

Prof. Dr.-Ing. Peter Treffinger, University of Applied Sciences

PhD Position within the cooperative graduate school “Small scale renewable energy systems” (abbr. KleE) at the University of Freiburg (www.klee.uni-freiburg.de) and in collaboration with the University of Applied Sciences, Offenburg and the Fraunhofer Institutes ISE and IPM, Freiburg.

The position will be located at the University of Applied Sciences, Offenburg (www.hs-offenburg.de).

Signal theoretic system theory for optimization of distributed systems

Investigating “small scale renewable energy systems” it is required to develop models for a broad range of energy systems. The insight gained from these models support decisions regarding topology of new energy systems and/or refurbished energy systems. An ideal model should additionally to technical problems further questions consider namely environmental impact, economics, etc. However, time for planning of “small scale renewable energy systems” will be limited and additionally a number of parties will be involved in the planning process. Within the graduate school shall be evaluated whether by object oriented modelling approaches can yield to model with an acceptable modelling effort. There are high requirements on modelling of distributed energy systems, e.g. changing energy flow direction and changing topology due to time-variant energy converters.

Having in mind the above mentioned aspects of the required model in the first stage of the Ph.D. work the requirements on the model development considering also coupling or integration with economic and socio-economic models shall be formulated. A further aspect are the requirements on control systems of distributed systems, whereby model-based control structure or multi-agent-system could be investigated.

Qualifications, Competencies & Experiences

Applicants should hold an above average Master degree in engineering.

The following competences are appreciated:

- Knowledge and experiences in energy conversion and energy systems
- Competencies in system analysis in energy sector (e.g. modelling, simulation and optimization methods)
- Strong inter-personal skills and desire to contribute to an interdisciplinary research
- college
- The ability to work both individually and in close cooperation within the graduate school

How you apply:

Applications will only be accepted electronically **until the 15th of May 2011**. If interested, please submit your application to:

Mr. Dipl.-Biol. Stefan Adler

Zentrum für Erneuerbare Energien (ZEE) - Centre for Renewable Energy

Albert-Ludwigs-Universität Freiburg/ University of Freiburg

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Homepage: www.zee.uni-freiburg.de

Required application documents:

<http://www.klee.uni-freiburg.de/bewerben> (English)

For further information regarding the graduate school please visit www.klee.uni-freiburg.de.

Information regarding the position can also be provided by Prof. Dr.-Ing. Peter Treffinger, University of Applied Sciences Offenburg (peter.treffinger@hs-offenburg.de).