Syllabus

1. Course Title, style, and credit
   Molecular Basis of Neural Signaling
   Lecture
   1 credit

2. Appropriate grade level and Eligible Departments
   All Departments
   For Department of Physiological Sciences, D1, 2 (obligatory), D3–5 (optional)

3. Lectures
   Keiji Imoto
   E-mail: keiji@nips.ac.jp
   Yamate 3rd Building, 9th Floor West, NIPS (Yamate Area)

4. Time
   [Oral]
   10:00 — 12:00 on Friday
   May 13, 20, 27
   June 3, 10, 17, 24
   July 1

5. Place
   Seminar room B of the Yamate 3rd Building, 9th Floor (Yamate Area)
   The lectures will be delivered by the remote lecture system.

6. Prerequisites and Styles
   Basic knowledge on the central nervous system will help to understand the lecture but is not essential.

7. Contents
   We will introduce the basic mechanisms of information processing at the molecular and cellular levels
   and in the nervous system together with their biophysical backgrounds.

8. Course objectives
   1. To understand the biophysical backgrounds of action potential generation
   2. To understand the measuring and assessment methods of activities of various neuronal networks

9. Schedule
   (1) May 13
      Overview of molecular basis of neuronal information processing (1)
      Keiji Imoto (NIPS)
   (2) May 20
      Overview of molecular basis of neuronal information processing (2)
      Keiji Imoto (NIPS)
   (3) May 27
      Overview of molecular basis of neuronal information processing (3)
      Keiji Imoto (NIPS)
   (4) June 3
      Measuring activity of neuron population
      Toru Tsujimoto (NIPS)
   (5) June 10
      Spinal cord and pain
      Hidemasa Furue (NIPS)
   (6) June 17
      Synaptic and perisynaptic mechanisms
      Shin-ichiro Satake (NIPS)
(7) June 24
  in vivo patch clamp method
  Hidemasa Furue (NIPS)

(8) July 1
  Molecular basis of memory
  Yoko Yamagata (NIPS)

10. Lecture materials and readings
   The following book is recommended to read, although it is not used as a textbook.

11. Grades
   Students are requested to file the short essay related to the Course Objectives. Students must attend the classes at least half of total classes to take a credit. For evaluation, more than 60 in a 100-point scale is judged successful.

12. Notes
   Nothing in particular