脳とこころの研究センター 脳画像解析に関する国際交流勉強会

Brain & Mind Research Center
International exchange meeting on cutting-edge imaging technology to advance brain research

セミナー題目：機械学習は神経画像解析を促進する

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Title: "Machine Learning Technique aids Neuroimaging Analysis"
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Summary: Machine learning technique can be utilized to mine information contained in neuroimaging data (e.g., fMRI and EEG) and facilitates to reveal underlying mechanisms of brain structure and function. In this talk, I will introduce feature selection methods and graph theoretical method, as well as their applications in schizophrenia and fatigue studies. Specifically, we found that inter-hemispheric disconnectivity was paramount compared to intra-hemispheric disconnectivity in schizophrenia by means of the exploration of functional connections identified by feature selection methods. Moreover, a significantly reduced modularity was revealed in functional brain networks of patients with schizophrenia, but was not observed in structural networks. The coupling between structural connectivity and functional connectivity for schizophrenia group showed module-dependent aberration, which was correlated with clinical characteristics. In the fatigue study, we employed graph theoretical method to reveal that fatigue resulted in the changes of graph metrics, such as global efficiency decline. Finally, I will introduce our recently developed method of temporal efficiency evaluation, which is an extension of the static graph theoretical method.

日時：平成 29 年 5 月 17 日（水） 17 時 30 分〜 19 時 00 分
Time & Date: 17:30-19:00, Wednesday May 17, 2017
場所：基礎研究棟 1 階会議室 2(生協横)
Room: Conference Room 2 on the 1st floor, Building for Medical Research
事前の申込みは不要です。 No registration required.