UNIVERSITÄT KOBLENZ · LANDAU

The **Faculty of Computer Science** at the University of Koblenz-Landau, **Campus Koblenz**, **Computer Networks Group**, is inviting applications for a

PhD Position

(3 years, full time)

for working within the DFG priority program “Cyber-Physical Networking (SPP 1914)”. The position is to be filled as soon as possible (preferably Sep/Oct 2016), limited to 3 years and is subject to the German law on fixed-term contracts in science (WissZeitVG). Salary will be according to the German public service salary scale TV-L EGr. 13.

Topic:

The prospective research assistant will be responsible for the project “analysis and synthesis of combined cooperative control and topology control over wireless network models”, which is a joint project between the Computer Networks Group at the University of Koblenz-Landau and the Institute of Control Systems at the Hamburg-Harburg Technical University. At both sites one PhD student is to be employed in this project context.

The PhD student employed at the University of Koblenz-Landau will research appropriate adaptation of the interaction network graph to the time-varying conditions of the wireless communication channels to significantly improve the achievable performance of cooperative control of multi-agent systems (e.g. swarms of autonomous AUVs or UAVs). He will develop and analyze topology control schemes to maintain the highest level of algebraic connectivity (aiming at high performance and robustness of cooperative control) while taking into account SINR constraints. The focus is on distributed and local solutions with the goal to support any system scale. Proof of concept will be given by simulation studies based on source-seeking scenarios, which will be selected to highlight the various features of the proposed integrated collaborative control and topology control scheme.

Requirements:

The successful candidate has an above-average completed scientific university study, preferably in the area of computer science or mathematics (M.Sc, Diploma). You have demonstrated the ability to carry out independent scientific work, are dedicated, and strive to deepen your knowledge and skills, and successfully finish the project with a PhD. You have the skills to mathematically proof theoretical claims, and are interested to do research in the area of algorithms and graphs. Very good proficiency in written and spoken English are compulsory.

Knowledge in control theory is not required for this part of the joint project. However, it is expected that the employee is willing to collaborate with the employee working at the control theoretic part handled by the project partner Institute of Control Systems at the Hamburg-Harburg Technical University. Applicants with background in control theory are welcome to also apply for the position opening of the project partner, the Institute of Control Systems at the Hamburg-Harburg Technical University (https://www.tuhh.de/rts/welcome.html).

Please contact Prof. Dr. Hannes Frey (phone +49 (0)261/287-2726) for further information.

It is the policy of the University Koblenz-Landau to increase the percentage of female employees. If equally qualified, preference will be given to female applicants in fields where they are underrepresented. Disabled candidates are given priority, if equally qualified. International candidates are highly encouraged to apply.

Applications should include a letter of motivation, a complete curriculum vitae, certificates etc. Please send your application, quoting the **reference number Ko 21-2016**, **before Sep-01-2016** either by regular mail to Universität Koblenz-Landau, Ref. K 21 Personal, Organisation, Wahlen, Universitätsstr. 1, 56070 Koblenz or by email to bewerbung-fb4@uni-koblenz.de.

We do not send a confirmation of receipt. In accordance to the protection of data privacy all documents will be destroyed after the application procedure.

www.uni-ko-ld.de/karriere