基本的な分子製御と細胞生物学の講義で、リプレッションとトランスレーション、タンパク質の構造と機能、遺伝子の構造と機能、核の構造と機能、細胞の構造と機能、細胞質と細胞核の構造と機能、細胞間の信号伝達、細胞イメージリング（講義）

概要
分子細胞生物学の基本的な概念を理解すること、分子レベルでの解析法を理解すること、細胞レベルでの生物現象を理解すること、細胞レベルでの解析法を理解すること。

Aim
1. Elucidation of biological phenomena in a molecular level
2. Understanding methods to analyze in a molecular level
3. Elucidation of biological phenomena in a cellular level
4. Understanding methods to analyze in a cellular level

Grading criteria
The grades will be A, B, C, and D, which are determined by the quality of the paper, which must be submitted to the lecturer by the provided deadline. The subject(s) of the paper must be one of the four important aspects that are presented in the above Aim.
**Lecture Plan**

May 17, 2019- February 7, 2020 13:30-15:10 on Fridays

2019

May 17 Kazuhiro Maeshima, Structure of Chromosome
May 24 Yasuto Murayama, Partition of Chromosomes
June 7 Masato Kanemaki, Replication, Recombination and Repair of Chromosome
June 14 Yoshihisa Oda, Cell Structure I
June 21 Yuta Shimamoto, Structure and Function of Protein
June 28 Yusuke Miyanari, Regulation of Transcription
July 5 Nobuyuki Shiina, Regulation of Translation
July 12 Koichi Kawakami, Transposable Element
October 18 Shin-ya Miyagishima, Cell Structure II
October 25 Akatsuki Kimura, Cytoskeleton
November 8 Tomomi Tsubouchi, Cell Cycle and Cell Differentiation
January 10 Shigenori Nonaka, Cilia and Flagella
January 17 Akira Yamashita, Meliosis
January 24 Takashi Ueda, Intracellular Transport
January 31 Yoshiaki Kamada & Shoji Mano, Autophagy
February 7 Kazuhiro Aoki, Signal Transduction

**Location**

Oral and TV: Seminar Room (B202), 2nd floor of Library in the National Institute of Genetics / Seminar Room 4 (131) 1st floor in the National Institute for Basic Biology

**Language**

English

**Textbooks and References**

Molecular Biology of the Gene, J. D. Watson et al., CSHL Press.
Molecular Biology of the Cell, B. Alberts et al., Garland Science.
Genes, B. Lewin, Prentice Hall.
Introduction to Genetic Analysis, A. J. F. Griffiths et al., W H Freeman & Co.
The Cell Cycle, D. O. Morgan, Oxford University Press.

**Related URL**

URL:

**Explanatory Note on above URL**

It is desirable to have the basic knowledge corresponding to the lecture of
Molecular and Cellular Biology I (E-learning), but it is not mandatory. It is given as an oral lecture, which will be provided in English.