



# Personalized Swiss Sepsis Study

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# Personalized Swiss Sepsis Study (PSSS)



**Adrian Egli**  
 PI SPHN  
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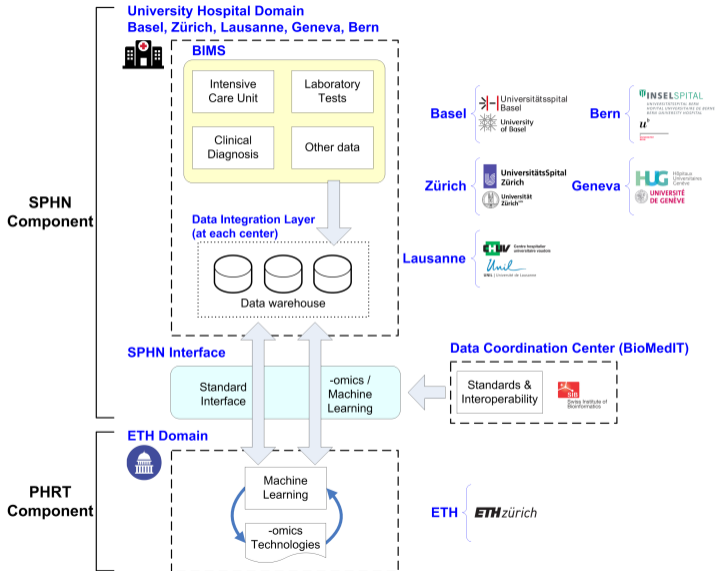


**Karsten Borgwardt**  
 PI PHRT  
 MLCB, D-BSSE, ETH Zürich



- Duration:  
3 years  
(2018-2021)
- Total funding:  
5.3 Million CHF

# PSSS Overview



## Personalized Swiss Sepsis Study - SPHN

### Goal

- The creation of a **data sharing platform** for research to make clinical data on sepsis which is obtained in one University Hospital readily available at other hospitals in Switzerland.

## Personalized Swiss Sepsis Study - PHRT

### Goal

- Determination of

- (i) **early,**
- (ii) **accurate,**
- (iii) **interpretable, and**
- (iv) **cheap-to-measure**

biomarkers for sepsis by  
combining -omics experiments with digital health record data using machine learning.

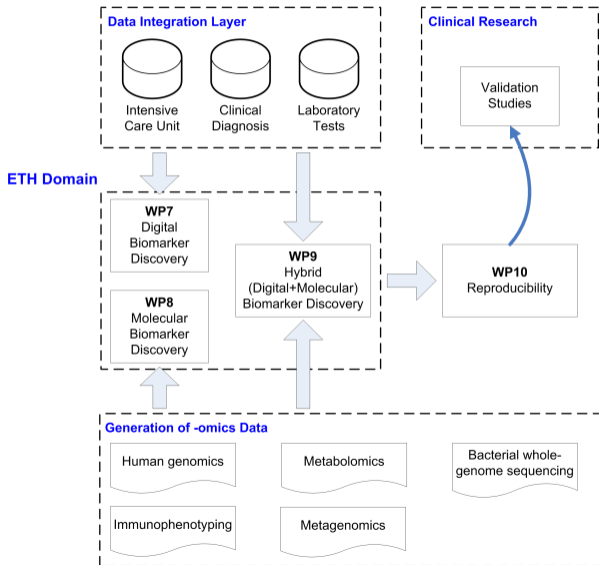
## Personalized Swiss Sepsis Study - PHRT Participants

Name	Department (ETH Zurich)	Expertise
Karsten Borgwardt	Dept. of Biosystems	ML & Bioinformatics
Peter Bühlmann	Dept. of Mathematics	Statistics
Nicolai Meinshausen	Dept. of Mathematics	Statistics
Gunnar Rätsch	Dept. of Computer Science	ML & Bioinformatics
Nicola Zamboni	Institute of Molecular Systems Biology	Metabolomics & Systems Biology

→ plus all partner labs from SPHN proposal

## Workflow

University Hospital Domain: Basel, Zürich, Lausanne, Geneva, Bern



## Summary and Big Challenges

### Summary

- SPHN Project will focus on **data sharing and interoperability** among Swiss University Hospitals.
- PHRT project will focus on **digital and molecular biomarker discovery** for sepsis

### Challenges for data privacy and protection (DP&P)

- DP&P @ hospitals **locally** (acquisition, storage in data warehouses)
- DP&P @ ETH domain (in particular: **generating -omics data!**)



# Thank you



<http://www.bsse.ethz.ch/mlcb>

# Open Questions?

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