

# Thermoplastic Composites Research Center

The Netherlands

## POSTDOC POSITION ( 2 YEARS) ON SIMULATION OF COMPRESSION MOLDING OF DISCONTINUOUS FIBER REINFORCED THERMOPLASTIC FLAKES


University of Twente - Deutschland

Diese Stelle von Universiteit Twente ist nicht länger verfügbar.

### Ähnliche Suchvorgänge:

POSTDOC POSITION ( 2 YEARS) ON SIMULATION OF COMPRESSION MOLDING OF DISCONTINUOUS FIBER REINFORCED THERMOPLASTIC FLAKES Jobs in Deutschland

Jobs bei University of Twente in Deutschland

 Deutschland

### JOB DESCRIPTION

The ThermoPlastic composites Research Center (TPRC) and University of Twente are looking for a postdoctoral researcher on the topic of compression molding of chopped unidirectional fiber reinforced thermoplastic flakes.

### Project description

The projects concerns the compression molding of chopped unidirectional fiber reinforced flakes, which is a manufacturing process that is very suitable for a broad range of automotive and aero structural parts. Compression molding of discontinuous fiber reinforced thermoplastics combines short processing times with good mechanical performance of produced parts. Moreover, it allows for a large degree of freedom in terms of design. During the molding, the compound is subjected to flow due to redistribution in the mold and filling of details like ribs. The material flow affects the fiber orientation distribution in the part, which in turn influences the mechanical properties. Prediction of mold filling behavior and the resulting fiber orientation distribution is complex, as the flow and the fiber orientation are strongly coupled. The flow affects the fiber orientation, while simultaneously fiber orientation affects the flow.

## The Challenge

You will develop a physical based material model for long fiber reinforced thermoplastics in melt conditions. Your model should predict the local fiber orientation in the compound as caused by the flow and the local resistance against flow caused by fiber orientation. Moreover, you will cooperate in the development of experimental techniques to characterize the fiber orientation prior to and after molding. You will work alongside a PhD student who develops a simulation tool to predict how the compound fills the cavities of a mold. The, to be developed, material model will serve as input for the simulation tool.

## YOUR PROFILE

- You have obtained a PhD degree in composites manufacturing processes or a related discipline with a specialization in long fiber composites.
  - A strong background in rheology and nonlinear solid mechanics is required.
  - We welcome candidates with strong communication skills who can present their work at conferences and (project) meetings. Fluency in English is required, both spoken and written.
- You need to provide IELTS test results (minimum score of 6.5), TOEFL-iBT (minimum score of 90) or Cambridge CAE or CPE.

## INFORMATION AND APPLICATION

Questions regarding these positions can be directed to dr.ir. Hubert Geijselaers (h.j.m.geijselaers@utwente.nl)

Your application should include the following documents:

- A cover letter carefully describing research interests and goals
- CV (including contact information for at least two academic references)
- Transcripts from your Bachelors, Masters and PhD degrees
- Transcripts of your language certificates

*Please upload your application by link below before February 17, 2019*

## OUR OFFER

- We offer a challenging full-time postdoc position in an inspiring multidisciplinary environment. The duration of the contract is 2 years
- The gross monthly salary will range from € 3.255,- to € 4.274,- and will depend on experience and qualifications. In addition, an annual holiday allowance of 8% of the gross annual salary, an annual year-end bonus of 8.3%
- A solid pension scheme;
- Minimum of 29 leave days in case of full-time employment;
- Professional and personal development programs.