

The 38th Chinese Control Conference

Pre-conference Workshop 2

Advances on Brain Signal Processing



Speaker: Peng Xu, University of Electronic Science and Technology of China

Title: Probing Brain with EEG Brain Networks

Abstract: As for the high level cognition process, brain involves multiple brain areas functioning as a network to process the information. Moreover, various mental disorders have been proved to be closely related to the abnormality of brain network. EEG with merits of easy operation, mobility and especially high temporal resolution is potential to reveal the dynamic brain networks during cognition process. However, due to the low SNR of EEG and volume conduction, it is very challenging to construct the reliable EEG networks. In this talk, we will introduce the network analysis specifically developed for EEG, which can reliably construct the connectivity, causality and time-varying networks based on scalp EEG. Then, we will talk about how to apply the network analysis to brain computer interface, cognition and clinical studies.

Biography: Peng Xu received Ph.D. from University of Electronic Science and Technology of China (UESTC) in 2006. He has been post-doctor training in University of California, Los Angeles during 2007-2009. From 2014, he has been professor in School of Life Science & Technology, UESTC. His research interest includes the development of methodology for EEG analysis, Brain Computer Interface and EEG based clinical applications. He has more than 80 refereed journal publications including IEEE TBME, IEEE TNSRE, Journal of Neural Engineering, Cerebral Cortex, Neuroimage and Human Brain Mapping, etc. He is funded by the National Science Fund for Excellent Young Scholar in 2015, and received the first prize of natural science of Ministry of Education in 2010.

CCC2019

