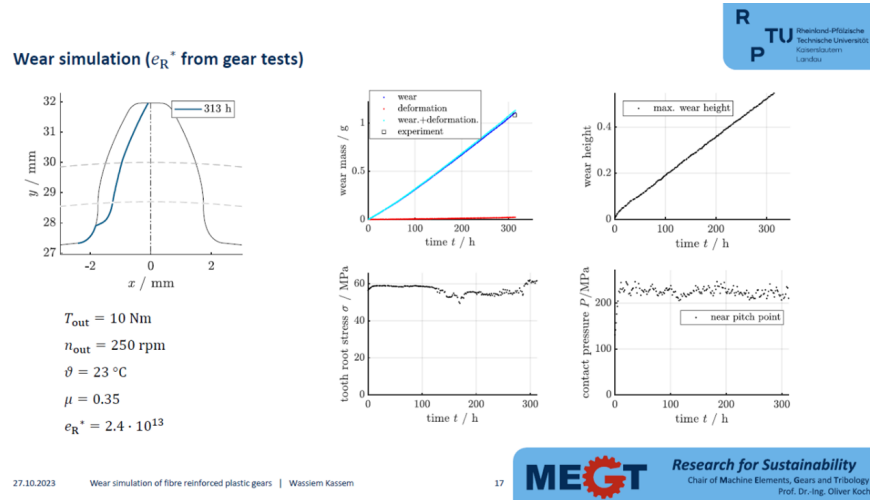


# Gears (modeling capabilities and perspectives)

Several simulation studies have been performed the last few years with regard to gear applications. In this section, we simply summarize a few of them to provide:

1. An introduction to the design and FEA challenges we may typically face during the modeling of gears - Link to the report [here](#);
2. An overview of the potential impact of the processing (dimensional tolerances) on the final part performances considering the example of our internal gear design (Alpharetta mold) - Link to the report [here](#).
3. A description of an advanced simulation workflow developed by the MEGT here applied to an Amodel A-1133 gear with the objective to predict the tooth wear height after a given amount of cycles during a gear-to-gear test - Link to the report [here](#).



Today, additional studies are ongoing in order to predict the amount of cycles before tooth root failure during a single tooth bending test (fatigue) and to compare the results obtained with a FEA approach (DIGIMAT) and a more analytical approach (using KissSoft).