



Summer school

06.10. - 10.10.2025

Cellular metabolism plays a crucial role in understanding muscle physiology and adaptation. In this practical course, we will cultivate differentiated C2C12 myocytes and investigate the metabolic responses to hypertrophic and atrophic stimuli.

Participants will:

- Induce hypertrophy & atrophy in C2C12 myocytes.
- Extract intracellular metabolites for mass-spectrometric analysis using GC-MS.
- Measure extracellular fluxes with YSI Analyzer
- Perform stable-isotope-assisted metabolic profiling to analyze intracellular metabolic fluxes.
- Measure and evaluate changes in myocyte metabolism.

General Information:

- Number of participants is limited.
- Registration deadline: April 30th 2025,
-> hypermet@tu-braunschweig.de
- Duration: 5 days full-time (2 ECTS points).
- Prerequisite: Master of Science or comparable degree.

Monday

- Arrival
- Safety instructions
- Preparation of media and solutions
- Cell treatment
- Social event

Tuesday

- Metabolite extraction
- Extracellular flux analysis
- Sample preparation for GC-MS analysis
- Introduction to GC-MS

Wednesday

- GC-MS analysis
- Metabolic flux analysis

Thursday

- GC-MS analysis
- Data analysis

- Dinner/BBQ

Friday

- Data analysis
- Discussion of results

Contact Information:

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