

# THE 2<sup>nd</sup> WILLDYNAMICS ELECTROPHYSIOLOGY WORKSHOP

(第44回 ARIHHP Human High Performance セミナー)

2019年 3月 12日 (火) 14:00~17:00

会場：筑波大学5C606

世話人：征矢 英昭 (2620) 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.taiiku.tsukuba.ac.jp](mailto:office@arihhp.taiiku.tsukuba.ac.jp)

## Electrophysiology as a tool to understand brain function

フランソワ グラニエ 博士  
François Grenier, Ph.D.

Laboratory of Exercise Biochemistry and  
Neuroendocrinology, Faculty of Health and  
Sport Sciences, University of Tsukuba



Understanding how the brain functions is a fundamental objective for modern societies, particularly for the improvement of mental and physical health in the population. The brain performs its functions mainly through the generation of electrochemical events that can be detected at different scales, with a variety of electrophysiological techniques. Dr. Grenier will provide an overview of what we have learned from electrophysiological techniques about the workings of the brain, and the kind of problems they can be used to address at the present. We will discuss techniques such as *in vivo* intracellular recordings, single units, local field potentials and EEGs and how they have been applied to understand brain activities such as the wake/sleep cycle and the functioning of neuronal networks. This will be an opportunity to discuss the application of electrophysiological techniques to address questions specific to the Will Dynamics program.

※本セミナーは新学術領域研究「意志動力学 (ウィルダイナミクス) の創成と推進」との共同開催です。

主催

- 文科省特別経費プロジェクト  
ヒューマン・ハイ・パフォーマンスを実現する次世代健康スポーツ科学の国際研究教育拠点 - 最先端生命・認知脳科学の導入 -
- 文科省科研費 新学術領域研究  
意志動力学 (ウィルダイナミクス) の創成と推進

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# THE 3<sup>rd</sup> WILLDYNAMICS ELECTROPHYSIOLOGY WORKSHOP

(第45回 ARIHHP Human High Performance セミナー)

2019年 3月 18日 (月) 14:00~17:00

会場：筑波大学共同研究棟B208

世話人：征矢 英昭 (2620) 参加費無料

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## Practical demonstration of electrophysiological techniques in a sport neuroscience laboratory

フランソワ グラニエ 博士  
François Grenier, Ph.D.

Laboratory of Exercise Biochemistry and Neuroendocrinology, Faculty of Health and Sport Sciences, University of Tsukuba



Electrophysiological methods have helped reveal a wealth of fundamental information about the workings of the brain, and are still at the cutting-edge of techniques for studying the brain and its functioning. But what do techniques such as EEG, EMG, local field potentials and single-unit recordings entail at the technical level? How much effort and time? What type of material, equipment and technical abilities are required to apply these methods to specific questions and projects? And to properly carry out analysis? We will use recordings and experiments presently ongoing in the lab of Prof Hideaki Soya at Tsukuba University to demonstrate such applications. The workshop will be held in the Electrophysiological Recording Room of the Soya lab. Attendees will be able to see in detail the necessary steps for using the techniques mentioned above, and what is necessary for obtaining such recordings and perform their analysis.

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