Curriculum Vitae Prof. JUNG-DONG PARK

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EDUCATION

Ph.D.	University of California Berkeley, USA	Aug. 2007 ~ May 2012
	Electrical Engineering and Computer Sciences	
	(Advisor: Prof. Ali M. Niknejad)	
M.S.	Gwangju Institute of Science and Technology,	Mar. 1998 ~ Aug.2000
	Gwangju, South Korea	
	Information and Communications (EE)	
	(Advisor: Prof. Jong-In Song)	
B.E.	Dongguk University, Seoul, South Korea	Mar. 1994 ~ Feb. 1998
	Electronic Engineering (EE)	

PROFESSIONAL POSITIONS

Associate Professor	Dongguk Univ., South Korea	Mar. 2019 ~ Present
Assistant Professor	Dongguk Univ., South Korea	Mar. 2015 ~ Feb. 2019
Senior Engineer	Qualcomm, USA	Jul. 2012 ~ Feb. 2015
Internship	Qualcomm, USA	Jun. 2011 ~ Sept. 2011
Internship	HealthMicro, USA	Jun. 2010 ~ Nov. 2010
Consultant	Streetline, USA	Dec. 2008 ~ May 2009
Senior Researcher	Agency for Defense Development (ADD)	Aug. 2002 ~ Jul. 2007
Researcher	Institute for Advanced Engineering (IAE)	Jul. 2000 ~ Jul. 2002

MEMBERSHIP

- Senior Member, the Institute of Electrical and Electronics Engineers (IEEE)
- *Member*, the Institute of Electronics Engineers of Korea (IEEK)

REPRESENTATIVE PAPERS

[1] Jung-Dong Park, Shinwon Kang, Siva V Thyagarajan, Elad Alon, Ali M. Niknejad, "A 260 GHz Fully Integrated CMOS Transceiver for Wireless Chip-to-Chip Communication," in *Proc. IEEE Symposium on VLSI Circuits*, *Honolulu*, June 2012. (2017 Most Frequently Cited Paper Award in 2010–2016, IEEE Symposium on VLSI)

[2] <u>Jung-Dong Park</u>, Shinwon Kang, and Ali M. Niknejad, "A 0.38 THz Fully Integrated Transceiver Utilizing a Quadrature Push-Push Harmonic Circuitry in SiGe BiCMOS," *IEEE Journal of Solid-State Circuits*, vol. 47, no. 10, October 2012, pp.2344~2354.

HONORS AND AWARDS

•	2019 IEEK Semiconductor Society Best Paper Award	Dec. 2019
•	2018 Albert Nelson Marquis Lifetime Achievement Award	Nov. 2018
•	2017 Most Frequently Cited Paper Award in 2010–2016,	June 2017
	IEEE Symposium on VLSI Circuits (as the lead author)	
•	Dongguk Centennial Power Elite Scholarship	2007-2009
•	Silver Medal Award for National Defense Technology, ADD	Aug. 2006
•	Distinguished Service Medal, ADD	Aug. 2006, Feb. 2005

RESEARCH EXPERIENCE

Researches in Berkeley Wireless Research Center, UC Berkeley

- Fully Integrated 0.26 THz TRx for Chip to Chip Communication in 65nm CMOS
 - One of the first fully-integrated THz wireless transceiver with the on-chip antenna in CMOS
- Fully Integrated 0.38 THz FMCW Radar TRx in 0.13 μm SiGe
 - One of the first fully-integrated THz radar transceiver with the on-chip antenna in silicon
- W-band Radar for Autonomous Helicopters: Polarimetric Radar TRx architecture
- 100 GHz LNA Design in 65nm LP CMOS
- 60 GHz TRx in 90nm CMOS: LNA with ESD Protection, Passive Circuits

Consulting and Internship Works

- 60 GHz LNA with ESD protection in 40nm CMOS in Qualcomm, USA
- •2.4 GHz Low-power receiver design in 90 nm CMOS in HealthMicro, USA
- •2.4 GHz Low-profile antenna design in Streetline, USA

Industrial Fieldworks

Qualcomm, USA

•GPS Front-end Design in 28nm CMOS (WTR3925, WTR5975)

Agency for Defense Development, South Korea

- 94 GHz Radiometer/Radar Multi-sensor TRx design
- RCS Characterization of the ground clutter and various targets

Institute for Advanced Engineering (IAE), South Korea

•35 GHz Radiometer/Radar TRx Design

Projects in Dongguk Univ. as the Principal Investigator

- An Integrated 0.28 THz CMOS Receiver Design for THz wireless-communications by ETRI
- Fully Integrated E-band CMOS Transceiver for Point-to-Point High-Speed Communication Network Using Drone in Future Battlefield Environment by Ministry of Science, ICT
- Dielectric Material Characterization in Microwave Range by LG Display
- Sub-THz CMOS Transceiver by Ministry of Science, ICT
- Multifunctional Chip (Transmit/Receive Module) by Hanwha Systems
- 5G Up-converter by Samsung Electronics
- Ultra-fast Compressed Sensing Receiver by Hanwha Systems
- W-band CMOS Receiver by Poongsan LTD
- Dual-band Signal Source using Meta-material by Poongsan LTD
- Fire detection radiometer in quasi-mm-wave range by Ministry of Science, ICT
- Studies on on-chip transmission-lines for high-speed switching circuitries, by Samsung Thales

Professional and Extracurricular Activities

- Reviewer of IEEE Journal of Solid-State Circuits (JSSC), 2015-present
- Reviewer of IEEE Transactions on Microwave and Theory and Techniques, 2015–present
- Reviewer of IEEE Antennas and Wireless Propagation Letters (AWPL), 2015–present
- Reviewer of IEEE Microwave and Wireless Components Letters (MWCL), 2017-present
- Reviewer of IEEE Transactions on Electronic Devices (T-ED), 2017-present
- Reviewer of IEEE Transactions on Device and Materials Reliability, 2016–present
- Reviewer of IEEE Transactions on Nanotechnology, 2018–present
- Reviewer of Electronics Letters, IET, 2016-present
- Reviewer of IET Circuit, Devices and Systems, 2018-present
- Reviewer of Sensors, MDPI, 2017-present

- Reviewer of Electronics, MDPI, 2018–present
- Reviewer of Micromachines, MDPI, 2019-present
- Reviewer of Applied Sciences, MDPI, 2019-present
- Guest Editor of Electronics, MDPI, 2019-present

REFERENCE

• Prof. Ali M. Niknejad, EECS, University of California, Berkeley: niknejad@eecs.berkeley.edu

PUBLICATIONS

Journal and Letter Articles

- [45] Hyohyun Nam, Van-Viet Nguyen, Van-Son Trinh, Jeong-Moon Song, Bok-Hyung Lee, and **JungDong Park**, "A Full X-band Phased-Array Transmit/Receive Module Chip in 65-nm CMOS Technology," *IEEE Access*, accepted.
- [44] Hyohyun Nam, and <u>Jung-Dong Park</u>, "A W-band Divide-by-Three Injection Locked Frequency Divider with Injection Current Boosting Utilizing Inductive Feedback in 65nm CMOS," *IEEE Microw. Wireless Compon. Letters*, accepted, DOI: 10.1109/LMWC. 2020.2983014
- [43] Van-Son Trinh, and <u>Jung-Dong Park</u>, "Common-Mode Stability Test and Design Guidelines for a Transformer-coupled Push-pull Power Amplifier," *IEEE Access*, vol. 8, 2020, pp.42243-42250, DOI: 10.1109/ACCESS.2020.2977360.
- [42] Van-Son Trinh, and <u>Jung-Dong Park</u>, "A +3dBm-EIRP 240-GHz Circular-Polarized Radiator Utilizing a Sub-THz PA in 65-nm CMOS," *IEEE Microw. Wireless Compon. Letters*, vol.30, issue 4, April 2020, pp.399-402.
- [41] Young-Joe Choe, Hyohyun Nam, and <u>Jung-Dong Park</u> "A Low Drop-Out Regulator With PSRR Enhancement Through Feed-Forward Ripple Cancellation Technique in 65-nm CMOS Process," *Electronics*, 2020, 9(1), 146.
- [40] Hyohyun Nam, Woo-Jae Lee, Ju-ho Son, and <u>Jung-Dong Park</u>, "Compact I/Q Up-Conversion Chain for a 5G Wireless Transmitter in 65-nm CMOS Technology," *IEEE Microw. Wireless Compon. Letters*, vol. 30, no. 3, March 2020, pp.284-287.
- [39] Van-Son Trinh, and <u>Jung-Dong Park</u>, "A 16.3-dBm 14.1% PAE 28-dB Gain W-band Power Amplifier with Inductive Feedback in a 65-nm CMOS," *IEEE Microw. Wireless Compon. Letters*, vol.30, issue 2, February 2020, pp.193-196.

[38] Van-Son Trinh, and <u>Jung-Dong Park</u>, "Theory and Design of Impedance Matching Network Utilizing a Lossy On-Chip Transformer," *IEEE Access*, vol.7, no.1, October 2019, pp. 140980-140989.

- [37] Hsiang Nerng Chen, Jeong-Moon Song, and <u>Jung-Dong Park</u>, "A Compact Circularly Polarized MIMO Dielectric Resonator Antenna over Electromagnetic Bandgap Surface for 5G Applications," *IEEE Access*, vol.7, no.1, October 2019, pp. 140889-140898.
- [36] Young Jo Choe, Hyohyun Nam, and, <u>Jung-Dong Park</u>, "A Compact 5 GHz Power Amplifier using a Spiral Transformer for Enhanced Power Supply Rejection in 180-nm CMOS Technology," *Electronics*, 2019, 8(9), 1043.
- [35] Hyohyun Nam, Junsik Park, <u>Jung-Dong Park</u>, "A 2-18 GHz Compressed Sensing Receiver with Broadband LO chain in 0.13-μm SiGe BiCMOS," *IEEE Microw. Wireless Compon. Letters*, vol. 29, no. 9, September 2019, pp. 620-622.
- [34] Hyohyun Nam, Dong-Sik Ko, and <u>Jung-Dong Park</u>, "A Compact W-band Mixer-First Receiver in 65-nm CMOS," *Microw. Opt. Technol. Lett.*, vol.61, no.7, July 2019, pp.1702-1705.
- [33] Van-Son Trinh and <u>Jung-Dong Park</u>, "An X-band Single-Pull Class A/B Power Amplifier in 0.18µm CMOS," *Microw. Opt. Technol. Lett.*, vol.61, no.7, July 2019, pp.1736-1740.
- [32] Van-Viet Nguyen, Hyohyun Nam, Bok-Hyung Lee, and <u>Jung-Dong Park</u>, "A 5.8-17.6 GHz Cascaded Bidirectional Distributed Gain Amplifier utilizing Asymmetric Stages in 65nm CMOS," *Microw. Opt. Technol. Lett.*, vol.61, no.7, July 2019, pp.1683-1687.
- [31] Van-Son Trinh, Hyohyun Nam, and <u>Jung-Dong Park</u>, "A 20.5 dBm X-band Power Amplifier with a 1.2-V Supply in 65-nm CMOS Technology," IEEE Microw. Wireless Compon. Letters, vol. 29, no. 3, pp. 234–236, March 2019.
- [30] <u>Jung-Dong Park</u>, Muhib Ur Rahman, Hsiang Nerng Chen, "Isolation Enhancement of Wide-Band MIMO Array Antennas Utilizing Resistive Loading," *IEEE Access*, vol.7, no.1, June 2019, pp.81020-81026.
- [29] Hyohyun Nam, Changhwan Shin, and <u>Jung-Dong Park</u>, "Impact of the Metal-Gate Material Properties in FinFET (versus FD-SOI MOSFET) on High-k/Metal-Gate Work-Function Variation," *IEEE Transactions on Electron Devices*, vol. 65, no. 11, November 2018, pp.4780 4785.
- [28] Van-Viet Nguyen, Hyohyun Nam, Young Jo Choe, Bok-Hyung Lee, <u>Jung-Dong Park</u>, 2018.
 "An X-band Bi-Directional Transmit/Receive Module for a Phased Array System in 65-nm CMOS." *Sensors*, 18, no. 82569, October 2018.
- [27] MuhibUr Rahman, Dong-Sik Ko, and Jung-Dong Park, "A compact tri-band bandpass filter

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utilizing double mode resonator with 6 transmission zeros," *Microw. Opt. Technol Lett.*, vol.60, issue 7, October 2018, pp.1767-1771.

- [26] MuhibUr Rahman, and <u>Jung-Dong Park</u>, "The Smallest Form Factor UWB Antenna with Quintuple Rejection Bands for IoT Applications Utilizing RSRR and RCSRR," *Sensors*, 18(3), 911, 2018; DOI:10.3390/s18030911.
- [25] MuhibUr Rahman, and <u>Jung-Dong Park</u>, "A Compact Tri-Band Bandpass Filter using Two StubLoaded Dual Mode Resonators, *Progress In Electromagnetics Research M*, Feb. 2018.
- [24] Hyohyun Nam, and <u>Jung-Dong Park</u>, "A 1-13 GHz CMOS Low-Noise Amplifier using Compact Transformer-based Inter-stage Networks," *IEICE Electronics Express*, Jan. 2018.
- [23] MuhibUr Rahman, and <u>Jung-Dong Park</u>, "A Compact Multiple Notched Ultra-Wide Band Antenna with an Analysis of the CSRR-TO-CSRR Coupling for Portable UWB Applications," *Sensors*, 17(10), 2174, 2017; DOI:10.3390/s17102174.
- [22] Youngtaek Lee, Jaesung Jo, Karam Cho, Sangheon Oh, <u>Jung-Dong Park</u>, Changhwan Shin, "Experimental Observation of Negative Capacitance in Organic/Ferroelectric Capacitor for Steep Switching MOSFET," *Journal of Nanoscience and Nanotechnology*, vol. 17, no. 5, 2017, pp.34693471.
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- [20] Hyunjae Lee, <u>Jung-Dong Park</u>, and Changhwan Shin, "Performance booster for vertical tunnel field-effect transistor: Field-enhanced high-κ layer," *IEEE Electron Device Letters*, vol. 37, no. 11, November 2016, pp.1383 1386.
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- [18] Hyunjae Lee, <u>Jung-Dong Park</u>, and Changhwan Shin, "Study of Random Variation in Germanium Source Vertical Tunnel FET," *IEEE Transactions on Electron Devices*, vol. 63, no. 5, July 2016, pp.1827 1834.
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- [16] Youngtaek Lee, Hyohyun Nam, Jung-Dong Park, and Changhwan Shin, "Study of Work-

Function Variation for High-k/Metal-Gate Ge-Source Tunnel Field-Effect Transistors," *IEEE Transactions on Electron Devices*, vol. 62, no. 7, July 2015, pp.2143 - 2147.

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- [12] <u>Jung-Dong Park</u>, " 260GHz Spatially Combined Transmitter with a V-band Distributed OOK Modulator," *IEICE Electronics Express*, vol. 11, no. 18, Sept. 2014.
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- [10] <u>Jung-Dong Park</u>, Ali M. Niknejad, "A Wideband W-Band Low Noise Amplifier with Slowwave CPW in 65nm LP CMOS," *Microw. Opt. Technol. Lett.*, vol. 55, no. 8, August. 2013.
- [9] <u>Jung-Dong Park</u>, Ali M. Niknejad, "Theory and Design of N-Push BJT Clamping Harmonic Generator for Silicon Terahertz ICs," *IEEE Microw. Wireless Compon. Lett.*, vol. 22, no. 12, December 2012.
- [8] <u>Jung-Dong Park</u>, Shinwon Kang, and Ali M. Niknejad, "A 0.38 THz Fully Integrated Transceiver Utilizing a Quadrature Push-Push Harmonic Circuitry in SiGe BiCMOS," *IEEE Journal of SolidState Circuits*, vol. 47, no. 10, October 2012, pp.2344~2354.
- [7] <u>Jung-Dong Park</u>, Ali M. Niknejad, "A Ladder Shaped Network for ESD Protection of Millimeterwave CMOS ICs," *Electronics Letters*, vol.45, no.15, July 2009, pp.795~797.
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- [5] <u>Jung-Dong Park</u>, Wan Joo Kim, "An Efficient Method of Eliminating the Range Ambiguity for a Low-Cost FMCW Radar Using VCO Tuning Characteristics," *IEEE Trans. Microw. Theory Techn.*, vol. 54, no. 10, October 2006, pp. 3623-3629.

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- [3] D. An, S.-C. Kim, <u>J.-D. Park</u>, M.-K Lee, H.-C. Park, S.-D. Kim, W.-J. Kim, and J.-K Rhee, "A Novel 94-GHz MHEMT Resistive Mixer Using a Micromachined Ring Coupler," *IEEE Microw. Wireless Compon. Lett.*, vol. 16, no. 8, August 2006, pp.467-469.
- [2] B.H. Lee, D. An, M.K. Lee, B.O. Lim, J.H. Oh, S.D. Kim, J.K. Rhee, <u>J.-D. Park</u>, S.R. Lee, "Low Conversion Loss and High LO-RF Isolation 94GHz Active Down Converter," *IEEE Trans. Microw. Theory Tech.*, vol. 54, no. 6, June 2006, pp. 2422-2430.
- [1] <u>Jung-Dong Park</u>, Wan Joo Kim, "An Efficient Method of Decreasing the Problems of Transmitter Signal Leakages on Low Cost Homodyne FMCW Radar with a Single Antenna Configuration," *Microw. Opt. Technol. Lett.*, vol. 46, no. 5, Sept., 2005, pp. 512-515.

International Conferences

- [8] Jung-Dong Park, Shinwon Kang, Siva V Thyagarajan, Elad Alon, Ali M. Niknejad, "A 260 GHz Fully Integrated CMOS Transceiver for Wireless Chip-to-Chip Communication," in Proc. IEEE Symposium on VLSI Circuits, Honolulu, June 2012.
- [7] <u>Jung-Dong Park</u>, Shinwon Kang, Ali M. Niknejad, "A 0.38 THz Fully Integrated Transceiver Utilizing Quadrature Push-Push Circuitry," in Proc. *IEEE Symposium on VLSI Circuits, Koyto*, June 2011.
- [6] Omar Bakr, Mark Johnson, <u>Jung-Dong Park</u>, Ehsan Adabi, Kevin Jones, Ali Niknejad, "A Scalable, Low Cost Architecture for High Gain Beamforming Antennas," in Proc. 2010 IEEE International Symposium on Phased Array Systems & Technology, October 2010.
- [5] C. Marcu, D. Chowdhury, C. Thakkar, L.-K. Kong, M. Tabesh, <u>J.-D. Park</u>, Y. Wang, A. Afshar, A. Gupta, A. Arbabian, S. Gambini, R. Zamani, A. M. Niknejad, E. Alon, "A 90nm CMOS LowPower 60GHz Transceiver with Integrated Baseband Circuitry," in Proc. *ISSCC Dig. Tech. Papers*, Feb. 2009, pp. 314-316.
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- [3] M.K. Lee, <u>J.-D. Park</u>, D.An, B.H.Lee, S.C.Kim, B.O.Lim, S.J.Lee, Y.S. Chae, W.J. Kim, Y. H.Kim, J.K.Rhee, "W-band Waveguide-to-Coplanar Waveguide Transition for 94 GHz MIMIC applications," in Proc. *HUT-ICCE 2006*, Hanoi, Vietnam, October 2006.

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[1] <u>Jung-Dong Park</u>, Wan Joo Kim, Chang Won Lee, "A Novel Method for Beat Frequency Error Correction for a Low Cost FMCW Radar Using VCO Sweep Characteristics," in Proc. 2nd Eur. Radar Conf., Paris, 2005.

Korean Journal and Letter Articles

- [9] 뉴엔반비엣, 남효현, 이복형, 이문교, 최선열, 송정문, <u>박정동</u>, "비대칭 이득증폭 단위셀을 이용한 2-13 GHz 양방향 증폭기," 대한전자공학회논문지, 55(12), 2018.12, pp.65-71. (2019년 대한전자공학회 반도체소사이이터 최우수 논문상)
- [8] 남효현, 김형규, 김당오, 류현준, 김주혜, <u>박정동</u>, "65nm CMOS공정을 이용한 FMCW 레이더 및 라디오미터 일체형 센서용 광대역 IF 가변 이득 증폭기," 대한전자공학회논문지, 55(10), 2018.10, pp.61-66.
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Korean Conferences

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