

- Programming skills in MatLab
- Basic knowledge on additive manufacturing
- Interest in 3D printing and particle simulation methods



QR code  
zum pdf der Ausschreibung

For further information please contact:

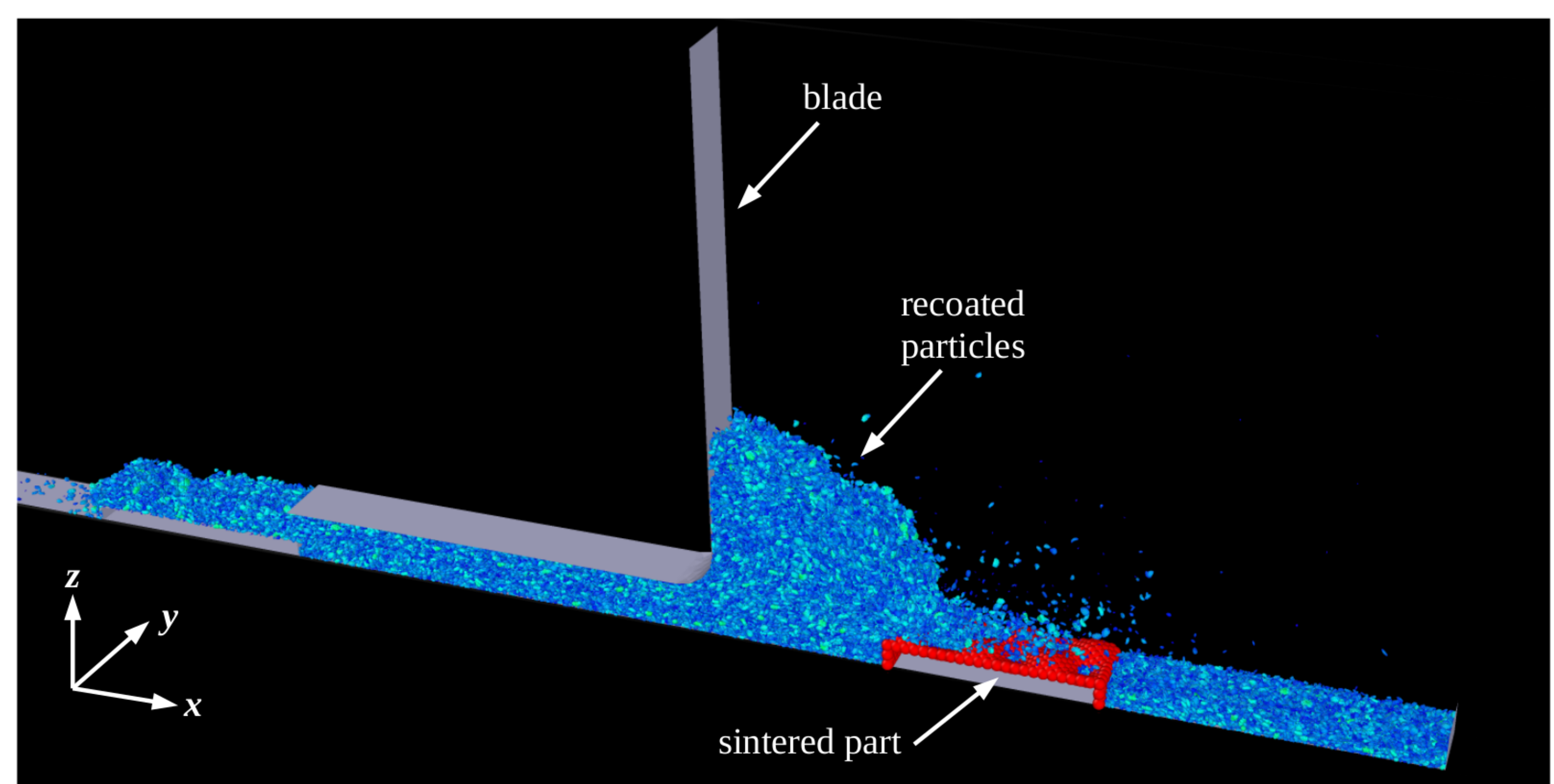
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# Powder layer generation for selective laser sintering

## Background

Today, selective laser sintering is no longer just a process for the production of prototypes, rapid prototyping, but has developed into the technology for additive manufacturing, i.e. the direct production of functional components. In selective laser sintering, the construction space of the printer is gradually filled with the powdered construction material. In our case this will be Polyamid 12 powder. The workpiece to be manufactured is built up in layers within a construction space by scanning contours with a laser. The building material is melted and sintered. By repeating this process, the desired component is created layer by layer. To achieve a high quality in the final workpiece, each deposited powder layer has to be even and of high packing fraction.



## Aim

You will optimize the process parameters for the powder layer formation used for selective laser sintering, a popular 3D printing technology. To this end, you will perform Discrete Element Method (DEM) simulations with LIGGGHTS. The results of an example simulation is shown above. The quantities of interest are the surface roughness and the packing fraction of the particle layer above the sintered part.