

# Seminar

## Translational and Clinical Wyss Zurich Projects

**Tuesday, March 27, 2018 at 12:30 – 13:30**  
**Kleiner Hörsaal OST,**  
**University Hospital Zurich**

**Dr. med. pract. Dilmurodjon Eshmuminov,**  
**Dr. Martin Schuler, Dr. Max Hefti**  
Wyss Zurich – ETH Zurich / University of Zurich

### **Liver machine perfusion outside of the body – Status quo within the Wyss Zurich Liver4Life project**

The liver has the ability to regenerate. Liver resection for the treatment of liver cancer has been carried out for a few decades, but many tumors are inoperable, notably because the removal of a too large piece of liver is fatal.

The Wyss Zurich project develops a novel therapeutic strategy for liver regeneration consisting of: i) surgical resection of a small healthy piece of the liver from the patient; ii) growth of this piece outside of the body in a perfusion machine until a sufficient size is reached; iii) re-transplantation of the regenerated liver to the original patient while removing the remaining diseased part. Current perfusion systems are not able to keep a liver alive outside of the body for a sufficient time to allow growth and regeneration to occur. The challenging aim of the project is to extend the viability of liver tissue outside of the body up to five days and allow its growth. To this end, a perfusion machine is being developed, which will provide necessary nutrients and oxygen supply, and be equipped to monitor growth, as well as assess the functional capacity of the liver.