

*Master's Thesis***Multiscale topology optimization**

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Background: Ever finer structures can be produced with 3D printing technologies. This means that complex printable structures, such as those shown in Fig. 1, cannot be adequately analysed using conventional structural mechanics methods. This manifests itself especially when complex structures are to be optimised with regard to their topology. Multi-scale analyses can provide a remedy here.

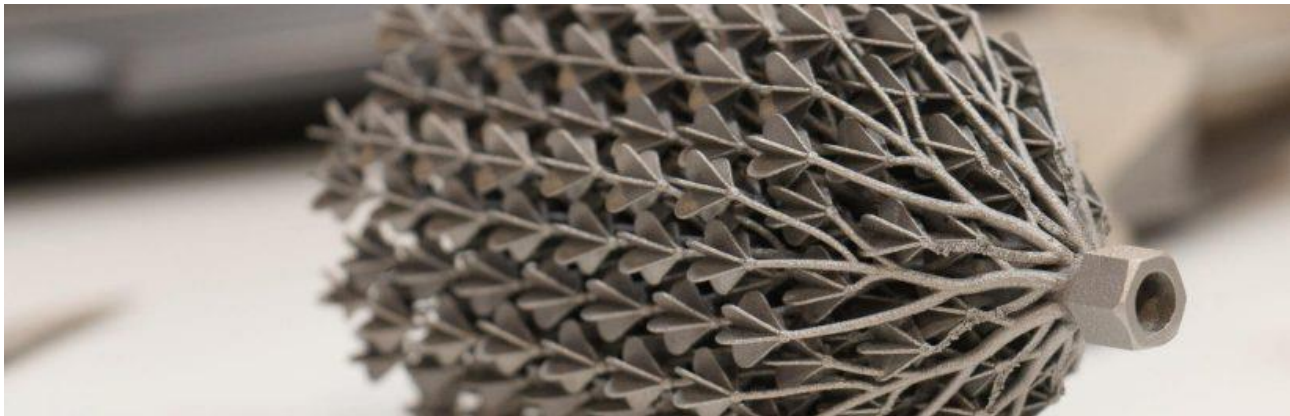


Figure 1: Complex 3D printed structure

Tasks:

- Get familiar with topology optimization
- Get familiar with multiscale analysis
- Carry out multiscale topology optimization with a structural mechanics programm e.g. Abaqus or ANSYS

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