



March 28, 2011

PhD Position

Soft Computing Methods for Performance Optimization in the Design of Electrical Drives

The Department of Knowledge-based Mathematical Systems at the Johannes Kepler University Linz (Austria) is offering a **PhD position in the field of performance optimization in the design of electrical drives with soft computing and data-driven methods.**

The basic task is to enhance the currently available techniques for initial design process parameter optimization specified by customers (in terms of size, maximal allowed power output etc.), in order to obtain an optimal cost-performance ratio of the electrical drives.

One partial goal is a **statistical, data-driven oriented study** about the **impact of certain engine setup parameters onto important target measures** (sensitivity analysis) such as power loss or degree of efficiency. Another goal is **to improve the currently implemented genetic algorithms for design parameter optimization** with respect to computation speed and performance (fitness) and to extrapolate to optimal cost-performance ratio in the design parameter space based on nearby solutions found by the genetic algorithm.

Profile/Personal Qualification of the candidate:

Ideally, the candidate should hold a master degree in Mathematics/Mechatronics/Informatics or some other technical field and already have some knowledge about soft computing optimization methods (such as genetic algorithms) and machine learning/data-driven modeling techniques. Interest in electrical drives is warmly welcome.

Duration of the Contract: 3 years

Starting Date: as soon as possible

Gross Salary: approx. 40000 Euro per year

The position is financed within a strategic project of the **Austrian Center of Competence in Mechatronics (ACCM)** carried out together with some Institutes of the Johannes Kepler University Linz.

Contact: Please send your CV, degree certificates, list of publications etc. to Dr. Edwin Lughofer, edwin.lughofer@jku.at, phone +43 (0)7236 3343 435

*Applications from women are particularly encouraged.
Candidates must be allowed to work within the European Union (EU).*