



The Automation and Control Institute (ACIN) at TU Wien is offering the following

PhD-Position (m/f/d): „Learning-based Control and Calibration Methods for the Optimal Operation of Large Combustion Engines“

What you'll be doing

In the Complex Dynamical Systems Group (Prof. Andreas Kugi) and in close cooperation with an **internationally active, research consortium** you will develop new methods for the adaptive and learning-based calibration, and the complex model-based optimal control of large combustion engines (gas and biogas-fired).

Research topics

- Analysis, extension and design of optimal model-based control strategies for large combustion engines
- Offline and online strategies for the identification and estimation of essential system quantities (e.g. the composition of the flexible fuel)
- Combination of physics-based models with data-based models utilizing methods of machine learning
- Methods for the assisted and automated optimal tuning of the control parameters
- Evaluation and validation using advanced simulation models
- Realization and test of the strategies in test on real combustion engines

Your profile

- Master's degree in mathematics, automatic control, computer science, mechatronics, automotive engineering, electrical engineering, mechanical engineering, physics
- Excellent technical understanding and analytical capabilities
- High commitment and motivation, willingness to contribute to academic teaching
- Team spirit, strong communication skills, goal orientation, structured, and responsible way of working
- Very good command of written and spoken English, basic skills in German favorable

We offer

- Future-oriented research and innovative solutions for the latest problems
- Scientific freedom and time to author a PhD dissertation
- Solid training and continuing education as well as participation in international conferences
- Promotion, support, dialog, and cooperation in a motivated and interdisciplinary team
- Cooperation with a renowned, internationally active, research consortium
- Secured funding and well-equipped infrastructure
- Employment contract for 3 years (40 hours a week) with option for extension
- Gross salary of € 42.820,40 p.a.

We are looking forward to receiving your application including the usual documents via e-mail sent to ochsenreiter@acin.tuwien.ac.at. In case of questions, please contact Prof. Wolfgang Kemmetmüller (e-mail: kemmetmueller@acin.tuwien.ac.at).

About us

The Automation and Control Institute (ACIN) belongs to the Faculty of Electrical Engineering and Information Technology of TU Wien. At ACIN, more than 80 researchers conduct basic research, solve challenging practical problems, cooperate with industrial research partners, develop innovations, and offer students excellent academic teaching in the fields systems theory, automation, and control engineering. More info at <https://www.acin.tuwien.ac.at/komplexe-dynamische-systeme-cds/>.