

PROFESSORSHIP FOR SOFT MATERIALS



INFORMATION FOR APPLICANTS

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1. The Johannes Kepler University Linz (Austria)

The Johannes Kepler University Linz is a young European university with an expert and accomplished focus on the academic areas of social and economic sciences, law, natural sciences and engineering. The studies of Human Medicine were added in 2014. During its fifty year history, the university has achieved a national and international standing with its manifold achievements in research and teaching. The JKU is a campus-style university located north of the city of Linz. The unique campus environment provides close proximity between all disciplines. Interdisciplinary collaboration, innovative basic research, and close ties to local industry and the business community have helped to establish its principal direction. By upholding principles of unity in research and teaching as well as fostering advanced methods of knowledge transfer, the JKU Linz generates and provides services for the greater good of society, the business community and culture. Core target groups include students, the scientific community as well as organizations representing private and public life.

As the largest institution of research and higher education in Upper Austria, and thus as a knowledge transfer center, the university contributes to the continual support and development of Upper Austria as a dynamic economic region. The JKU is also actively involved in competence centers, and has developed spin-off programs that support the establishment of new companies.

2. Linz Institute of Technology (LIT)

Founded as an interdisciplinary institute, LIT is part of a matrix-style structure that aims to better interconnect researchers from different subject areas and faculties in the field of technology. LIT encourages and stimulates high-level, interdisciplinary technological research by competitively allocating research funding. Excellence and performance-based financing define LIT's value system.

See: <http://lit.jku.at> for detailed information.

3. Objectives and Functional Focus of the Professorship Position

Soft materials research is interdisciplinary and encompasses various subject areas such as physics, chemistry, materials science & mechanical engineering, electrical engineering, and information technologies. Technology of the future includes incorporating soft, stretchable materials into electronics and robotics. These have the potential to serve as a technology platform and provide an immediate, yet imperceptible link, between our analog, living environment and the digital world ("imperceptible electronics"). "Soft Materials" is a new, high potential field of future research encompassing application-oriented research as well as fundamental research. This field has been successfully included in the

European Commission's funding programs. Soft Materials research is conducted at the **Department of Soft Matter Physics** at the **Institute of Experimental Physics**. The new professorship at the Linz Institute of Technology (LIT) shall be allocated to the Faculty of Engineering & Natural Sciences at the Johannes Kepler University.

4. Requirements for the Professorship in "Soft Materials"

Core responsibilities include representing the subject area of "Soft Materials" in research, education, and acquiring external funding.

4.1. Research

The successful candidate is expected to conduct outstanding high-quality and internationally visible research. Ideally, the successful candidate will inspire new momentum in conducting research in imperceptible, ultra-flexible and stretchable electronics. The successful candidate will combine and/or develop new materials and systems based on, for example, organic and inorganic semiconductors, ultra-thin oxides, as well as biocompatible and/or biodegradable materials. In the foreground - and as part of the research context - the successful candidate will pursue intra- and inter-university cooperation, networking and collaboration with leading research groups that have complementary expertise in Austria and abroad. Ideally, the applicant has already been successful in acquiring internationally competitive external funding at the level of a European Research Council (ERC) Grant and will bring these funds to the position.

The professorship's fields of research should combine several of the following:

- Soft and stretchable electronics
- Soft robotics, soft machines
- Imperceptible electronics, photonics and sensors
- Bioelectronic devices and sensors
- Tough hydrogels and systems thereof
- Electronic skins and sensors
- Biocompatible and/or biodegradable elastomers, polymers and devices
- Organic and hybrid semiconductors and devices
- Perovskite-based flexible solar cells and light emitting devices
- Metal-oxide based flexible devices and circuits

The candidate's application regarding his/her qualifications for the position will be considered under the following criteria:

1. Successful completion of a habilitation (*venia docendi*) or a comparable and recognized post-doctorate qualification.
2. List of outstanding publications featuring a broad, international perception reflected by relevant work in the subject area of flexible, ultra-thin, stretchable electronics.
3. List of academic/scientific presentations as an invited speaker at relevant international scientific conferences in the subject area.
4. Successfully acquired competitive external funding on the national and the international level..
5. Experience in developing clean-room processes, especially for soft materials.
6. Media literacy in order to comprehensibly present and communicate research findings to the general public.

In an effort to advance the JKU to a leading international position in these fields, the successful candidate should develop a medium-term, research and innovation strategy designed to continue consolidating and developing the subject areas at the JKU. Intensive, interdisciplinary collaboration with institutes in the fields of physics, chemistry, computer science or mechatronics, as well as with medical research groups, is desired. The successful candidate is expected to take part in organizing, operating, and expanding the LIT cleanroom.

4.2. Teaching

The JKU is committed to research-led education. Due to the program's international nature, the successful candidate is expected to hold academic courses in German and English. A strong emphasis is placed on interdisciplinary education, including courses as part of the Linz Institute of Technology's framework.

The candidate's application regarding his/her qualifications for the position will be considered under the following criteria:

1. Didactic qualifications (habilitation (*venia docendi*) or a comparable post-doctorate qualification).
2. Research-led, interdisciplinary teaching experience in the fields of engineering and natural sciences.
3. The successful candidate should be willing to hold introductory courses at the Faculty of Engineering & Natural Sciences as well as at the Faculty of Medicine.
4. Experience and qualifications to supervise all levels of student academic work.

4.3. Additional Requirements

The successful candidate is expected to collaborate with industry. These collaborations should also ultimately lead to the acquisition of external funding.

In addition, the successful candidate will be willing to carry out administrative duties and actively take part in independent self-governing duties and responsibilities. To ensure that the department is well managed, in addition to key professional qualifications the successful candidate should also possess a strong social skill set.

The successful candidate should be skilled and experienced in providing support to junior researchers, supporting the JKU's plan for the advancement of women, and participating in gender mainstreaming.

4.4. Activities – Significance and Time Span

Overall, the fields of research and teaching are equally important.

A balance between research, teaching and administrative tasks is desired; approximately 40% teaching, 40% research, and 20% for the completion of administrative tasks and responsibilities. A willingness for this weighting is taken into account when assessing the candidate

5. Legal Contingencies

Effective as of January 1, 2004, the structure of Austrian universities has been completely re-organized. They are financed on the basis of a three-year service level agreement with the Austrian government, have a global budget at their disposal, and are independent, not subject to any directives by the Austrian Federal Ministry of Education, Science and Research.

5.1. Terms of Employment

All terms of employment, including a university professorship, are subject to the Private Sector Employees Act. A work contract between the university and the appointed professor confirms the professor's appointment. The Salaried Employees Act and the collective agreement for university employees provide the legal framework for all related labor, social, and pension conditions. An evaluation of all teaching and research activities will be conducted after a 5-year period to assess the fulfillment of all target agreements.

5.2. Pension Regulations

5.2.1. Pension

A pension account at the Pension Insurance Company for Employees (PVA) provides the basis to calculate the amount of pension. All pension account holders are registered for annual partial credits during insurance periods in the amount of 1.78% of the annual contribution basis and these are capped at the maximum assessment basis. The sum of the partial credits is the total credit that are re-valued annually. The total credit divided by 14 equals the amount of gross monthly pension. More information about the pension can be received directly from the state, please contact the PVA.

5.2.2. Company Pension Fund for University Professors

In compliance with the Universities Act 2002, a special pension scheme is provided for university professors and has been agreed upon in a collective agreement. The contribution payment made by the university is 10% for the set minimum salary as stated in the collective agreement. Voluntary salary payments agreed upon aside from the collective agreement minimum salary are not a part of the base calculation of the contribution payments.

6. Salary

The amount of the minimum salary for Group A 1 (Professorship) has been determined in the collective agreement for university employees and is a gross annual salary of 68,475.40 Euros per year (last update: 2017). Payment is allocated in 14 equal amounts, whereby two parts are special allocated payments.

The position as Professor for "Soft Materials" provides a provision (on a voluntary basis) to agree on a salary over the minimum salary set by the collective agreement. Depending on the current position (current salary), the amount of the gross annual salary (collective agreement minimum salary plus voluntary additional amount) can be between €80,000 and € 100,000.

The net amount will depend on personal factors; as a guideline it can be assumed that a gross annual salary of € 80,000 will be an annual net amount of approximately € 50,000.

After a positive evaluation every six years – 4 times in total – there will be an advance to the next pay grade in accordance to the salary bracket in the collective agreement for job category A1.

7. Application Materials

Prospective applicants for the professorship position in "Soft Materials" are requested to send the following documentation in electronic form to: bewerbung@jku.at. If documents cannot be sent in

electronic format, they are to be sent in quintuplet copy and should arrive at the Rector's office no later than one week after the end of the application deadline.

7.1. General Information

- Application
- Letter of Intent (1 page)
- Tabular Curriculum Vitae
- Diplomas (Doctorate, Venia docendi (Habilitation) or proof of equivalent qualification))

7.2. Research

- Successful completion of a habilitation (*venia docendi*) or a comparable and recognized post-doctorate qualification
- List of five to eight of the most significant and substantial publications
- Academic/scientific presentations (list of invitations as a speaker)
- International experience documented by extended stays abroad, cooperation with international universities and research facilities as well as incorporation into international research
- Proof of acquiring relevant research funds
- Brief summary of research concepts for potential activities as a Professor for Soft Materials at the JKU (relating to previous work)

7.3. Teaching

- List of previously held courses
- List of the number of (co)-supervised Master theses and dissertations from the past five years

7.4. Miscellaneous

- List of previous cooperations with partners at the national and international level

8. Information

If you have any questions in regards to the job profile, please contact Univ. Prof. Dr. Siegfried Bauer (+43 732 2468 9760, siegfried.bauer@jku.at).