Visiting scholar position at the Electronic Systems group, Department of Electrical Engineering, Eindhoven University of Technology (TU/e), The Netherlands

The Electronic Systems group is interested in enrolling visiting scholars (Ph. D. students or junior professors) working in the area of digital VLSI circuits and systems. Prof. Jose Pineda de Gyvez and Prof. Hailong Jiao in the Electronic Systems group are engaged in developing low power and variations resilient VLSI circuits and systems design techniques. The visiting scholars will work together with Prof. Jose Pineda de Gyvez and Prof. Hailong Jiao. The visiting scholars are expected to work on (but not limited to) one of the following areas:

➢ Error-resilient system design
➢ Fine-Grained Power/Ground Gating
➢ Approximate Computing
➢ Ultra-Low-Power / Ultra-Low-Voltage Circuit Design
➢ Memristor-Based Circuit Design

Those developed techniques are expected to be applied for wearable/portable devices, biomedical devices, and communications.

Benefits and Resources

1. Chances of tape-out (of microprocessor) with TSMC 40nm / STMicroelectronics 28nm CMOS technology.
2. Full set of the up-to-date Cadence EDA tools and ANSYS power analysis tools.
3. Chances to work together with NXP semiconductors and IMEC-Holst Centre.
4. Co-supervised / Hosted by Prof. Jose Pineda de Gyvez (**NXP fellow and IEEE fellow**) and Prof. Hailong Jiao.

Preferred Background

1. Familiar with VLSI circuit design and semiconductor device physics.
2. Familiar with the design flows of full-custom transistor-level design and semicustom design with standard cell libraries.
3. Preferable to be familiar with Matlab and script language (such as Perl or Python).
3. Basic knowledge of Linux commands and scripts.

Contact

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About Eindhoven University of Technology (TU/e)

Eindhoven University of Technology (TU/e), founded in 1956, is a young but strong research university specializing in engineering science & technology. TU/e is the best technical university in the Netherlands and among the top 10 in Europe. Department of Electrical Engineering, as one of

the biggest department in TU/e, has very close cooperation with the companies on the high tech campus (10 minutes by car from TU/e) as well as the whole European Union.

About Electronic Systems group (ES)

The Electronic Systems (ES) group (www.es.ele.tue.nl) comprises three full professors, two part-time full professors, two associate professors, six assistant professors, about 40 PhD candidates and postdocs, and several technical and support staff. The group has excellent infrastructure that includes individual computers, compute servers, state-of-the-art FPGA and GPU farms, sensor- and ad-hoc networking equipment, and a comprehensive range of electronic-design software.

The ES group is world-renowned for its design automation and embedded systems research. It is our ambition to provide a scientific basis for design trajectories of digital electronic circuits, embedded and cyber-physical systems. Our research results in tools and platforms such as SDF3 and CompSOC. The ES group excels in the area of digital VLSI circuit and system design. A variety of state-of-the-art chips have been developed by our ES group together with our industrial partners, such as NXP Semiconductors and IMEC-Holst Centre. We have strong national and international academic and industrial contacts. The project work will be carried out in close collaboration with industrial and research partners in the Eindhoven region e.g. NXP Semiconductors, IMEC-Holst Centre, and Philips.

About Eindhoven

Eindhoven is located on the south of the Netherlands, close to Germany and Belgium. Eindhoven is a quiet but energetic city with a lot of industrial companies and new buildings. There is a famous football team here, PSV Eindhoven. However, what is more important to this city is the local industry. A high tech campus is located on the southern part of Eindhoven. This high tech campus accommodates various world famous companies and research institutes, such as Philips, NXP Semiconductors, IMEC-Holst Centre, Intel, Synopsys, and ASML. The headquarter of Philips used to be here (moved to Amsterdam only since 2001). The headquarters of NXP Semiconductors and ASML are at Eindhoven. There are also a variety of start-up IT companies at Eindhoven. Eindhoven is therefore also called the silicon valley of Netherlands.