

The Third International Conference and Young Scientist School “Magnetic Resonance Imaging in Biomedical Research”

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ABSTRACT

The Third International Conference and Young Scientist School “Magnetic Resonance Imaging in Biomedical Research” was held in Novosibirsk, Russia, on November 24-26, 2016. The Conference was held within the framework of the International Congress on Clinical and Translational Neuroimaging organized by the International Tomography Center of the SB RAS, Institute of Medicine and Psychology at Novosibirsk State University (NSU), Institute of Cytology and Genetics of the SB RAS, and Tomsk State University (TSU).

The Conference focused on magnetic resonance imaging (MRI) applications for biomedical research. The main goal was to bring together major scientists, clinical researchers and developers of new MRI techniques to bridge the gap between clinical/research needs and advanced technological solutions. The Conference encouraged research and development in basic and clinical MR science and its application in health care. It also had an educational purpose to promote understanding of cutting-edge MR developments. The Conference provided an opportunity for researchers and clinicians to present their recent theoretical developments, practical applications, and to discuss acute problems.

The program of the Conference was divided into three main topics. The first day of the Conference was devoted to educational lectures on the fundamentals of MRI physics and image acquisition/reconstruction techniques including recent developments in quantitative MRI. The second day focused on developments and applications of new contrast agents. Multinuclear and spectroscopic acquisitions as well as functional MRI were presented on the third day of the Conference.

We would like to highlight the main developments presented at the Conference and introduce the prominent speakers. The keynote speaker of the conference Dr. Vasily Yarnykh (University of Washington, Seattle, USA) demonstrated a method of macromolecular proton fraction and its application in clinical and preclinical studies. Professor Yuri Pirogov (Lomonosov Moscow State University) presented development of multinuclear magnetic resonance imaging in biomedical experiments. Dr. Marina Khodanovich (Tomsk State University) described histological validation of macromolecular proton fraction mapping on the model of cuprizone-induced demyelination.

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