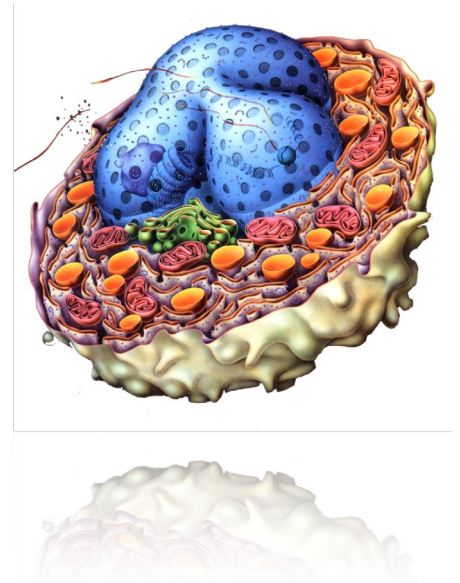


Block Course Biochemistry

Second half of the fall semester, 6 weeks, 15 credit points
5th Semester of the curriculum *Bachelor of Biology*,
requirement for "*Major in Molecular Biology*"

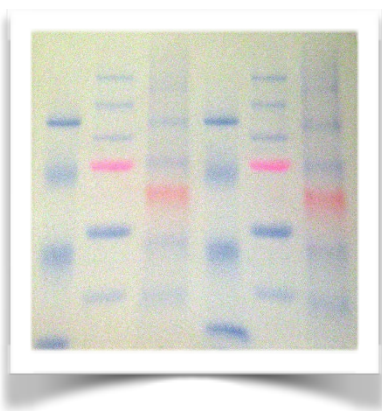
Goal:

The goal of the Biochemistry Block Course is to learn about current topic in Biochemistry and to experience state-of-the-art experimental methods, i.e., the theory and practice of modern Biochemistry. The course consists of a two-hour lecture early each morning followed by a laboratory practical for the rest of the day. Lecture notes and laboratory protocols are provided.



Lecture topics:

- Posttranslational Modifications
 - Vesicular Transport
 - Cytoskeleton
 - Phagocytosis
 - Receptors and Signal Transduction
 - Hormones
 - Oncogenes
 - Cell Division, Growth and Death
 - Lipid Modification of Proteins
 - Protein Degradation
 - Protein Folding & ERAD
 - siRNA
 - Genomics and Proteomics
- Metabolism:
 - Glycolysis and TCA cycle
 - Fatty acid Metabolism and Ketone bodies
 - Regulation of Metabolism
 - Cell Organization and Solute Transport
 - Pentose Phosphate Pathway and Glyoxylate Cycle
 - Nitrogen Metabolism
 - Oxidative Phosphorylation
 - Photosynthesis and Photorespiration
 - Central Metabolic Network
 - Systems Biology of Metabolism



Laboratory practicals:

- Basic of laboratory methods;
- DNA Manipulation and Analysis
- Protein expression and engineering
- Gel Electrophoresis
- Subcellular Fractionation
- Yeast Proteomics
- Analysis of Gene Expression

Organizer:

Prof. Jean Pieters (jean.pieters@unibas.ch)

Lecturers:

Prof. M. Hall, C. Handschin, M. Hondele, J. Pieters, A. Spang, S. Treves, Drs. R. Benoît, J. Gatfield, A. Schmidt together with the entire staff of these research groups of the Biozentrum.