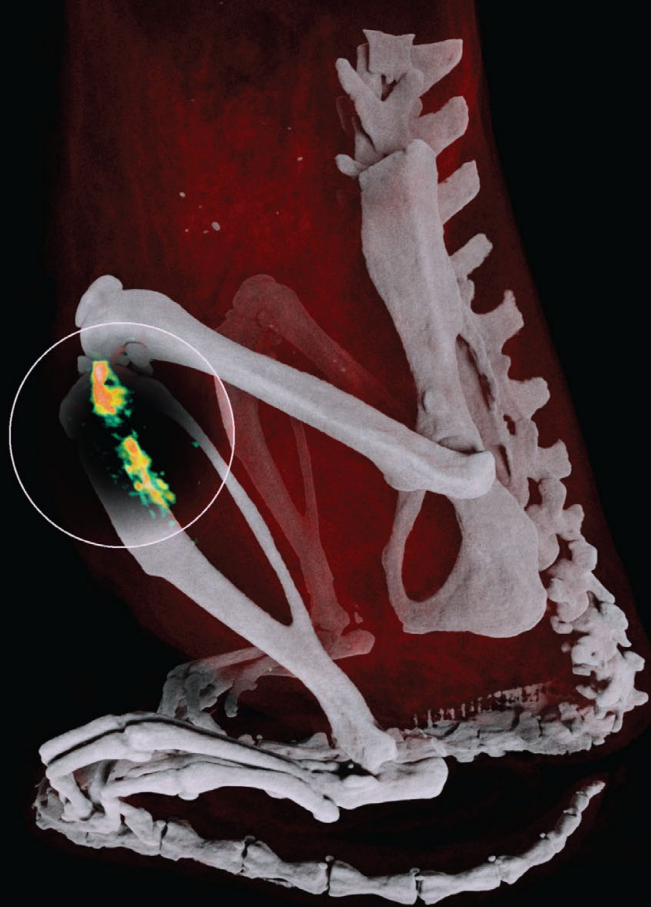




Microlab Imaging System™





**MICROLAB IMAGING
SYSTEM™**

Spectral photon-counting CT for advanced biomolecular research

We count individual photons and measure energy to see small anatomic structures and identify and quantify up to 6 materials with one scan, all in your regular lab environment.

MARS Bioimaging's advanced photon counting CT technology delivers colour 3D imaging, material identification and quantification, at low dose, in a compact form.



**HIGH RESOLUTION,
MORE DETAIL**

You can't solve what you can't see

Our spectral imaging technology allows for spatial resolution of 0.9mm isotropic voxels in biomolecular research applications, enabling the visualisation of small anatomic structures and contrast media.

From innovation to application, our Microlab solution helps researchers understand the efficacy of novel treatments and biomaterials.

colour
3D
imaging

0.9mm
isotropic
voxels



CORE CAPABILITIES

Spectral photon-counting CT

Our PCCT technology uses energy resolved detectors to measure the energy change of individual photons. This allows for the identification and quantification of different materials using up to 5 energy bins.

Bone, tissue, metal implants and biochemical markers are brought into sharp, vivid focus in both 2D and colourised 3D imagery.

Ultra-high resolution at low dose

0.09mm millimetre detail at low radiation doses with native metal artifact handling.

Simple and safe to use

Internally shielded, compact scanners designed for use in pre-clinical research labs.

2D + 3D
vivid
focus

High
resolution
low dose



A POWERFUL RESEARCH TOOL

Identify and quantify up to five materials in a single scan and customise protocols to suit your application.

RESEARCH NEEDS MORE THAN ANATOMY

See what materials are present, at what concentration, simultaneously. Differentiate multiple contrast agents, distinguish drug compounds from tissue and observe nanoparticle distribution.



FOR RESEARCHERS

Spectral imaging that brings your study to life

Ultra-high resolution (UHR) or 33 lp/cm with 0.9mm isotropic voxels. 2D and 3D volume renders with vivid colour overlays. Energy and material map previews. Precise region-of-interest measurement and per-material quantification.

- Standard and/or custom protocols
- Use preconfigured bone/tissue or multi-contrast protocols or make your own to suit your application.
- Clearly differentiate multiple materials
- Water, lipid, iodine, gadolinium, hydroxyapatite (HA) and nanoparticles E.g. gold
- Wide application range
- Osteoarthritis biochemistry, cancer imaging, atherosclerosis imaging, developing novel contrast agents.
- Research translation
- Operates in human energy range (7-120 keV) allowing for translation into medical imaging applications.



FOR FACILITIES MANAGERS

Built for the lab you already have

A fully shielded, mobile PCCT scanner that does not require a lead lined room or facilities alteration. Integrates with diagnostic imaging DICOM/PACS systems or data can be exported onto a standard Windows computer.

- No special infrastructure
- Internally shielded for safe operation in unlined rooms. Plug into standard 110V or 240V mains power.
- Desktop footprint
- Compact scanner requires only 0.8m² of space. 12cm bore with 44cm scan length.

requires
only
0.8m²
of space

standard
**110V or
240V**
mains power

20+ YEARS OF INNOVATION
& DEVELOPMENT

World-class tech for real world applications

Built from a passion to bring ultra-high resolution (UHR) spectral imaging out of foundational science and into the hands of everyday clinicians and researchers, MARS Bioimaging has made ground-breaking CERN technology inside Medipix3RX photon-counting detectors available for advanced medical imaging in pre-clinical research and clinical applications.

*Right: Prof. Anthony Butler, Prof Phil Butler
MARS Bioimaging founders*



Technology & specifications

MicroLab Imaging System™ uses Medipix3RX technology for advanced resolution of PCCT. Charge summing improves sensitivity and specificity. Metal artifacts reduced natively with features inherent to the system.

SEE WHAT YOU'VE BEEN MISSING

Discover how spectral imaging can transform your biomolecular research pathways.

Use of Medipix3RX is licensed to MARS Bioimaging for use in medical imaging. CERN does not endorse products or companies.

TECHNICAL SPECIFICATIONS

Detector	CdTe PCD
X-ray Tube	25 KHU
Current	0.010 – 0.35 mA
Bore	120 mm
Footprint⁴	0.8 m ² (8.6 ft ²)
Weight	405 kg (890 lb)
Software	MARS Scanner, MARS Vision



marsbioimaging.com



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