

# MINCHANG CHO

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## EDUCATION

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### University of Michigan

*Ph.D. in Electrical and Computer Engineering*

- Advisor: Professor Dennis M. Sylvester
- Co-Advisors: Professor Hun-Seok Kim and Professor David T. Blaauw

**Ann Arbor, MI, USA**

Sep. 2015 – Present

### Korea Advanced Institute of Science and Technology (KAIST)

*M.S. in Electrical Engineering*

- Advisor: Professor SeongHwan Cho
- Thesis: "A Low Power Analog Front-end for Bio-impedance Measurement using Small Body Area"

**Daejeon, Korea**

Mar. 2008 – Feb. 2010

### Korea Advanced Institute of Science and Technology (KAIST)

*B.S. in Electrical Engineering, Magna Cum Laude*

- GPA: 3.72/4.3 (A+ = 4.3, A = 4.0)

**Daejeon, Korea**

Mar. 2003 – Feb. 2008

## PROFESSIONAL EXPERIENCE

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### University of Michigan

*Graduate Student Research Assistant, Michigan Integrated Circuits Lab., Dept. of EECS*

- Research on ultra-low-power mm<sup>3</sup>-scale speech detection, compression and recording sensor system (*in progress*)

**Ann Arbor, MI, USA**

Sep. 2015 – Present

### Samsung Electronics Co., Ltd.

*Engineer, DRAM Design Team, Semiconductor Business*

- High-speed low-power full-custom digital circuits design
- Analog and mixed-signal circuits design for DRAM
- Research on electrical-fusing circuits and systems for DRAM
- Participation in the development of commercial DDR3, DDR4, LPDDR3 DRAM, and HBM products

**Hwasung, Korea**

Mar. 2010 – Jun. 2015

### Korea Advanced Institute of Science and Technology (KAIST)

*Graduate Student Research Assistant, Communication Circuits and Systems Lab., Dept. of EE*

- Research on physiological signals measurement circuits and systems using bio-impedance
- Research on low-power analog circuits for bio-medical applications

**Daejeon, Korea**

Mar. 2008 – Feb. 2010

## PUBLICATIONS

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### *Journal Articles*

1. Sung-Jin Kim, **Min-Chang Cho**, and SeongHwan Cho, "An Ultra Low Power and Variation Tolerant GEN2 RFID Tag Front-End with Novel Clock-Free Decoder", *IEICE Transactions on Electronics*, pp. 785-795, June 2010.

## Conference Papers

1. Woojae Lee, **Min-Chang Cho**, and SeongHwan Cho, "CMRR Enhancement Technique for IA using three IAs for Bio-medical Sensor Applications", *IEEE Asia Pacific Conference on Circuits and Systems (APCCAS)*, pp. 248-251, December 2010.
2. **Min-Chang Cho**, Young-Gyu Yoon, and SeongHwan Cho, "Design of Highly Programmable Bio-impedance Measurement IC in 0.18um CMOS", *IEEE International SoC Design Conference (ISOCC)*, pp. 79-82, November 2009.
3. Young-Gyu Yoon, **Min-Chang Cho**, and SeongHwan Cho, "A Linearization Technique for Voltage-controlled Oscillator-based ADC", *IEEE International SoC Design Conference (ISOCC)*, pp. 317-320, November 2009.
4. Suyoung Bang, Changik Lee, Jinwoo Park, **Min-Chang Cho**, Young-Gyu Yoon, and SeongHwan Cho, "A Pulse Transit Time Measurement Method based on Electrocardiography and Bioimpedance", *IEEE Biomedical Circuits and Systems Conference (BioCAS)*, pp. 153-156, November 2009.
5. **Min-Chang Cho**, Jee-Yeon Kim, and SeonHwan Cho, "A Bio-impedance Measurement System for Portable Monitoring of Heart Rate and Pulse Wave Velocity using Small Body Area", *IEEE International Symposium on Circuits and Systems (ISCAS)*, pp. 3106-3109, May 2009.
6. Sung-Jin Kim, **Min-Chang Cho**, Joonhyun Park, Kisuk Song, Yul Kim, and SeongHwan Cho, "An Ultra Low Power UHF RFID Tag Front-end for EPCglobal Gen2 with Novel Clock-free Decoder", *IEEE International Symposium on Circuits and Systems (ISCAS)*, pp.660-663, May 2008.

## PATENTS

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1. Janghyun Park, Sunghoon Choi, Changsun Kim, Woojae Lee, **Min-Chang Cho**, SeongHwan Cho, "Apparatus and method for improving common mode rejection ratio using instrument amplifier," South Korea Patent, #10-2012-0089410, Disclosed on August 2012.
2. SeongHwan Cho, **Min-Chang Cho**, Kangyeop Choo, Changik Lee, Jinwoo Park, Suyoung Bang, H. Kang, "Apparatus for measuring pulse wave velocity and method thereof, and diagnosis system including the same," South Korea Patent, #10-2011-0037202, Disclosed on April 2011.

## HONORS AND AWARDS

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### Hackers Bridge Scholarship

- Merit-based scholarship for graduate study abroad

*Hackers Education Group*

Jul. 2015

### Samsung Graduate Scholarship

- Merit-based scholarship supporting full-tuition and stipend for graduate study

*Samsung Electronics Co., Ltd.*

Feb. 2010 – Mar. 2008

### 2<sup>nd</sup> Winner, Undergraduate Research Program

- "An Ultra-Low Power UHF RFID Tag Front-end with Novel Clock-free Decoder"

*KAIST*

Feb. 2008

### Bronze Prize, Wearable Computer Design Contest

- "Head Mounted Display Device for Wearable Biomedical Applications"

*Ministry of Knowledge Economy*

Nov. 2005

### National Science and Engineering Scholarship

- Merit-based scholarship supporting full-tuition and stipend for undergraduate study

*Korea Student Aid Foundation*

Mar. 2003 – Feb. 2008

## SKILLS

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### Programming/CAD

Spectre, Hspice, Finesim, Encounter, Design Compiler, Perl, Verilog, C/C++, MATLAB