

PoND CREATE Module

Fluorescence Methods for Characterizing Molecular Dynamics in Drug Delivery

(January to April 2020)

This course is open to students in the PoND program and graduate students at UVic.

Fluorescence is a method of choice for many applications because of its sensitivity. This module will cover the theoretical background for steady-state and time-resolved fluorescence measurements including anisotropy measurements. These fluorescence techniques can be used to differentiate between different environments based on properties, such as polarity or rigidity. Fluorescence techniques will be introduced in videos including videos on the use of steady-state and time-resolved fluorescence spectrometers. Experimental pitfalls will be discussed as well as applications to drug delivery systems.

The lectures and laboratory demonstrations are available on video and students are expected to view these before the lectures. Students will search for relevant literature examples that will be discussed in class. Papers and a short description on the relevance to the material to be discussed in class will be submitted ahead of time on Monday's at 5 pm (PT) prior to each class.

Instructor: Cornelia Bohne

Next offering – Jan.-Apr. 2020

Lectures from 10:00 - 11:20 am PST on

Thu, Jan 16 Thu, Jan 23 Thu, Jan 30 Thu, Feb 6 Thu, Feb 13 Thu, Feb 27

Evaluation:

6 % - participation during in class discussions

20% - choice and summary of papers (first submission is not graded, the subsequent 5 are).

10% - Paper presentation in class (each student will make a 5 min presentation twice during the course).

64% - Individual paper where the student provides a critical analysis of two papers from the literature where fluorescence is used to study drug delivery systems.

Schedule for the assignment:

Mon, Feb. 3: Choice of the 2 papers. Papers will be sent to Cornelia to check if they are appropriate

Mon., Feb. 10: Second deadline if the choice of papers has to be changed

Mon., Mar. 9: Submission of draft for the paper (optional)

Fri, Mar 13: Cornelia's deadline to send feedback back to students on their drafts

Thu, Apr. 9: Deadline for submission of paper.