

BIO-698

The making of an innovative medicine

Clerc Roger G.

Cursus	Sem.	Type
Biotechnology and Bioengineering		Opt.
Computational and Quantitative Biology		Opt.
Molecular Life Sciences		Opt.

Language of teaching	English
Credits	2
Session	
Exam	Oral presentation
Workload	60h
Hours	28
Courses	14
Exercises	14
Number of positions	25

Frequency

Every year

Remark

Postponed until further notice

Summary

To expose participants to translational research (from bench to bedside and back) and drug discovery

Content

Through a logical series of presentations both from the participants and the lecturer (flipped classroom format, oral presentations, workshops) on the making of an innovative medicine, the entire and complex process starting from the therapeutic target identification up until the clinical development and use in clinical practice of a new molecular entity (NME) will be addressed and discussed.

The course is divided in twelve sections of each 2 periods of 45 minutes :

- Section 1 Scope of the course, general organization, case study
- Section 2 Historical perspective: the modern pharmacy
- Section 3 Introduction to translational research: crossing the bridge
- Section 4 Therapeutic target identification I & II
- Section 5 Structure based drug design, medicinal chemistry, low/high throughput screening assays, multiple parallel parameters optimization MDO
- Section 6 Therapeutic peptides and biologicals: today's - tomorrow's pharmacy
- Section 7 Personalized Healthcare (PHC) precision medicine
- Section 8 Pharmacogenetic polymorphisms, Pharmacogenomics
- Section 9 In vivo pharmacology, investigative toxicology
- Section 10 Clinical research, phase 0, phase I, II, III, IV
- Section 11 Health Hackathon - Hacking medicine I
- Section 12 Health Hackathon - Hacking medicine II

Minimum 4 participants

Maximum 25 participants

Note

Please note that this course may take place in the Fall of 2020 or in the Spring of 2021. The dates will be published in September of 2020.

Keywords

Translational biomedical research/Drug discovery

Learning Prerequisites

Required courses

Basic Molecular Biology, Cellular Signaling, Pharmacology

Resources

Bibliography

“A prescription for change : the looming crisis in drug development” Pr M. Kinch UNC Press(2017) ISBN 978-1-4696-3062-5

Ressources en bibliothèque

- [A prescription for change : the looming crisis in drug development](#)

Notes/Handbook