Main activities

Our previous work on this subject is described in


The practical work of this internship is to implement (in Prolog) the dynamic strategy described in this paper, using both the differential integrator and the event mechanism as a mean to...
implement the SSA.

The research will consist in experimenting further the
dynamic partitionning strategies described in the
paper and evaluate them on the repository of
models BioModels.

Theoretical work on this subject is possible
concerning the correctnes criteria, as well as for
instance the search of correctness criteria weaker
than approximation in all time points.

The expected results aim to lead to both an
international publication and an integration in the
next release of BIOCHAM-4 to be routinely used for
stochastic simulation of CRNs in BIOCHAM commands
for sensitivy and robustness analysis, parameter
search in high-dimension, artificial evolution of CRNs,
and machine learning CRNs from data.

Skills
This subject requires common and basic knowledge
in algorithimcs, programming, and in numerical
integration methods for ordinary differential
equations.

Specific knowledge of the the Prolog programming language or
of Computational Systems Biology will be a plus.

Benefits package
  • Subsidised catering service
  • Partially-reimbursed public transport
  • Social security
  • Paid leave
  • Flexible working hours
  • Sports facilities

Remuneration
500 euros/month