

Anatomical, blood flow, oxygenation and functional MRI of the retina

Timothy Duong

University of Texas Health Science Center, USA

This presentation will review recent developments in high-resolution MRI and its application to image anatomy, physiology, and function in the retina of animals and humans. It describes technical issues and solutions in performing retinal MRI, anatomical MRI, blood-oxygenation-level-dependent fMRI, and blood-flow MRI of normal retinas and of retinal degeneration, diabetic retinopathy and glaucoma.

MRI offers unique advantages over existing retinal imaging techniques, including the ability to image multiple layers without depth limitation and to provide multiple clinically relevant data in a single setting. Retinal MRI has the potential to complement existing retinal imaging techniques.

Biography

Timothy Duong was the winner of the ISMRM Rabi's Young Investigator Award (1998), a NSF predoctoral fellowship (1994-1998), and a recipient of a NIH NRSA postdoctoral fellowship (1999-2001) during postdoc training at the Center of Magnetic Resonance Research at the University of Minnesota. Dr. Duong is the Stanley I Glickman Professor of Ophthalmology, Radiology and Physiology, MRI Division Chief, Assistant Director of Research of the Research Imaging Institute. Dr. Duong is a recipient of the VA Career Development Award (2007-2009) and the Established Investigator Award from the American Heart Association (2009-2014).

Duong has over 17 years of experience in developing and applying magnetic resonance imaging (MRI) to study anatomy, physiology and function of the central nervous system in normal and diseased states in animal models and humans.

DuongT@uthscsa.edu