

# PhD course: C267/03 Introduction to Fluorescence Microscopy

ECTS: 5.40  
GP: ClinFO  
Responsible: Lene Niemann Nejsum  
Secretary: Annette Poulsen  
Application deadline: 15-7-2019

**Title:** Introduction to Fluorescence Microscopy

**Reg.no:** C267/03

is being offered by the Graduate School of Health, Aarhus University, fall 2019

**Criteria for participation:** University degree in medicine, dentistry, nursing, or Master's degree in other fields and/or postgraduate research fellows (PhD students and research-year medical students).

**Aim:** The aim is to give the participants an overview of basic fluorescence microscopy techniques, sample preparation, image acquisition and imaging analysis.

**Learning outcomes:** The students should obtain a basic knowledge of different fluorescence microscopy techniques, sample preparation, image acquisition and image analysis. This should enable them to prepare their samples for fluorescence microscopy, choose the appropriate microscope setup for their research purpose, acquire images and subsequently perform quantitative analyses to generate publication figures, thus enabling them to participate in research projects involving fluorescence microscopy.

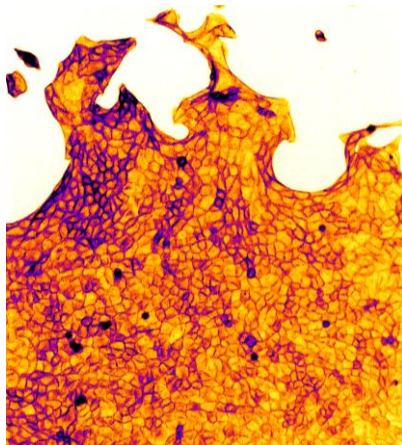
**Content:**

1. Overview of basic fluorescence microscopy methods including white light microscopy, wide-field fluorescence microscopy and confocal microscopy as well as optics, cameras and photodetectors.
2. Introduction to sample preparation (hands on) of cells and paraffin embedded tissue sections for fluorescence microscopy.
3. Introduction to image analysis using Image Fiji; this includes working with multi-colour images, time-lapse sequences, background handling and fluorescence quantification (hands on) and
4. Practical demonstration of wide-field fluorescence image acquisition using both an upright microscope and an inverted, automated microscope (mix of demonstration and hands on). There will be a mandatory home assignment equivalent to 0.6 ECTS.

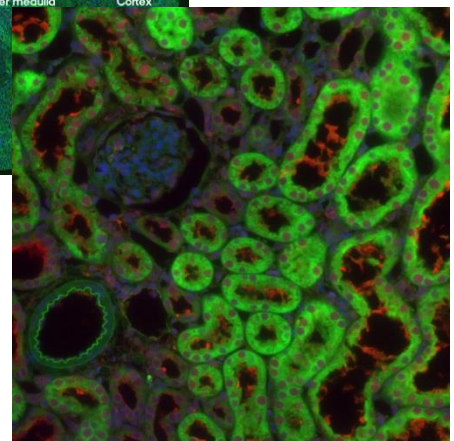
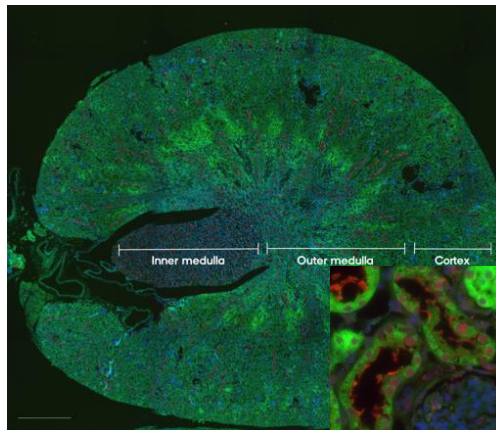
**Dates and times:** 12-14 August and 26-28 August 2019

**Place:** The Bartholin Building (1240) room 121 and adjacent laboratory facilities, Wilhelm Meyers Allé 4, 7000 Aarhus C and Skejby Hospital

**Application deadline:** 15 July 2019



Live, migrating cells



Immunohistofluorescence