BMIT Facility Overview

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The BioMedical Imaging and Therapy (BMIT) facility will provide synchrotron-specific imaging and therapy capabilities. The BMIT will provide a world-class facility with unique synchrotron specific imaging and therapy capabilities that will be used to research problems in human medicine, veterinary medicine, agriculture, and other biomedical areas. The facility is made of 05ID-2 and 05B1-1 beamlines and the supporting laboratories. The bend magnet beamline will test and validate new ideas in imaging and therapy for eventual translation to insertion device beamline 05ID-2.

The facility is designed for imaging and therapy research primarily in biomedical systems from mice to humans to horses, as well as tissue specimens including plants. Core research programs include human and animal reproduction, cancer imaging and therapy, spinal cord injury and repair, cardiovascular imaging and disease, bone growth and development, mammography, developmental biology, gene expression research, development of new imaging methods as well as extending present imaging capabilities.

The ID beamline will host a number of imaging capabilities, including K-edge subtraction (KES), diffraction enhanced imaging (DEI), multiple image radiography (MIR), phase contrast imaging (PCI), and normal absorption imaging in both projection and CT modes of operation. In addition, the beamline will have a filtered white beam therapy capability for microbeam radiation therapy (MRT), monochromatic beam therapy methods and synchrotron stereotactic radiation therapy (SSRT).

The facility is in the final stage of construction and will welcome users in 2008.

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