

## MOHAMMAD GHOLAMI

APRIL 2016



Faculty Member at **University of Mazandaran**  
Electrical and Computer Engineering Department  
Marital Status: Single  
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### EDUCATION

#### **Babol University of Technology**

**Ph.D.** in [Electronic Engineering](#), **Feb 2010 - Now**

**Advisor: Dr. G. Ardeshir**

Total GPA (up to now): **19.23/20**

*Relevant Course work:* VLSI, RF MEMS, A/D, Fault Tolerant.

#### **Sharif University of Technology**

**M.Sc.** in [Electronic Engineering](#), **Sep 2008 - Jan 2011**

**Advisor: Prof. M. Atarodi and Prof. M. Sharifkhani**

**Thesis:** "Design and Implementation of DLL (Delay Locked Loop) Based Frequency Synthesizer for Wireless Receivers"

Total GPA: **16 .84/20**

Thesis: 19/20

*Relevant Course work:* CMOS I, CMOS II, Integrated Filter Design, VLSI, RFIC.

#### **University of Mazandaran (Babol University of Technology)**

**B.Sc.** in [Electrical Engineering](#), **Sep 2004- Sep 2008**

**Advisor: Prof. Hossein MiarNaimi**

**Research Project:** "Design and Implementation of a USB temperature sensor"

Total GPA: **17.6/20**

#### **Alghadir Pre –University**

**Pre-University Degree in Mathematics & Physics**

Total GPA: **19 /20**

#### **Alghadir High School**

**Diploma in Mathematics & Physics**

Total GPA: **19.1 / 20 (with honors)**

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## **FIELDS OF INTEREST**

- CMOS RF Integrated Circuits
- Multi-Gbit/s Clock and Data Recovery Circuits
- Design of 60 GHz and beyond millimeter wave ICs
- Mixed mode Integrated Circuits
- High frequency, low phase noise oscillators
- Wireless Systems and Related Circuits
- Frequency Synthesizer Design
- Design of Sigma Delta Modulators
- Low Power CMOS Strategies
- Nonlinear ICs Focus on Fast Locking
- VLSI & Microelectronic Devices
- Biomedical Integrated Circuit
- Data Convertors
- Analog Filter Design

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## **TEACHING INTEREST**

### **M.Sc. and Ph.D. lessons:**

- CMOS I
- VLSI
- Advanced VLSI
- Advanced Digital Electronics
- CMOS II
- RF Circuit Design
- Digital Electronics
- Integrated Filter Design

### **B.Sc. lessons:**

- Electronic I
- Electronic III
- Electrical Circuit II
- VLSI
- Pulse Technique
- Electronic II
- Electrical Circuit I
- Digital Electronics
- Filter
- Logic circuit

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## **HONORS & AWARDS**

- **Ranked 1<sup>st</sup>** among B.Sc. students in electronics with total GPA (17.6/20), Babol University of Technology
- **Selected** for M.Sc in Sharif University of Technology with Konkoor exam.
- One of the 50 students in final stage of National Olympiad in Shahid Beheshti University, Tehran, Iran, August 2008.
- Selected as Exceptional Talent of the University of Mazandaran among 150 B.Sc. Students

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## **PUBLICATIONS & PAPERS**

- 1 M. Gholami, "**Total Jitter of Delay-Locked Loops Due to Four Main Jitter Sources**," in *IEEE Transactions on Very Large Scale Integration (VLSI) Systems* , vol.PP, no.99, pp.1-10
- 2 Iman Esmaili Paeen Afrakoti, Saeid Bagheri SHouraki, Farnood Merrikh Bayat, Mohammad Gholami "**Using a memristor crossbar structure to implement a novel adaptive real-time fuzzy modeling algorithm**", Accepted by Fuzzy sets and systmes.
- 3 Gholami, M.; Ardeshir, G., "**Jitter of Delay-Locked Loops Due to PFD**," *Very Large*

*Scale Integration (VLSI) Systems, IEEE Transactions on* , vol.22, no.10, pp.2176,2180, Oct. 2014

- 4 Ghonoodi, H., Miar-Naimi, H. and Gholami, M., 2016. "Analysis of frequency and amplitude in CMOS differential ring oscillators". *Integration, the VLSI Journal*, 52, pp.253-259.
- 5 Gholami, M.; Rahimpour, H.; Ardeshir, G.; MiarNaimi, H., "Digital delay locked loop-based frequency synthesiser for Digital Video Broadcasting-Terrestrial receivers," *Circuits, Devices & Systems, IET* , vol.8, no.1, pp.38,46, Jan. 2014.
- 6 Gholami, Mohammad, Hamid Rahimpour, Gholamreza Ardeshir, and Hossein Miar-Naimi. "A new fast-lock, low-jitter, and all-digital frequency synthesizer for DVB-T receivers." *International Journal of Circuit Theory and Applications* (2013).
- 7 Rahimpour, Hamid, Mohammad Gholami, Hossein Miar-Naimi, and Gholamreza Ardeshir. "All digital fast lock DLL-based frequency multiplier." *Analog Integrated Circuits and Signal Processing* 78, no. 3 (2014): 819-826.
- 8 Mohammad Gholami., Yasser Baleghi and Gholamreza Ardeshir "Design of Novel Testable and Diagnosable Phase-Frequency Detector", *Circuits, Systems, and Signal Processing: Volume 32, Issue 2* (2013), Page 781-801. DOI: 10.1007/s00034-013-9679-z.
- 9 Gholami, M.; Fallah, M., "Increasing frequency of ring oscillators by using negative capacitors", *Electronics Letters* , vol.48, no.18, pp.1109-1110, August 30 2012.
- 10 M. Gholami, G. Ardeshir. Analysis of DLL jitter due to voltage-controlled delay line. *Circuits Syst. Signal Process.* 32(5), 2119–2135 (2013). doi:10.1007/s00034-013-9584-5
- 11 Mohammad Gholami., "A Novel Low Power Architecture for DLL-Based Frequency Synthesizers", *Circuits, Systems, and Signal Processing: Volume 32, Issue 2* (2013), Page 781-801. DOI: 10.1007/s00034-012-9488-9.
- 12 Mohammad Gholami, Hamid Rahimpour "Design and analysis of negative capacitor by using MOSFETs", *International Journal of Electronics*, pp. 1-11, July 08 2013. DOI: 10.1080/00207217.2013.817023
- 13 M. Gholami, Gh. Ardeshir and H. Ghonoodi, "A novel architecture for low voltage-low power DLL-based frequency multipliers", *IEICE Electron. Express*, Vol. 8, No. 11, pp.859-865, (2011).
- 14 Rahimpour, H., M. Gholami, G. Ardeshir, and H. MiarNaimi. "LOW SETTling TIME ALL DIGITAL DLL FOR VHF APPLICATION." *International Journal of Engineering-Transactions C: Aspects* 28, no. 3 (2014): 419.
- 15 Mohammad Gholami, Gholamreza Ardeshir, Hossein Miar-Naimi, "A Noise and Mismatches of Delay Cells and Their Effects on DLLs", *IJISA*, vol.6, no.5, pp.37-43, 2014. DOI: 10.5815/ijisa.2014.05.03.
- 16 Gholami, M., and G. Ardeshir. "DUAL PHASE DETECTOR BASED DELAY LOCKED LOOP FOR HIGH SPEED APPLICATIONS." *International Journal of Engineering-Transactions A: Basics* 27, no. 4 (2014): 517-522.
- 17 Gholami, M.; Sharifkhani, M.; Ebrahimi, A.; Saeedi, S.; Atarodi, M.; , "Systematic modeling and simulation of DLL-based frequency multiplier," *Symbolic and Numerical Methods, Modeling and Applications to Circuit Design (SM2ACD)*, 2010

Xlth International Workshop on , vol., no., pp.1-5, 4-6 Oct. 2010.

- 18 Gholami, M.; Sharifkhani, M.; Saeedi, S.; Atarodi, M.; , "A DLL-based frequency synthesizer for VHF DVB-H/T receivers," Symbolic and Numerical Methods, Modeling and Applications to Circuit Design (SM2ACD), 2010 XIth International Workshop on , vol., no., pp.1-5, 4-6 Oct. 2010.
- 19 Ebrahimi, A.; Naimi, H.M.; Gholami, M.; , "Compact, low-voltage, low-power and high-bandwidth CMOS four-quadrant analog multiplier," Symbolic and Numerical Methods, Modeling and Applications to Circuit Design (SM2ACD), 2010 XIth International Workshop on , vol., no., pp.1-5, 4-6 Oct. 2010.
- 20 Gholami, M.; Sharifkhani, M.; Saeedi, S.; , "Modeling of DLL-based frequency multiplier in time and frequency domain with Matlab Simulink," Circuits and Systems (APCCAS), 2010 IEEE Asia Pacific Conference on , vol., no., pp.1051-1054, 6-9 Dec. 2010
- 21 Gholami, M.; Sharifkhani, M.; Hashemi, M.; , "Low voltage and low power DLL-based frequency synthesizer for covering VHF frequency band," Design & Technology of Integrated Systems in Nanoscale Era (DTIS), 2011 6th International Conference on , vol., no., pp.1-4, 6-8 April 2011.
- 22 Gholami, M.; Sharifkhani, M.; Hashemi, M.; , "A novel parallel architecture for low voltage-low power DLL-based frequency multiplier," Design & Technology of Integrated Systems in Nanoscale Era (DTIS), 2011 6th International Conference on , vol., no., pp.1-4, 6-8 April 2011.
- 23 Gholami, M.; Sharifkhani, M.; Hashemi, M.; , "Covering VHF frequency band with novel DLL-based frequency synthesizer," Communications and Signal Processing (ICCSP), 2011 International Conference on , vol., no., pp.297-299, 10-12 Feb. 2011.
- 24 Gholami, M.; Gholamidoon, M.; Hashemi, M.; , "New method to synthesize the frequency bands with DLL-based frequency synthesizer," Communications and Signal Processing (ICCSP), 2011 International Conference on , vol., no., pp.300-304, 10-12 Feb. 2011.
- 25 Hashemi, M.; Sharifkhani, M.; Gholami, M.; , "A low power 1-V 10-bit 40-MS/s pipeline ADC," *Electronics, Circuits and Systems (ICECS), 2011 18th IEEE International Conference on* , vol., no., pp.212-215, 11-14 Dec. 2011.

۲۶ محمد فلاح، محمد غلامی، غلامرضا اردشیر "استفاده از خازن منفی برای افزایش فرکانس در اسیلاتورهای حلقوی با بار مقاومتی" چاپ شده در کنفرانس برق ایران سال ۱۳۹۱.

۲۷ محمد غلامی، غلامرضا اردشیر "طراحی آشکارساز فاز-فرکانس با سرعت بالا با استفاده از گیت‌های انتقال داده" پذیرفته شده در کنفرانس برق ایران سال ۱۳۹۲.

۲۸ محمد غلامی، حمید رحیم‌پور، غلامرضا اردشیر "تحلیل و طراحی ساختار خازن منفی و کاربرد آن در افزایش فرکانس اسیلاتور" پذیرفته شده در کنفرانس برق ایران سال ۱۳۹۲.

۲۹ محمد اسماعیل قربانی، مهدی احسانیان مفرد و محمد غلامی "بررسی و مقایسه توان مصرفی، زمان تاخیر طول مسیر Reset و زمان Glitch در آشکارسازهای فاز/فرکانس" پذیرفته شده در کنفرانس مجلسی.

- 1 Teaching in "*Digital Electronics*". Department of Electrical and Computer Engineering, Babol (Nooshirvani) University of Technology, Babol, from Fall 2012.
- 2 Teaching in "*VLSI Circuit and System Design*" Department of Electrical and Computer Engineering, Babol (Nooshirvani) University of Technology, from Winter 2012.
- 3 Teaching in "*Digital Electronics Lab*" Department of Electrical and Computer Engineering, Babol (Nooshirvani) University of Technology, from Winter 2011.
- 4 Teaching in "*Digital Electronics*" Department of Electrical and Computer Engineering, University of Science and Technology of Mazandaran, Babol, from Fall 2011.
- 5 Teaching in "*VLSI Circuit and System Design*" Department of Electrical and Computer Engineering, University of Science and Technology of Mazandaran, Babol, from Winter 2011.
- 6 Teaching in "*VLSI Circuit Design*". Department of Electrical and Computer Engineering, Haraz University, from Fall 2011 to Winter 2012.
- 7 Teaching in "*Digital Electronics*". Department of Electrical Engineering, Haraz University, from Fall 2011 to Winter 2012.
- 8 Teaching in "*Electronic Circuits*". Department of Electrical Engineering, Haraz University, from Fall 2011 to Winter 2012.
- 9 Teaching in "*Applications of Software in Electronic*". Department of Electrical Engineering, Haraz University, Fall 2012.
- 10 Teaching Assistant in "*Electrical Circuit*". Department of Electrical Engineering, Sharif University of Technology, Dr. M. Sharifkhani, Fall 2009.
- 11 Teaching Assistant in "*Electrical Circuit*". Department of Electrical Engineering, Sharif University of Technology, Dr. M. Sharifkhani, Winter 2011.
- 12 Teaching Assistant in "*Pulse Technique*". Department of Electrical Engineering, Babol University of Technology, Dr. H. Miar Naimi, Spring 2007.

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## **Projects & Experiences**

- 1 "Design and Implementation of DLL-based Frequency Synthesizer for Wireless Receivers", M.Sc. Project, [Prof. M. Atarodi](#), [Prof. M. Sharifkhani](#).
- 2 "Design and Implementation of a USB temperature sensor" B.Sc. Project, [Prof. H. Miar Naimi](#).
- 3 "Design of Low-Noise Op-amp", CMOS Integrated Circuits Project, [Prof. M. Atarodi](#), fall 2008.
- 4 "Design of a High Bandwidth and Low Power CMOS Multiplier in 0.18 $\mu$ m CMOS Technology", CMOS Integrated Circuits Project, [Prof. M. Atarodi](#), fall 2008.
- 5 "Designing of Low Power and Stable Active-RC Filter", Integrated Filter Design Project, [Prof.](#)

M. Atarodi, Spring 2009.

- 6 "Design and Simulating of PLL-based Frequency Synthesizer", IC Application Project, Prof. Alavi.
- 7 "Design of an Ultra Sonic Sensor for Identifying Movement of objects", winter 2008, Microprocessors Research Project, S. Gole.
- 8 "Searching about Gilbert Cells", in B.Sc.
- 9 "PLLs and DLLs and their Applications", IC Application Presentation, Sharif University of Technology, Winter 2009.
- 10 "Low Power and Stable Active-RC Filter", Integrated Filter Design Presentation, Sharif University of Technology, Winter 2009.

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## **BOOKS**

1. "Digital Electronics"
2. "Solution manual for Digital Electronics and VLSI (Cover 1-Digital Electronics)"
3. "Solution manual for Digital Electronics and VLSI (Cover 2-VLSI)"

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## **SOFTWARE SKILLS**

**Operating Systems:** Windows 9X/ 2000/ XP/ Vista/ Seven.

**General Software:** Microsoft Office 2003/2007, Visio.

**Graphical Software:** Familiar With Photoshop.

**Specialty Software:** Cadence IC, ADS, HSpice, Ansoft HFSS, Pspice, Matlab, ModelSim, Verilog, VHDL, Proteus.

**Programming Language:** Visual C++ , Fortran.

**Hardware:** AVR Micro Controller, 8051 Micro Controller, Z80.

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## **WORKING**

### **EXPERIENCES**

- Cooperation with Shomal Institute of Defensive Science and Technology, Spring 2011, Fereydoonkenar, Iran.
- Cooperation with Iran Telecommunication Research Center (ITRC), Summer 2008, Babol, Iran.
- Khayyam Electronic School (Workshop and Electronic Lab), Summer 2006, Babol, Iran.

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## **PARTICIPATED**

### **CONFERENCES &**

### **WORKSHOPS**

- 18th Iranian Conference on Electrical Engineering (ICEE 2010),
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May 11-13 Esfahan University of Technology

A Workshop on **Millimeter-Wave CMOS Design**      Lecturer: **Prof. Behzad Razavi**

A Workshop on **High Performance Phase-Locked Loops**      Lecturer: **Prof. Behzad Razavi**

• چهارمین کنفرانس فناوری اطلاعات و دانش (IKT 2012)

Babol University of Technology

A Workshop on **OLAP TOOLS in Large Databases**

A Workshop on "مدیریت امنیت اطلاعات"

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## **REVIEWER AND**

## **EDITOR**

### **1. Associate Editor:**

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*Bonfring International Journal of Power Systems and Integrated Circuits*  
*The International Journal on Engineering Technology and Sciences (IJETS)*  
*Science Journal of Circuits, Systems and Signal Processing*  
*Circuits and Systems: An International Journal (CSIJ)*  
*International Journal of Electrical and Electronic Science*  
*International Journal of Research in Electrical & Electronics Engineering*

- 
- 2. Reviewer (some of my reviews for top journals):** *IEEE Transactions on Circuits and Systems II, Circuits, IEEE Transactions on Very Large Scale Integration (VLSI) Systems and Signal Processing - Springer, Analog Integrated Circuits and Signal Processing-springer, Microelectronics Journal - Elsevier, Integration, the VLSI Journal - Elsevier, International Journal of Circuit Theory and Applications - Wiley, International Journal of Engineering (IJE),...*

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## **LANGUAGE SKILLS**

3. Persian (Native Language)
  4. English: Fluent
  5. Familiar with Arabic
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