



Applications are invited for the position of a

University Professor for High-Performance Large-Engine Systems

(m/f/d)

Position: permanent, full employment

Contract: with Graz University of Technology under terms of Austrian Civil Law

Selection process: according to § 98 UG (Austrian University Act)

Estimated start: March 1, 2024

Application deadline: July 02, 2023

Graz University of Technology is the most traditional technical and scientific research and educational institution in Austria. In its five areas of strength, the Fields of Expertise, it achieves top international performance and relies on intensive cooperation with other research and educational institutions, business and industry worldwide. In the competition for the best minds and resources, it is committed to excellence in its fields of strength and is looking for top talent with a spirit of innovation and vision. We cordially invite you to join our community of researchers and teachers. Join us in shaping the future on the inter/-national research stage. Work with us on socially challenging topics and shape the expertise of future technical and scientific specialists and managers.

Duties

Applicants should be excellently proven in the field of „High-Performance Large-Engine Systems“ through professional practice and scientific activity, and represent the subject internationally in research and teaching.

The professorship will be established, together with the professorship for Sustainable Propulsion Systems and Applied Thermodynamics, as a key position in the faculty for research and development in the field of renewable energies. The cooperation with the Large Engines Competence Center (LEC), which is to be further scientifically developed, will be one of the main duties.

For teaching, the applicant is expected to have a strong command on large-engines technology on the bachelor's, master's and doctoral levels. Close cooperation across borders of institutes and faculties, as well as internationally, is expected. Active cooperation in the academic self-administration, and a strong commitment for the development of the interdisciplinary fields of research of TU Graz, called the *Fields of Expertise*, are also expected, as well as the cooperation with the departments established at the Institute of Thermodynamics and Sustainable Propulsion Systems.

Profile

The focus of this professorship is on sustainable propulsion systems for ships, locomotives, mining trucks etc. and on highly flexible power systems („Power plant of the future“) on the basis of large engines. For reaching the aims in limiting climate change in these fields of application, power-to-x fuels will be crucial. Therefore, research on alternative fuels (hydrogen, ammonia, methanol, Fischer-Tropsch fuels, etc.) will be crucial. Further to combustion research on the basis of simulations and experiments in engines and basic experimental setups, crucial importance lies in the optimization of energy and transport system networks – including carbon-capture systems, alternative energy converters and new storage technologies.

Further emphasis lies on life-cycle and overall system analyses, as well as on the integration of concepts for digitization (i.e., of real and virtual sensors, data transfer systems, condition-based monitoring and maintenance, data-based models for deriving operation strategies, etc.).

Required candidate profile

- PhD-level university education, in a discipline relevant for the position,
- excellent scientific qualification in research and teaching (habilitation or equivalent scientific record),
- international basic and applied research network,
- leadership, with the qualification to guide and develop a university team or an organizational unit.

Good command of English (Level C1) is required for an excellent representation of the field on an international level. Teaching in English and German is required, where the language on the Bachelor's level is German. For teaching and for management at the institute, in the faculty and in commissions of the University, command of German on the C1 level according to the Common European Framework of Reference for Languages is required, which must be present or acquired within the first year.

The transfer of residence to the area of Graz is required.

Further requirements

- Relevant industry experience and excellent contacts in science and business,
- experience in the acquisition of third-party funding and the application for and coordination of funded research projects,
- excellent didactic skills and experience,
- ability to work in a team and cooperativity,
- competence in leadership, gender and diversity.

Support for Women, Equal Opportunities and Diversity

Graz University of Technology aims to increase the proportion of women, in particular in management and academic staff, and therefore qualified female applicants are explicitly encouraged to apply. In case of under-representation, preference will be given to women if applicants are equally qualified.

Graz University of Technology actively promotes diversity and equal opportunities. Applicants are not to be discriminated in personnel selection procedures on the grounds of gender, ethnicity, religion or ideology, age, sexual orientation (anti-discrimination).

People with disabilities, and who have the relevant qualifications, are expressly invited to apply.

Your application

Candidates should submit their detailed application in English

- using the application form sheet of TU Graz (reference to attachments and CV may be given) at <https://www.tugraz.at/go/Professorships-vacancies>,
- presenting their CV and scientific record in teaching and research or in industries (copies of certificates and documents attached),
- displaying their planned activities in research and teaching and for the development of the team and the institution,
- presenting their publication list and the full texts of their five most important publications (pdf or link)

in a digital form, at the latest by

July 02, 2023

(date and time of email timestamp) to the Dean of the Faculty of Mechanical Engineering and Economic Sciences.

Address:

Graz University of Technology
Faculty of Mechanical Engineering and Economic Sciences
Inffeldgasse 23/1, 8010 Graz, Austria
E-Mail: dekanat.mbww@tugraz.at
Tel. + 43 316 873 – 0*

Hearings are planned for week 41, 2023. Candidates will be invited in due course after review of the applications and are requested to save that week for a visit to Graz.

Questions should be directed to the Dean of the Faculty of Mechanical Engineering and Economic Sciences.

The Dean:

Univ.-Prof. DI Dr. Franz Haas
on behalf of the Rector