

Job Title: Three PhD students / Doctoral fellows on hydrogen embrittlement (experimental research)

Department of Materials, Textiles and Chemical Engineering

Occupancy: 100%

Limited duration: 4 years

Diploma: Materials Science Engineer or equivalent

Job Description

- About 90% of your assignment will be spent on academic research in preparation of a PhD. Academic research activities include performing research on the subject outlined below, counselling master students active within your research project, project management and reporting, dissemination in high quality journals and conferences, and identifying opportunities for follow-up research work. In addition to academic research, you will be involved in educational tasks related to the subject of your research.
- The initial contract duration will be one year. The contract will be extended to a full 4-year PhD research period under the condition of a positive evaluation after the initial period. Ghent University offers an attractive salary with additional benefits, a positive and inspiring working environment and training possibilities.
- Your research will be counselled in the Sustainable Materials Science research group at Ghent University (<https://www.ugent.be/ea/match/sms/en>) and work within a young and dynamic research team. The research is situated within a project with active cooperation with international partners.

This vacancy aims to select a PhD researcher having a materials (metals) engineering background. This researcher will experimentally focus on the role of hydrogen on the mechanical performance of metallic materials. Atomic hydrogen absorption followed by embrittlement can lead to the sudden and sometimes complete loss of the ductility of many high strength steels. Hydrogen embrittlement is among the most complex material decay and damage phenomena. Finding a breakthrough in the development of hydrogen-resistant materials is required to realize a hydrogen-based society for a more sustainable future. Therefore, novel experimental methodology development, together with in-depth hydrogen and microstructural characterization is required, which will be the focus of this PhD project.

Job Profile

- You hold an MSc degree in Materials (Metal) Engineering, with an affinity for and keen interest in microstructural and mechanical characterization.
- Experience with advanced microstructural characterization techniques is a clear asset.
- Knowledge and understanding on structure/property relationships, deformation mechanisms in metals and hydrogen embrittlement is an advantage.
- You have a strong motivation for conducting scientific research and dealing with complex research questions within a high level research team.
- You possess structured and creative problem-solving abilities, strong analytical and technical skills, critical scientific mindset and take responsibility for the development of your work.
- You can work independently as well as in team.
- You have excellent English communication skills (written and oral).
- Knowledge of Dutch is a plus, not a must.

How to apply?

All applications must be received no later than March 1st, 2024 at vacancy.sms@ugent.be with the following documents attached as a single pdf file:

- application letter
- curriculum vitae
- a transcript of the required degree
- names and contact details of at least three reference persons

The subject line of your email should contain: PhD on hydrogen embrittlement (experimental research)

Attention: Late applications are not accepted. As Ghent University maintains an equal opportunities and diversity policy, everyone is encouraged to apply for this position. For more information about this vacancy please contact Prof. Tom Depover (tom.depover@ugent.be) or Prof. Kim Verbeken (kim.verbeken@ugent.be).

We offer a PhD scholarship for one year, which will be extended with another three years after positive evaluation, according to the general conditions at Ghent University. The appointment will start on September 1st, 2024 at the earliest.

The tax free scholarship includes full social security coverage and a number of benefits such as a wide range of training and education opportunities, bicycle commuting reimbursement, etc. More information can be found on the Ghent University website (<https://www.ugent.be/en/work/talent>). We will provide high-quality training to develop hard and soft skills as well as opportunities to participate in international scientific workshops/conferences.