Academic and industry career possibility

Master Thesis

Get involved in sustainable energy system development!

Gasification of waste or biomass results in an environmentally-friendly production technique for heat and power, chemicals or synthetic natural gas, SNG. However, the gasification process is causing degradation metallic parts of the gasifier.

At HTC (the High Temperature Corrosion center) we are addressing these corrosion issues in collaboration with Eon Gas, Sandvik Materials Technology and Cortus Energy. Our team is devoted to build skills and expertise in high-temperature corrosion in the gasification environment. In order to understand the causes behind the corrosion attack we perform well controlled laboratory exposures and use a wide range of analytical techniques (e.g. SEM/EDX, XRD, FIB and IC).

We are looking for students with an interest in electron microscopy, in particular Scanning Election Microscopy (SEM) and Focused Ion Beam (FIB) microscopy. A background in Material Engineering or having experience in working with electron microscopy are advantages but not necessary.

△ The master thesis will include:

- Performing well controlled corrosion experiment in our new built laboratory in the Chemistry department, e.g. study the effect of temperature and time on the oxide scale growth of different stainless steels.
- Microscopy investigation of samples exposed at the laboratories. The student will work mostly with the microscopes located in the Department of applied physics.

△ We offer:

- Training on state-of-the-art electron microscopes
- Well-equipped laboratories
- Contact with collaborating companies
- Future employment possibilities

△ We are looking for a person with:

- An interest in research
- Availability to work independent as well as in a team
- High motivation

Questions and application to: Hamed Hooshyar (Hamed.hooshyar@chalmers.se) or Jesper Liske (jesper.liske@chalmers.se)