



The heart pumps blood throughout the body and is one of its own most important customers. A powerful muscle that contracts day and night, it has a huge demand for oxygen-rich blood, as indicated by the dense network of blood vessels that deliver oxygen and nutrients to every heart cell. Images like this can be used to make detailed comparisons of healthy and diseased hearts.

Credits:

Image courtesy of Mark L. Riccio, PhD, Cornell University's BRC CT Imaging Facility, and Flavio H. Fenton, PhD, Georgia Institute of Technology

Technical notes:

This image was created using a non-invasive 3D-imaging technique called X-ray micro-computed tomography (CT). It uses low-dose X-rays to collect a series of 2D images of a specimen at different angles and a computer to reconstruct a high-resolution 3D model. Whereas the heart was scanned at a resolution of 25 microns—about the width of a human hair—a state-of-the-art CT scanner can achieve sub-micron resolutions.