INTRODUCTION TO EPIGENETICS AND EPIGENOMICS

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Course Aims

The course aims at introducing doctorate students to the role of epigenetics in responding to the environment to maintain homeostasis and on the mechanisms of epigenetic control of gene expression

Methodology

Lectures, discussion of case studies and group work

Course Description

The course describes what is epigenetics and how was it discovered; what epigenetic modifications are, how they control gene expression and how import are they in development. What is the role of non-coding RNAs and what molecular techniques can be used to identify epigenetic marks. Case studies will be discussed on epigenetics response of mammals to different diets, nutrients and environmental conditions and on transgenerational effects of epigenetic modifications.

Recommended Texts

Renato Paro, Ueli Grossniklaus, Raffaella Santoro, Anton Wutz. Intruction to Epigenetics. Springer, 2021.
Open access at: https://library.oapen.org/handle/20.500.12657/48275

Research and Review Articles distributed during the course