



Elevator pitch

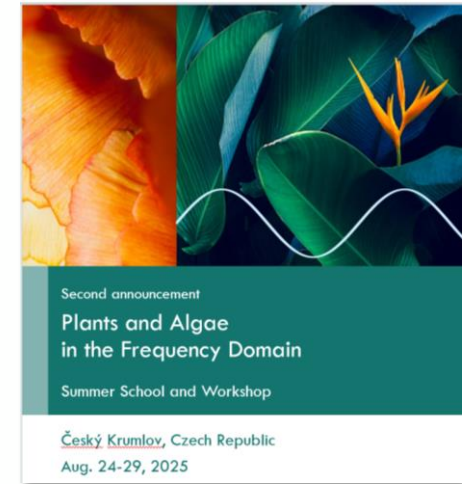
Tim Nies

Affiliations:

RWTH Aachen University, Computational Life Science,
Aachen, Germany

Email:

tim.nies@rwth-aachen.de

**Background:**

I am a biologist trained in computational biology, focusing on mechanistic modeling. I have been involved in developing software for modeling and constructing mechanistic models of the photosynthetic electron transport chain. Mechanistic models offer a framework for understanding transient dynamics. Recently, I became interested in system identification methods for interpreting photosynthetic signals in response to modulated light.

I propose to address in the workshop:

- Can we use system identification techniques from the engineering sciences to understand responses to modulated light?
- Does the nonlinearity of signals in response to modulated light prevent system identification?
- What are recent advances in system identification with machine learning and artificial intelligence?
- Can we use results from system and theoretical synthetic biology to make sense of signals in response to modulated light?
- Can we view the functional components of photosynthesis as modular units, analogous to those in control engineering and systems design?