



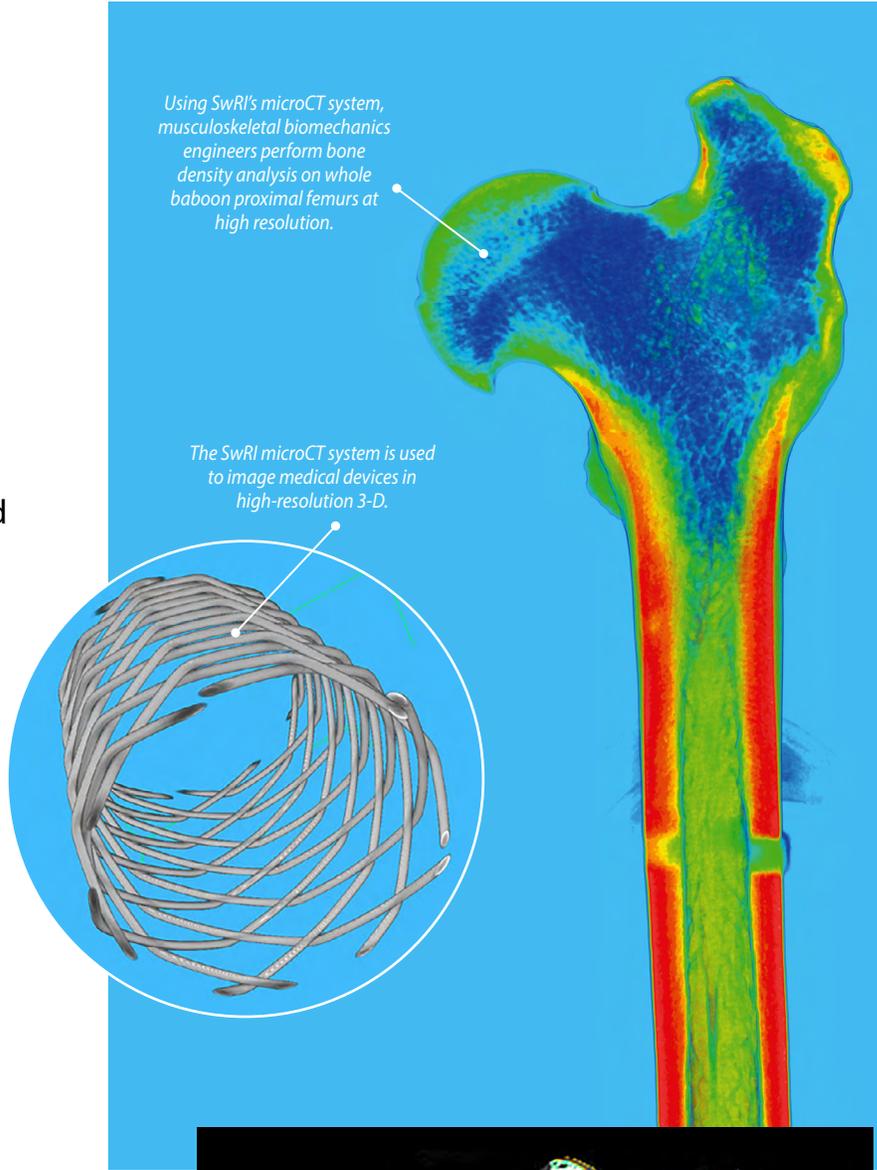
SOUTHWEST RESEARCH INSTITUTE

MicroCT Analysis

Southwest Research Institute® (SwRI®) offers expertise in high-resolution micro-computed tomography (microCT) imaging and analysis. SwRI's advanced imaging system allows high-resolution digital X-ray inspection and microCT imaging of a wide variety of samples, including musculoskeletal tissue and structures, and a variety of polymeric, metallic, and ceramic industrial and medical device components.

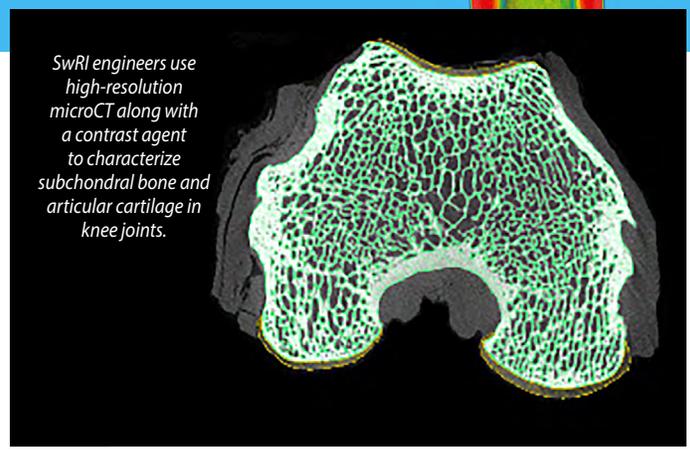
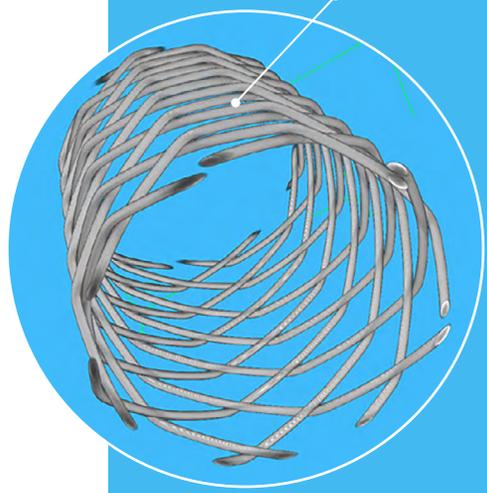
Capabilities

- Advanced 2-D X-ray inspection
- 2-D CT slice reconstruction
- CT volume reconstruction for 3-D inspection
- 3-D internal and external surface scanning
- 3-D measurement and analysis of scanned samples
- Morphological and microstructural characterization of partial or whole biological specimens
- Dimensional characterization and defect inspection of medical devices
- Large imaging area for large samples
- High-resolution imaging
- Bone density and quality analysis



Using SwRI's microCT system, musculoskeletal biomechanics engineers perform bone density analysis on whole baboon proximal femurs at high resolution.

The SwRI microCT system is used to image medical devices in high-resolution 3-D.



SwRI engineers use high-resolution microCT along with a contrast agent to characterize subcondral bone and articular cartilage in knee joints.

Applications

SwRI's biomechanics engineers develop and apply advanced computational and unique experimental techniques to address a variety of musculoskeletal biomechanics-related problems, including:

- Osteoporosis
- Osteoarthritis
- Bone fracture risk
- Musculoskeletal injury risk
- Musculoskeletal implant failure risk



Using SwRI's microCT facility, SwRI engineers investigate the structure-function relationship of whole skeletal structures such as this human lumbar spine.

We welcome your inquiries.

For more information, please contact:

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SOUTHWEST RESEARCH INSTITUTE

Southwest Research Institute® is a premier independent, nonprofit research and development organization. With eleven technical divisions, we offer multidisciplinary services leveraging advanced science and applied technologies. Since 1947, we have provided solutions for some of the world's most challenging scientific and engineering problems.

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