

University of Paris VI
LIP6/SoC Laboratory
4 Place Jussieu
75252 Paris Cedex 05, France

Delaram Haghighitalab

e-mail: delaram.haghighitalab@lip6.fr
<http://www-asim.lip6.fr/~haghighi/>

Phone: +33 (0)6.47.61.91.85
Fax: +33 (0)1.44.27.72.80

EDUCATION

- 2009-Present** **Ph.D. student in the Analog&RF IC Team at LIP6-SoC Lab,**
University of Pierre & Marie Curie, Paris VI,
Thesis title: "Highly Digitized RF receiver for Software Defined Radio",
Advisor: Dr. Hassan Aboushady and Professor Habib Mehrez.
(Ph.D. Defense expected in July 2014)
- September 2009** **M.Sc. in Electrical Engineering and Computer Science,**
University of Pierre & Marie Curie, Paris VI,
Area of major concentration: "Integrated Systems Architecture and Microelectronics",
Thesis title: "Low Noise Amplifier - LNA - Synthesis and Automatic Characterization for
Accurate RF System-Level Simulation",
Advisor: Dr. Hassan Aboushady.
- May 2004** **B.Sc. in Electronics Engineering,**
Shahid Beheshti University SBU, Tehran; Iran,
Thesis title : "Study on Credit Cards; Smart Card Applications in Iran – Research on Architecture
and Security plus microcontroller based implementation",
Advisor: Dr. Babak Mazloom-Nezhad.

RESEARCH EXPERIENCE

- 2009-Present** **Research Engineer, Analog&RF Team.**
University of Pierre & Marie Curie, Paris VI, LIP6-SoC Laboratory, France.
Advisor: Dr. Hassan Aboushady.
The main contributions of Ph.D. Thesis are:
- High-level modeling of Software Defined Radio receiver based on an RF $\Sigma\Delta$ ADC.
 - Design of a 17mW, 2.4GHz variable gain LNA (+28dB/-5dB) in a 130nm CMOS process.
 - Low-Power design of a digital down-conversion mixer operating at 3.2GHz using SCL.
 - Implementation of a multi-standard (Zigbee/WiFi/Bluetooth) receiver including a variable gain LNA, a bandpass $\Sigma\Delta$ ADC, a digital down-conversion mixer and a decimation filter in 130nm CMOS process.
- 2009
(6 Months)** **Research Engineer, Analog Group.**
University of Pierre & Marie Curie, Paris VI, LIP6-SoC Laboratory, France.
Advisor: Dr. Hassan Aboushady.
- Proposing a systematic design and characterization procedure for LNAs implemented in C++,
 - Applying the proposed procedure to design two LNAs, working at 900MHz and 2.4GHz,
 - Validation by comparing the results with simulation in SPICE.
- 2008
(3 Months)** **Graduate Student Researcher, Analog Group.**
University of Pierre & Marie Curie, Paris VI, LIP6-SoC Laboratory, France.
Advisor: Dr. Hassan Aboushady.
- Precise modeling and characterization of a GmC integrator in a 350nm CMOS,
 - Model refinement in systemC-AMS for a GmC integrator for accurate system-level simulation of $\Sigma\Delta$ modulator.

PUBLICATIONS

- 2014** D. Haghighitalab, D. Belfort, A. Kilic, H. Aboushady; "A 61 dB DR-20 MHz BW 63 mW Tunable 2.2-2.5 GHz SDR Receiver Based on a Variable-Gain LNA and a 2.9-3.3 GS/s Subsampled RF Bandpass ADC"; Submitted to European Solid-State Circuits Conference, ESSCIRC'14, Venice, Italy.
- 2014** A. Kilic, D. Haghighitalab, H. Mehrez, H. Aboushady; "Low-Power Comb Decimation Filter for RF Sigma-Delta ADCs"; International Symposium on Circuits and Systems, ISCAS'14, Melbourne, Australia.
- 2014** D. Haghighitalab, A. Ashry, H. Aboushady; Patent in progress
"Efficient Implementation of Digital Down and Up Conversion Mixers merged with Decimation and Interpolation Filters".
- 2010** D. Haghighitalab, M. Vasilevski, H. Aboushady; "LNA Synthesis and Automatic Characterization for Accurate RF System-Level Simulation"; International Midwest Symposium on Circuits and Systems, MWSCAS'10, Seattle, Washington.
- 2010** D. Haghighitalab, M. Vasilevski, H. Aboushady; "LNA Synthesis and Automatic Characterization"; Colloque GDR SOC-SIP, Paris-Cergy, France.
- Reviewer:** IEEE International Symposium on Circuits and Systems (ISCAS)
IEEE International New Circuits and Systems Conference (NEWCAS)

TEACHING EXPERIENCE

- 2013-2014** **Research and teaching assistant (ATER),**
University of Paris 6 (Université Pierre et Marie Curie)
Programming and Data structure on C (Bachelor)
Programming C (École Polytech of Paris VI):
VLSI Design (Master 1 SESI):
Timing analysis of digital circuits and memories (Master 2 SESI)
- March 2013** **Teaching Assistant**
Lecture and laboratory teaching on "Analog Integrated CMOS Circuit Design"
ISEP
- 2009-2012** **Teaching and Laboratory Assistant,**
University of Paris 6 (Université Pierre et Marie Curie)
Dr. Hassan Aboushady,
Radio Frequency Integrated Circuits (Master 2 SESI):
- Preparing simulation files and exercises for the design and analysis of LNA (Eldo-RF).
- Laboratory teaching assistant for the design of a cascoded LNA in SPICE.
Modeling of Heterogeneous systems (Master 2 SESI):
- Laboratory teaching assistant for modeling of an QPSK RF transceiver in SystemC-AMS.
- Introducing circuit non-idealities to the model and study their effect on BER and constellation.
Signal Processing (Master 1 SESI):
- Teaching assistant on signal processing principles.

PROFESSIONAL EXPERIENCE

- 2004-2006** **Quality Control Engineer at Pars Pala Co.** <http://www.parspala.com>, Iran.
Main Responsibilities:
- "Q.C Manager" in corrective-action design;
 - Statistical modeling of MKT capacitor production line;
 - Calibration of Machinery plus Quality-test design and
 - Execution of ISO 9001 standardization project.
- 2004** **Membership in National Standard Codification Committee;**
Standard #8061-1: Power Capacitor Codification derived from IEEE Standard

MASTER STUDENTS INTERNSHIP CO-ADVISOR:

Master UPMC-SESI M1 (3 Months):

- 2012** Dounia Hassani, "High Level Modeling of a Zigbee transceiver".
2012 Zongxian Li, "High Level Modeling of a WiFi transceiver".
2010 Fangyan Li, "Sigma-Delta Digital Decimation Filter".

Master UPMC-SESI M2 (6 Months):

- 2012** Mohamed Gaafar, "High-Level Model of a Multi-Standard Transceiver".
2011 Fangyan Li, "RF Digital Down Conversion Mixer in a 130nm CMOS".

SOFTWARE KNOWLEDGE

- Integrated Circuits Design: CADENCE (Virtuoso, Calibre, ...).
- Circuits Hardware Description and Simulation: ELDO, VHDL, SystemC and SystemC-AMS.
- Mathematics and Behavioral Simulation: Maxima, MAPLE, MATLAB and SIMULINK.
- Programming: C++, Python.

LANGUAGES

- Persian (Mother language).
- Fluently speaking and writing French and English.
- Basic knowledge of Spanish

REFERENCES

Dr. Hassan Aboushady, University of Paris 6, Paris, France. Hassan.Aboushady@lip6.fr
Professor Habib Mehrez, University of Paris 6, Paris, France. Habib.Mehrez@lip6.fr
Dr.Costin Anghel, Institut supérieur d'électronique de Paris(ISEP), France. costin.Anghel@isep.fr
Dr. Babak Mazloom-Nezhad, University of Shahid Beheshti, Tehran, Iran. b-mazloom@sbu.ac.ir