



International Research Training Group HyPotential

The IRTG between RWTH Aachen University & Tokyo Institute of Technology is inviting applications from excellent candidates with a doctoral degree for advancing the state of research on the fundamentals of H₂ production, storage & transport, applications, & economy and to participate in a holistic training program in all these areas. We highly encourage females, persons with care responsibilities, and international candidates to apply!

Funded by
DFG Deutsche
Forschungsgemeinschaft
German Research Foundation

**1 open
postdoc
position !**

Application deadline:
31st August, 2025

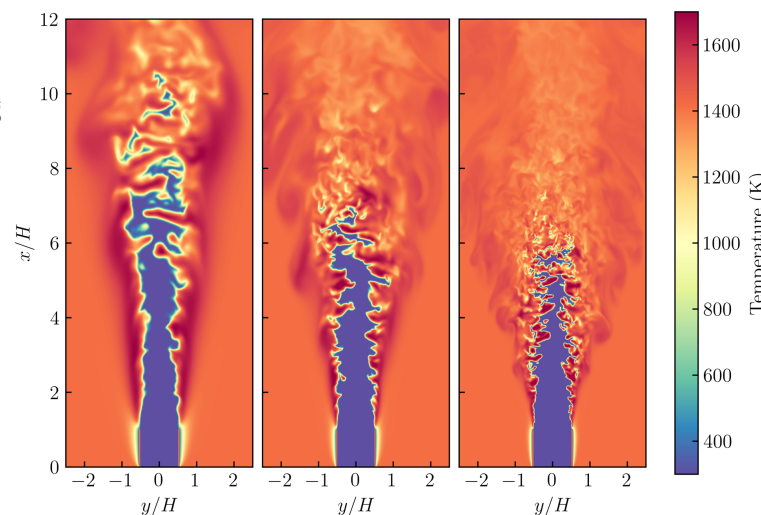
*Be a leading innovator in the transition to a **green economy**. Realize your **HyPotential**!*

Postdoc Position PDC3: Thermochemical Utilization

We are seeking a highly qualified and motivated post-doctoral researcher to contribute to cutting-edge research in the field of turbulent hydrogen combustion. The successful candidate will engage in high-fidelity simulations, theoretical analyses, and advanced modeling of hydrogen flames aimed at decarbonizing the energy sector.

Tasks: In your position, you will contribute to cutting-edge research at the intersection of turbulent reacting flows and high-performance computing. Your responsibilities may include: (1) Perform direct numerical simulations (DNS) of turbulent hydrogen flames using Europe's fastest supercomputers (2) Analyze DNS data for combustion modeling (3) Develop advanced combustion models for Large-Eddy Simulations (LES) (4) Collaborate with national and international research institutions, especially Institute of Science Tokyo.

Required education and skills: Ph.D. in Mechanical Engineering, Chemical Engineering, Applied Mathematics, or a related field with a focus on combustion or fluid mechanics. Profound knowledge of combustion, turbulence & fluid mechanics, good skills in programming & HPC, interest in simulations & modeling, proficiency in relevant software (e.g., AMReX, PeleC, PeleLMex, or similar), strong track record of publications in high impact journals, high proficiency in written & spoken English.



Intrinsic flame instabilities of turbulent premixed hydrogen flames at different Reynolds numbers

**RWTH AACHEN
UNIVERSITY**

**Institute of
SCIENCE TOKYO**

Interested in this postdoc position?
Please send a 1-page cover letter, a European CV, transcripts, list of 3 references, and any other supporting documents in a single PDF with the subject "HyPotential PDC1" to Prof. Heinz Pitsch via email at jobs@itv.rwth-aachen.de



For more information on openings in other research areas and any other queries please contact hypotential@itv.rwth-aachen.de

What's in it for you?

- Research in an excellent, diverse & highly interdisciplinary global team
- Training and mentorship from senior professors for developing a T-shaped profile
- Courses and workshops for writing competitive scientific research grants
- Special mentoring & coaching program "Women of the IRTG" for female candidates
- Participation in regular summer schools & international conferences
- Highly individualized training program to enhance your soft & transversal skills
- Professional networking with pioneers from both industry & academia