

Asian humanities and brain informatics to enhance peace and compassion of the mind

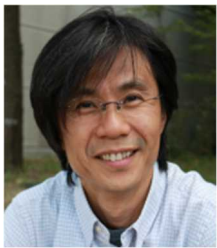
Project manager

(selected in 2021)

IMAMIZU Hiroshi

Director

ATR Cognitive Mechanisms Lab.



Leader's institution

Advanced Telecommunication
Research Institute International
(ATR)

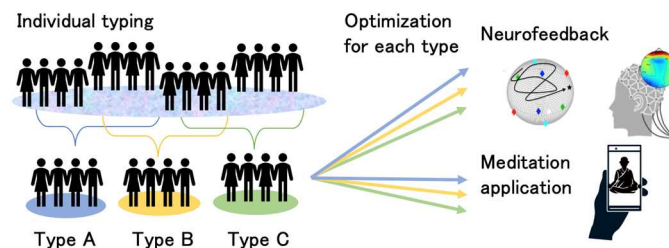
R&D institutions

XNef, Inc.
KDDI Research, Inc.
The University of Tokyo

Summary of the project

Based on the Asian humanities and neuroscience, we will elucidate the transition of states of mind. We will model the individuality of mental states through a combination of large-scale surveys and detailed small group interviews and establish a data-driven typing of peace of mind and vitality. We will also develop technologies to visualize transitions in brain dynamics in real time and develop meditation methods based on these technologies. We will develop meditation and neurofeedback methods according to individual typing. Through meditation and visualization of brain dynamics, we will create a society where people can face themselves, increase their peace of mind and vitality, and have compassion for others.

【Neurofeedback an meditation optimized for individual types】



Milestone by year 2032

- Combine neurofeedback and meditation to propose methods for optimizing the balance between comfort and vitality for each type of personal characteristic.
- Conduct social implementation experiments to determine which indicators of happiness can be changed in the real world.

Milestone by year 2027

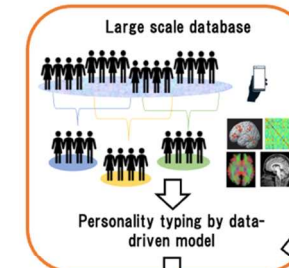
- Establish a method for identifying types of personal traits.
- Proof-of-principle experiments on new neurofeedback.
- Large-scale experiments on meditation using smartphones.

Project structure

- ① **Data-driven modeling:** Individual typing on peace of mind and vitality
 - Model construction Saori Tanaka (ATR)
 - Large-scale surveys Hajime Nakamura (KDDI Research)
 - Analysis optimization Yuki Sakai (XNef)
- ② **Neurofeedback:** Visualization of brain informatics and development of neurofeedback
 - Realtime visualization of brain state transition Tomohisa Asai (ATR)
 - Brain dynamics estimation Motoaki Kawanabe (ATR)
- ③ **Social implementation:** Development of applications for Buddhism mediation and conducting experiments using the application
 - Buddhism meditation design Ken-ryou Minowa (Univ. of Tokyo)
 - Large-scale meditation experiments Issaku Kawashima (ATR)

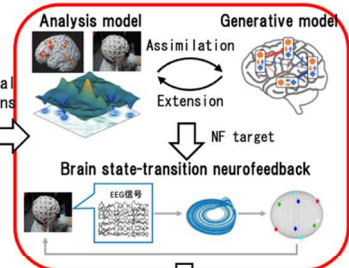
Theme ① Data-driven Model

Establishment of personality typing



Theme ② Neurofeedback

Development of neurofeedback (NF)



Theme③ Social Implementation

Large-scale meditation and meditation experiment

