

2026 年 1 月 19 日 (月) 15:00~17:00

会場：筑波大学 5C317

世話人：平田浩祐 (2682) 参加費無料

※学外の方は事前の申込みが必要です。【メール】office.arihhp@un.tsukuba.ac.jp

Advanced Ultrasound Techniques for the Evaluation of Muscle Neuromechanical Properties

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Ultrasound imaging is increasingly used to study muscle structure and function, yet its application is often limited to two-dimensional, single-probe assessments. In reality, muscle neuromechanical behaviour is three-dimensional, spatially heterogeneous, and dynamically coupled to neural activation. This presentation will showcase advanced ultrasound approaches for evaluating muscle neuromechanical properties, including three-dimensional ultrasound, dual-probe configurations, and shear wave elastography. These techniques enable the assessment of regional muscle architecture, deformation, and mechanical properties, and provide complementary insights into how neural drive translates into force and movement. Methodological considerations, practical challenges, and emerging opportunities for integrating ultrasound with electrophysiological measurements (i.e. high-density electromyography) will be discussed, highlighting the potential of these tools to improve the objective evaluation of muscle function in research and applied settings.



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