



# Rowhammer Reloaded

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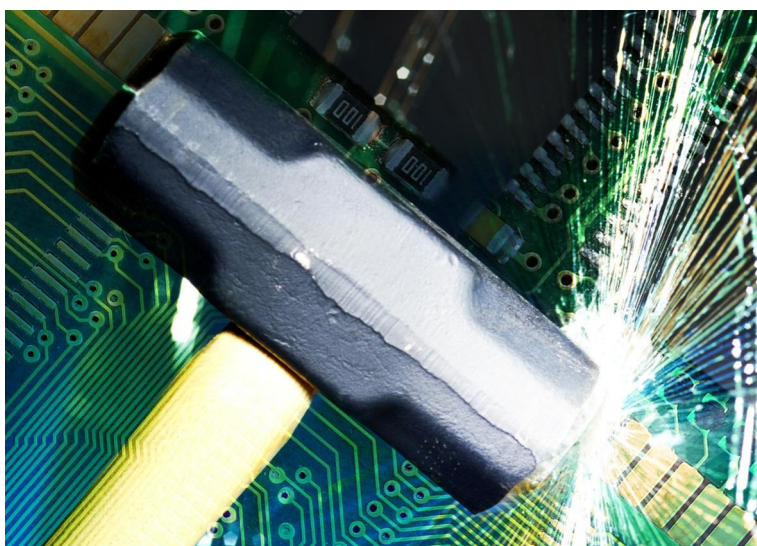
## Motivation

With Rowhammer, the undesirable side effect in DRAM that memory cells leak their charges is exploited. An adversary can use this to leak sensitive information or to modify arbitrary data, i.e. getting root privileges on the system under attack. These attacks have been demonstrated not only on desktop and server CPUs, but also on mobile platforms over all generations of DRAM.

The aim of this thesis is to investigate unexplored ways to trigger bit flips in DRAM.

## Goals and Tasks

- > Get familiar with existing Rowhammer attacks
- > Background research
- > Perform and evaluate experiments



Alternative Rowhammer attacks

## Literature

- > [P. Frigo et al.](#)  
TRRespass: Exploiting the Many Sides of Target Row Refresh  
S&P
- > [L. Cojocar et al.](#)  
Exploiting Correcting Codes: On the Effectiveness of ECC Memory Against Rowhammer Attacks  
S&P

## Courses & Deliverables

- Introduction to Scientific Working**  
Short report on background  
Short presentation
- Bachelor Project**  
Project code and documentation
- Bachelor's Thesis**  
Project code  
Thesis  
Final presentation

## Recommended if you're studying

- CS
- ICE
- SEM

## Prerequisites

- > C/C++
- > Basic Assembly programming
- > Prior knowledge of CPU architecture is useful, but not essential!

## Advisor / Contact

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