2 Ph.D. STUDENT POSITIONS FOR THE STW PROJECT INTEGRATED WOBBE INDEX METER

Job specification

The Transducers Science and Technology research group (http://www.utwente.nl/ewi/tst/) at the University of Twente is looking for qualified candidates for 2 PhD positions for an STW project called INTEGRATED WOBBE INDEX METER.

In the last fifty years the composition of natural gas in the Dutch gas grid was very constant. It is expected that the gas quality bands are going to vary much more due to changes of the main gas supply streams in Europe and the increasing use of LNG. Furthermore, the introduction of biogas in the gas grid will lead to a multiplication of the gas injection points and the need for compact, robust and inexpensive sensors for monitoring the gas quality.

The project aims at the realization of a miniaturized Wobbe index meter for the measurement of the energy content of fuel gases, with most parts integrated on a single silicon chip. Fuel gas and air are heated and mixed on-chip, resulting in spontaneous combustion. The combustion energy is estimated from the resulting elevation in temperature and, combined with density and flow rates measured by also integrated micro Coriolis mass flow sensors, the Wobbe index can be calculated. The micro Wobbe meter is a unique device that can replace existing bulky and expensive Wobbe meters.

There will be 2 Ph.D. students working on the project, part-time assisted in both cleanroom and lab by experienced technicians. They will closely work together, but with their own specific focus.

- Ph.D. student 1 will focus on the fabrication technology and the design
- Ph.D. student 2 will focus on the chemistry and the application.

Your profile

You have a M.Sc.-degree in electrical engineering, physics, chemical engineering, or equivalent. You have affinity with cleanroom technology and micro sensor systems. We expect the candidate to have an excellent command of English language as well as presentation skills.

Our offer

We offer a very challenging position in an inspiring environment. You will be appointed as a full-time PhD student in the Transducers Science and Technology (TST) for a period of four years (38 hours a week). The salary starts at € 2.125,- gross per month and grows to € 2.717,- gross per month in the fourth year. You will also be given the opportunity to extend your knowledge in relevant areas through internal and external courses. Additionally, the University of Twente provides a holiday allowance (amounts to 8%), an end-of-year bonus (amounts to 8.3%) and a number of additional benefits.
Employment conditions are laid down in the 'CAO Dutch Universities' and can be consulted at the UT website. General information on working at the UT can also be found there.

The University of Twente

The University of Twente is a young, entrepreneurial university. It sets standards in the field of new technology and seeks to stimulate change, renewal and progress in society. We work with the technologies of the future - information technology, biotechnology and nanotechnology - in which behavioural and social science research play a vital role. After all, the most interesting and relevant innovation takes place at the interface between technology and its implications for mankind and society. We are active in areas such as health, water, green energy, and security. (http://www.utwente.nl/en/research/)

Information and application

Candidates are invited to submit their application, including a cv, clearly stating their motivation, expertise, research interest, and preferably a list of publications, and names of two references. The vacancies will be open until suitable candidates are selected.

For more information, please visit the website of the TST group (http://www.utwente.nl/ewi/tst/), or contact prof.dr.ir. Joost Lötters, j.c.lotters@utwente.nl, or dr.ir. Remco Wiegerink, r.j.wiegerink@utwente.nl.