

عبدالرضا نبوی

گرایش: طراحی مدارهای مجتمع آنالوگ و فرکانس بالا

رتبه علمی: استاد

دکتری: الکترونیک
 کارشناسی ارشد: الکترونیک
 کارشناسی: الکترونیک

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تاریخچه تدریس سوابق پژوهشی دانشجویان سوابق اجرایی کل رزومه



تاریخ به روز رسانی: ۱۳۹۴/۰۲/۰۹

کل رزومه

Abdolreza Nabavi

Department of Electrical and Computer Eng.

Tarbiat Modares University

P.O. Box 14115-143, Tehran, Iran

E-mail: abdoln@modares.ac.ir**Tel:** (9821) 82883310**Fax:** (9821) 82884325**Educational Records:**

Ph.D	McGill University (Canada)	Electronics	1993
M.Sc	Tehran University (Iran)	Electronics	1987

B.Sc**Tehran University (Iran)****Electronics****1985****Experiences:**

9/1993- present, Faculty of Electrical and Computer Engineering, Tarbiat Modares University, Tehran, currently as **Professor**.

Research Interests:

- 1) RFIC design for mm-wave and Tera-Hertz (THz) applications
- 2) Design of Phased-Array Transceivers in SiGe, CMOS, and GaAs Technology
- 3) Design of mixed analog digital systems in nanoscale CMOS technology
- 4) Design of GaN-based Power Amplifier
- 5) Design of VLSI logic circuits and arithmetic subsystems for low-voltage low-power applications

Given courses:

- 1) RFIC Design
- 2) Analog Integrated Circuit Design
- 3) VLSI Circuit Design
- 4) Low-Noise Electronic System Design

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Design projects:

- 1) Design of RF **PA, LNA, Mixer, VCO, ...**, with **CMOS** and **GaAs** Technology.
- 2) Design of **active/ passive MMIC** components with CMOS, BiCMOS (SiGe), and GaAs Technology
- 3) Design of Ka-Band transceivers for Satellite Communications using CMOS and BiCMOS (SiGe)

Technology

Selected Journal Papers:

- 1) **A. Nabavi**, N. C. Rumin, Simultaneous delay and maximum current calculation in CMOS gates, **IEE Electronics Letters**, Vol. 28, No. 7, pp. 682-684, Mar. 1992.
- 2) **A. Nabavi**, N. C. Rumin, Inverter models of CMOS gates for supply current and delay evaluation, **IEEE Trans. On CAD**, Vol. 13, No. 10, pp. 1271-1279, Oct. 1994.
- 3) N. Babaii, **A. Nabavi**, An accurate FIR approximation of Ideal Fractional Delay with Complex Coefficients in Hilbert Space, Japan, Journal of Circuits, Systems, and Computers Vol. 14, No. 3, 2005.
- 4) K. Khamei , **A. Nabavi**, S. Hessabi, and S. A. Mohseni, "Design of Variable Fractional Delay FIR Filters With CSD Coefficients Using Genetic Algorithm", Japan, Journal of Circuits, Systems, and Computers Vol. 14, No. 6, December 2005.
- 5) M. Salehi, **A. Nabavi**, "An adaptable UWB Pulse generator for High rate Applications", Japan, IEICE Electronics Express, Vol. 4, No. 8, 232-237, April 2007.
- 6) M. Jalali, M. K. Moraveg, **A. Nabavi**, A. Fotowat-Ahmady, "Gm-Boosted Differential Transimpedance Amplifier Architecture", Japan, IEICE Electronics Express, Vol. 4, No. 16, 498-503, August 2007.
- 7) M. Jalali, **A. Nabavi**, M. K. Moravvej-Farshi, A. Fotowat-Ahmady, "Low-Noise Differential Amplifier Structure based on Capacitor Cross-Coupled gm-boosting Scheme", Microelectronics Journal, No. 39, pp. 1843-1851, 2008.
- 8) M. Mehrabian, **A. Nabavi**, An Ultra Wide Tuning Range VCO with Active Tunable Inductors, Italy, International Review of Electrical Engineering, October 2008.
- 9) S. Y. Mortazavi, **A. Nabavi**, A New Folding & Interpolating ADC Structure with Reduced DNL/INL, IEICE Electronics Express, Vol. 6, No. 2, 90-97, January 2009.
- 10) S. H. Elahi, **A. Nabavi**, A UWB LNA with Interference Rejection Using Enhanced-Q Active Inductor, Japan, IEICE Electronics Express, Vol. 6, No. 6, 335-340, March 2009.
- 11) M. Parvizi, **A. Nabavi**, Highly Linear Common-gate Mixer Employing Intrinsic Second and Third Order Distortion Cancellation, Japan, IEICE Electronics Express, Vol. 6, No. 6, 310-316, March 2009.
- 12) H. Gharaee, **A. Nabavi**, Baseband implementation of OTR-UWB receiver using FPGA, In Press by Elsevier, AEU - International Journal of Electronics and Communications, Vol. 64, Issue 3, 258-266,

March 2010.

- 13) S. H. Elahi, **A. Nabavi**, Ultra Wideband CMOS Low Noise Amplifier with Flat Gain, Japan, IEICE Electronics Express, Vol. 6, No. 10, 630-637, May 2009.
- 14) M. Yargholi, A. Nabavi, A highly linear Gilbert Cell OTA with Multiple Gated Transistors for Non-coherent UWB Receivers, Japan, IEICE Electronics Express, Vol. 6, No. 11, 756-762, June 2009.
- 15) R. Sadeghpour, A. Nabavi, Design and Generation of UWB waveforms with interference elimination on Narrow Band Systems, Japan, IEICE Electronics Express, Vol. 6, No. 13, 923-929, July 2009.
- 16) H. Gharaee, **A. Nabavi**, Performance and Complexity Evaluation of OTR-UWB Receiver, International Journal of Interdisciplinary Telecommunications and Networking, Vol. 1, No. 3, 62-77, July 2009.
- 17) M. Parvizi, **A. Nabavi**, Low-power highly Linear UWB CMOS mixer employing simultaneous second-and third-order distortion cancellation , Elsevier Microelectronics Journal, Vol. 41, No. 1, 2010.
- 18) K. Hadipour, A. Nabavi, Highly linear mm-wave CMOS low noise amplifier, Japan, IEICE Electronics Express, Vol. 7, No. 1, 20-26, January 2010.
- 19) M. Parvizi, **A. Nabavi**, Improved derivative superposition scheme for simultaneous second- and third-order distortion cancellation in LNAs, Electronics Letters, Vol. 45, No. 25, , p.1323–1325, Dec. 2009.
- 20) S. Y. Mortazavi, A. Nabavi, P. Amiri, High-accuracy Comparator-Based Switched-Capacitor structure, Japan, IEICE Electronics Express, Vol. 7, No. 5, pp. 352-359, Mar. 2010.
- 21) P. Amiri, A. Nabavi, S. Y. Mortazavi , Low Distortion CMOS Class-D Amplifier with Double-Band Hysteresis, Japan, IEICE Electronics Express, Vol. 7, No. 4, 273-280, Feb. 2010.
- 22) A. Nikpaik, A. Nabavi, Very low noise current-shaped optimally coupled CMOS LC quadrature VCO, Japan, IEICE Electronics Express, Vol. 7, No. 8 pp. 520-526, 2010.
- 23) B. Mohamadian, A. Nabavi, Wideband OFDM Receiver using Split Spectrum Processing, IEICE Electronics Express, Vol. 7, No. 19, pp. 1453-1460, 2010.
- 24) Highly accurate Comparator Based Switched Capacitor Gain Stage, IREMOS, Vol. 3, No. 3, pp. 407-414, 2010.
- 25) B. Bornoosh, A. Nabavi, Design and Analysis of a Reduced Phase Error Digital Carrier Recovery Architecture for High-order Quadrature Amplitude Modulation Signals, IET communications, Vol. 4 , No. 18, 2196–2207, 2010.
- 26) M. Tamaddon, A. Nabavi, A high Resolution highly linear Low Spur Fractional Time-to-Digital Converter (FTDC) for ADPL, Vol. 8, No. 6, 2011.
- 27) M. Jalali, M. Moravvej, S. Masudy-Panah, A. Nabavi, An Equivalent Lumped Circuit Model for Thin

Avalanche photodiode with Nonuniform Electric Field Profile, IEEE Journal of Light Technology, Vol. 28, , No. 23, pp. 3395 – 3402, 2010 .

- 28) H. Elyasi, A. Nabavi, Highly Linear Post distortion Cancellation Common-gate Gilbert Mixer in Ku-band, Japan, IEICE Electronics Express, Vol. 8, No. 13, 1014–1021, 2011.
- 29) M. Ataei, A. Nabavi, A. Nikpaik, J. Meiguni, Transformer Feedback Millimeter-Wave VCO with Capacitance Cancellation technique in 0.18um CMOS, Japan, IEICE Electronics Express, Vol. 8, No. 11, pp.780-787, 2011.
- 30) M. Hajirahimi, A. Nabavi, E. Kabir, Low Power High-Speed Hybrid Wave-Pipeline Architecture for Binary Morphological Dilation, Springer Journal of Signal Processing and Systems, Vol. 68 , No. 3, pp. 391-399 2012.
- 31) Z. Amini, A. Nabavi, Design of improved reliability nano circuits with mixed NBTI and HCI aware gate sizing formulation, Japan, to be published in IEEJ Transactions on Electrical and Electronic Engineering, 8 (6), 587-590, 2013.
- 32) R. Sadeghpour, **A. Nabavi**, Design Procedure of Quasi-Class-E Power Amplifier for Low-Breakdown-Voltage Devices, Accepted for publication in IEEE Transactions on Circuits and System I, 61 (5), 1416-1428, 2014.
- 33) M. Beigizadeh, A. Nabavi, Design of a high gain and highly linear common-gate UWB mixer in K-band, Analog Integrated Circuits and Signal Processing, Analog Integrated Circuits and Signal Processing 78 (2), 501-509, 2014.
- 34) H. Seyedhosseinzadeh, A. Nabavi, A Low-power Parametric Integrator for Wideband Switched-Capacitor $\Sigma\Delta$ Modulators", submitted to Analog Integrated Circuits and Signal Processing, September 2013.
- 35) N. Seyedhosseinzadeh, A. Nabavi, A highly linear CMOS low noise amplifier for K-band applications, Taylor& Francis International Journal of Electronics, 2014
- 36) A. Salimi, R. Dehghani, A. Nabavi, A Hysteretic Two-Phase Supply Modulator for Envelope Tracking RF Power Amplifiers, International Journal of Engineering (1025-2495) 27 (12), 2014
- 37) B. H. Seyedhosseinzadeh, A. Nabavi, A MOS Parametric Integrator with Improved Linearity for SC sigma-Delta Modulators, Circuits and Systems II: Express Briefs, IEEE Transactions on 62 (3), 231-235, 2015.
- 38) A. Nikpaik, A. Nabavi, Analysis of Flicker Noise Conversion to Phase Noise in CMOS Differential LC Oscillators,

International Journal of Circuit Theory and Applications, 2015.

- 39) A. Salimi, R. Dehghani, A. Nabavi, A Digital Predistortion Assisted Hybrid Supply Modulation for Envelope Tracking Power Amplifier, the VLSI Journal of Integration, 2015.

Book Chapters:

- **Ultra Wideband**, 2010, published by Sciyo, Chapter 19, A. Nabavi, **Ultra Wideband Oscillators**, pp. 159-214.
- Innovative Algorithms and Techniques in Automation, Industrial Electronics and Telecommunications, 2007, Published by **Springer**, **A Low Power CMOS Circuit for Generating Gaussian Pulse and its Derivatives for High Frequency Applications**, by **S. Choobkar, A. Nabavi**, pp .401-404.

Selected Conference publications:

- 1) **A. Nabavi**, K. Dabbagh, A 10-bit, 20MS/s, 22mW folding and interpolating CMOS ADC, **IEEE International Conf. On Microelectronics (ICM2000)**, pp.43-46, Oct. 2000.
- 2) M. B. Ghaznavi- Ghouschi, **A. Nabavi**, Isomorphic structured synthesis of half adder and full adder, **IEEE Canadian Conf. on Electrical and Computer Eng.**, vol. 1, 2002.
- 3) N. Babaii and **A. Nabavi**, Design of fractional delay filters using least square error and fourier series, **IEEE Canadian Conf. on Electrical and Computer Eng.**, vol. 1, 2002.
- 4) N. Babaii and **A. Nabavi** , An approach to implement FIR filters for delta-sigma inputs, **IEEE Canadian Conf. on Electrical and Computer Eng.**, vol. 1, 2002.
- 5) **A. Nabavi**, M. Jalali, Design of a high resolution low-power CMOS time-to-digital converter, **ICEE**, pp. 37-44, May 2002.
- 6) **A. Nabavi**, N. Babaii, and M. Lotfizad, Two new methods to design FIR filters, **IEEE Asia Pacific Conf. On Circuits and Systems**, Oct. 2002.
- 7) N. Babaii and **A. Nabavi** , Design, simulation, and implementation of a low-power digital decimation filter for G. 232 standard, **IEEE Int. Workshop of System-on-Chip 2003**.
- 8) N. Babaii , **A. Nabavi**, Design and implementation of digital decimation filter for digital ADSL modems, **Int. Symposium on Telecommunications**, 2003.

- 9) K. Kameh, **A. Nabavi**, Design of a low-power fractional delay filter, **IEEE Int. Conf. On Electronics and Systems, 2003.**
- 10) S. Ghanipour, **A. Nabavi**, Design of a low-power Viterbi decoder, **IEEE Int. Conf. On Electronics and Systems, 2003.**
- 11) **A. Nabavi**, A. Mansouri, M. Jalali, Low-voltage CMOS Transconductance cell based on composite cells, **IEEE Int. Conf. On Microelectronics, 2004**
- 12) A. Nabavi**, A. Mansouri, M. Jalali, A Novel Composite Cell Based, Constant-gm, Rail-to-Rail CMOS Input-Stage, **2004 IEEE International Conference on Semiconductor Electronics**
- 13) M. Jalali¹, M. Soroosh, M. K. Moravvej-Farshi¹, **A. Nabavi**, Transient and Frequency Analysis of PIN Avalanche Photodiode Using Circuit Model, **LFNM 2005**, Ukraine
- 14) S. Bashirzadeh, **A. Nabavi**, M. Fardis, GaAs DGMEFET Modeling Using SGMEFET Models, **IEEE International Workshop on Radio-Frequency Integration Technology, Singapore, 2005**
- 15) Zhila Amini, Sabrieh Choobkar, **A. Nabavi**, A Low Noise Amplifier for Ultra-wideband Systems in 0.13 μ m CMOS Technology, **ICCCAS-2006.**
- 16) H. Abdollahi, **A. Nabavi**, S. Mirzakuchaki, A. Hagneadar, An Energy Recovery Static RAM with MEQUL Transistor and Driving Line Technique in Voltage Mode, **ICEE, 2006.**
- 17) M. Salehi, A. Nabavi**, A Low Power High Data Rate Modulator in Ultra- Wideband Transmitters, **ICM 2006.**
- 18) M. Salehi, **A. Nabavi**, N. Ghadimi, Design of A Low-Power High-Rate Ultra-Wideband Modulator for 5.8-10.6 GHz, **IEEE ICES 2006.**
- 19) A. Saghafi, **A. Nabavi**, An Ultra Wideband Low Noise Amplifier for 3-5-GHz Wireless Systems, **ICM 2006.**
- 20) P. Amiri, **A. Nabavi**, H. Gharaee, A 10GHz reconfigurable UWB LNA in 130nm CMOS, **ICSE 2006.**
- 21) H. Gharaee, **A. Nabavi**, B. Bornoosh, and S. M. Fakhraei, A Digital Implementation for UWB Impulse Radio Transceiver, **IEEE International Conference on Semiconductor Electronics 2006.**
- 22) M. Jalali, M. K. Moravvej-Farshi¹, and **A. Nabavi**, A Novel DC-Coupled, Single-Ended to Differential Transimpedance Amplifier Architecture Based on gm-boosting Technique, **ICSE 2006.**
- 23) Zhila Amini Sheshdeh, **A. Nabavi**, M. B. Ghaznavi Ghouschi, B. Eghbalkhah, Implementation of DS-Ultra wideband Timing Acquisition in System C, **ISPACS 2006.**
- 24) M. Khalilzadeh Agdam, **A. Nabavi**, A Low-Power High-Speed 4-Bit ADC for DS-UWB Communications, **IEEE ISVLSI 2007.**
- 25) S. Choobkar, **A. Nabavi**, A low Power CMOS circuit for Generating Gaussian Pulse and its derivatives for High Frequency Applications, **IEEE CISSE 2007.**
- 26) Mahdi Parvizi, Amir Khodabakhsh, **A. Nabavi**, Low-Power High-Tuning Range CMOS Ring Oscillator

VCOs, ICSE2008.

- 27) B. Bornoosh, A. Nabavi, M. Ehsani Nick, A. Haghbin, A New Architecture for Reducing Phase Noise of Digital Carrier Recovery Algorithms in High-Order QAM Demodulators, IEEE ICSPC 2007.
- 28) A.Salimi Shahraki, **A. Nabavi**, Implementation of GSM and IS-95 Equalizers on a Reconfigurable Architecture for Software Radio Systems, IEEE Conference, PP. 336-339, 2008.
- 29) M. Yargholi, **A. Nabavi**, Analog Front-End Modules Design in Non-Coherent UWB Receivers for Sensor Networks, IEEE International Conference on Semiconductor Electronics (ICSE), PP. 64-68, 2008.
- 30) M. Parvizi, **A. Nabavi**, Low Power High tuning Range CMOS Ring Oscillator VCO, IEEE International Conference on Semiconductor Electronics (ICSE), PP. 49-53, 2008.
- 31) M. Yargholi, **A. Nabavi**, CMOS Integrator Design for Non-Coherent UWB Receivers, IEEE International Conference on Semiconductor Electronics (ICSE), PP. 59-63, 2008.
- 32) M. Mehrabian, **A. Nabavi**, N. Rashidi, A 4~7GHz Ultra Wideband VCO with Tunable Active Inductor, IEEE International Conference on Ultra-Wideband (ICUWB2008), Vol. 2, pp. 21-24, 2008.
- 33) H. Gharaee, P. Amiri, A. Nabavi, Baseband Implementation of OTR-UWB Receiver by FPGA, IEEE International Conference on Semiconductor Electronics (ICSE), PP. 23-26, 2008.
- 34) Siamak Abdollahi, Kambiz Hadipour, Farhad Sheikhhoseini, and Abdolreza Nabavi, A New Ku-Band CMOS LNA with 8.6 mW DC Power Consumption and 1.68 dB NF, ICEE , pp.248-253, May 2009.
- 35) Kambiz Hadipour, Farhad Sheikhhosseini, Siamak Abdollahi, and Abdolreza Nabavi, An All-CMOS Low Power 820 MHz Variable Gain Amplifier, ICEE , pp.254-257, 2009.
- 36) S. Kasiri-Bidhendi, A. Nabavi, A Low-Power DLL-Based Frequency Multiplier, ICEE , pp.264-267, May 2009.
- 37) Amir Nikpaik, A. Nabavi, A very high tuning-range Differential CMOS VCO Based on Active Inductor, ICEE , pp.329-333, May 2009.
- 38) Hossein Gharaee, Pantea Tavakolian, Abdolreza Nabavi, Low Complexity and Low Power OTR-UWB Baseband, ICEE , pp.348-352, May 2009
- 39) Pantea Tavakolian, Hossein Gharaee, Abdolreza Nabavi, A New 5-bit BCSE Method for Implementing Low Complexity and Low Power Reconfigurable FIR Filters, ICEE , pp.362-365, May 2009.
- 40) Shahabuddin Rahmanian, S. Mehdi Fakhraie , and Abdolreza Nabavi, Optimal Bit-True Model for Implementation of a Digital Audio Broadcasting OFDM System, ICEE , pp.387-390, May 2009.
- 41) F. Shiekh-hosseini, **A. Nabavi**, A 120dB all CMOS variable gain amplifier based on new exponential equation, Circuits and Systems (APCCAS), IEEE Asia Pacific Conference, 2010.

- 42) M. Tamaddon, M. Ataei, **A. Nabavi**, Design of a PLL based Frequency Synthesizer for Wimax Applications, ICEE2010.
- 43) N. Seidhosseini, **A. Nabavi**, Design of a new mm-Wave Low Power LNA in 0.18 μm CMOS Technology, ICEE2011.
- 44) N. Seidhosseini, **A. Nabavi**, Low noise amplifier for near millimeter wave band applications, , ICEE2012.
- 45) M. Beigizadeh, **A. Nabavi**, A K-band Common-Source Gilbert Mixer with High gain and high linearity for UWB applications, ICEE2013), May 14-16, 2013.
- 46) A Salimi, R Dehghani, A Nabavi, A wide band envelope modulator for envelope tracking RF power amplifiers, (ICEE), 2013 21st Iranian Conference
- 47) M Beigizadeh, A Nabavi, A K-band common-source Gilbert-cell mixer with high gain and high linearity for UWB applications, ICEE, 2013 21st Iranian Conference

Selected Ph.D. Students

- 1) A. Salimi, **Efficiency enhancement and linearization of power amplifiers** for 4th generation mobile transmitters
-) 2) H. Seyedhosseinzadeh. , **Design of Sigma-Delta ADC** using parametric amplifiers
-) 3) R. Sadeghpour, Design of **Class-E Power Amplifier** for Wimax Systems
-) 4) A. Nikpaik, Design of low phase noise **mm-Wave and Terahertz** Oscillator using CMOS technology
-)

Selected Master Students

- 1) S. Aghajani, Design of **m-path RF filters** using **wave-based** approach
- 2) G. Gohardehi, Design and analysis of **QVCO**
- 3) A. Ahmadihaji, Analysis and design of **wave-based millimeter-wave oscillator**

Membership:

IEEE

Computer skills:

Software: Hspice, ADS, Cadence, Magic, Ledit, Synopsys, Matlab/Simulink

Operating system: Windows, Unix

Services to Professional Society (Refree)

- 1) Elsevier, Journal of Microelectronics**
- 2) Elsevier, Journal of Signal Processing**
- 3) IEEE Transactions on Very Large Scale Integration Systems**
- 4) Int. Journal of Science and Engineerig**
- 5) Int. Journal of communication**
- 6) Seintia Iranica Sharif University**

Referee and Program Committee, IEEE Int. Conf. On Microelectronics, 2000.

ICEE Conference (since 1993)