

# Reducing Petri Net Complexity

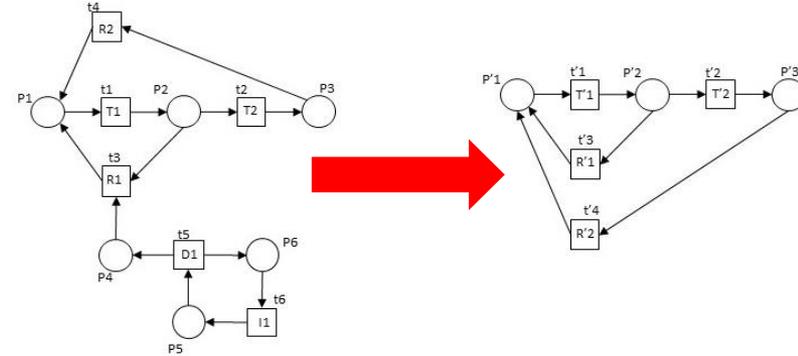


## Background

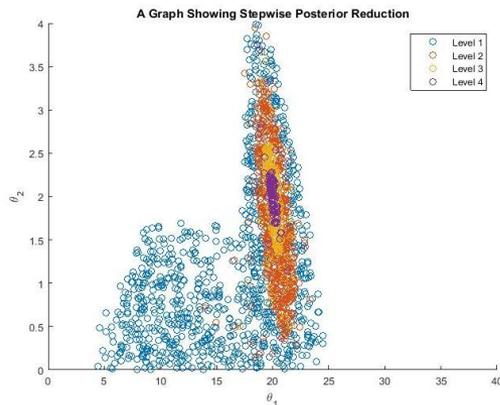
Petri net based models require a large computational effort for analysis via simulation techniques, especially when performing optimisation algorithms to find the best solutions.

## Objective

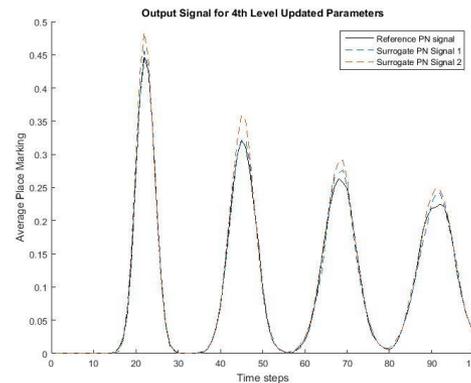
Develop a technique that can reduce model complexity while retaining key information.



The methodology allows an output 'signal' from the two models to be compared. Parameters in the reduced model are updated automatically so that the signal from the reduced model matches that of the larger net. There is approximately 90% reduction in computational time in this example.



The parameters are automatically updated until the region containing the best parameter values is found.



The outputs produced by updated parameters in the reduced model closely match the outputs of the large model.

## To do...

Implement the technique to provide a fast method to optimise Petri net based models.

