

# Introduction to fluorescence imaging for the analysis of living cells

**Prof. Jean-Yves CHATTON**

Dept. Fundamental Neurosciences, Univ. Lausanne

- The course will be given entirely online
  - recorded video lectures (ca. 2-hour each week) available every week from Tuesdays
  - live Q&A sessions with Prof. Chatton every week on Fridays from 11:30 -12:00
- Lectures will be given in English
- Validation of *ONE* credit for students of the local doctoral schools (FBM and LNDS)

## Topics per week; from:

**5 January 2021** : Basics of transmitted light and fluorescence microscopy

**12 January 2021** : Confocal microscopy

**19 January 2021** : Modes of image formation, acquisition, signal sampling

**26 January 2021** : Dynamic recording of cellular functions by fluorescence imaging.

Intracellular ion imaging and cellular signaling.  
Issues related to imaging of living cells

**2 February 2021** : Other optical applications (proposed topics):

Fluorescence recovery after photobleaching (FRAP), photoactivation - optogenetics, multiphoton microscopy, fluorescence resonance energy transfer (FRET), optical contrasting methods (phase contrast, DIC), super-resolution microscopy

**Registration:** register before **January 4, 2021** by writing an email to [Indscourses@gmail.com](mailto:Indscourses@gmail.com)

and stating the course title as subject.

→ **Admission to the course is free and open to anyone interested**

## **Course materials:**

- available on <https://moodle2.unil.ch>
- log in with your institutional address (UNIL, CHUV, EPFL)
- click on "Faculté de Biologie et de Médecine" > "Ecole doctorale / doctoral school" > "Lemanic Neuroscience Doctoral School"
- course materials will be stored under "Introduction to Fluorescence Imaging for the Analysis of Living Cells"
- the login password will be sent to registered participants. Please contact [Ulrike.toepel@unil.ch](mailto:Ulrike.toepel@unil.ch) in case you did not receive it 2 days before course start.