Advances in Magnetic Particle Imaging (MPI) and Its Preclinical Applications

Magnetic Particle Imaging (MPI) is widely recognized as the next-generation medical imaging technology with great potential for clinical translation. It boasts distinctive advantages such as high sensitivity, high contrast, radiation-free imaging, and real-time in vivo dynamic visualization, which have enabled it to demonstrate significant application value in preclinical research. This lecture will elaborate on the basic principles of MPI, the standard MPI imaging workflow, and the latest progress of MPI technology in preclinical applications across fields including stroke, cardiovascular diseases, pulmonary diseases, and tumors