UNIVERSITÄT DUISBURG ESSEN

Offen im Denken

Information for applicants for the W3 professorship in General and Theoretical Electrical Engineering

at the Faculty of Engineering

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1. The University of Duisburg Essen (UDE)

We are a young, innovative university located in the heart of the Ruhr metropolis. We pride ourselves on outstanding research and teaching, think in terms of opportunities rather than limitations and develop ideas with a view to the future. Diversity is an integral part of our culture as we promote potential and are committed to upholding genuine equity in education.

Essen campus

Located in the heart of the Ruhr metropolis, the University of Duisburg-Essen (UDE) is one of Germany's youngest universities and also among its strongest in research. The courses range from the humanities, social sciences and educational sciences via economics and business studies all the way to the engineering sciences, computer sciences and natural sciences (including medicine).

UDE embodies responsibility for the future. Our values – openness and internationality, diversity, equal opportunity and sustainability – guide our actions, research, teaching and learning.

UDE's research profile is distinguished by the strategic identification, consistent promotion and systematic advancement of promising, innovative ideas – and this is true of both fundamental and applied research and extends to the transfer of knowledge into industry and society. Our many internal and affiliated institutes also bear witness to this.

The cornerstones of UDE's research profile are the University-wide strategic research areas, which are shaped and advanced by numerous researchers in twelve faculties and fourteen inter-faculty research centres. Cooperative research projects have just as vital a place here as excellent individual research.

With innovative and digitally supported teaching and learning concepts, UDE enables research-based learning from the start. The University offers around 38,000 students from 130 countries a wide range of courses of study, including teacher training.

UDE is considered a paradigm throughout Germany of how equity in education can be implemented at a university with a strong track record in research. Numerous measures and projects are in place to support talented young people and offer them prospects. UDE considers itself a vibrant environment of diversity and openness where students, researchers and staff can realise their potential and willingness to perform.

In a strategic partnership, UDE is affiliated with Ruhr University Bochum (RUB) and TU Dortmund University. Together, they form the University Alliance Ruhr (UA Ruhr) and collaborate closely to achieve excellence in research and teaching together. With more than 110,000 students and almost 14,000 researchers, the UA Ruhr is one of the largest and best-performing academic hubs in Germany. The UA Ruhr's top-level international research on pressing issues of the future has been consolidated under the umbrella of the Research Alliance Ruhr.

In addition, the UDE maintains partnerships with over 100 universities around the globe and is a founding member of the Aurora European university network, which offers cross-border study programmes.

Learn more: https://www.uni-due.de/imperia/md/content/dokumente/image_broschuere_en.pdf

UDE as an employer

Seal of quality from the German Association of University Professors and Lecturers

The University of Duisburg-Essen bears the German Association of University Professors and Lecturers' (DHV) seal of quality for the fair and transparent nature of its appointment proceedings; this seal was first earned in August 2014, with successful re-audits in 2017 and 2022.

Learn more: https://www.uni-due.de/verwaltung/berufungsmanagement/

Family-friendliness

UDE systematically promotes and improves the ability of all its members to balance family life with research, work and studying, which it underscored as early as 2010 with its successful participation in the family-friendly university audit (*audit familiengerechte hochschule*). In 2022, UDE joined the *Verein Familie in der Hochschule e.V.* (family in higher education association) and established the UDE-wide *Netzwerk Familie** (family network). This was followed in 2024 by participation in the *North Rhine-Westphalia state programme Vereinbarkeit Beruf & Pflege* (reconciling work and care).

The Diversity Support Center at UDE offers support through the Family Service Office. Its offerings include personalised consultation on topics related to care, its own daycare facilities, flexible caregivers in emergencies and a holiday activity programme.

Learn more: https://www.uni-due.de/diversity/en/

Onboarding and Dual Career Service

The Onboarding team within the Appointment Management Department provide advice for getting started at UDE and can connect you with UDE's other consultation services. They also organise the Dual Career Service, which offers career assistance for both you and your partner.

Learn more: https://www.uni-due.de/en/dual_career.php

Coaching and further training

We see ourselves as a university of potential and work to ensure that all UDE members can contribute and develop their talents and abilities. This includes a wide range of opportunities to develop leadership skills along with coaching for line managers.

Learn more: https://www.uni-due.de/pe/personalentwicklung

Promoting good health in the workplace

UDE's occupational health management service works to provide a healthy and pleasant work environment as well as a culture of cooperation and trust. Staff at UDE can take advantage of a broad spectrum of in-person and online options to promote good health, comprehensive sport and fitness offerings provided by the University sport services, balanced meals in the canteens for good nutrition on campus, and many other opportunities.

Learn more: https://www.uni-due.de/pe/gesundheitsmanagement

2. Faculty of Engineering

ALL RELEVANT ENGINEERING DISCIPLINES UNDER ONE ROOF

The Faculty of Engineering at the University of Duisburg-Essen offers a unique profile: nowhere else in Germany are the engineering disciplines so closely integrated as at the University of Duisburg-Essen. Three departments teach and conduct research under one roof: Civil Engineering, Electrical Engineering and Information Technology, and Mechanical and Process Engineering, including Industrial Engineering. Furthermore, the cross-departmental MObility TransformaTION Institute (MOTION) has been established, where chairs from all departments conduct research and teaching in the fields of mobility, automotive engineering and automotive economics. As a result, the faculty boasts a uniquely integrated range of engineering disciplines across Germany, meeting every requirement for modern, innovative and interdisciplinary university education and research in the field of engineering.

As one of the largest faculties, with more than half of its students coming from an international background, it is a strong and sought-after partner for regional and national industry. Graduates of our programmes are highly regarded both for their broad technical expertise and for the distinctive interdisciplinary and international focus of our study programmes. Traditional degree programmes such as Mechanical Engineering, Electrical Engineering and Civil Engineering are complemented by cutting-edge interdisciplinary fields such as Nanoengineering, Medical Technology and Industrial Engineering. Added to this are social skills, which are particularly well-developed through teamwork and interaction with international students. Of particular note is our integrated international Bachelor's/Master's programme 'International Studies in Engineering (ISE)', with 50% of lectures delivered in English, which, due to its global scope and versatility, is in high demand not only among international students but also among German-speaking students.

For our first-year students, we have developed a comprehensive support system that ensures a seamless transition from the school system to the university education system. During the first three semesters, first-year students have the opportunity to consolidate the course content in small groups alongside their lectures, enabling them to complete the demanding engineering degree programme at a high standard in a timely manner. In addition, there are intensive laboratory sessions that teach students how to work with the technologies of the future right from the start.

In the field of research, the Faculty of Engineering, with an investment of more than 60 million euros in equipment infrastructure, has excellent opportunities to develop state-of-the-art technologies and conduct fundamental research. With six completed and four ongoing DFG Collaborative Research Centres, three ongoing DFG Research Training Groups and six research groups , the Faculty is a leading institution in Germany and the international scientific community in the fields of nanotechnology and materials science. But the topics

- Energy and Environmental Process Engineering,
- Nanotechnolgy,
- Combustion Science,
- Mechatronics,
- Automotive Engineering and Management,
- Communications Engineering,

- Microelectronics and Medical Technology,
- Information technology,
- Product Engineering and Materials Science,
- Civil Engineering,
- Industrial Engineering,
- Logistics

are the focus of research.

By concentrating on these areas, the faculty has achieved a high international reputation, which is reflected in numerous research projects. In addition, there are the university-affiliated institutes and associated institutes

- Development Centre for Ship Technology and Transport Systems (DST),
- Institute for Mobile and Satellite Communication (IMST),
- Institute for Energy and Environmental Technology (IUTA),
- IWW Water Center (IWW),
- Center for Fuel Cell Technology (ZBT),
- Fraunhofer Institute for Microelectronic Circuits and Systems (Fraunhofer IMS),
- Gas- und Wärme-Institut (GWI),
- Center of Rotating Equipment (CoRE),

which collaborate closely with the faculty and have an annual total revenue of more than 35 million Euro. The Faculty and the affiliated and associated institutes have proven to be excellent partners for complex technological solutions and for the recruitment of excellently trained engineers.

To promote cooperation between the departments and institutes and to increase visibility the faculty has established three research profiles, which are “Tailored Materials”, “Human-Centered Cyber-Physical Systems” and “Energy and Resource Engineering”.

3. Department of Electrical Engineering and Information Technology

From traditional electrical engineering to nanoengineering and medical technology

More than 1,400 students are currently enrolled in the degree programmes offered by the Department of Electrical Engineering and Information Technology. The attractive range of subjects covers the 'classic' topics of electrical engineering and information technology, offers the interdisciplinary degree programmes 'NanoEngineering' and 'Medical Technology', and provides the international study programme 'International Studies in Engineering'. Thanks to the complete transition to consecutive Bachelor's and Master's degrees, the Department is well-equipped for the future in terms of teaching and the promotion of young talent. The fact that the Department's programmes are also attractive to women is demonstrated by the above-average proportion of female students. It currently stands at over 27% (in the recently launched Bachelor's programme in Medical Technology, the figure is over 60%). After a temporary decline, student numbers in the EIT are now rising again, not least due to active recruitment.

The work in the Department of Electrical Engineering and Information Technology is carried out by 22 professors across 13 chairs – highly motivated researchers, the majority of whom have been appointed within the last five years; the average age is correspondingly low. With solid funding and excellent facilities, the department covers all aspects of Electrical Engineering and Information Technology, ranging from electrical power engineering through communications engineering, microelectronics and medical technology to nanotechnology.

The establishment of a Collaborative Research Centre for research into terahertz technologies (MARIE), participation in other Collaborative Research Centres and a Research Training Group, numerous DFG and EU projects, as well as diverse industry collaborations, demonstrate the extensive research activities within the department. This is made possible, among other things, by outstanding facilities such as the Centre for Semiconductor Technology and Optoelectronics (almost 500 m^2 of cleanroom space), the high-voltage laboratory and the fire detection laboratory.

Particularly noteworthy is the link with non-university research institutions, such as the Fraunhofer Institute for Microelectronic Circuits and Systems or the internationally renowned IMST GmbH. There is a lively exchange of knowledge here regarding projects, Bachelor's and Master's theses, as well as lecturers from these institutes. For instance, the Director of the Fraunhofer Institute and three department heads simultaneously hold professorships at the university. Close collaboration with the Jülich Research Centre has been established through a joint professorship. The DLR in Cologne is also linked to the EIT Department through a junior professorship.

The Department of Electrical Engineering and Information Technology at the University of Duisburg-Essen is excellently positioned, both in view of the increasing competition among universities regarding the provision of high-quality education for students and for future collaboration with national and international partners from academia and industry.

4. Information about the open position

We are a young, innovative university located in the heart of the Ruhr metropolis. We pride ourselves on outstanding research and teaching, think in terms of opportunities rather than limitations and develop ideas with a view to the future. Diversity is an integral part of our culture as we promote potential and are committed to upholding genuine equity in education.

The following position is to be filled from 1st August 2028 within the **Department of Electrical Engineering and Information Technology, Faculty of Engineering** at the **University of Duisburg-Essen:**

Full Professorship for "General and Theoretical Electrical Engineering"

(W3 salary band as defined in the North-Rhine-Westphalian regulations for the W salary range, Landesbesoldungsordnung W)

We are looking for an outstanding, internationally recognised personality to represent and further develop the discipline in research and teaching. The position requires profound expertise in electromagnetic field theory and its practical application. Experience in electromagnetic and multi-physical simulations is desirable. Possible research foci include:

- RF circuit technology (mmW, THz chip design)
- Antenna design and measurement technology
- Radar and imaging methods (tomography, inverse scattering)
- Sensor technology, including quantum sensors

Close integration of research with applications in medical technology or medical sensor technology is of particular interest.

Links to IMST GmbH (imst.de), an affiliated institute of the university; the Centre for Semiconductor Technology and Optoelectronics (uni-due.de/zho); the Fraunhofer Institute for Microelectronic Circuits and Systems (ims.fraunhofer.de); the University Hospital (uk-essen.de); or the Erwin L. Hahn Institute (hahn-institute.de) are desirable. Opportunities for cooperation within the faculty, the university and the Ruhr University Alliance must be outlined. The ability to engage in international research cooperation is also a prerequisite.

Publications in peer-reviewed scientific and relevant journals, patents, publications in relevant conference proceedings as well as experience in the competitive acquisition of self-conceived or managed research projects, preferably DFG-funded or internationally comparable projects, and their successful implementation are expected.

Management experience in the field of research and/or development is desirable. A willingness to participate in academic committees is expected.

The position is integrated into the Bachelor's and Master's degree programmes in Electrical and Information Technology (including the distance-learning programme), Medical Technology, Industrial Engineering, NanoEngineering and International Studies in Engineering, and involves, amongst other things, teaching the fundamentals of electrical engineering (Electric and Magnetic Fields, Electrical Networks) at Bachelor's level and advanced topics (Theoretical Electrical Engineering, Computational Electromagnetics, Bioelectromagnetics) at Master's level. Contribution to the further development of the study programmes, in particular the Medical Technology programme, is required.

The University of Duisburg-Essen places particular emphasis on teaching quality. Therefore, candidates must outline their didactic concepts, also taking the profile of the University of Duisburg-Essen into consideration.

Criteria for appointment are based on Section 36 of the NRW Higher Education Act (HG).

The University of Duisburg-Essen strives to promote the diversity of its members (https://www.uni-due.de/diversity/en/). The University also aims to increase the ratio of women in its academic staff and therefore strongly encourages women with relevant qualifications to apply. If two candidates are equally qualified, women will be given preference as stipulated in the Equal Opportunities Act of North Rhine-Westphalia (LGG NRW). Applications from qualified candidates with disabilities or equivalent status as defined in Section°2 (3) of Book IX of the German Social Code (SGB IX) are encouraged.

Applications should include the usual documents (CV including information on both your academic and professional experience, a list of academic publications, copies of relevant certificates, a description of your research profile and the resulting perspectives for the University of Duisburg-Essen, a teaching and learning concept that takes the University of Duisburg-Essen's profile into account, information on your teaching activities, your involvement in academic self-governance and external funds that you have obtained to date).

Please submit your application by post or in electronic form by 30 September 2026 to:

Dean of the Faculty of Engineering at the University of Duisburg-Essen, Univ.-Prof. Dr.-Ing. Alexander Malkwitz, Forsthausweg 2, 47057 Duisburg, dekanat@iw.uni-due.de.

Further information on the position, its role within the University of Duisburg-Essen and within the Faculty of Engineering can be found at: https://www.uni-due.de/iw/en/jobs.php and https://www.uni-due.de/karriere/

Auszeichnungen

5. Legal framework

Universities are state-funded bodies under public law with legal capacity. State funding is based on the university's tasks, the obligations agreed upon in university contracts and the university's performance. They have a global budget and are not subject to individual instructions from the Ministry for Culture and Science of the state of North Rhine-Westphalia.

If the legal requirements are met, professors are appointed as permanent civil servants as a rule. Professors can also be appointed on the basis of an employment contract under private law.

When awarding a junior professorship, it is to be noted that individuals who already meet the hiring requirements for a university professorship due to having completed a habilitation or another reason cannot be considered.

Further information (in German):

- Contacts
  www.uni-due.de/verwaltung/organisation/peo_professoren.php
- Regulations on the appointment proceedings
  www.uni-due.de/imperia/md/content/zentralverwaltung/bereinigte_sammlung/2-10-mai12.pdf
- Information on the appointment and hiring process
  www.uni-due.de/verwaltung/berufungsmanagement/

6. Salary

The salary of university teaching staff is stipulated by the North Rhine-Westphalian system for the remuneration of civil servants. These staff members fall under the W salary range, which contains the bands W1, W2 and W3.

Basic salaries can be supplemented with (performance) bonuses in bands W2 and W3. These performance-based salary components can be awarded

- as a result of appointment and retention negotiations (appointment and retention bonuses),
- for special achievements in research, teaching, art, further education and supporting early career researchers (special achievement bonuses),
- for assuming functional or special responsibilities as part of the University's self-governance or University management (functional bonuses).

In certain circumstances, so-called teaching and research bonuses may be paid from private third-party funds.

During appointment and retention negotiations, performance bonuses can also be agreed for a fixed period of time if they are linked to target and performance agreements.

Appointment bonuses are to be negotiated on an individual basis with the Rector of the University of Duisburg-Essen as part of appointment negotiations.

Please find a table showing the current remuneration (in North Rhine-Westphalia) for the salary bands W1, W2 and W3 at:

- https://www.finanzverwaltung.nrw.de/sites/default/files/asset/document/grundgehaelter_a_b_r_und_w.pdf

You can find information on the W salary range (in North Rhine-Westphalia) and the legal foundations for it on the following webpages:

- www.uni-due.de/verwaltung/organisation/peo_links.php
- https://www.research-in-germany.org/en/jobs-and-careers/info-for-senior-researchers/career-paths/professorship/professor-university.html

Further information (in German) can be found in the regulations on awarding performance-related bonuses:

- www.uni-due.de/imperia/md/content/zentralverwaltung/bereinigte_sammlung/3_60.pdf