PCCL
Polymer Competence Center Leoben

**Join our team**

The Polymer Competence Center Leoben GmbH (PCCL) is the leading Austrian center for cooperative research in the field of polymer technology and polymer science. In collaboration with companies in the polymer industry and numerous academic institutions, our around 135 highly-qualified employees jointly work in R&D projects on innovative polymer solutions for a wide range of applications. By linking scientific knowledge to the industrial need for innovation, PCCL contributes to the competitiveness of its industrial partners who cooperate on the basis of medium- and long-term R&D-projects with the PCCL. We currently aim to strengthen our team and offer a

## A Student position in the field of

## „ Advanced characterization techniques to predict the damage of polymeric components in high-pressure $H_2$ gas environments: Impact on product performance and durability" (JOB ID 20220421)

### Project description

Addressing the challenges, the world facing due to excessive usage of fossil fuels in energy requirements, the transition of our current energy system into a more diversified energy mix is identified as a feasible solution. Hydrogen has promising potential as an energy carrier to fulfill future energy demands and achieving the de-carbonizing goals. Polymeric materials play a vital role in enabling this competitive hydrogen economy. Therefore, new polymeric grades are needed that can withstand a wide range of temperature and pressure conditions as well as retain the intended properties. The multidisciplinary project consortium will focus on (i) innovative and novel methods to develop material grades, (ii) the improvement of material performance for application in harsh conditions, (iii) introduction of novel characterization techniques to determine material behavior during aging and rapid gas decompression under high-pressure hydrogen exposure, (iv) requirements of the mechanics of the materials, (v) introducing novel destructive and non-destructive testing methods, and (vi) a simulation tool to predict the damage behavior of respective conditions.

### Required skills

- Master students of polymer engineering, mechanical engineering or equivalent
- Knowledge in material sciences and fracture mechanics
- Experience of material testing in lab environments is advantageous
- Personal initiative, reliable, responsible, and ability to work in a team achieving your research goals
- Good communication skills in English; basic skills in German are advantageous

### We offer

- Collaboration in a highly-motivated multi-disciplinary team with excellent contacts to industry, research organizations, and universities (national and international)
- Possibility to perform a Master's thesis at Montanuniversitaet Leoben (MUL)
- Gross monthly income of €978, -- (For part time employment of 20h/week)
- Flexible working hours are possible
- Start of employment: mid of June 2022

### Contact

Please send your application (motivation letter, CV) until 31st of May 2022 along with copies of your certificates to jobs@pccl.at, indicating the Job- ID 20220421.

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