

UNIVERSITY DUISBURG-ESSEN:

Information for Applicants
for the
W3 Professorship

**“Interface-Sensitive Probing of Sur-
face/Liquid Interfaces”**

in the Faculty of Physics

I.	The University Duisburg-Essen	3
II.	The Faculty of Physics	4
III.	The Cluster of Excellence RESOLV	5
IV.	Requirements for the Position	6
1.	Research	
2.	Teaching	
3.	Further Requirements	
4.	Hourly Extent of the Professional Activities	
V.	Staffing and Facilities	6
1.	Staffing	
2.	Facilities	
3.	Funding	
VI.	Legal Framework	7
VII.	Salary	7

I. The University Duisburg-Essen

The University of Duisburg-Essen is located in a region boasting the highest concentration of universities in Europe. Almost 41,000 students are enrolled here and, with a total of about 3,600 academic and non-academic staff members, the university clearly occupies an important position among the employers in the region. Established on 1 January 2003, the result of the merger between two previously independent institutions – the University of Duisburg and the University of Essen (both of which were first founded in 1972) – the University of Duisburg-Essen is the youngest university in North Rhine-Westphalia.

This new twin-campus university in the center of the Rhine-Ruhr region has made good use of opportunities given to strengthen and showcase its research and teaching potential, a potential recognized well beyond the borders of the region. Offering a broad range of subjects, the University of Duisburg-Essen has already notched up a good name for itself in fields as disparate as social sciences, economics, the humanities, design, engineering and natural sciences, including medicine. Students from 130 nations come here to pursue their studies.

Students can graduate on the basis of the traditional degree structure in education and medicine. Or they can obtain a new Bachelor's or Master's degree in a growing number of disciplines. A high priority is given to expanding these consecutive – often interdisciplinary – courses since they meet international standards and attract students from far and near. Furthermore, the University offers working professionals (“mature students”) a number of attractive courses which, thanks to the modern integrated e-learning methods on offer, are geared to the learning speed of the individual student. In many disciplines the University Duisburg-Essen belongs to the Top 10 of the most successful research universities in Germany. External funding was doubled within the last five years.

The University has four key profile areas:

- Nanoscience
- Biomedical sciences
- The future of urban systems
- Transformation of contemporary societies.

During its founding phase, the University's innovative management also attracted a large amount of attention mainly because of the broad-based project approach taken to quality development. All the faculties and central institutions of the University have their products, services and processes regularly reviewed by the University's own Center for University and Quality Development.

Further Information: https://www.uni-due.de/imperia/md/content/dokumente/ppt/ppt_praesentation_ude_en.pdf



II. The Faculty of Physics

The Faculty of Physics is divided into the areas “experimental physics”, “theoretical physics” and “didactic of physics”. All research groups are located on the Campus Duisburg except for didactic which takes place at the Campus Essen like all teacher training programs. Currently, 22 professors work at the faculty, eleven of which are assigned to experimental physics, nine to theoretical physics and two to didactic of physics. Approx. 50 staff positions are available for research assistants. That makes the Faculty of Physics in Duisburg-Essen one of the major physics departments in Germany.

Research

The Faculty of Physics has created key research areas, which make it possible to remain attractive and competitive in the international university market. One of the characteristics of the Faculty is the participation in larger research cooperations, making significant contributions to the key profile areas “nanoscience” and “urban systems” of the University Duisburg-Essen in the process.

In experimental physics, a traditional key area is condensed matter. In this regard, the Faculty of Physics is one of the strongest throughout Germany and covers a wide spectrum of current topics of solid state physics. The research activities primarily deal with the areas of magnetism, surface physics, the physics of ultrafast phenomena and the physics of nanostructures. The research profile is supplemented by the field of planet formation, which is linked with the other experimental groups in the work area of nanoparticles and their reciprocal effects. The research groups of experimental physics are members of the Center for Nanointegration Duisburg-Essen ([CENIDE](#)) as well as of the new NanoEnergieTechnikZentrum ([NETZ](#)).

Theoretical physics focuses on the area of statistical and mathematical physics. A special feature in Duisburg is the fact that the exploration of socio-economic systems with the means of statistical physics is heavily represented (physics of traffic and economics). The second focus is on computational physics and solid-state theory. It plays a significant role within the solid state and material oriented research cooperations shaping the profile of the faculty.

A key area of the didactic of physics is empirical didactic research, which focuses on the foundation and development of teaching and learning processes in all life stages.

Third party funding

In addition to the participation in the excellence cluster RESOLV, the faculty is also known for larger DFG-supported research cooperations. After successful completion of the Collaborative Research Centers (CRCs) SFB-TRR 12, SFB 445, SFB 491 and SFB 616, the Faculty now also supports SFB 1242 “Non-equilibrium Dynamics of Condensed Matter in the Time Domain”, set up in 2016, and is involved in SFB 876 and SFB-TRR 80 as well as in numerous DFG priority programs and research units. This is complemented by participation in EU, BMBF and BMWi projects, some of which are coordinated by members of the faculty, and many individual projects whose supporters include DFG, Volkswagen Foundation and Stiftung Mercator. Applications for additional SFBs/CRCs and research units are currently under way.

Teaching

In addition to the professional courses and teacher training courses in physics (Bachelor and Master), the Faculty of Physics offers an interdisciplinary Bachelor/Master program Energy Science with a vocation field orientation, which includes an obligatory year abroad. There is also the Bachelor/Master program in NanoEngineering, offered in cooperation with Engineering Sciences, as well as supporting lectures for programs in chemistry, medicine, biology and several engineering subjects.

More than 1000 students and 80 doctoral candidates in physics are currently enrolled.

Public Outreach

The Faculty of Physics undertakes special efforts for young people to be inspired by physics and increase the number of (especially female) students. Special highlights:

- Trial studies (from 12th grade), every Saturday during the semester;
- Annual school competition “freestyle-physics” with more than 2000 participants;
- Evonik School Laboratory;
- Participation in the nationwide summer university program for women in sciences and technology as well as in the
- Girls' Day every year.

III. The Cluster of Excellence RESOLV

[Ruhr Explores Solvation](#) (RESOLV) is a joint research project of about fifty research groups from seven institutions in the German Ruhr area, which is funded with 28 Mio. EUR so far in the framework of the German Excellence Initiative. The mission of RESOLV is to launch solvation science as a new interdisciplinary field in order to understand the impact of solvation on reactions, the function of biomolecules, and processes at liquid/solid interfaces. RESOLV aims to create a multidisciplinary framework for understanding solvent processes that is universal and adds predictive capabilities. RESOLV collaborates with 20 partner institution all over the world.

IV. Requirements for the Position

1. Research

The main research field of the professorship shall be experimental investigations at liquid/solid interfaces with the aim of analyzing the structure of material systems relevant for solvation science. Appropriate methods include non-linear optical spectroscopy as well as X-ray spectroscopy, which may be supplemented by time-resolved experiments for an analysis of dynamic processes.

2. Teaching

The holder of the position will represent the subject of physics in teaching and participate in a normal scope of teaching courses for the Faculty. Courses are offered for the programs Physics, Energy Science, NanoEngineering and for teacher training courses. Supporting courses for other faculties of the UDE are also on offer. The courses and lectures are conjointly reassigned for each semester. Furthermore, participation in outreach activities such as "freestyle-physics", school laboratories and trial study programs is welcome.

3. Further requirements

Applicants are expected to have an excellent, internationally recognized academic standing, an outstanding publication record in international peer-reviewed journals and experience with the acquisition and management of third-party projects, ideally in the field of publicly funded research projects

4. Hourly Extent of the Professional Activities

The advertised professorship is a full-time position. The teaching load is specified by the teaching requirement directive of the state of North Rhine Westphalia and includes 9 teaching hours.

Fair participation in academic self-administration is expected.

V. Staffing and Facilities

1. Staffing

It is currently planned to assign the budget for four research assistants (full-time), a technician (full-time) and an administrative assistant (50%) to the professorship.

2. Facilities

Office and laboratory facilities in the immediate vicinity of the other research groups of the Faculty of Physics will be provided on the Campus Duisburg. Details will be discussed and coordinated during the appointment process.

3. Funding

The holder of the position will receive a suitable share of the available operating budget of the Faculty of Physics. This budget is annually assigned to the faculty by the university. There is no entitlement to such funds from the budget.

VI. Legal Framework

With the passing of the Higher Education in North-Westphalia Act (German abbreviation: HG) dated 16.09.2014, the university system was restructured as of 1 October 2014.

Operating under German law, the universities are defined legally as public corporations supported by the State of North Rhine-Westphalia. State funding is based on the tasks of the universities, agreed goals and performances delivered. They have a global budget and are not subject to the instructions of the North Rhine-Westphalian Ministry of Innovation, Science, Research and Technology.

Legal Status of the Academic Staff

Assuming legal prerequisites are met, professors in Germany are usually employed unlimited on a civil-servant basis (= full tenure). However, employment on the basis of a contract under private law is also possible.

For further information (laws, directives etc.), please visit https://www.uni-due.de/verwaltung/organisation/peo_professoren.php (in German)

VII. Salary

The W salary scale provides a system of basic salaries (W1, W2, W3) for professors in Germany.

Provision is also made for performance-related salary components — “performance Bonuses”. These can be allocated on different grounds: as the result of appointment and tenure negotiations (“appointment and tenure bonuses”), for special achievements in research, teaching, art, continuing education and next-generation staff development (“special performance bonuses”) and for carrying out functional or special responsibilities within the framework of university self-management or university administration (“functional performance bonuses”). Furthermore, under certain circumstances, research and teaching allowances may be paid from third-party funds.

Within the framework of appointment negotiations, any performance bonuses are to be negotiated on an individual basis with the rector of the University of Duisburg-Essen.

The currently effective salaries can be found at <https://www.finanzverwaltung.nrw.de/de/besoldungstabellen-fuer-beamtinnen-und-beamte>.

More information, both general and legal, about the W salary scale can be found at: https://www.uni-due.de/verwaltung/organisation/peo_links.php (in German)
<http://www.hochschulverband.de/cms1/w-besoldung.html> (in German)