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: August 04 – August 25, 2019

Activities during the secondment

- **Scope and objectives:**
  - Continue the ongoing collaboration with TUD on aging mitigation for memories
  - Add a periodic interrupt routine to benchmarks to run a rejuvenation workload
  - Learn about running SPICE simulations
- **Activities:**
  - Understanding to control interrupts on RI5CY CPU
  - Writing a simple rejuvenation routine in assembly
  - Fixing bugs related to memory tracer and benchmarks
  - Discussing the next steps after secondment
- **Main results achieved:**
  - A periodic interrupt routine that runs a rejuvenation workload is added to benchmarks
  - Several problems related to memory tracer module is fixed and memory access patterns for benchmarks are recorded after changes
  - Memory access patterns recorded again after periodic rejuvenation workload added to the benchmarks
- **Next steps:**
  - To obtain the first results, transistor level setup that includes address decoder and aging model must be completed
  - Several scripts needs to be written to automate transistor level setup
- **Optional request for support or a technology/tool available at host:** No.

Self-evaluation

Overall score: 4
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: Although we made progress, we did not worked in parallel on different parts. Therefore, one of the objectives was not achieved during secondment.

Date of the report approval by the supervisor: 10.02.2020

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