

Syllabus

1 . Course title, style, and credit

Investigation of human brain function using electrophysiological methods
1 credit

2 . Appropriate grade level and Eligible Departments

D1, 2 (obligatory), D3-5 (optional) School of Life Science

3 . Main lecturer

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4 . Time

[Oral]
10:00~12:00 on Friday

October 2, 9, 30
November 13, 20, 27
December 4, 11,

5 . Place

1F Lecture room in Myodaiji building of NIPS

6 . Prerequisites and Styles

This course is given as oral lecture in English.

7 . Contents

Clinical neurophysiology is to study human brain functions using electrophysiological methods such as electroencephalography, magnetoencephalography, electromyography, and transcranial magnetic stimulation. One of the biggest advantages of this is a very high temporal resolution in order of msec. compared with hemodynamic methods such as functional magnetic resonance imaging and near-infrared spectroscopy.

This lecture series will introduce basic knowledge of clinical neurophysiology and up-to-date findings of human brain functions using electrophysiological methods and hemodynamic methods, mainly the former.

8 . Course objectives

1. Comprehension of basic knowledge of clinical neurophysiology.
2. Comprehension of up-to-date findings of human brain functions using electrophysiological methods

9 . Schedule

(1) October 2nd

Basic knowledge of clinical neurophysiology

Ryusuke KAKIGI (NIPS)

(2) October 9th

Pain-related brain activity

Koji INUI (NIPS)

(3) October 30th

Change-related brain activity

Koji INUI (NIPS)

(4) November 13th

Neural processing of auditory signals in human brain

Hidehiko OKAKOTO (NIPS)

(5) November 20th

Cortical plasticity in the human auditory cortex

Hidehiko OKAMOTO (NIPS)

(6) November 27th

Face perception in humans

Ryusuke KAKIGI (NIPS)

(7) December 4th

Attention and consciousness

Tetsuo KIDA (NIPS)

(8) December 11th

Structure and function of oral and maxillofacial region

Kiwako SAKAMOTO (NIPS)

1 0 . Lecture materials and readings

Nothing in particular

1 1 . Grades

Students are requested to file the short essay related to the Course Objectives. Either passed or failed is determined by the quality of the report. Students must attend the classes at least half of total classes to take a credit.

1 2 . Notes

Nothing in particular