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DEPARTMENT OF PHYSICS

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Exploring the Influence of Echo Time on Functional and Diffusion MRI using a High-Performance Gradient MR Scanner

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Register Now

Date: May 25, 2023 (Thursday)
Time: 10 – 11am
Venue: WLB205, Shaw Campus

ABSTRACT

Echo time is a fundamental parameter in MR scan that plays an essential role in determining the T2 weighting of an image. Thanks to the progress on high-performance gradients, it is now possible to further optimize echo time settings, even using multiple echo times with advanced accelerating techniques. In this presentation, we will share our experiences with brain MRI, covering both resting-state functional MRI and diffusion MRI. First, I will demonstrate how multi-echo acquisition enhances the reliability of resting-state functional MRI with appropriate pre-processing strategies. Then, we will explore the correlation between scalar metrics in diffusion MRI and echo time, and the implications for multicenter studies.

BIOGRAPHY

Hongjian He obtained his Bachelor's degree in 2005 and Ph.D. degree in 2011 from Zhejiang University (ZJU). Following his postdoctoral research, he joined the College of Biomedical Engineering and Instrument Science to establish the Center for Brain Imaging Science and Technology at ZJU. He became an associate professor in the end of 2015 and has recently moved to the School of Physics at ZJU in 2022. Hongjian's research focuses on the quantitative mapping of complex brain structures.

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