

**Focusing Expertise – Shaping the Future: The Jülich Aachen Research Alliance (JARA) is an innovative cooperation model between RWTH Aachen University and Forschungszentrum Jülich GmbH in Germany. This Alliance brings together an internationally respected university of technology and one of the leading national research centres in Europe.**

As a member of the Helmholtz Association, Forschungszentrum Jülich makes an effective contribution to solve major challenges our society is facing in the fields of information, energy, and bioeconomy. They focus on varied tasks in the area of research management and utilize large, often unique, scientific infrastructures. Come and work with around 6,100 colleagues across a range of topics and disciplines at one of Europe's largest research centres.

With its 45,000 students, 10,000 employees and innovative research areas, RWTH Aachen University is one of the leading academic and research institutions in Europe. Both academics and research are structured to focus on international, practical, and interdisciplinary orientations.

The research performed at the Peter Grünberg Institute (PGI) of the Forschungszentrum Jülich ranges from physical concepts and emerging materials to novel nanoelectronic devices. Supported by the Jülich Supercomputing Centre (JSC) and the Helmholtz Nanoelectronic Facility (HNF), a 1000 m<sup>2</sup> clean room, PGI will further strengthen its activities on neuromorphic computing for artificial intelligence by establishing two new institutes.

In this context RWTH Aachen University and Forschungszentrum Jülich are jointly seeking

**Two Directors of the Peter Grünberg Institute, Forschungszentrum Jülich – Institute of Neuromorphic Computing, to be appointed as Professors (W3) in the Faculty of Electrical Engineering and Information Technology at RWTH Aachen University**

The first position will be appointed as Chair of

**Neuromorphic Compute Nodes (PGI-12)**

We are seeking a personality with the ability to head leading edge research for the conception of post-von-Neumann hardware architectures. The complexity, high compute load and communication needs required by modern applications such as future artificial intelligence and the simulation of biological neural networks shall be addressed. A background in engineering, physics, or material science with demonstrated scientific excellence in preferable more than one of the following domains is desirable: massively parallel computer architectures, high-speed digital and/or analog signal processing architectures, and VLSI circuit design. Moreover, competences in fault tolerance and reliability, as well as profound knowledge in system integration would be a strong asset of the candidates.

The objective of the position is to model the targeted hardware architecture, foremost considering novel concepts based on system-on-chip platforms. This multidisciplinary research requires the management of chiplet development down to the physical level, combining available state-of-the-art technologies and the opportunities provided by emerging devices and materials (e.g., phase-change materials, redox-systems, or spintronics). These hardware architectures should embrace systems of natural complexity as well as requirements of ANN applications and computing in memory. A close interaction with the new Institute of Neuromorphic Computing - Neuromorphic Software Ecosystem is essential to ensure alignment and close connection with a user community. The institute will be part of the Jülich Aachen Research Alliance, Section Future Information Technologies (JARA-FIT) and the Chair will be affiliated to the Faculty of Electrical Engineering and Information Technology of the RWTH Aachen University as a W3 position according to the Jülich model.

Besides a Ph.D. degree in a related area, an outstanding record of achievements as an independent researcher beyond the Ph.D. level is required for both positions. The ability to form and lead an interdisciplinary research team is expected, including acquisition of competitive third-party funding. Teaching requirements of two hours/week have to be fulfilled, by offering courses within the electrical engineering curriculum at RWTH Aachen University.

RWTH Aachen University and Forschungszentrum Jülich are equal opportunities employers and pursue a policy of excluding all types of discrimination. Applications from women scientists are particularly welcome. Applications from women will be given preference in the case of equal suitability, qualifications and experience, unless special reasons concerning the person of a male candidate outweigh these considerations. Attention is drawn to Art. 8, Para. 1, of the Equal Opportunities Act of the Federal State of North Rhine-Westphalia (LGG). Forschungszentrum Jülich has been certified as family friendly as part of the "audit berufundfamilie" initiative. RWTH Aachen University awards its "FAMOS für FAMILIE" prize to executive staff who have made a special contribution to family-friendly measures. Both institutions also offer support for dual career couples. Upon acceptance of the position support is available from Human Resource Development in the form of comprehensive services.

Applications from suitable candidates with disabilities are explicitly encouraged. This also holds for those with an equivalent degree of incapacity in terms of Art. 2 Code of Social Law (SGB) IX. RWTH Aachen University has been named a "disability-friendly" employer for its commitment to training and employing disabled people.

Applications should be in English and should be sent with the usual documentation (CV, copies of certificates, list of publications, teaching experience, brief summary of previous research activities including a list of acquired third-party funding, research concept for the advertised position), by the 27-01-2020, to (e-mail preferred):

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of Forschungszentrum Jülich GmbH  
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and

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