



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

PhD-Position (m/f/d): „Modeling, Monitoring, and Optimization of a Fluid-Dynamical System“

What you'll be doing

In the Complex Dynamical Systems Group (Prof. Andreas Kugi) and in close cooperation with an **internationally active, industrial research partner** you will develop new methods for data-driven and physics-informed modeling, analysis, parameter estimation, observer design, and optimization for the flow behavior of liquid metal in a continuous casting plant.

Research topics

- Data-driven and physics-informed modeling and analysis of the gas-laden flow of liquid metal above and in the mold of a continuous casting plant
- Identification of dynamical models and model parameters, model-order reduction
- Design optimization of flow channels
- Real-time adaptive and learning-based estimation (soft-sensing) of non-measurable system quantities
- Model-based combined utilization of all available measurement signals (sensor-fusion)
- Realization and validation in simulations, on laboratory models, and on an industrial continuous caster

Your profile

- Master's degree in mathematics, automatic control, computer science, mechatronics, electrical engineering, mechanical engineering, mechanics, fluid dynamics, or 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, industrial research partner
- Secured funding and well equipped infrastructure
- Employment contract for 3 years (40 hours a week) with option for extension
- Gross salary of € **52.865,40** p.a.

We are committed to increasing the proportion of women in our research group. Therefore, female applicants are explicitly encouraged to apply. Preference will be given to women when equally qualified.

We try to hire people with special needs and explicitly encourage them to apply.

We are looking forward to receiving your application including the usual documents (at least CV, transcript of records, graduation certificate) via e-mail sent to Andreas Steinböck (e-mail: steinboeck@acin.tuwien.ac.at). In case of questions, please also contact this address.

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 50 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/>.