Research/Master Thesis:
In communication systems digital predistortion can be used to enhance the signal quality, while the power amplifier is driven in saturation. The goal is to research on digital predistortion algorithms for state of the art THz-Transceivers.

Tasks
• Setup and Implementation of FPGA-based Sender/Receiver System
• Correlation of sent data and received data in digital domain. Implementation of real-time control loop for Sender/Feedback Synchronisation
• Real time analysis of channel performance with digital algorithms
• Implementation of Real-Time Predistortion Algorithms without use of external computation („in-loop“)

Goals
• In-loop Predistortion using different DUTs. Experiments also in E-Band (60GHz – 90GHz) and H-Band (220GHz-325GHz) possible.
• Comparison of In-loop Predistortion using different non-linear models with different memory effects.
• Comparison of In-loop Predistortion using different algorithms

Amplifier distortion due to class AB of amplifier