Level: PhD

Course title: Drug discovery process: from target validation to clinical trials (DSB616)

Status: elective

ECTS: 15

Requirements:

Learning objectives

To enable the students for developing an understanding the processes involved in generation of new therapeutics starting from the early stages of target identification and validation all the way to bringing the product to clinical trials.

Learning outcomes

At the end of the course, the students should be able to recognize what makes a good biological target, what the required properties of drug-like molecules are, what approaches are used for identifying the lead compounds, and how the compounds are finally tested in clinical trials. Ultimately, the students should be able to generate preliminary ideas for development of new therapeutic approaches.

Syllabus

Theoretical instruction

The lectures will deal with target identification and target validation; Assay development; Sources of compounds and properties of chemical libraries; High-throughput methods and approaches; Structure-based methods, structure-activity relationship; Pharmacokinetic and toxicology properties of the drug-like compounds; Lipinski's Rule of Five; Phases of clinical trials.

Practical instruction

Workshops will serve as the environment for going through case studies and analysing success stories in drug development. Workshops would include natural products, antibody based therapies and structure-based drug-design.

Weekly teaching load				Other:
Lectures: 5	Exercises:	Other forms of teaching:	Student research: 5	