CURRICULUM VITAE

NAME: Luca Benini

TITLE: Professor

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CURRENT POSITION:
- Professor of Digital Circuits and Systems, D-ITET ETH Zurich (since 2013)
- Professor of Electronics DEI Università di Bologna

EMPLOYMENT HISTORY
- Professor of Digital Circuits and Systems, D-ITET ETH Zurich (2013 – present)
- Professor of Electronics DEI Università di Bologna (1999 – present)
- Chief Architect, Advanced Systems Technology Division, STMicroelectronics, Grenoble (2009 – 2013)
- Consulting Professor at the Belgian Interuniversity MicroElectronics Centre (IMEC) (2008)
- Visiting Professor, Integrated Systems Centre, EPF Lausanne (2006 – 2012)
- Visiting Professor at Stanford University, Computer Systems Laboratories (1998 – 2005)
- Visiting Staff, Hewlett Packard Laboratories – Palo Alto (USA) (1997 – 2004)
- Senior Member of R&D Staff at Synopsys Inc. (USA) (1996)

ACADEMIC QUALIFICATIONS
- Ph.D. in Electrical Engineering, Stanford University, 1997
- M.S. in Electrical Engineering, Stanford University, 1994
- Dr. Eng. in Electrical Engineering (Summa cum Laude), Università di Bologna, Italy, 1991

RESEARCH INTERESTS:
- digital integrated circuits
- Energy-Efficient Multi-Core System-on-Chips
- Circuits and Systems for Low-Power Machine Learning
- hardware acceleration for Machine learning
- energy-efficient digital systems with special emphasis on ultra-low-power System-on-Chip and green HPC systemsEnergy Efficient Computing Systems
- Networks on Chips

LIST OF 5 MOST SIGNIFICANT PUBLICATIONS IN THE PAST 3 YEARS RELEVANT TO THE PROPOSAL (5, out of total 700+, including 4 Springer books)

- F. Fraternali, A. Bartolini, C. Cavazzoni, L. Benini, "Quantifying the impact of variability and heterogeneity on the energy efficiency for a next-generation ultra-green supercomputer," in IEEE Transactions on Parallel and Distributed Systems, Oct 2017
- F. Conti, R. Schilling, P. Davide Schiavone, L. Benini, "An iot endpoint system-on-chip for secure and energy-efficient near-sensor analytics," in IEEE Transactions on Circuits and Systems I: Regular Papers (Volume: 64, Issue: 9), pp. 2481-2494, Sep 2017
- R. Andri, L. Cavigelli, D. Rossi, L. Benini, "Yodann: An architecture for ultralow power binary-weight cnn acceleration," in IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems (Volume: 37, Issue: 1), pp. 48-60, Feb 2017
- A. Pullini, F. Conti, D. Rossi, L. Benini, "A heterogeneous multi-core system-on-chip for energy efficient brain inspired computing," in IEEE Transactions on Circuits and Systems II: Express Briefs, Jan 2017
- L. Cavigelli, L. Benini, "Origami: A 803-GOp/s/W Convolutional Network Accelerator," in IEEE Transactions on Circuits and Systems for Video Technology (Volume: 27, Issue: 11), pp. 2461 - 2475, July 2016

PATENTS

Currently 6 patents filed in Italy.

PROFESSIONAL AWARDS

- IEEE Circuits and Systems Society Mac Van Valkenburg Award 2016
- IEEE Computer Society, Outstanding Contribution Award - 2010.
- European Design Automation Association, DATE Fellow - 2010.
- Featured (cover) Paper in IEEE Transactions on Computer, July 2012.
- Best Paper Awards (selected) Next-Generation Circuits and Systems (NGCAS) 2017, ISC Gauss Award 2016, IEEE-ACM Design and Test in Europe Conference (DATE) 2014 and 2013; International Conference on application specific Systems, Architectures and Procesors (ASAP) 2014, Hipeac technology transfer award 2014 and 2013, International Conference on Intelligent Sensors, Sensor Networks and Information Processing (ISSNIP) 2011; IEEE Great Lakes Symposium on VLSI (GLS-VLSI) 2008; European Conf. on Wireless Sensor networks (EWSN) 2008.
- One paper included in the selection the five highest impact papers in 30 years of the ICCD conference (2012). Three papers included in The Most Influential Papers of 10 Years DATE" (Springer 2008)

SUMMARY OF MOST RELEVANT RESEARCH OUTCOMES FROM ALL PREVIOUS GRANTS

Prof. Benini is not affiliated with Singapore universities, hence there is no research outcome from previous grants awarded in Singapore