

Secondment report

Name: ESR4.3 Cemil Cem GÜRSOY
IRP title: **Open-source EDA tools for design quality and reliability automation using zamiaCAD**
From: TUT
To: TUD
Period: June 17 – June 23, 2019

Activities during the secondment

- **Scope and objectives:**
 - Continue the ongoing collaboration with TUD on aging mitigation for memories
 - Test memory access patterns of realistic programs with zamiaCAD to estimate rejuvenation potential
 - Evaluate intermediate results and decide on the next steps
- **Activities:**
 - Recorded memory access patterns of several benchmarks
 - Writing Python scripts to integrate generated memory traces with the experiment setup that uses zamiaCAD and gate level address decoder design
- **Main results achieved:**
 - We analysed aging in an address decoder logic that used together with realistic programs. The results showed promising rejuvenation potential for us to continue on the new implementation
- **Next steps:**
 - Add a periodic interrupt routine to benchmarks to run a rejuvenation workload
 - Implement transistor level setup to do SPICE simulations and analyse aging
- **Optional request for support or a technology/tool available at host:** No.

Self-evaluation

Overall score: 5

I consider this secondment successful, with regards to the research objectives achieved, skills developed, supervision quality, diversity of the resources. (Agree = 5 ... Disagree = 1)

Optional comments:

Date of the report approval by the supervisor: 10.02.2020

