



Fondazione  
Cottino

## High resolution clinical MRI scanner for the eye

### DESCRIPTION:

Design, construction and testing in laboratory and in clinical environment of an MRI system dedicated to ocular applications.

### ABSTRACT:

Objective of the project is to set up, test and industrialize an innovative low cost, non invasive scanner based on high spatial resolution Magnetic Resonance Imaging to be used for ocular analysis. The apparatus will be based on: a very compact 0.2T permanent magnet, specifically designed electronics, acquisition sequences capable of reducing acquisition time. It will reach a sub-millimetric resolution by adopting a multi-coil receiver of high temperature super-conducting material. The target users are clinical ophthalmic centres, particularly those in which clinical activity is accompanied by clinical research. Other users will be the radiology department in which a low cost apparatus can take care of the specific section of ophthalmic pathologies reducing the crowding on the "whole body" high cost apparatuses. During the development of the program the apparatus will be tested both with phantoms in a laboratory environment and through clinical tests.