# 基盤医学特論
## Tokuron Special Lecture

メディカルAI人材養成産学協働拠点(AI-MAILs)／卓越大学院プログラムCIBoG
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# Identifying neuroimaging-based biomarkers for the classification of various brain disorders using machine learning

**Lecturer: Dr. Epifanio Bagarinao is currently an associate professor of the Department of Integrated Health Sciences, Nagoya University Graduate School of Medicine.**

**Over View:** Current diagnostic procedures for neuropsychiatric disorders rely heavily on behavioral criteria. As a result, the diagnosis of these disorders can be influenced by several factors that can strongly affect diagnostic reliability including patient's psychological state, clinician training and experience, and inadequacy in disease nomenclature, among others. For the treatment to be effective, the correct identification of the disorder is crucial. Thus, it is imperative that patient assessments be based on more objective measures. Recent advances in brain imaging technology have enabled researchers to noninvasively identify changes occurring in the brains of patients with various neuropsychiatric disorders. As such, several studies have investigated the feasibility of utilizing these changes as potential neuroimaging-based biomarkers of these disorders using machine learning algorithms, such as support vector machines, which have been successful in detecting these changes from imaging data, enabling the classification of patients from healthy controls. This lecture will introduce well-established techniques using magnetic resonance imaging to identify changes in brain structure and its functional organization in various brain diseases as well as present applications of machine learning algorithms in classifying patients from healthy controls based on these changes.

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| **Date:** | **Oct. 6, 2023 (Fri.) 17:00 – 18:30 (Online)** |
| **Language：** | **English** |
| **Contact:** | **Ms. Sayuri Asai, Secretariat of AI-MAILs (ext. 5538)** |
| **Note：** | **Pre-registration is required** |

This lecture is held through Zoom. This lecture requires registration. Please register in advance by the start time of the lecture. The URL for class registration of this lecture will be announced by the e-mail"【med-all】TKR&TPRO Lectures Scheduled Coming Week" sent on Friday of the previous week. Please check emails regularly, when the lecture date of your choice approaches.. Attendance is checked through TACT. The keyword for TACT will be given during the class.