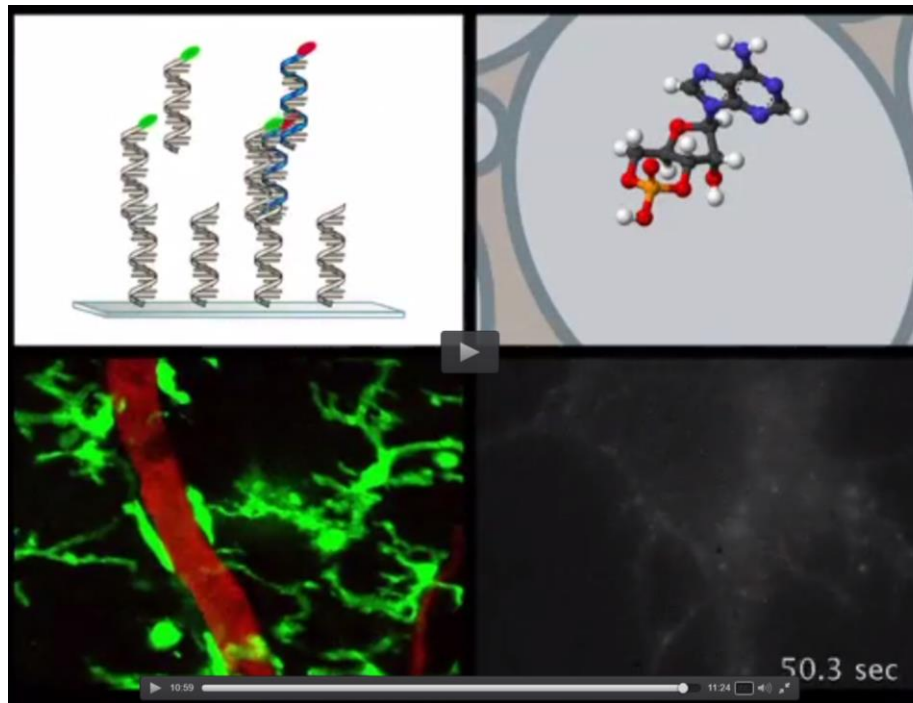




An Introduction to Cellular and Molecular Neuroscience



<http://www.jove.com/science-education/5213/an-introduction-to-cellular-and-molecular-neuroscience>

1. Who deciphered the mechanical process by which neurotransmitters are released from presynaptic terminals?

- A) Shosaku Numa
- B) Eric Kandel
- C) Ricardo Miledi
- D) Thomas Südhof

2. Molecular neuroscientists are often concerned with the _____ associated with neurological disease.

- A) familial histories
- B) environmental factors
- C) neural architecture
- D) genetic mutations

3. What avenue of research most directly leads to the discovery of drugs like Lidocaine, a drug that blocks pain signals to the brain?

- A) The study of ion channel physiology
- B) The study of mutant fruit flies
- C) The study of neuronal plasticity
- D) The study of organelles at the synapse

- A. What methods can be used to analyze gene expression in brain cells?
- B. What methods can be used to manipulate the expression of genes in cultured cells?
- C. What methods can be used to visualize neurons, glia, and their parts?
- D. What methods can be used to profile neuron populations?

Student seminars 2019-20

When: January 8-9-15 (date changes are possible)

How long: 20 min maximum per presentation

- one research article presented by 2 students
- calendar of presentations will be defined by **December 19th**
- Depending on performance, the seminar presentation may add additional points to the final grade. English will be the language for the slides and for the oral presentation

Bibliographic Search Activity and article selection for student presentations

- The **Bibliographic Search Activity** will serve to build up a data base of **research articles** on the different Topics covered during the course. After the end of each Topic, the students will have a fixed amount of time (about 1 week) to search an interesting research article related to the Topic and upload it on Moodle, in a Topic-specific folder. This activity is obligatory, will be evaluated by the teacher, and will count 20% for the final grade.
- For each Topic, the teacher will select 4-5 articles among all those uploaded by the students, and will move them to a folder called “articles selected for student presentations”.
- By December 18th, groups of 2 students have to **select one research article for their own presentation** among those approved by the teacher
- When students know what article they are going to present, it is important to search one or more review articles to introduce the specific topic in the seminar presentation.

Suggestions on how to make a good seminar

subdivide the presentation in:

- **INTRODUCTION of the topic (5-6 min)**
- **SCIENTIFIC QUESTIONS (few seconds)**
- **EXPERIMENTAL DATA (6-8 min)**
- **DISCUSSION/CONCLUSIONS (3-4 min)**
- **OPEN QUESTIONS / PERSPECTIVES (1-2 min)**
- **BIBLIOGRAPHY (articles used for the presentation, including research and review articles)**

EVALUATION CRITERIA

SEMINAR ORGANISATION:

- slides quality
- subdivision of the presentation
- clarity of speech
- effectiveness and capacity to draw attention

CONTENT:

- comprehension of technical aspects and of the experimental design
- identification of scientific questions and of the most relevant results
- result interpretation and discussion
- ability to contextualize results in the literature framework and propose future prospects

- LINKS with the Topic materials covered during the course