Implementation and Evaluation of a New Routing Algorithm for Networks on Chip

Schwab, Lukas

The goal of this project is to obtain optimal network-on-chip topologies by using optimization techniques that consider adaptive routing algorithms. As a particular example we'll be implementing the Layered Shortest Path (LASH) algorithm, which we have never used in our simulators so far. The algorithm offers many potential benefits over shortest path routing. We will compare LASH with shortest path routing and possibly other algorithms. This novel approach to routing has potential to enable a paradigm shift in the design of networks on chip, from miniaturization and top-down design to a bottom-up and complex approach. All simulations will be written by Lukas Schwab (participating student) in MATLAB software, utilizing the MATLAB Bioinformatics Toolbox.

Awards Won: