



PhD program in Pharmaceutical Sciences

- *Advanced courses* -

*Faculdade de Farmácia
Universidade de Coimbra*

Coordinator

João José Sousa

FFUC/CQC

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ADVANCED COURSE

“New Frontiers in Drug Development”

04-11 April, 2022

Objectives

Pharmaceutical development is a relevant phase in the entire path to new drug products. It can be considered as the technical, scientific and regulatory support of the products to market, as it shows the whole path of “drug product design” from the beginning. The new approaches like Quality by Design (QbD) still coexist with a trial-and-error process, but emerging tools such as process analytical technologies (PAT), or even Artificial Intelligence (AI) are posing quite interesting but also complex issues. Thus, it is important to address strategies for the development of complex drug products and complex manufacturing processes.

With this in mind, the main objective of this course is to make students aware of the underlined issues in pharmaceutical development through examples of current projects dealing with new approaches of building a pharmaceutical product.

The Course is divided into ten lectures covering different topics in the field, given by lecturers from the Faculty of Pharmacy of Coimbra, and concludes with a plenary lecture by Prof. Richard Guy on Regulatory science and drug product development.

PROGRAM

Monday, 04 April

15.30h- Introduction

João José Sousa

Faculty of Pharmacy, University of Coimbra

16.00h- Mesoporous Materials for Drug Delivery and Imaging

Luís Bimbo

Faculty of Pharmacy, University of Coimbra/CIBB



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Tuesday, 05 April

16.00h- Pulmonary delivery and quality control of inhaled drug products

Marisa Gaspar

Faculty of Sciences and Technology, University of Coimbra /CIEPQPF

17.00h- Micro and nanoencapsulation in the pharmaceutical industry

António Ribeiro

Faculty of Pharmacy, University of Coimbra/I3S

Wednesday, 06 April

16.00h- Materials's Identification and characterization

João Canotilho

Faculty of Pharmacy, University of Coimbra/CQC

17.00h- Case studies of pharmaceutical co-crystals: anti-inflammatory drugs with pyridine carboxamides co-formers

Ricardo Castro

Faculty of Pharmacy, University of Coimbra/CQC

Thursday, 07 April

16.00h- Nanotechnology in Vaccine Development

Olga Borges

Faculty of Pharmacy, University of Coimbra/CNC

17.00h- Biomedical applications of halloysite clay nanotubes

Ana Cláudia Santos

Faculty of Pharmacy, University of Coimbra/Requimte

Friday, 08 April

16.00h- Solid Lipid nanoparticles for brain drug delivery

Carla Vitorino

Faculty of Pharmacy, University of Coimbra/CQC

17.00h- Polymeric Micelles: Definition, Structure and Applications

Ana Rita Figueiras

Faculty of Pharmacy, University of Coimbra//Requimte



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Monday, 14 April

16.00h- Seminar: "Regulatory science and drug product development"

Richard Guy

Richard H. Guy, PhD, DSc

Professor of Pharmaceutical Sciences

University of Bath

Dept. of Pharmacy & Pharmacology

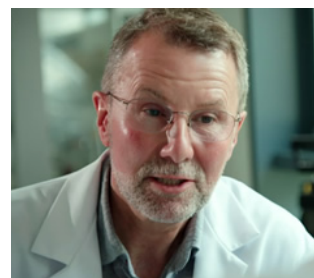
Centre for Therapeutic Innovation

Centre for Biosensors, Bioelectronics and Biodevices

Centre for Nanoscience and Nanotechnology

Professor Richard Guy

Richard Guy received an M.A. in Chemistry from Oxford University, and his Ph.D. in Pharmaceutical Chemistry from the University of London. He has held academic posts at the University of California, San Francisco and the University of Geneva. In 2004, he joined the University of Bath as Professor of Pharmaceutical Sciences. Professor Guy's research focuses on skin barrier function characterisation, topical and transdermal formulation development and optimisation, non-invasive biosensing and the prediction and assessment of skin penetration and topical bioavailability. He has published 380 peer-reviewed articles (H-index = 78; ~23,500 citations) and 70 book chapters. He has co-authored one book and co-edited 7 others. He is also co-inventor of 14 patents. In 2016, Professor Guy was awarded the degree of Doctor of Science from the University of Oxford and the Maurice-Marie Janot Award from APGI for original and innovative research in pharmaceuticals, biopharmaceuticals and pharmaceutical technology. Having received the Founders' Award of the Controlled Release Society (CRS) in 2013, Professor Guy was the first recipient of the CRS Transdermal Delivery Kydonieus Foundation Award in 2018. In that same year, he completed a year's secondment at the European Medicines Agency as a National Expert in the area of regulatory science. Since 2013, research in Professor Guy's laboratory has been funded continuously by grants from the US FDA.



17.30h- Evaluation