# Bachelor/Master Thesis

Statistical learning of the behavior of particulate reinforced metal matrix composite (PRMMC)

Description

Composite materials composed of dissimilar phases can be viewed as mechanical system in the mesoscale. To a large extent, the overall behavior of such material depends not only on the material composition but also on the microstructural features. To account for the material structure and its influence over the mechanical behavior, we formulated a numerical approach and by using it accumulated large set of data. The *aim* of the

present study is to identify structural factors that have strong impact to the overall composite behavior. This task will be fulfilled by design and apply statistical models to the current data, and interpret results from a mechanical point of view.
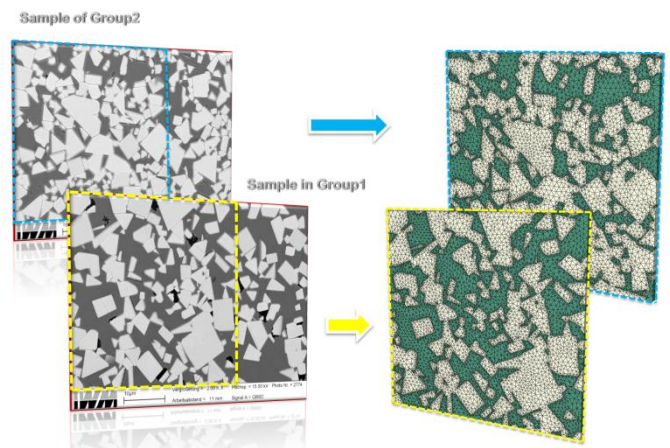
Requirements

- Studies mechanical engineering, simulation science (CES), material science, computer science and etc.
- Basic knowledge about statistics
- Interests of machine learning/ statistical learning concepts and models
- Programming skills of Matlab, Python or R

We offer

Comprehensive training, friendly working environment, sufficient guidance, and last but not least the chance to perform an innovative multi-discipline study

Contact

M.Sc. Geng Chen

Augustinerbach 4, Raum 216, 52062 Aachen Tel.: +49 241 80 99546

g.chen@iwm.rwth-aachen.de www.iwm.rwth-aachen.de