓ Capable of shorter scan times than 1272 and able to scan denser samples. Extensively used for bone work.

