

## **System biology of human diseases – focusing on metabolism and immune cells**

### **Lectures: 6 times, 3h each**

**(17:00-20:00 lectures, BRICS 107/108)**

1. Basics of system biology – an overview [24.4.2024 Wed]
2. Cellular metabolism – an overview and methodological application in studying diseases [15.05.2024 Wed]
3. Multi-omics for system biology, and its application in cellular metabolism [22.5.2024 Wed]
4. immune cell activation – overview and cellular metabolism [26.6.2024 Wed]
5. immune cells during obesity and T2D [3.7.2024 Wed]
6. immune cells in cancers [10.7.2024 Wed]

## **Übung**

**Computational practice: to show students the tutorials and then all the students to practice themselves.**

17.7.2024., 09:00 -17:00, BRICS 107/108

- Morning: the lecture to show students the tutorials (Galaxy or R)
- Afternoon: the students to practice themselves.

## **Praktikum + Übung + Seminar**

**Wet lab Praktikum: 26-30.8.2024, 9:00 -17:00. BRICS 130 -133 (Hiller Lab)**

- All the students do the same experiments of each Praktikum but on their own, so everyone has chance to practice.

**Übung: 2-3.9.2024, 9:00 -17:00, BRICS 107/108**

- Everyone to analyze the datasets generated from wet-lab Praktikum.

**Seminar 1: 4.9.2024, 9:00 -17:00, BRICS 107/108**

- Everyone to present their own results from the Übung.

## **Seminar 2: 11.9. 2024, 9:00 -17:00, BRICS 107/108**

- Everyone to present their own research proposal. This is the oral part of the final exams.

### **Examination:**

1. (50%) To write a research proposal (during the self-study)
2. (50%) Presentation of this research proposal – see the Seminar 2.

### **Studiengänge:**

Biologie (Master), Biotechnologie (Master), Biochemie (Master)

6 students from Biologie, 1 student from Biotechnologie, 1 student from Biochemie.