Problems:

Fundamental problems

Observability , variability, complex

Ultimate closed-loop testing is clinical trials

No jump between engineering and human

Domain specific vs. non-domain

Statements: past tense

* Given 3 challenges, how to guarantee safety under physiological/non physiological context?

Through the use of model-based approaches ask 3 questions:

1. Heart modeling(publications)
   1. EP heart model
      1. Timing
      2. EGM morphology
   2. Different applications
      1. Testing
      2. Model-checking
      3. MBCT
   3. Heart on a chip
2. Closed-loop model checking
   1. Device modeling
   2. Risk analysis
   3. CEGAR
   4. Abstraction tree
3. MBCT
   1. Creating a virtual cohort with physiological models