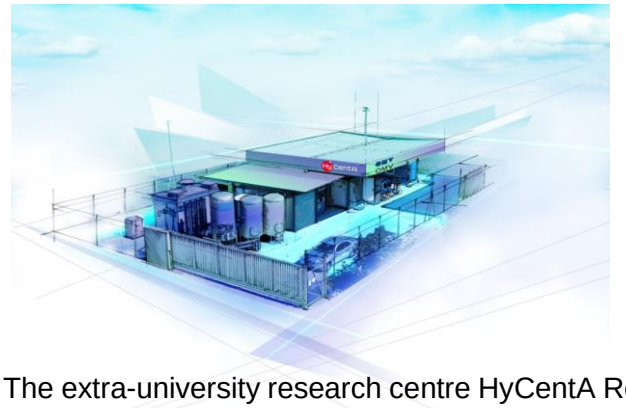


shaping the sustainable hydrogen society through research!

The extra-university research centre HyCentA Research GmbH at Graz University of Technology is the leading institution of Austrian applied research on hydrogen technologies. Using the outstanding technical infrastructure and modern simulation methods, research is conducted on technologies such as electrolysis, storage systems and fuel cells for future energy systems at the highest international level.

To strengthen our competent and dynamic team, we are offering the following position:

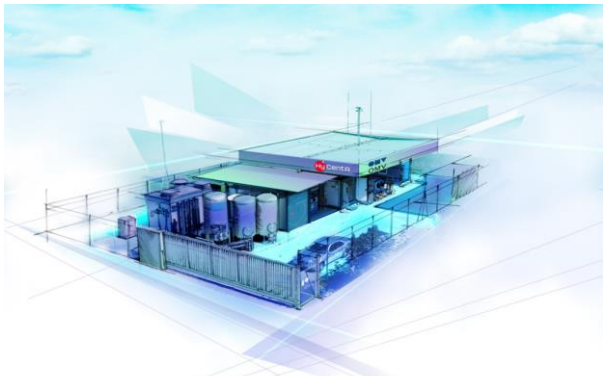
PhD Position – Digital Twin for Hydrogen Infrastructures

Degree of employment: Full-time (40 hours/week)
Job-ID: 230201

As team member of the Hydrogen Research Centre Austria, a Competence Centre for Excellent Technologies (COMET), you contribute to our excellent Research and Development in the area of hydrogen based sustainable energy system design.

Job Description:

- Your overarching goal is bringing together green hydrogen production with the trend of digitization by developing a Digital Twin for hydrogen plants (PtX, refuelling stations…)
- You will benchmark different available platforms for designing Digital Twins and simulation models for hydrogen plants e.g. Ebsilon, Simscape and others
- You will design a digital twin for hydrogen infrastructures according to the specified functionalities including:
    - Application and modelling of simulation tools and components for hydrogen infrastructures (e.g. electrolysers, compressors, storage systems) suitable for the Digital Twin
    - Implementation of electrolyser performance monitoring including detection of degradation
    - Implementation of data acquisition, visualisation and processing of physical hydrogen plants
    - Design of virtual sensors enabling the assessment of component health or providing insights in difficult to measure properties
    - Implementation of economic models to evaluate the financial implications of the operation of the physical asset and run optimizations
- The tools you develop will provide the research centre and our project partners valuable insights into their plant operation and inputs for safer, more efficient and more profitable operation of hydrogen plants



HyCentA HYDROGEN CENTER AUSTRIA

shaping the sustainable hydrogen society through research!

Your Skills:

- Structured approach to working on complex issues in research and development and solving practical problems
- High affinity for working on IT related problems (e.g. programming, Digital Twin platforms, data acquisition and processing)
- Ideally, previous experience with Digital Twins or related IT systems
- Sound knowledge of model creation and method development
- Comprehensive understanding of current technologies in the hydrogen sector as well as the associated energy systems on the basis of the underlying thermodynamic principles is an advantage
- Completed Master's degree in a technical field of study (mechanical engineering, electrical engineering, physics, chemical engineering, energy technology, information and computer engineering, etc.)
- High level of commitment, ability to work in a team and willingness for further development and training
- Pleasure in technical trouble shooting and problem solving with project partners
- Language skills: Fluent English and German, both spoken and written

Our Offer:

- Collaboration in a well-established high-tech research company in Graz
- Excellent working atmosphere under pleasant conditions at a family friendly employer with flex time and optional home office up to two days per week.
- Challenging work and creative freedom in an exciting field of activity
- We offer a minimum salary of € 3.277,30 gross/month (full-time basis)
- In addition, we offer numerous benefits, including flexible working conditions and individual training and career opportunities such as ongoing training in a highly innovative environment.

Gender equality is particularly important to us, so we especially encourage women to apply for our team.

Please submit your CV, motivation letter and certificates via e-mail to jobs@hycenta.at