

CAREER OPPORTUNITY

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

Meraka Institute : Human language technology (HLT) group Master's studentship for March 2010

Application deadline: 2010-03-12

Position reference number:

About the intended areas of research: Human language technology (HLT)

Responsibilities for this position include the following:

•Conduct basic and applied research into projects related to the following areas of research (subject to supervisory capacity within the HLT research group):

- Automatic speech recognition
- Speech synthesis
- Speaker verification
- Spoken dialogue systems and interactive voice response systems
- Natural language processing
- Linguistic aspects of SA languages relevant to speech technology (e.g. tone and intonation)
- Speech-driven applications (such as multilingual telephone-based services; directory enquiry systems; audio search applications; computer-assisted language learning, etc.)
- Telephony platforms
- Statistical pattern recognition, artificial intelligence and machine learning

•Work in various project teams, comprising other researchers, developers, students, and interns.

•Mentor Honour's students, interns and vacation workers in areas where required.

The successful candidate will preferably be hosted at the Meraka Institute. In exceptional cases, the candidate may be hosted at his/her university of registration, subject to agreement with his/her supervisor(s) at the Meraka Institute.

About the requirements for the positions:

Minimum qualifications required: Honour's degree (or equivalent) in one of the following disciplines: electronic engineering, computer engineering, computer science, computational linguistics, mathematics, applied mathematics or linguistics

Minimum experience required: Proven scholarly ability, supported by an excellent academic profile

Minimum other competence required:

- Technical: Programming skills in at least one programming language, as well as some experience in working within the Linux OS and OpenSource environment (except for the following areas of research: linguistics, spoken dialogue systems)
- IT: Advanced computer skills, specifically related to word-processing, spreadsheets and presentations
- Interpersonal: The ability to work well in a creative scientific environment as part of a team, with a good fit with the culture of the organisation (e.g. working on various projects simultaneously, contributing to an innovative research and development environment, positively influencing team work, etc.)
- Language: full spoken and written proficiency in English

Preferred/recommended requirements:

- Experience: 2-3 years' experience in participating in a relevant project (see list of research areas above) from conception to completion, including management of all resources relating to the project
- Technical: Advanced programming skills in a variety of programming languages, especially C, C++, Python or Perl
- IT: Experience in environments like Matlab, Statistica, R, etc.
- Interpersonal: Proven track record of mentorship skills
- Language: knowledge of or fluency in any official South African language(s) and/or language(s) spoken in Africa.
- **Preference will be given to South African citizens/permanent residents who will promote the achievement of the employment equity targets of the CSIR, and all appointments will be made in accordance with the CSIR's employment equity initiatives. Preference will also be given to candidates who have a relevant prior relationship with the Meraka Institute (e.g. in the form of a bursary).**

How to apply:

1.Fill in your details on the standard studentship CV template which you can download from:

<http://www.meraka.org.za/vacancies/studentship.htm>. You will need the Microsoft Excel program to edit this template. Filling in your information will probably take you about three to four hours.

2.Go to this website to apply online: <http://www.csir.co.za/apply.php>

3.Ensure that you select the correct position reference number associated with this advert on the online application form.

4.Complete the online application form.

5.Attach the template you filled out in step 1 to this online application form. Remember, you should have saved this template as "<lastname> <firstname> 2010.xls" (e.g. "skosana prisca 2010.xls")

6.Attach the following documents in an email to centralrecruit@csir.co.za with a subject line in the format "MERAKA <lastname> <firstname> 2010 <degree> studentship in <research group>" (e.g. MERAKA skosana prisca 2010 masters studentship in HPC):

- Certified copy of your full academic record (including your most recent semester results if applicable).
- Copy of your ID document or passport.
- List of any relevant publications you have produced (if applicable).

Please note:

1.The CSIR is not obliged to fill any advertised positions.

2.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.

3.Correspondence will be entered into with short-listed candidates only.

About studentships:

The CSIR studentship programme is both prestigious and competitive. A studentship is an employment contract with the CSIR for selected graduates to primarily perform research on a topic approved by the organisation, which is fully funded by the CSIR and will lead to a Master's or PhD degree. The benefits and features of a studentship are as follows:

- Obtain a Master's or PhD degree while working as part of a research group
- Obtain exposure to related industry and public sector projects
- Perform research and other activities, which advance the objectives of the group; if this work is not directly related to the attainment of the degree, this time will not exceed 30% of the studentship time
- Receive very attractive financial support for full-time study (in excess of market norms): annual salary; university fees; subsistence and travel for meetings with the university supervisor, if required; presenting papers at international peer-reviewed conferences (if deemed important)
- No contractual obligations after completing the degree
- Degree conferred by a South African university, depending on choice of topic and supervisor
- Candidates must have the required prior degree to be eligible for a studentship:
 - For PhD studentships: Master's degree
 - For Master's studentships: Honours degree
 - Applications can also be made while in the final year of the prior degree on condition that the degree is completed before the commencement of the studentship.

About the HLT group:

The HLT research group studies the way in which speech- and language-related technologies can be created and applied to benefit the people of Southern Africa. In collaboration with a network of partners, the group is creating speech and language technologies such as automatic speech recognition systems, speech synthesis systems and telephony-based information systems. Statistical pattern recognition and artificial intelligence research form the basis from which many of these technologies are developed. Topics range from pattern recognition theory to the development of sophisticated HLT systems. The HLT group operates in a youthful, energetic environment consisting of more than 30 researchers and developers from backgrounds as diverse as engineering, linguistics and sociology.

About the Meraka Institute:

The Meraka Institute of the CSIR is a national strategic initiative that addresses three critical areas in information and communication technology (ICT):

- **Human capital development (HCD)** in ICT forms a critical thread throughout the Institute's activities and ensures continued development, growth and sustainability
- **Innovation** in ICT that leads to applications able to address development challenges facing South Africa, the continent and the developing world
- **Advanced technology research** that enables indigenous ICT leadership, through critical mass and focus on ICT research and development.