University of Zagreb  
Zagreb, Croatia

Multiple research positions at HPC Architecture and Application Research Center, Faculty of Electrical Engineering and Computing

- **Deadline**: Oct. 21, 2020
- **Career levels**: Assistant Researcher, Master, PhD student, PostDoc, Research Associate, Senior Researcher, Software Engineer
- **Keywords**: Approximate computing, Compilation, Computer architecture, Design Space Exploration, Disruptive technologies, Embedded / Cyber-Physical Systems, Energy efficiency / Low-power computing, GPUs / Heterogeneous systems, HPC / Exascale, Machine Learning / AI, Multicore / Manycore, Networking / Distributed computing, Parallel computing, Performance portability, Runtime performance / Optimisation, System Software

HPC Architecture and Application Research Center is part of the Faculty of Electrical Engineering and Computing at the University of Zagreb. At the moment, the Center is looking for researchers with a minimum of Master’s degree or equivalent in electrical engineering, computer science, computer engineering to be hired at several positions. The field of work relates to processor architecture and accelerator ASIC and FPGA design in the domains of deep learning, signal processing, image, and video data compression, and crypto algorithms. The Center is also looking for researchers in the domain of software and hardware development for heterogeneous computer architectures in a wide specter of platforms: embedded computer systems, cloud, and supercomputing.

If you come to work with us, you will likely sharpen your skills on one of the following projects:

**EPI** – European Processor Initiative: a strategically important EU-funded project, with the goal of developing a new processor for future exascale HPC and other domains. The project gathers 27 partners from the leading research institutions of the EU and industrial partners. It is a unique opportunity for young researchers to work on shaping the future HPC processor and the entire computing stack.

**MEEP** – MareNostrum Experimental Exascale Platform: MEEP aims to create a state-of-art emulation and software development platform for exascale systems based on European technology, that supports the development of new and reusable IP targeting FPGAs and eventually, ASICS. MEEP will be of size and scale that goes far beyond normal academic or industrial prototyping platforms, enabling chips and system emulation. It will be of sufficient scale to emulate a meaningful fraction of the HPC environment.

**HCSCA** – Heterogeneous Computing Systems with Customizable Accelerators: a project conducted with our partners from Switzerland, at the ETH Zürich, with the goal of developing high-performance low-power heterogeneous computing systems, consisting of general-purpose RISC-V CPU and domain-specific accelerators for video-processing, deep learning, crypto-processing.

**Qualifications:**

© 2020 HiPEAC, European Network on High Performance and Embedded Architecture and Compilation. The HiPEAC project has received funding from the European Union’s Horizon 2020 research and innovation programme under grant agreement number 779656.
To qualify for the positions, you must have a master's level degree corresponding to at least 240 higher education credits in Computer Science or Computer Engineering or in a related field with a good foundation in computer architecture. We also expect your communication skills in English (written and spoken) to be at least at B2/C1.

Please, send us your CV (link or a one-pager) and a short note explaining your ideas, motivation and expectations hpc@fer.hr.