

# Robert Thomen

**University of Missouri researcher  
Dr. Robert Thomen gives the lungs  
another look.**

Chronic lower respiratory disease is the third leading cause of death in the U.S. These lung diseases, which range from asthma to chronic obstructive pulmonary disease (COPD), are responsible for 7 percent of all deaths. Thomen, an assistant professor in radiology and bioengineering, is hoping that a new way to see what is happening inside the lungs will make both treatments and diagnoses more precise.

Currently the method of choice to check lung health is an x-ray or CT scan, but both options have drawbacks — ionizing radiation and lack of detail in the image of the lung's airspace. Thomen, who runs the Mizzou Pulmonary Imaging Research Lab, is using a novel approach to see inside the lungs. He has patients inhale an inert gas while in an MRI scanner. During this single breath hold, a scan can be made that gives a far sharper picture of lung health. The gas, which is completely harmless within the lungs, shows where the airways are healthy and where there are blocked pathways, as well as how extensive the blockages are. The images also reveal lung structure. Thomen hopes these detailed scans can help researchers investigate, diagnose and treat diseases like COPD, asthma, cystic fibrosis, idiopathic pulmonary fibrosis and emphysema.

Thomen has published in *Radiology*, *American Journal of Respiratory and Critical Care Medicine*, *Journal of Cystic Fibrosis*, *Journal of Magnetic Resonance Imaging*, *Pediatric Radiology* and *Pediatric Pulmonology*.

Dr. Robert Thomen has a joint appointment with the College of Engineering and the School of Medicine.

