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Research  
Core Labs



GENOMICS



MICROSCOPY



FLOW CYTOMETRY



PRE-CLINICAL IMAGING



## FLOW CYTOMETRY

### Flow Cytometry Core

provides advanced instrumentation as well as high-level technical and scientific expertise in multi-dimensional flow cytometric analysis and cell sorting. The facility is equipped with benchtop analyzers, sorters and data analysis workstations to facilitate innovative research.

## INSTRUMENTS

### Cytek Aurora

The Cytek Aurora spectral benchtop cytometer is equipped with four lasers (405, 488, 561 and 640nm) and 48 detection channels, which offer unparalleled sensitivity and enhanced multiplexing capabilities.

### Amnis Imagestream Imaging Flow Cytometer

This cutting-edge imaging system features seven lasers (375, 405, 488, 561, 592, 642 and 730 nm) and six high-resolution imaging channels designed to capture detailed images with the functionality of cytometer.

### BD LSRII Flow Cytometer

This benchtop cytometer is equipped with four lasers (405, 488, 561 and 633nm) and allows for detection of up to 15 fluorochromes at a time.

### Sony SH800 Cell Sorter

The automated sorter is enclosed in a biosafety cabinet and outfitted with three collinear excitation lasers (488nm, 561nm and 638nm) and six fluorescence detectors. This setup offers flexibility and supports a variety of applications that can sort a range of cells using microfluidic sorting chips.



## PRE-CLINICAL IMAGING

The **Pre-Clinical Imaging Core** provides investigators with access to state-of-the-art multi-modality MRI/PET/CT/SPECT imaging technologies. This advanced tech provides researchers with high-spatial-resolution, anatomical imaging of tissues and high specificity of molecular imaging in real-time, offering precise functional imaging capabilities. Core is equipped with supporting and monitoring instrumentation to allow a vast assortment of imaging studies.

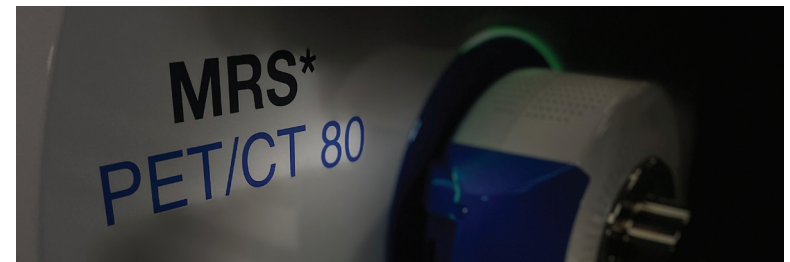
## INSTRUMENTS

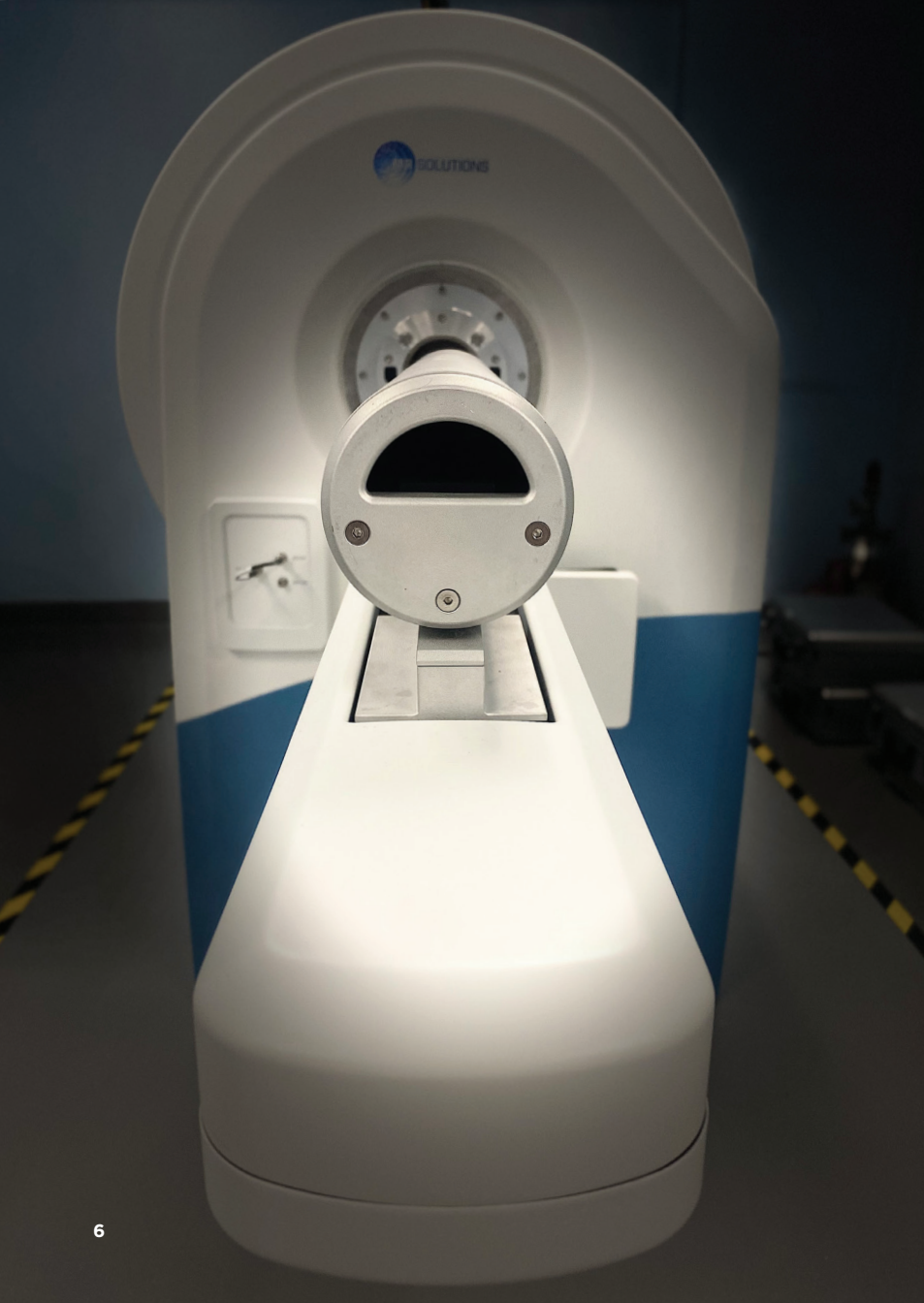
### MR Solutions multi-modality MRI/PET/CT/SPECT Imaging System

This integrated multi-modality imaging system comes with a variable field MRI (7T/3T). The system allows researchers sequential access to MRI, PET/MRI, SPECT/MRI, CT, PET/CT and SPECT/CT scanning of small animals.

### Perkin-Elmer IVIS Imaging System

This multimodal imaging system offers sensitive and flexible small-animal optical visualization in bioluminescence, fluorescence and X-ray settings.





## MICROSCOPY

**Microscopy Core** provides advanced instrumentation and services to meet the imaging and image analysis needs of researchers. Core provides equipment training, services and consultation on imaging experiments of fixed tissues and live cell.

### INSTRUMENTS

#### **Zeiss LSM 880 Confocal Microscope with AiryScan Super Resolution:**

This confocal laser scanning microscope is equipped with six laser lines, a variety of objectives, filter sets and detection systems that offers simultaneous 5-channel, super-resolution, ultrafast imaging of fixed tissues and live-cell.

#### **Keyence BZ-X800 All-in-One Fluorescence Microscope:**

The Keyence BZ-X800 is a fully motorized control system fitted with advanced image processing and analysis functions, four filter cubes and a selection of different objectives with live-cell imaging capability.

#### **Image Analysis Workstation:**

The workstation is a high-performance processing system for users with Zeiss Zen Black/Blue, FIJI/ImageJ, Napari and Cell profiler image analysis software.



## GENOMICS

The **Genomics Core** is equipped with high-throughput automated library prep handlers and a sequencing system in order to provide researchers with access to next-generation DNA sequencing technologies.

### INSTRUMENTS

#### ILLUMINA NextSeq 550

This benchtop sequencer possesses the power and flexibility to carry out a wide range of next-generation sequencing applications.

#### Agilent TapeStation 4200

This automated electrophoresis system provides complete solution for end-to-end precise sample quality control and quantification for any sequencing need.

#### 10x Genomics Chromium Controller

The Chromium Controller automates sample partitioning and barcoding at a molecular level, enabling single-cell-level sequencing and analysis.

#### Applied Biosystems 3130 Genetic Analyzer

This benchtop analyzer can be used for a vast array of sequencing and fragment analysis applications.

#### C1000 Touch Thermal Cycler qPCR System

The thermal cycler allows users to easily program protocols for a range of molecular applications.

