

## Machine Learning and AI for Mental Health

Session Co-chairs: Ada Poon, Stanford University, and Takamitsu Matsubara, Nara Institute of Science and Technology

Session abstract:

Within this context, we will explore the different challenges and solutions experienced in Japan and the United States.

Our first speaker, Dr. Yoshinobu Kano, associate professor in the Department of Behavior Informatics, Faculty of Informatics, Shizuoka University, will discuss automatic mental disease diagnosis from the natural language processing point of view. The second speaker, Dr. Tetsuya Yamamoto, associate professor at Tokushima University, will discuss how clinical psychoinformatics approaches can detect individual physical and mental health patterns. The third speaker, Dr. Makoto Kawai from Stanford University, will talk about machine learning to evaluate memory decline and autism.

Specific questions to be addressed are: how could we monitor our mental states and act/treat accordingly to make ourselves a happier and better life.

Session Speakers:

*1. Natural Language Processing in Medical Applications*

Yoshinobu Kano, Associate Professor, Department of Behavior Informatics, Faculty of Informatics, Shizuoka University

Bio: Dr. Yoshinobu Kano is an associate professor at the Faculty of Informatics, Shizuoka University. He received a BS in physics (2001), MSc (2003) and PhD (2011) in information science and technology from the University of Tokyo, respectively. He served as a research associate in University of Tokyo (2009), JST PRESTO researcher (2011), and an associate professor (PI) in Shizuoka University (2014-). His major research area includes Natural Language Processing (NLP). He is interested in human-like natural language processing and its applications in medical, legal and conversational issues.

<http://kanolab.net/kano/>

*2. Clinical Psychoinformatics Approaches for Improving Quality of Life*

Tetsuya Yamamoto, Associate Professor, Graduate School of Technology, Industrial and Social Sciences, Tokushima University.

Bio: Dr. Tetsuya Yamamoto is an associate professor at the Graduate School of Technology, Industrial and Social Sciences, Tokushima University. He is also a clinical psychologist and director of the Clinical Psychoinformatics Laboratory. He received his Ph.D. degree in human science from Waseda University. He completed his postdoctoral training at the University of Pittsburgh and Hiroshima University. His academic research field is linked to vulnerability assessment and intervention for depression.

[https://researchmap.jp/tetsuya\\_yamamoto/?lang=english](https://researchmap.jp/tetsuya_yamamoto/?lang=english)

*3. Machine Learning, Sleep, Aging and Memory*

Makoto Kawai, Stanford University

Bio: <https://profiles.stanford.edu/makoto-kawai>