The Automation and Control Institute at TU Wien is seeking applicants for a

**PhD-Position (m/f/d): “Thermal Modeling, Control, and Optimal Operation of Discontinuous Annealing Furnaces in the Metals Industry”**

**You can expect:**
In the Complex Dynamical Systems Group (**Prof. Andreas Kugi**) you will develop together with an *internationally operating industrial research partner* methods for modeling and control of the thermal behavior as well as the optimal operation of discontinuous annealing furnaces used in the metals industry.

**Tasks:**
- Design of a detailed thermal model of a discontinuous annealing furnace
- Development of methods for diagnosis and estimation of the not fully measurable thermal behavior of the system
- Development of an (optimization-based) tracking controller for the temperature of a discontinuous annealing furnace with variable loads
- Development of an algorithm for optimal charging of the discontinuous annealing furnace
- Test of the developed strategies in simulations and on a test bench of the research partner

**Your profile:**
- Completed study (master level) in mathematics, control engineering, computer science, mechatronics, electrical engineering, mechanical engineering, process engineering
- Excellent analytical capabilities
- High motivation and readiness to contribute to the academic teaching
- Committed and reliable team player with an independent and precise way of working
- Very good knowledge of the German and English language

**Our offer:**
- Research in an interesting and innovative field of technology
- Opportunity to write a PhD thesis and participation in international scientific conferences
- Close supervisory relationship and intense dialogue in a dynamic and highly motivated team
- Three-year fixed term contract (40h/week) with the option for prolongation
- Annual salary € 41.601,- (gross)

We are looking forward to receiving your application including the usual documents via e-mail sent to ochsenreiter@acin.tuwien.ac.at. If you have any questions, please contact Prof. Andreas Kugi kugi@acin.tuwien.ac.at. Further information of the Complex Dynamical Systems Group can be found at [https://www.acin.tuwien.ac.at/komplexe-dynamische-systeme-cds/](https://www.acin.tuwien.ac.at/komplexe-dynamische-systeme-cds/)

**Who we are**
The Automation and Control Institute is part of the Faculty of Electrical Engineering and Information Technology at TU Wien. With a team of more than 70 staff members, the institute performs basic research, solves challenging real-world research questions in numerous co-operations with industry, develops innovations and offers a research-oriented education in the field of system technology and automation.