

CAREER OPPORTUNITY

The Council for Scientific and Industrial Research (CSIR) is a leading scientific and technology research organisation, implementing projects throughout Africa and making a difference in people's lives.

Doctoral Studentship

About the job:

The CSIR has an opportunity for Doctoral **Studentship** in the Hydrogen South Africa (HySA) Infrastructure competence centre within Energy Materials at the Materials Science and Manufacturing (MSM) unit. The incumbent will conduct research relating to the development of cost-effective metal-organic framework (MOF) materials for hydrogen storage applications. This position is based in Pretoria.

About the unit:

HySA Infrastructure is developing innovative hydrogen generation, storage and distribution technologies for applications in the fields of portable power and fuel cell vehicles. Our Hydrogen research is in support of the Department of Science and Technology's National Hydrogen programme known as Hydrogen South Africa (HySA). The Centre is well-equipped with cutting-edge materials synthesis, processing, characterization and testing facilities.

Key responsibilities:

- Develop cost-effective MOF materials from sustainable resources such as PET wastes;
- Investigate the PET-derived MOFs as effective catalysts for ortho-para hydrogen conversion;
- Employ NMR and Raman techniques to detect the build-up of para-hydrogen;
- Develop MOFs-based functional materials to achieve long-term storage of para hydrogen;
- Characterize the developed materials using different techniques;
- Design prototype of the para-hydrogen converter.

Qualifications, skills and experience:

- A Master's degree in chemical engineering;
- Basic experience on analytical techniques such as XRD, SEM, TEM, NMR, etc. is essential;
- Must have knowledge and hands-on experience on the synthesis of MOF materials;
- Must have a basic knowledge on surface science of solid materials;
- Must have published one or two articles from his/her research work;
- Research, report-writing and presentation skills;
- Problem-solving skills;
- Solution-seeking orientation;

- Excellent facilitation and interpersonal skills;
- A goal-oriented approach;
- Ability to work independently as well as in teams;
- Must be computer literate.

Should you meet the above requirements, please email your CV to jobapplications@csir.co.za with your name and surname, position title and reference number in the subject line, **(eg. John Smith: Job title: Reference No: 308136)**

Closing date: 19 June 2017

PLEASE NOTE THAT FEEDBACK WILL BE GIVEN TO SHORTLISTED CANDIDATES ONLY.

For more info, please contact the CSIR Recruitment Centre on **012 841 4774** or email us at Recruitmentinfo@csir.co.za

*The CSIR is an equal opportunity employer. As such, it is committed to the Employment Equity Act of 1998. By applying for this position at the CSIR, the applicant understands, consents and agrees that the CSIR may solicit a credit and criminal report from a registered credit bureau and/or SAPS (in relation to positions that require trust and honesty and/or entail the handling of cash or finances) and may also verify the applicant's educational qualifications and employment history. **The CSIR reserves the right to remove the advertisement at any time before the stated closing date and it further reserves the right not to appoint if a suitable candidate is not identified.***