



BISP8

**Eighth Workshop on  
BAYESIAN INFERENCE IN STOCHASTIC PROCESSES**

## **Bayesian inference for a stochastic growth process**

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Usually growth processes are described using discrete time models where the mean function is deterministic and a stochastic element is introduced via an additive, random noise component. An alternative approach is to consider continuous time modeling. In this talk, we introduce a new stochastic model for growth curves which can be used to include stochastic variability into any deterministic growth function via subordination. One advantage of our approach is to be able to easily deal with data that are irregularly spaced in time or different curves that are observed at different moments of time. We examine two approaches to Bayesian inference for our model: the first based on a Gibbs sampler and the second based on approximate Bayesian computation. Our approach is illustrated using real *Listeria* growth data.

### **Keywords:**

Growth processes; subordination; ABC algorithm.

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**ABSTRACT  
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Young researcher Ana Paula Palacios invited to contribute