



## **Peter Lauterbur**

1929-2007

## **Sir Peter Mansfield**

1933-

Paul Lauterbur, an American chemist, and Peter Mansfield, a British physicist, are jointly responsible for laying the groundwork which made the development of magnetic resonance imaging (MRI) possible.

Lauterbur discovered that two-dimensional images could be produced by introduction of gradients in a magnetic field. In 1973 he described how the addition of gradient magnets to the main magnet made it possible to visualize a cross section of tubes with ordinary water surrounded by heavy water – a feat not possible with any other imaging method.

Mansfield discovered that use of gradients in the magnetic field gave signals that could rapidly and effectively be analyzed and transformed to an image. He also showed how extremely rapid imaging could be achieved by very fast gradient variations. This approach became possible in clinical practice a decade later.

These discoveries made it possible to develop modern magnetic resonance imaging which represents a breakthrough in medical diagnostics and research, with more than 60 million MRI's performed each year. As a result, in 2003 Lauterbur and Mansfield were jointly awarded the Nobel Prize in Physiology or Medicine.