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Hosted by Yalin Wang

Methods in Magnetic Resonance Imaging

INVITED TALK FEATURING

James G. Pipe, Ph.D

Director, Neuroimaging Research

Director, Keller Center for Imaging Innovation

BARROW Neurological Institute, Phoenix, AZ

Thursday, September 12th - 11:30 AM – 12:50 PM

Brickyard - BYENG 210

Abstract:

Magnetic Resonance Imaging (MRI) is an expanding field that can be used for a variety of purposes. A host of different approaches to data collection and processing leads to numerous types of scanning, measuring anatomy, muscle motion, flow, diffusion, chemical processes, tissue perfusion and metabolism, and many more. A visual survey of some of these methods will be given in the first part of the talk. In the second part, the concept of "Full Speed MRI" will be discussed, along with a few examples of how the speed of MRI increases greatly over the next few years.

BIO:

Dr. Pipe received a BSE and an MSEE in electrical engineering, and an MS and a PhD in bioengineering from the University of Michigan. He also completed a National Institutes of Health Postdoctoral Fellowship at the University of Michigan. After serving on the faculty of the Department of Radiology at Wayne State University, he joined Barrow Neurological Institute in 1999, where he now serves as the Director of Neuroimaging Research.

He is a Fellow of the International Society for Magnetic Resonance in Medicine (ISMRM), and served on the ISMRM Board of Trustees and chaired their 20th Annual meeting in Melbourne, Australia in 2012. He is a Deputy Editor of the *Journal of Magnetic Resonance Imaging* and on the editorial boards of the journal *Magnetic Resonance in Medicine*. Dr. Pipe is also an Adjunct Professor in the School of Biological and Health Systems Engineering at Arizona State University.

Dr. Pipe's research focuses on developing next-generation methods for magnetic resonance imaging (MRI) that have a significant, positive impact on patient care. He invented the first commercial method for MRI specifically designed to eliminate the blurring of images caused by patients moving during an MRI scan. This method is now sold on almost all commercial scanners. He also works on methods to improve imaging of brain structures, function, and connectivity as well as on methods for measuring blood flow. He continues to help establish the mathematical underpinnings of innovative MRI techniques intended to reduce scan times while increasing the information available to physicians.

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